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Features :

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Poverty, a persistent concern

Source: The post “Poverty, a persistent concern” has been created based on “Poverty, a persistent concern”, published in “Business Line” on 01st June 2026.

UPSC Syllabus: GS Paper 3– Indian Economy

Context: Poverty continues to be a major developmental challenge in India despite improvements in welfare schemes and social protection systems. Based on recent consumption expenditure data and the Rangarajan Committee approach, about **26.8% of India's population**, or nearly **374 million people**, remains below the poverty line. The persistence of poverty in specific regions indicates that it is largely structural and regional in nature.

Nature and Extent of Poverty in India

1. It is estimated that **29% of the rural population** and **22% of the urban population** live below the poverty line.
2. Nearly **374 million people** require subsistence-based support and interventions.
3. The States of **Uttar Pradesh, Bihar, Madhya Pradesh, and West Bengal** account for more than **48% of the poor population**, although their share in the total population is less than 40%.
4. States such as **Jharkhand, Chhattisgarh, and Odisha** have poverty rates exceeding **45% of their population**.
5. Around **80% of the poor population** is concentrated in ten States, indicating a strong regional concentration of poverty.
6. States such as **Punjab, Haryana, Sikkim, Goa, and Tripura** have significantly lower poverty levels and have largely succeeded in eliminating extreme poverty.

Reasons for Structural and Regional Poverty

1. Subsistence Agriculture

- a. Poverty is concentrated in States where agriculture remains subsistence-oriented and productivity is low.
- b. States such as Uttar Pradesh, Bihar, and Assam continue to face high levels of poverty due to limited agricultural transformation.

2. Mineral-Rich Regions

- a. Several mineral-rich States, including Madhya Pradesh, Chhattisgarh, Jharkhand, Odisha, Rajasthan, and West Bengal, continue to experience high poverty levels.
- b. The benefits of natural resource extraction have not adequately translated into broad-based local development.

3. Limited Economic Diversification

- a. Poverty-prone States have a lower share of employment in industry, information technology, professional services, banking, and public administration.
- b. As a result, workers remain dependent on low-productivity sectors for their livelihoods.

4. High Dependency Ratio

- a. Poverty-stricken States have a dependency ratio of about **47%**, which is higher than that of better-performing States.
- b. A higher dependency burden reduces household savings and investment capacity.

5. Limited Impact of Migration

- a. Migration has not emerged as a complete solution because migrants often face language barriers, social isolation, and poor living conditions.
- b. Therefore, poverty continues to remain persistent in the source regions.

6. Structural Nature of Poverty

- a. The relatively lower Gini coefficients in States such as Bihar and Uttar Pradesh suggest that poverty is not primarily driven by inequality.
- b. The persistence of poverty despite welfare measures indicates the existence of deep structural constraints.

Measures to Address Persistent Poverty

1. Measures for Mineral-Rich Areas

- a. District Mineral Foundation (DMF) funds should be utilized for skill development and employment generation.
- b. Greater investments should be made in schools, primary health centres, and nutrition programmes.
- c. Infrastructure development should be prioritized to improve connectivity and economic opportunities.
- d. Incentives should be provided to establish processing and value-addition industries near mining regions.
- e. Local economies should be diversified to reduce excessive dependence on mining activities.
- f. Corporate Social Responsibility (CSR) funds should be used more effectively for local development.

2. Measures for Areas of Subsistence Agriculture

- a. Agricultural reforms should be undertaken to improve productivity and efficiency.
- b. Land consolidation should be promoted to achieve economies of scale.
- c. Farmers should be encouraged to shift towards high-value agriculture and crop diversification.
- d. Effective price stabilization mechanisms should be developed to reduce income uncertainty.
- e. Non-farm employment opportunities should be created in nearby rural and semi-urban areas.

3. Governance and Social Measures

- a. Development programmes should focus on local resource endowments and local needs.
- b. Local entrepreneurship should be promoted to generate sustainable employment opportunities.
- c. Targeted and time-bound social protection systems should be strengthened to support vulnerable populations.

Conclusion: India has achieved considerable success in reducing extreme poverty through welfare programmes, food security measures, and improved access to basic amenities. However, poverty remains deeply entrenched in specific regions characterised by subsistence agriculture and mineral dependence. A strategy focused on structural transformation, local economic development, human capital formation, and region-specific interventions is essential for achieving inclusive and sustainable poverty reduction.

Question: Poverty in India is increasingly structural and region-specific despite significant reductions in extreme poverty. Examine the nature of poverty in India and suggest measures to address persistent poverty pockets.

Source: [Businessline](#)

Shaping the next chapter in India-Canada relations

Source: The post “Shaping the next chapter in India-Canada relations” has been created based on “Shaping the next chapter in India-Canada relations”, published in “The Hindu” on 01st June 2026.

UPSC Syllabus: GS Paper 2: International Relations

Context: India and Canada are entering a new phase in their bilateral relationship as both countries seek to strengthen cooperation in a multipolar and innovation-driven world. Recent high-level engagements have revived discussions on expanding cooperation in trade, technology, energy security, education and people-to-people ties. Both countries are working towards building a future-oriented partnership based on shared economic and strategic interests.

Significance of India-Canada Relations

1. Economic Importance

- a. India represents a large consumer market and a major driver of global economic growth.
- b. Canada views India as an important partner in the Indo-Pacific region and a key destination for trade and investment.
- c. India's rapid growth provides significant opportunities for Canadian businesses and investors.
- d. Canada's strengths in natural resources, energy and advanced technologies complement India's development needs.

2. Strategic Importance

- a. Both countries are committed to strengthening cooperation in economic security, technology collaboration and clean energy.
- b. India and Canada can contribute to building resilient and diversified global supply chains.
- c. Their partnership can support stability and prosperity in the Indo-Pacific region.

Major Areas of Cooperation

1. Trade and Investment

- a. Both countries are engaged in negotiations for a Comprehensive Economic Partnership Agreement (CEPA).
- b. They aim to finalize the agreement by the end of 2026.
- c. Bilateral trade is targeted to reach approximately \$50 billion by 2030.
- d. Increased trade and investment can create new business opportunities and strengthen economic integration.

2. Energy and Critical Minerals

- a. **India and Canada** are holding discussions on uranium and critical minerals.
- b. Canada can support India's energy transition through the supply of clean energy resources.
- c. Cooperation in critical minerals can help strengthen supply chain resilience and support emerging industries.

3. Technology and Innovation

- a. Both countries can collaborate in technology, artificial intelligence and digital innovation.
- b. Joint research initiatives can enhance technological capabilities and industrial competitiveness.
- c. Innovation partnerships can generate long-term economic benefits for both nations.

4. Education and Skills

- a. Educational cooperation remains an important pillar of bilateral relations.
- b. Academic exchanges can strengthen knowledge sharing and human capital development.
- c. Collaboration in skill development can support workforce requirements in both countries.

Role of the Indian Diaspora

1. The Indian diaspora serves as a strong bridge between India and Canada.
2. Indian-origin entrepreneurs, professionals, academics and students contribute significantly to Canadian society.
3. The diaspora promotes cultural understanding and strengthens people-to-people ties.
4. Shared democratic values and multiculturalism further reinforce bilateral relations.
5. The success of the diaspora helps create goodwill and trust between the two countries.

Benefits of Stronger Economic Cooperation

1. Canadian investment can support India's manufacturing and infrastructure development.
2. India's expanding market offers growth opportunities for Canadian companies.
3. Collaboration in clean energy and technology can promote sustainable development.
4. Stronger business partnerships can generate employment and enhance productivity.
5. Diversified trade relations can reduce dependence on limited markets and improve economic resilience.

India-Canada Cooperation in the Indo-Pacific

1. The Indo-Pacific region has become a major centre of global economic activity and strategic competition.
2. India and Canada share an interest in promoting a free, open and rules-based Indo-Pacific.

3. Cooperation can strengthen resilient supply chains and economic security.
4. Joint efforts in clean energy, climate action and maritime cooperation can contribute to regional stability.
5. Collaboration in the Indo-Pacific can create new opportunities for trade, investment and innovation.

Challenges in the Relationship

1. Political differences have affected bilateral engagement in recent years.
2. Trust deficits have slowed progress in some areas of cooperation.
3. Economic opportunities have not yet been fully realised despite strong complementarities.
4. Greater institutional and business-level engagement is required to translate intent into outcomes.

Way Forward

1. Both countries should sustain high-level political engagement and dialogue.
2. The Comprehensive Economic Partnership Agreement should be concluded at the earliest.
3. Cooperation in critical minerals, clean energy and advanced technologies should be expanded.
4. Business-to-business partnerships should be strengthened to increase investment flows.
5. The Indian diaspora should be further leveraged to promote economic and cultural cooperation.
6. Both countries should deepen collaboration in the Indo-Pacific to address common regional challenges.

Conclusion: India and Canada possess significant economic, technological and strategic complementarities. Renewed engagement between the two countries has created an opportunity to rebuild trust and expand cooperation. A stronger India–Canada partnership can promote economic growth, innovation, energy security and Indo-Pacific stability while advancing the interests of both nations.

Question: India and Canada are seeking to rebuild and deepen their bilateral relationship in a rapidly evolving global order. Discuss the opportunities and challenges in India–Canada relations. Examine how stronger cooperation can contribute to economic growth and Indo-Pacific stability.

Source: [The Hindu](#)

Aravalli Degradation and Rising Dust Storm Risks

UPSC Syllabus: Gs Paper 3- Environment

Introduction

Recent dust storms across Rajasthan and Delhi-NCR have renewed attention on the ecological importance of the Aravalli Range. Acting as a natural barrier between the Thar Desert and the Indo-Gangetic plains, the Aravallis slow dust-laden winds and limit desert expansion. However, growing degradation due to mining, vegetation loss, and human activities is weakening this protective role, increasing concerns about dust storms, air pollution, and broader environmental impacts.

Ecological Significance of the Aravalli Range

1. **Natural Barrier Against Desert Winds:** The Aravalli Range stands between the Thar Desert and the Indo-Gangetic plains, slowing dust-bearing winds and reducing the movement of sand towards Delhi-

NCR and northern India. The presence of obstacle dunes on its western slopes provides visible evidence of this protective role.

2. **Role of Vegetation in Dust Interception:** Vegetation forces winds to pass through natural barriers, creating a scrubbing effect that reduces the transport of sand and dust particles.
3. **Prevention of Desertification:** The range acts as the first line of defence against the eastward expansion of desert conditions into Haryana, Delhi, and adjoining regions.
4. **Groundwater Recharge Function:** The hills and vegetation help absorb rainwater and support groundwater recharge across the region.
5. **Support for Biodiversity and Wildlife:** The Aravallis provide habitats and ecological corridors that sustain wildlife and maintain ecosystem connectivity.
6. **Climate Regulation Function:** The range helps regulate local temperatures and contributes to environmental stability across surrounding regions.
7. **Improvement of Air Quality:** By trapping particulate matter and limiting dust transport, the Aravallis help improve air quality in nearby urban centres.

State of Degradation of the Aravallis

1. **Disappearance of Hills:** A Forest Survey of India (2018) assessment found that **31 out of 128 Aravalli hills in Rajasthan had disappeared** due to human pressures.
2. **Loss of Medium-Elevation Hills:** Hills ranging from 200 to 600 metres above sea level have been lost in areas such as Naraina, Kalwar, Kotputli, Jhalana, and Sariska.
3. **Mining-Induced Damage:** Mining of red silica, granite, and other minor minerals has damaged hillocks and weakened the natural barrier function of the range.
4. **Deforestation and Vegetation Loss:** Loss of forests and vegetation has reduced the ability of the landscape to stabilise soil and trap dust particles.
5. **Urbanisation and Construction Pressure:** Rapid urban growth and construction activities have altered natural landscapes and increased ecological stress on the range.
6. **Land-use Change and Encroachments:** Human settlements, land-use conversion, and encroachments have fragmented the Aravalli ecosystem.
7. **Pastoral and Human Activities:** Pastoral activities and continuous human interference have contributed to the degradation of natural habitats.
8. **Expansion of Ecological Gaps:** A 2009 Wildlife Institute of India study identified 12 gaps in the Aravalli Range that have expanded due to forest degradation and inadequate vegetation cover.

Rising Dust Storm Risks and Environmental Consequences

1. **Greater Dust Movement Towards Northern India:** Meteorologists note that dust from Rajasthan now reaches the northern plains even during less intense dust events.
2. **Increased Exposure of Delhi-NCR:** Delhi and neighbouring districts already lie in a high dust-storm exposure zone. Degradation of the Aravallis increases the impact of such storms.
3. **High Dust-Storm Frequency in Northwest India:** The **India Meteorological Department (IMD)** Climate Hazards and Vulnerability Atlas places parts of northwest India in the highest dust-storm frequency class, averaging 0.89 to 1.55 dust-storm days.
4. **Frequent Dust Activity in Delhi:** In June, Delhi records a dust-storm frequency of 2.5 days, the highest in the country for that month.
5. **Dust Transport at Lower Wind Speeds:** Dust is now being carried towards the northern plains when wind speeds reach 35–40 kmph, unlike earlier when stronger storms were required.
6. **Deterioration of Air Quality:** More dust reaching urban centres can worsen air pollution and add to existing air-quality challenges in Delhi-NCR.
7. **Impact on Rainfall Patterns:** Growing gaps in the Aravalli barrier may affect rainfall patterns in surrounding regions.
8. **Changes in Sunlight and Temperature:** Dust particles alter the amount of sunlight reaching the ground, affecting surface temperatures and temporarily reducing temperatures over large areas.

Factors Intensifying Dust Storms

1. **Pre-Monsoon Climatic Conditions:** Dust storms are common during April to June when intense heat and dry weather dominate northwestern India.
2. **Influence of Desert Winds:** South-westerly and westerly winds transport dust from the Thar Desert across northern India.
3. **Climate Change and Rising Temperatures:** Higher temperatures create hotter and drier conditions, making soil more vulnerable to wind erosion.
4. **Heatwaves and Extreme Weather:** Heatwaves and changing atmospheric conditions strengthen pre-monsoon winds and increase the likelihood of dust storms.
5. **Land Degradation in Arid Regions:** Deforestation, poor land management, and degradation of drylands leave more loose soil available for transport by wind.
6. **Weakening of Natural Windbreaks:** Loss of hillocks, ridges, forests, and vegetation reduces the ability of the Aravallis to slow desert winds.

7. **Increased Dust Generation from Mining:** Mining activities generate additional dust and further weaken the landscape's capacity to resist erosion.
8. **Loss of Landscape Continuity:** The effectiveness of the Aravallis depends on the continuity of the entire range. Gaps and breaks allow winds to travel farther with fewer obstacles.

Way Forward

1. **Regulation of Mining Activities:** Strict enforcement of environmental regulations is needed to reduce damage caused by illegal and unsustainable mining.
2. **Restoration of Degraded Hills and Forests:** Damaged landscapes should be restored through ecological rehabilitation and forest regeneration efforts.
3. **Strengthening Vegetation Cover:** Increasing tree cover can improve the natural scrubbing effect and reduce dust movement.
4. **Preventing Encroachments and Land-use Change:** Better management is required to control encroachments and unsustainable conversion of natural land.
5. **Maintaining Landscape Continuity:** Protecting hillocks, ridges, and ecological corridors is important for preserving the barrier function of the range.
6. **Improving Scientific Monitoring:** Regular monitoring of dust storms, vegetation loss, and ecological gaps can support timely policy action.
7. **Integrated Ecosystem Management:** Conservation efforts should address forests, wildlife habitats, groundwater systems, and land resources together.

Conclusion

The Aravalli Range is a critical ecological barrier that protects northern India from desertification, dust storms, and environmental degradation. However, mining, deforestation, urbanisation, and land-use change are weakening this natural shield. Conserving and restoring the Aravallis is essential for maintaining air quality, groundwater security, climate resilience, biodiversity, and ecological stability across Delhi-NCR and the Indo-Gangetic plains.

Question for practice:

Discuss the ecological significance of the Aravalli Range and examine how its degradation is increasing dust storm risks and environmental challenges in northern India.

Source: [Indian Express](#)

The Cloud is the New Frontier of Digital Sovereignty

UPSC Syllabus: Gs Paper 3- Science and Technology

Introduction

The possibility of disruption of cloud services to **Nayara Energy** due to foreign sanctions obligations highlighted the strategic risks arising from dependence on foreign-controlled digital infrastructure. The episode showed that even when operations comply with domestic laws, critical digital services may remain vulnerable to external jurisdictions. As cloud computing, artificial intelligence, and data become central to governance and economic activity, **digital sovereignty** has emerged as a key concern for ensuring security, resilience, and strategic autonomy..

Understanding Digital Sovereignty

1. **Meaning of Digital Sovereignty:** Digital sovereignty refers to a country's ability to exercise authority over its digital infrastructure, data, technologies, and online systems according to its own laws and priorities.
2. **Infrastructure Sovereignty:** Digital sovereignty begins with control over connectivity infrastructure such as networks, data centres, internet exchange points, and digital identity systems.
3. **Service Sovereignty:** Countries seek to reduce excessive dependence on foreign platforms, cloud services, search engines, and digital ecosystems that dominate online activities.
4. **Data Sovereignty:** Citizens' data should remain under national jurisdiction, with clear rules governing its storage, access, and use.
5. **Knowledge Sovereignty:** In the AI era, datasets, language resources, AI models, and model weights have become strategic assets requiring greater domestic control.
6. **Digital Sovereignty as a National Priority:** Countries increasingly treat digital borders with the same importance as physical borders because digital systems now support critical national functions.
7. **Growing Strategic Importance of Data:** Data has evolved from an operational resource into a strategic asset that influences governance, economic activity, and global decision-making.

Significance of Cloud Sovereignty

1. **Cloud as Critical Infrastructure:** Cloud platforms support hospitals, banks, government agencies, supply chains, and numerous digital services that are essential for modern economies.
2. **Dependence Creates Strategic Vulnerability:** Heavy reliance on foreign cloud providers can expose countries and organisations to decisions influenced by foreign laws and geopolitical developments.
3. **Control Matters More Than Data Location:** The key question is not simply where data resides but who controls access, operations, and decision-making authority over the infrastructure.

4. **Cloud Sovereignty Supports Sensitive Workloads:** Personal and sensitive information, along with AI workloads, require stronger control, compliance, monitoring, and protection mechanisms.
5. **AI Expands Sovereignty Concerns:** Large language models are increasingly becoming part of government and enterprise operations, making control over AI systems strategically important.
6. **Technology Companies as Digital Sovereigns:** Large technology companies increasingly control infrastructure, services, data centres, platforms, and AI systems across countries, giving them significant digital influence.
7. **Need for Practical Sovereignty:** The objective is not digital isolation but sufficient control to protect national interests while remaining connected to global networks.

India's Digital Sovereignty Landscape

1. **Strong Digital Public Infrastructure:** India has developed Aadhaar, Unified Payments Interface (UPI), DigiLocker, Electronic Signature (eSign), Ayushman Bharat Digital Mission (ABDM), and the Open Network for Digital Commerce (ONDC), creating one of the world's most advanced Digital Public Infrastructure (DPI) ecosystems.
2. **Control Over the Application Layer:** India exercises significant control over digital public services that support identity, payments, health, commerce, and document management.
3. **Dependence on Foreign Infrastructure:** Heavy reliance on foreign cloud providers (such as AWS, Azure, and Google Cloud) can expose countries and organisations to decisions influenced by foreign laws and geopolitical developments, as illustrated by concerns arising from the Nayara Energy episode.
4. **Challenge of Digital Tenancy:** India controls applications such as UPI and ONDC, but much of the infrastructure supporting digital businesses remains dependent on foreign cloud platforms.
5. **Rapid Expansion of AI Use:** AI is increasingly being adopted in welfare delivery, administration, policing, defence, and enterprise operations.
6. **Strengthening Data Governance:** The Digital Personal Data Protection (DPDP) Act has increased the emphasis on governance and protection of personal data.
7. **Growing Regulatory Focus:** Regulators such as RBI, IRDAI, SEBI, and MeitY are strengthening localisation and compliance requirements across sectors.
8. **Need for Operational Sovereignty:** Data localisation alone is insufficient if cloud infrastructure remains under foreign operational control.
9. **Need for Domestic Cloud Capacity:** Initiatives such as MeghRaj and domestic data-centre investments can provide sovereign alternatives for critical workloads.

- 10. Need for Indian AI Models:** AI systems for agriculture, health, education, and governance can reduce dependence on foreign AI platforms while addressing local needs.
- 11. Balancing Innovation and Sovereignty:** India needs to remain integrated with global technological developments while protecting strategic digital interests.

Global Trends in Digital Sovereignty

- 1. United States' Model:** The United States benefits from technological leadership, global platform dominance, and legal mechanisms that extend influence over digital ecosystems.
- 2. China's Model:** China has built domestic digital ecosystems supported by localisation policies, regulation, and national technology champions.
- 3. North Korea's Model:** North Korea exercises sovereignty through strict control and limited integration with the global digital ecosystem.
- 4. Europe's Regulatory Approach:** Europe promotes sovereignty through regulatory frameworks such as GDPR, the Data Governance Act, and other digital regulations.
- 5. Middle Eastern Transition:** Several Middle Eastern countries are moving towards sovereign digital architectures and greater control over critical digital infrastructure.
- 6. Brazil's Emerging Approach:** Brazil is strengthening digital sovereignty through competition reforms, platform regulation, and measures aimed at protecting users online.
- 7. Reality of Digital Interdependence:** Most countries depend on global cloud services, cross-border commerce, digital platforms, and supply chains, limiting the possibility of complete digital autonomy.

Way Forward

- 1. Strengthen Operational Sovereignty:** Countries should ensure that critical infrastructure can be audited, governed, and protected under domestic authority.
- 2. Build Resilient Infrastructure:** Diversified connectivity, trusted vendors, and redundancy can reduce vulnerability to external disruptions.
- 3. Protect Critical National Data:** Health, identity, election, and national security data require stronger safeguards and governance frameworks.
- 4. Invest in the Knowledge Layer:** Language resources, public-interest datasets, compute partnerships, and local AI development require sustained support.
- 5. Strengthen Platform Regulation:** Existing legal frameworks should be applied effectively to digital platforms, content, commerce, and liabilities.

6. **Empower Citizens and Communities:** People should have greater awareness and control over how their data and digital knowledge are used.
7. **Promote Regional and Global South Cooperation:** Digital partnerships can help countries strengthen bargaining power and develop alternative digital ecosystems.
8. **Pursue Sovereignty Without Isolation:** The objective should be greater resilience and control while remaining connected to global innovation and digital networks.

Conclusion

Digital sovereignty increasingly depends on control over infrastructure, services, data, and knowledge assets. While India has built a world-class Digital Public Infrastructure ecosystem, dependence on foreign cloud platforms, AI systems, and technology ecosystems remains a challenge. The objective is not digital isolation but practical sovereignty through stronger domestic capabilities, resilient infrastructure, and balanced global engagement.

Question for practice:

Examine the significance of cloud sovereignty in the digital age and discuss the challenges and opportunities it presents for India's quest for digital sovereignty.

Source: [Indian Express](#)

Orbital Rivalry — The Challenge of China's Space Power

UPSC Syllabus: Gs Paper 3- Science and technology

Introduction

Outer space has become a major arena of economic, technological, and military competition. The rapid growth of satellites and counter-space technologies has increased concerns about future conflicts in space. China has steadily expanded its space and counter-space capabilities to secure strategic advantages. This has created new security challenges for India, whose military, communication, navigation, and surveillance systems increasingly depend on space-based assets.

China's Expanding Space Ambitions

1. **Shift from Peaceful Use to Military Preparation:** China officially supports the peaceful use of space, but its activities indicate growing preparation for potential orbital conflict. Its programmes increasingly combine civilian, economic, and military objectives.
2. **Demonstration of Offensive Space Technologies:** China destroyed one of its own satellites in **2007**, tested a satellite-killing vehicle in **2015**, moved a defunct satellite in **2022**, and demonstrated an orbital dog-fight in **2024**. These developments show sustained investment in offensive space capabilities.
3. **Competition in the Global Space Race:** China seeks to remain competitive both technologically and numerically. It currently operates around **1,900 satellites**, although the United States still maintains a much larger presence in orbit.

4. **Recognition of Space as Strategic Infrastructure:** China views space assets as essential for communications, navigation, financial systems, power networks, military command-and-control, and ISR functions. Disrupting these systems can create major strategic advantages.
5. **Long-Term Space Development Goals:** China plans to land on the Moon by **2036**, launch a nuclear-powered shuttle by **2040**, and establish a space-based solar power system by **2050**. These goals reflect its long-term vision for space leadership.
6. **Growing Commercial Space Ecosystem:** Chinese firms such as LandSpace, iSpace and OneSpace are emerging as major players in the commercial space sector and are competing with global rivals. Commercial expansion supports China's broader strategic ambitions in space.
7. **Interest in Space Resources:** China is exploring lunar and asteroid mining for energy and critical minerals. Control over future space resources could strengthen its economic and technological position.
8. **Drive for Space Superiority:** China seeks to protect its own military and economic systems while gaining superiority over competitors. Its planned deployment of more than **36,000 low-earth orbit satellites by 2030** reflects this objective.

China's Evolving Counter-Space Capabilities

1. **Kinetic Anti-Satellite Weapons:** Systems such as the **Dong Neng-3** and **SC-19** missiles can physically destroy satellites. These capabilities allow direct attacks on orbital assets.
2. **Laser-Based Disruption Systems:** China is developing lasers capable of dazzling or blinding satellites. Such systems can interfere with navigation, surveillance, and communications without destroying satellites.
3. **Co-Orbital Satellite Operations:** Satellites from the **SJ** and **TJS** series are designed to approach, interfere with, or dislodge other satellites. These systems blur the line between normal operations and hostile actions.
4. **Electronic Warfare and Jamming:** China has deployed jammers against space-based systems, including deployments near the **Arunachal Pradesh border** during the **2020 India-China standoff**. Jamming can disrupt satellite services without creating debris.
5. **Cyber-Based Counter-Space Options:** Cyberattacks can target satellite ground stations and communication terminals. Such attacks can temporarily disable space services during military operations.
6. **Capability to Shape Early Conflict:** These systems could help the People's Liberation Army (PLA) disrupt Intelligence, Surveillance, and Reconnaissance (ISR), GPS, and communication networks during the first **24–48 hours** of a conflict. This may create operational advantages before large-scale military action begins.
7. **Expansion of Satellite Constellations:** China is rapidly increasing the size of its satellite fleet. Larger constellations improve resilience and reduce vulnerability to attacks on individual satellites.

Strategic Implications for India

1. **Capability Asymmetry with China:** India operates around **60 satellites**, while China possesses more than **400 military satellites alone**. This creates a major gap in redundancy and resilience.
2. **Greater Vulnerability to Satellite Losses:** The loss of even **five to six satellites** could significantly affect Indian capabilities. China can absorb similar losses more easily due to its larger space infrastructure.
3. **Threat to Surveillance Assets:** Chinese attacks on the **CARTOSAT** and **RISAT** series could disrupt tactical imagery for hours or even days. This would affect battlefield awareness.
4. **Risk of Temporary Blind Spots:** Laser attacks on satellites passing over the **Line of Actual Control** could create temporary surveillance gaps. Such actions can occur without physically destroying satellites.
5. **Potential Disruption of Navigation Systems:** Chinese jammers could interfere with India's **NavIC** network. This would affect navigation and military operations.
6. **Limited Indian Counter-Space Options:** India has demonstrated anti-satellite capability through **Mission Shakti**, but its overall counter-space programme remains at an early stage. Non-kinetic capabilities remain limited.
7. **Lack of Co-Orbital Capabilities:** India currently lacks co-orbital systems capable of countering satellites such as the SJ and TJS series. This restricts response options during a crisis.
8. **Risk of Wider Escalation:** Space competition can spill into land, maritime, and regional theatres. Attacks on space assets may trigger broader military responses beyond outer space.

Safeguarding India's Space Interests

1. **Expand Space Industrial Capacity:** India needs to increase satellite production and launch capacity beyond ISRO. Higher capacity will improve redundancy and resilience.
2. **Build Smaller Satellite Constellations:** Large programmes such as **GSAT** should be distributed across smaller constellations. Smaller networks are more survivable during attacks.
3. **Strengthen Ground Infrastructure Protection:** Ground stations and supporting facilities require stronger protection against kinetic and cyber threats. Their security is essential for uninterrupted operations.
4. **Improve Data-Sharing Partnerships:** Cooperation with strategic partners can help restore services quickly after satellite losses. Commercial and partner networks can provide backup support.

5. **Increase Surveillance and Reconnaissance Assets:** India is implementing the third phase of the **Space Based Surveillance programme**, which aims to deploy 52 satellites over the next ten years for surveillance and reconnaissance. This can strengthen monitoring capabilities.
6. **Develop Advanced Counter-Space Technologies:** India is working on directed energy weapons, lasers, electromagnetic pulse systems, and co-orbital technologies. These capabilities can expand future response options.
7. **Define Clear Escalation Thresholds:** India should clearly communicate its red lines and proportionate response options. This can strengthen deterrence and reduce miscalculation.

Conclusion

China's growing counter-space capabilities are steadily changing the strategic balance in outer space. Although India has strengthened its position through Mission Shakti and expanding space programmes, significant capability gaps remain. India's relatively limited satellite redundancy increases its vulnerability during a crisis. Expanding satellite networks, strengthening ground infrastructure, enhancing partnerships, and clearly defining deterrence thresholds will be essential to safeguard India's interests in an increasingly contested orbital environment.

Question for practice:

Evaluate the strategic implications of China's expanding space and counter-space capabilities for India, and examine the measures required to safeguard India's interests in outer space.

Source: [The Hindu](#)

IMEC is Caught Between Commerce and Geopolitics

UPSC Syllabus: Gs Paper 2 - International Relations

Introduction

The ongoing conflict in Iran has highlighted the growing importance of secure and resilient trade corridors. It has exposed how wars and strategic choke points can disrupt global trade, energy supplies and connectivity networks. In this context, the **India-Middle East-Europe Economic Corridor (IMEC)** has gained greater strategic relevance as an alternative route linking India and Europe. However, the same geopolitical tensions that underline its importance are also creating significant challenges for its implementation.

Iran Conflict and Changing Geopolitical Realities

1. **Limits of Military Superiority:** Iran has endured the military campaign despite facing the combined military and technological strength of Israel and the United States. The conflict has shown that superior military capability alone does not guarantee victory.
2. **Heavy American Military Losses:** A U.S. Congressional Research Service report noted that **42 U.S. aircraft**, including F-35 fighters, have been lost or damaged during the conflict. This has challenged assumptions about modern military dominance.

3. **Declining Missile Defence Capacity:** More than half of the inventories of **Patriot, Tomahawk and THAAD missiles** have reportedly been expended. This has weakened the ability to intercept Iranian missiles and drones.
4. **Large-Scale Retaliatory Capability:** Iran reportedly struck more than **240 American targets** during the conflict. This demonstrated its ability to impose significant costs despite conventional disadvantages.
5. **Fragile Ceasefire Without Resolution:** Although a ceasefire is holding, there is no immediate solution to achieve the political and military objectives pursued at the start of the war. The conflict remains unresolved.
6. **Strategic Importance of Choke Points:** The conflict showed how control over critical routes such as the **Strait of Hormuz** can disrupt global trade and energy supplies. This has increased attention on alternative connectivity corridors.

Growing Need for Alternative Connectivity Corridors

1. **Importance of Strategic Choke Points:** The blockade of the **Strait of Hormuz** showed how a single maritime passage can affect the global economy. Control over key routes remains a major strategic factor.
2. **Impact on Global Energy Supplies:** Nearly **20 million barrels of crude oil**, around one-third of global supplies, pass through the Strait of Hormuz every day. Disruptions immediately affect international markets.
3. **India's Energy Vulnerability:** India imports nearly **88% of its crude oil requirements**, amounting to about **1.8 billion barrels annually**. This makes it highly sensitive to disruptions in energy routes.
4. **Need to Avoid Conflict Zones:** Future trade corridors must reduce exposure to regions affected by wars and instability. This has become a major strategic requirement.
5. **Need to Bypass Choke Points:** Connectivity projects are increasingly being designed to avoid vulnerable maritime bottlenecks. Reducing dependence on a few routes can improve resilience.
6. **Existing Connectivity Responses:** Projects such as **International North-South Transport Corridor (INSTC)** and **Belt and Road Initiative (BRI)** were designed to reduce reliance on traditional choke points. They represent earlier efforts to build alternative trade networks.

India–Middle East–Europe Economic Corridor (IMEC): Vision and Strategic Importance

1. **Launch of IMEC:** IMEC was announced during the **G-20 Summit in New Delhi in September 2023**. It aims to strengthen connectivity between India, West Asia and Europe.
2. **Alternative to the Suez Route:** The corridor seeks to connect India and Europe while bypassing the traditional dependence on the **Suez Canal**. This can diversify trade routes.

3. **Multimodal Infrastructure Network:** IMEC combines railways, ports, highways, energy networks and digital infrastructure. The objective is to improve trade, investment and connectivity.
4. **Broader Economic Corridor:** The project goes beyond transport infrastructure. It includes pipelines, undersea data links, green hydrogen corridors and energy transmission networks.
5. **Eastern Connectivity Segment:** The eastern section links India with West Asia through sea links to the UAE. This forms the entry point of the corridor.
6. **Central and Western Segments:** The corridor passes through the UAE, Saudi Arabia, Jordan and Israel before reaching Haifa, and then connects to European ports through maritime routes.

Challenges Facing IMEC

1. **Impact of the Gaza Conflict:** The war in Gaza broke out shortly after IMEC was announced. This pushed the project into the background and affected key planned routes.
2. **Renewed Disruption from the Iran Conflict:** Efforts to revive IMEC after the 2025 Iran-Israel conflict faced setbacks due to the continuing war involving Iran. Execution has again slowed.
3. **Vulnerability of UAE Ports:** Key ports such as **Jebel Ali and Fujairah** have faced repeated targeting. This has exposed weaknesses in critical corridor infrastructure.
4. **Risks from the Strait of Hormuz:** Disruptions in the Strait of Hormuz have highlighted the geographical vulnerability of ports linked to the corridor. Trade flows remain exposed to regional tensions.
5. **Saudi Arabia-UAE Differences:** Diverging positions adopted by Saudi Arabia and the UAE during the conflict have created new uncertainties. IMEC depends on close coordination between both countries.
6. **Growing Strategic Divergence:** The UAE's withdrawal from **OPEC** and its increasing strategic coordination with Israel may widen differences with Saudi Arabia. Such developments can affect regional stability and corridor cooperation.

Way Forward

1. **Develop a Flexible IMEC Framework:** IMEC should evolve into a broader and adaptable framework. This would allow route adjustments during periods of conflict.
2. **Use Omani Ports as Alternatives:** Ports such as **Salalah, Duqm and Muscat** can serve as eastern entry points. Their location away from the Strait of Hormuz reduces risk.
3. **Create an Egyptian Western Spur:** Until Haifa becomes secure, a route through Egypt to Mediterranean ports can provide an alternative western connection. This can keep the corridor operational.
4. **Utilise Egypt's Logistics Ecosystem:** Egypt already has the **Suez Canal Economic Zone, six operational ports and four industrial zones**. These assets can support corridor activities.

5. **India's Diplomatic Role:** India enjoys trust and close relations with both Saudi Arabia and the UAE. It can help manage regional differences affecting IMEC.
6. **Support from European Partners:** Countries such as **Italy and France** can help advance the project. India and Italy have already reaffirmed cooperation on IMEC under their Special Strategic Partnership.

Conclusion

The Iran conflict has strengthened the case for connectivity corridors that can reduce dependence on conflict zones and strategic choke points. At the same time, it has revealed the vulnerabilities of projects that operate in politically unstable regions. **IMEC remains an important initiative for trade, connectivity and economic integration, but its success will depend on flexible route planning, regional cooperation and effective management of geopolitical tensions in West Asia.**

Question for practice:

Discuss how the Iran conflict has highlighted both the strategic importance and the geopolitical challenges of the India–Middle East–Europe Economic Corridor (IMEC).

Source: [The Hindu](#)

Expanding supply is the only lasting solution

Source: The post “**Expanding supply is the only lasting solution**” has been created based on “**Beyond NEET paper leak: Expanding supply is the only lasting solution**”, published in “Indian Express” on 02nd June 2026.

UPSC Syllabus: GS Paper-2- Governance

Context: The NEET-UG paper leak controversy has exposed deeper structural weaknesses in India's education system. The problem is not limited to examination malpractice but arises from the severe mismatch between the growing demand for quality education and the limited supply of educational opportunities. Therefore, expanding educational capacity through regulatory reforms is essential for ensuring both quality and equity.

Structural Problems in India's Education System

1. Limited Educational Capacity

- a. India has created only about 1.3 lakh MBBS seats despite the huge demand for medical education.
- b. The shortage of seats has intensified competition among students and increased pressure on entrance examinations.
- c. The scarcity of opportunities has also created incentives for paper leaks and other unfair practices.

2. Growth of Coaching Culture

- a. The limited availability of quality educational institutions has encouraged the growth of coaching factories across the country.
- b. Students increasingly depend on expensive coaching centres to succeed in competitive examinations.

- c. This situation gives an advantage to students from economically stronger families and urban areas.

3. Inequality of Opportunity

- a. Educational opportunities are often determined by a child's family background and place of residence.
- b. Students from disadvantaged regions face significant barriers in accessing quality schools and colleges.
- c. As a result, social and economic inequalities are reproduced through the education system.

4. Poor Learning Outcomes and Employability

- a. Many schools fail to provide basic skills such as reading, writing, arithmetic, and communication.
- b. Weak foundational learning reduces employability and productivity among young people.
- c. Consequently, many graduates struggle to find suitable employment despite possessing formal qualifications.

Why Expanding Supply is Necessary

1. Quantity and Quality Can Grow Together

- a. The expansion of engineering education demonstrates that increased capacity can eventually improve quality through competition.
- b. Over time, better institutions emerge while weaker institutions either improve or exit the market.

2. Focus Should Be on Outcomes Rather Than Ownership

- a. Policymakers should prioritize good educational institutions rather than debating whether they are public or private.
- b. The quality of learning outcomes should be the primary criterion for evaluation.

3. Deregulation Can Encourage Education Entrepreneurship

- a. Removing unnecessary NOC requirements can facilitate the establishment of new institutions.
- b. Allowing all companies to establish schools and colleges can attract investment and innovation.
- c. Eliminating excessive land requirements can reduce entry barriers for genuine education entrepreneurs.

4. Greater Competition Can Improve Inclusion and Excellence

- a. Increased supply can reduce excessive competition for limited seats.
- b. Competition among institutions can improve teaching quality, affordability, multilingual instruction, teacher training, and employability outcomes.

Way Forward

1. The government should substantially expand the number of medical, nursing, and higher education seats to match the aspirations of India's youth population.
2. Regulations should focus on learning outcomes, accreditation standards, and employability rather than excessive control over infrastructure and ownership structures.

3. Public and private sector participation should be encouraged to create a diverse and competitive education ecosystem.
4. Greater investment should be made in foundational literacy, numeracy, and teacher training to improve learning outcomes at the school level.
5. Examination systems should be strengthened through technological safeguards, transparency, and accountability mechanisms to prevent leaks and malpractice.
6. The principles of the National Education Policy (NEP) 2020 should be effectively implemented to promote flexibility, multidisciplinary learning, and skill development.

Conclusion: An educated citizen enjoys greater freedom, productivity, and social mobility. India must move beyond restrictive licensing and focus on expanding educational supply through regulatory reforms, competition, and entrepreneurship. Only a system that combines accessibility, quality, and employability can transform India's demographic advantage into sustainable economic growth.

Question: The recurring issues of coaching dependence, examination leaks, and limited access to quality higher education reflect deeper structural problems in India's education system. Discuss. Examine how expanding educational supply through regulatory reforms can improve equity, quality, and employability.

Source: [Indian Express](#)

NFHS-VI calls for a nutrition rethink

Source: The post "NFHS-VI calls for a nutrition rethink" has been created based on "NFHS-VI calls for a nutrition rethink", published in "Indian Express" on 02nd June 2026.

UPSC Syllabus: GS Paper-2- Governance

Context: The findings of NFHS-VI highlight a significant shift in India's disease profile, with rising cases of obesity and diabetes coexisting with persistent undernutrition. This dual challenge reflects India's ongoing nutritional transition and calls for a comprehensive rethinking of nutrition policies.

Double Burden of Disease in India

1. Rising Lifestyle Diseases

- a. NFHS-VI reveals that nearly one in six Indians has high blood sugar levels, indicating a growing prevalence of diabetes.
- b. The survey also reports that close to 30 per cent of Indians are obese.
- c. These conditions increase the risk of hypertension, cardiovascular diseases, kidney disorders, pancreatic diseases, and certain cancers.

2. Persistent Malnutrition

- a. Despite improvements in nutrition indicators, more than 31 per cent of children remain underweight.
- b. Over 80 per cent of children aged six to 23 months do not receive an adequate diet.
- c. Childhood undernutrition continues to affect physical growth, cognitive development, and future productivity.

3. Emerging Childhood Obesity

- a. Childhood obesity is increasing alongside undernutrition.
- b. The Comprehensive Nutritional Survey found that nearly 35 per cent of children have adult-level triglyceride levels, increasing the risk of future metabolic and cardiovascular diseases.

Challenges in Addressing Nutritional Outcomes

1. Calorie-Centric Approach: Nutrition policies have often prioritised calorie intake over nutritional diversity. This has encouraged the consumption of energy-dense but nutrient-poor foods.

2. Changing Dietary Patterns: Dietary habits have shifted away from coarse grains, pulses, and fibre-rich foods towards refined carbohydrates and processed foods. Urbanisation and lifestyle changes have accelerated unhealthy eating practices.

3. Inadequate Dietary Diversity: Many children, especially from marginalised communities, lack access to balanced and diverse diets. Micronutrient deficiencies continue to remain a major concern.

4. Limited Behavioural Focus: Government nutrition programmes have largely focused on food supply and supplementation. Insufficient attention has been paid to nutrition awareness, family practices, and maternal influence on child feeding behaviour.

Way Forward

1. Nutrition programmes should shift from a calorie-focused approach to a nutrient-sensitive approach emphasising dietary diversity.
2. Greater promotion of millets, pulses, fruits, vegetables, and traditional healthy diets should be undertaken.
3. Behaviour change communication should target families, particularly mothers, to improve infant and child feeding practices.
4. School-based nutrition education and healthy lifestyle campaigns should be strengthened.
5. Community health workers should be trained to provide nutrition counselling and monitor growth outcomes.
6. NFHS-VI data should be used for targeted, region-specific interventions addressing local nutritional challenges.
7. Convergence among schemes such as **POSHAN Abhiyaan, Integrated Child Development Services, and Mid-Day Meal Scheme** should be strengthened.

Conclusion: India's nutritional challenge is no longer limited to undernutrition alone but includes a rapidly growing burden of obesity and metabolic diseases. A balanced strategy combining food security, nutritional diversity, behavioural change, and preventive healthcare is essential to achieve better health outcomes and realise the demographic dividend.

Question: India is facing a double burden of malnutrition and lifestyle diseases. In light of the findings of NFHS-VI, examine the challenges in addressing nutritional outcomes in India and suggest measures to ensure a healthier population.

Source: [Indian Express](#)

Remittances: A buffer, now under pressure

Source: The post “**Remittances: A buffer, now under pressure**” has been created based on “**Remittances: A buffer, now under pressure**”, published in “Business Line” on 03rd June 2026.

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UPSC Syllabus: GS-3-Indian Economy

Context: India is a structurally **Current Account Deficit (CAD)** economy, with a large merchandise trade deficit. Remittances have played a vital role in financing this deficit and strengthening the balance of payments. In 2024-25, remittances reached **\$135 billion**, covering nearly **47.5% of India's trade deficit**, making them one of the most stable sources of foreign exchange earnings.

Importance of Remittances for India

1. Bridge the Trade Deficit: India's merchandise trade deficit increased from about **\$6 billion in 2000-01** to **\$284 billion in 2024-25**. Remittances offset a significant portion of this deficit.

2. Major Source of Foreign Exchange: Remittances exceeded **gross FDI inflows** in 2024-25. India has remained the **largest recipient of remittances globally since 2008**.

3. Stable External Financing Source: Remittances are less volatile than capital flows. They carry **no reversal risk**, unlike portfolio investments. They directly strengthen household balance sheets and support domestic consumption.

Changing Remittance Profile

1. Shift Towards Advanced Economies

- a. The **U.S.A** has become the largest source of remittances.
- b. **U.S.A** share increased from **22.9% to 27.7%** (2016-17 to 2023-24).
- c. **UAE** share declined from **26.9% to 19.2%**.
- d. More than half of remittances now originate from advanced economies such as the U.S.A, UK, Canada, Singapore, and Australia.

2. Increasing Dependence on Skilled Migrants: Remittances are increasingly driven by Indian professionals in OECD countries rather than semi-skilled Gulf workers.

Challenges and Risks to Remittance Flows

1. Restrictive US Policies

- a. The **One Big Beautiful Bill Act (2025)** imposed a **1% levy** on certain remittance channels.
- b. Introduction of a **\$100,000 fee on certain new H-1B visas** increases migration costs.
- c. Tightening of student visa norms may reduce future migration and remittance potential.

2. AI-Driven Labour Market Disruptions

- a. Around **1,13,000 tech jobs** were eliminated globally in the first five months of 2026.
- b. Nearly **47.9% of job cuts** were linked to AI and automation.
- c. Sectors such as software engineering, customer service, marketing, and sales—major employers of Indian professionals—are highly vulnerable.

3. Structural Changes in Advanced Economies

- a. California's Executive Order N-6-26 reflects growing concern over AI-led job displacement.
- b. Future welfare measures may focus on citizens rather than migrant workers.
- c. Demand for high-skilled migrant labour could decline over time.

4. Risks in Gulf Countries (GCC)

- a. Geopolitical tensions such as Israel-Iran conflict and Red Sea disruptions may affect Gulf economies.
- b. Lower crude oil prices could reduce government revenues.
- c. Labour nationalisation policies such as **Saudization (Nitaqat)** and **Emiratization** may displace Indian workers.

Implications for India

1. Reduced remittance inflows may widen the **Current Account Deficit**.
2. Pressure may increase on the **Balance of Payments**.
3. The **rupee could face depreciation pressures**.
4. External sector vulnerability may rise due to dependence on a few advanced economies.

Way Forward

1. Diversify Migration Destinations

- a. India should reduce excessive dependence on the U.S.A and GCC countries.
- b. Greater labour mobility agreements should be pursued with emerging destinations in Europe, East Asia, and other developed economies.

2. Upgrade Workforce Skills

- a. Focus on AI, data science, cybersecurity, robotics, semiconductor technology, and advanced digital skills.
- b. Continuous reskilling and upskilling can help Indian professionals remain competitive in changing global labour markets.

3. Promote High-Skilled Migration

- a. Encourage migration of professionals in healthcare, research, engineering, education, and advanced technology sectors where demand is likely to remain strong.
- b. Strengthen international recognition of Indian qualifications and certifications.

4. Strengthen Bilateral Labour Agreements

- a. Negotiate labour mobility and social security agreements with major destination countries.
- b. Protect the interests of Indian migrant workers and ensure smoother migration pathways.

5. Enhance Domestic Employment Opportunities

- a. Accelerate growth in manufacturing and services through initiatives such as Make in India and Digital India.

- b. Reduce overdependence on overseas employment as a source of income and foreign exchange.

6. Expand Formal Remittance Channels

- a. Promote low-cost and digital remittance systems.
- b. Improve financial inclusion and reduce transaction costs for overseas Indians.

7. Build External Sector Resilience

- a. Increase export competitiveness in goods and services.
- b. Diversify sources of foreign exchange through exports, tourism, and stable long-term investments.
- c. Maintain adequate foreign exchange reserves to absorb external shocks.

8. Strengthen Engagement with the Indian Diaspora

- a. Deepen economic and institutional ties with the global Indian diaspora.
- b. Encourage diaspora investments through special bonds, investment platforms, and business partnerships.

Conclusion: Remittances have long served as a reliable buffer for India's external sector. However, rising protectionism, AI-induced labour market changes, and geopolitical uncertainties pose significant challenges. India must diversify migration destinations, strengthen domestic employment generation, and enhance external sector resilience to mitigate future risks.

Question: Remittances have emerged as a crucial pillar of India's external sector stability. However, recent technological, economic, and geopolitical developments pose significant risks to future remittance flows. Discuss.

Source: [Business Line](#)

The need for strengthening India's EV supply chains

Source: The post "The need for strengthening India's EV supply chains" has been created based on "The need for strengthening India's EV supply chains", published in "Business Line" on 03rd June 2026.

UPSC Syllabus: GS-3 -Indian Economy

Context: India has entered a decisive phase of electric mobility growth, with around 2.5 million EVs sold in FY26. While policy interventions have successfully stimulated demand for EVs, ensuring secure and resilient supply chains has become essential for sustaining long-term growth and reducing external vulnerabilities.

Why Strengthening EV Supply Chains is Necessary

1. To Reduce Import Dependence

- a. India is gradually reducing its dependence on imported fossil fuels.
- b. However, the country is becoming increasingly dependent on imported lithium-ion batteries and battery components.

2. To Ensure Energy Security

- a. Excessive reliance on foreign suppliers can expose India to supply disruptions and geopolitical risks.
- b. A strong domestic supply chain can enhance India's energy security and strategic autonomy.

3. To Support Sustainable EV Growth

- a. Rapid EV adoption requires a stable supply of batteries and critical components.
- b. Domestic manufacturing can support uninterrupted growth of the EV sector.

4. To Enhance Industrial Competitiveness: A robust EV ecosystem can create jobs, promote innovation, and strengthen India's manufacturing capabilities.

Challenges in India's EV Supply Chains

1. Limited Domestic Manufacturing Capacity

- a. Although 40 GWh of battery manufacturing capacity has been allocated under the ACC Battery PLI Scheme, only around 1 GWh has become operational so far.
- b. As a result, domestic production remains insufficient to meet growing demand.

2. Heavy Dependence on Imported Batteries

- a. A large share of batteries used in Indian EVs is imported from global manufacturers.
- b. Chinese firms continue to play a significant role in supplying battery cells.

3. Concentrated Global Supply Chains

- a. The global battery supply chain remains heavily influenced by China.
- b. Trade restrictions, technology controls, and export-related measures can affect supply availability.

4. Geopolitical Uncertainties

- a. Conflicts and instability in different regions can disrupt transportation routes and supply chains.
- b. Such disruptions can increase production costs and delay deliveries.

5. Rising Battery Costs

- a. Higher battery costs make EVs more expensive for consumers.
- b. This can delay price parity between EVs and conventional internal combustion engine vehicles.

6. Dependence on a Single Technology

- a. Excessive reliance on lithium-ion batteries increases technological and supply-chain risks.
- b. Any disruption in lithium supply can affect the entire EV ecosystem.

Way Forward

1. India should diversify battery sourcing strategies.

- a. The country should adopt a "China+1" approach by sourcing materials and components from multiple countries.
- b. This will reduce dependence on any single supplier.

2. India should accelerate domestic battery manufacturing.

- a. Faster implementation of the ACC Battery PLI Scheme can boost indigenous production.
- b. Greater investment should be encouraged in battery cell manufacturing.

3. Manufacturers should improve battery efficiency.

- a. Vehicle designs should focus on reducing battery size without compromising performance.
- b. Efficient battery management systems can lower costs and improve affordability.

4. India should promote multiple battery chemistries.

- a. Manufacturers should develop platforms that can support different battery technologies.
- b. This will reduce dependence on a single battery chemistry.

5. India should invest in alternative technologies.

- a. Research and development should be expanded in sodium-ion batteries and other emerging technologies.
- b. These alternatives can reduce dependence on imported lithium.

6. India should build international partnerships.

- a. Strategic partnerships should be developed for critical minerals, technology transfer, and supply chain resilience.
- b. Collaboration with trusted countries can strengthen long-term supply security.

7. India should create a comprehensive EV supply-chain ecosystem.

- a. The ecosystem should include mining, processing, manufacturing, recycling, research, and skill development.
- b. Such integration will reduce vulnerabilities and strengthen self-reliance.

Conclusion: India's EV transition is entering a critical phase where supply-chain resilience is as important as demand creation. Building diversified, technology-neutral, and domestically anchored EV supply chains will be essential for ensuring energy security, industrial competitiveness, and the successful achievement of India's clean mobility goals.

Question: As India's electric vehicle (EV) adoption accelerates, strengthening domestic EV supply chains has become critical for ensuring energy security and industrial resilience. Discuss the challenges and suggest measures to build a resilient EV supply chain ecosystem in India.

Source: [The Hindu](#)

How Land Pooling Solves Acquisition Woes

UPSC Syllabus: Gs Paper 3- Land reforms in India.

Introduction

India's growing need for roads, housing, and urban infrastructure requires large-scale land assembly. However, conventional land acquisition has become increasingly difficult due to rising compensation costs, rehabilitation obligations, legal disputes, and delays in securing land. As these challenges have delayed many infrastructure projects and widened the gap between planning and implementation. In response, land pooling has emerged as an alternative approach. It helps secure land for development while allowing landowners to benefit from urban growth.

What is Land Pooling and Its Mechanism?

- 1. Meaning of Land Pooling:** Land pooling, also known as land readjustment or land reconstitution, is a system in which landowners voluntarily pool their land for planned development and receive a part of the developed land in return.
- 2. Voluntary Pooling of Land Parcels:** Individual landowners voluntarily contribute their land instead of the government acquiring it through compulsory methods.
- 3. Transfer of Land for Planning:** The pooled land is brought under a planning authority so that fragmented parcels can be developed as a single unit.
- 4. Use of Land for Infrastructure:** A portion of the pooled land is used for roads, parks, schools, public amenities, housing for economically weaker sections, and other civic infrastructure.
- 5. Typical Land Contribution Pattern:** Under Town Planning (TP) schemes, landowners generally contribute about 25-40% of their land, while the remaining 60-75% is returned after development.
- 6. Reconstitution of Land Parcels:** The remaining land is reorganised into properly shaped and planned plots that fit the development layout.
- 7. Return of Developed Land:** Landowners receive serviced plots with better infrastructure and connectivity than their original holdings.
- 8. Increase in Land Value:** The returned plots become more valuable because of the infrastructure and urban development created around them.

Why Land Acquisition Has Become Difficult?

- 1. Rising Compensation Burden:** The **Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013** increased compensation and rehabilitation obligations, raising acquisition costs.

2. **Time-Consuming Process:** Land acquisition was already slow before 2013, and additional legal requirements have made the process even longer.
3. **Frequent Disputes and Opposition:** Landowners often challenge acquisition because of concerns regarding compensation, rehabilitation, and livelihood loss.
4. **Financial Constraints of States:** Many States struggle to arrange the large financial resources needed for compensation payments.
5. **Gap Between Plans and Implementation:** Urban projects are often delayed because governments cannot mobilise the required land.
6. **Complex Legal Environment:** Different infrastructure-related laws follow different compensation and rehabilitation provisions, creating administrative difficulties.
7. **Growth of Land Litigation:** A large number of land and property disputes increase uncertainty and delay project execution.

How Land Pooling Addresses Acquisition Challenges and Supports Urban Development

1. **Reduces Dependence on Compulsory Acquisition:** Land pooling reduces the need for compulsory acquisition because landowners voluntarily contribute land for development.
2. **Lowers Financial Burden on Governments:** Governments do not have to pay large compensation amounts for acquiring land, making infrastructure projects more financially viable.
3. **Reduces Acquisition Disputes:** Voluntary participation helps reduce conflicts related to compensation, rehabilitation, and land surrender.
4. **Speeds Up Land Availability:** Land can be mobilised more quickly as the process avoids many delays associated with conventional acquisition.
5. **Bridges the Planning-Implementation Gap:** Land pooling helps make land available for projects that often remain delayed because of acquisition difficulties.
6. **Supports Planned Urban Development:** The pooled land provides space for roads, parks, public amenities, housing, and other infrastructure while enabling more organised urban expansion.
7. **Encourages Equitable Sharing of Development Gains:** Landowners receive developed plots in return, allowing them to benefit from the increase in land value created by development.
8. **Reduces Displacement:** Landowners continue to retain land within the developed area, reducing the displacement commonly associated with acquisition.
9. **Promotes Financially Sustainable Development:** Development costs are recovered during implementation through value gains and incremental charges instead of relying entirely on public expenditure.

State Experiences and Innovations

1. Gujarat's Long Experience:

- **Long Experience:** Land pooling was introduced nearly **100 years ago** and was later formalised under the **Gujarat Town Planning and Urban Development Act, 1976**.
- **Large-Scale Implementation:** More than **1,000 sq. km** across Ahmedabad, Surat, Rajkot, Vadodara, and Gandhinagar has been planned through TP schemes.

2. Maharashtra's Revival of the TP Model:

- **Recent Adoption:** Pune and the Mumbai Metropolitan Region Development Authority have revived TP schemes to provide infrastructure and serviced land in peripheral urban areas.

3. Guwahati's Innovation:

- **Institutional and Land Record Challenges:** The legal framework lacked clarity on land appropriation and institutional roles. The absence of digitised land records also created implementation difficulties.
- **Administrative Adaptations:** Authorities used revenue records for plot allocation instead of lengthy surveys, reducing preparation time. Landowners were asked to contribute only **12-15%** of land, compared to the usual **35-45%**, improving acceptance.

4. Rajasthan's Adaptation:

- **Financial Adjustments:** Although land pooling was recognised in statutory provisions in 2016, implementation was limited by lack of experience.
- **Reducing Burden on Landowners:** The State is revising land-value calculations and absorbing part of the development cost to make the scheme more attractive and equitable.

Challenges in Expanding Land Pooling

1. **Need for Clear Legal Frameworks:** States require well-defined provisions regarding land contribution, implementation, and institutional responsibilities.
2. **Lack of Updated Institutional Systems:** Some States have not sufficiently updated laws and procedures required for effective implementation.
3. **Poor Land Records:** Manual records and differences between official records and ground conditions create implementation difficulties.
4. **Building Confidence Among Landowners:** Governments must clearly communicate benefits and secure the trust of landholders.

5. **Concerns About Voluntary Participation:** Development pressures can sometimes weaken the voluntary character of land pooling arrangements.
6. **Limited Support for Landless Groups:** Tenant farmers and agricultural labourers may receive inadequate support under compensation arrangements.
7. **Requirement of Fair Financial Models:** Land contribution mechanisms and cost-sharing arrangements must remain equitable for long-term acceptance.

Conclusion

Land pooling offers a practical alternative to conventional land acquisition. It reduces costs, disputes, and delays while helping governments secure land for urban development. It also allows landowners to share the benefits of development. However, its success depends on clear laws, reliable land records, stakeholder trust, fair financial arrangements, and local innovations. These factors will determine its long-term effectiveness across States.

Question for practice:

Examine how land pooling addresses the challenges of conventional land acquisition and supports urban infrastructure development in India.

Source: [The Hindu](#)

The Future of India's Chip Industry

UPSC Syllabus: Gs Paper 3- Science and Technology

Introduction

Semiconductors have become critical for economic growth, national security, digital infrastructure and advanced technologies. Recognising their strategic importance, NITI Aayog's Frontier Tech Hub recently released the report *Future of India's Semiconductor Industry*, which outlines a long-term roadmap for building a competitive domestic semiconductor ecosystem. While India has launched major initiatives such as the India Semiconductor Mission and several projects are under development, significant challenges remain in manufacturing capacity, technology development, talent creation and long-term investment.

Why Semiconductors Matter for India

1. **Foundation of Modern Technologies:** Semiconductors are used in almost all electronic products, including smartphones, consumer electronics, telecom equipment, defence systems and AI applications.
2. **National Security Requirement:** Many semiconductor components used in aerospace and defence systems are produced outside India. This creates strategic and security risks.
3. **Economic Resilience:** A strong domestic semiconductor ecosystem can reduce external dependence and improve India's economic resilience.
4. **Supply Chain Security:** Global semiconductor production is concentrated in a few regions. Any disruption can affect India's electronics manufacturing sector.

5. **Growing Domestic Demand:** Demand for chips is increasing due to the expansion of smartphones, electric vehicles, artificial intelligence, telecommunications equipment and data centres.
6. **Digital Infrastructure Support:** Semiconductors are essential for digital infrastructure and future technological competitiveness.
7. **Participation in Global Value Chains:** India has an opportunity to move from being a large semiconductor market to becoming an important part of the global semiconductor value chain.

Current Status of India's Semiconductor Ecosystem

1. **No Operational Fabrication Unit Yet:** India does not currently have a semiconductor fabrication plant. The first fab is expected to begin operations in Dholera, Gujarat by 2028.
2. **Projects Under Development:** Around **ten semiconductor projects** are currently at different stages of development.
3. **Support Through India Semiconductor Mission:** The government has launched the **₹76,000 crore India Semiconductor Mission (ISM)** to support semiconductor manufacturing and ecosystem development.
4. **Subsidies for Fabrication Projects:** Semiconductor fabs have received capital support of more than **50%**, reducing the financial burden on investors.
5. **Support for Other Segments:** Component manufacturing projects receive production-linked and output-linked incentives.
6. **Focus on Packaging and Testing:** Several packaging and testing facilities have received support from the Union and State governments.
7. **Design Ecosystem Development:** ISM also supports access to industry-grade semiconductor design applications for students and academic institutions.
8. **Dependence on Imports Continues:** Even chips used in domestic electronics assembly operations are still largely sourced from foreign suppliers.

Challenges Before India's Chip Industry

1. **Limited Domestic Capacity:** India's semiconductor ecosystem is not yet capable of meeting domestic semiconductor demand.
2. **Long Gestation Period of Fabs:** Semiconductor fabrication facilities usually require **four to five years** before production starts.
3. **Dependence on Imported Equipment:** Fabs need more than **50 specialised pieces of equipment**, most of which are sourced from global suppliers.
4. **Delayed Commercialisation:** Yield optimisation and reliability testing take several quarters after production before chips reach the market.

5. **Talent Development Constraints:** Building a skilled workforce for semiconductor manufacturing requires significant time and effort.
6. **High Capital Requirement:** Semiconductor manufacturing is one of the most capital-intensive industries and requires long-term financial commitment.
7. **Technology and Research Gaps:** India still needs stronger capabilities in materials science, silicon design and advanced semiconductor engineering.
8. **Geopolitical Vulnerability:** Events such as disruptions in major semiconductor-producing regions can affect India's technology and electronics sectors.

Way Forward

A. Building Indigenous Capabilities

1. **Strengthen Design and Research Capabilities:** India needs stronger domestic capabilities in semiconductor design, research and intellectual property creation.
2. **Promote R&D Excellence:** Greater focus is required on materials science, silicon design and advanced semiconductor technologies.
3. **Use AI in Semiconductor Engineering:** Agentic AI can help improve semiconductor engineering and innovation capabilities.
4. **Move Towards Technology Creation:** India should move from a services-led design base to creating differentiated technologies, architectures and integration systems.
5. **Develop Skilled Talent:** A strong semiconductor workforce is needed across design, manufacturing, packaging and research activities.
6. **Create Advanced Design IP:** The roadmap aims to develop more than **100 advanced semiconductor design IPs**.

B. Strategic Investment Approach

1. **Ensure Long-Term Commitment:** The semiconductor sector requires mission-mode support and policy continuity over a decade or more.
2. **Increase Capital Investment:** The roadmap estimates public investment of **\$45–60 billion over ten years**.
3. **Support Bankable Projects:** Public funding should focus on projects with lower risk and stronger investment viability.
4. **Prioritise Mature and Compound Nodes:** Investment should focus on mature and strategically important technologies rather than only frontier chips.

5. **Promote Capital Efficiency:** India should pursue selective depth and system-level differentiation instead of replicating the complete global manufacturing chain.
6. **Expand Packaging Ecosystem:** Packaging should be treated as a core production pillar because it is less complex and less expensive than fabrication.
7. **Promote Import Substitution:** High-volume domestic segments should gradually reduce dependence on imported semiconductor products.

C. Strengthening Global Partnerships

1. **Collaborate with Trusted Partners:** India should deepen cooperation with the **United States, Japan, European Union and South Korea.**
2. **Access Critical Technologies:** Partnerships can help secure access to specialised tools, equipment servicing and lifecycle support.
3. **Leverage India's Strengths:** India's market scale, talent base and packaging capabilities can support international collaboration.
4. **Become a Key Node in Global Value Chains:** Trusted partnerships can help India become an important semiconductor manufacturing and technology hub within global value chains.

Conclusion

India's semiconductor sector remains at an early stage, but growing policy support and a clear roadmap provide a strong foundation for future growth. Building indigenous capabilities, making strategic investments and strengthening trusted global partnerships will be crucial for success. With sustained commitment over the long term, India can improve economic resilience, reduce external dependence and emerge as an important player in the global semiconductor value chain.

Question for practice:

Discuss the importance of developing a domestic semiconductor industry in India, the challenges it faces, and the measures needed to build a competitive semiconductor ecosystem.

Source: [The Hindu](#)

India, Myanmar, and a shifting balance

Source: The post "**India, Myanmar, and a shifting balance**" has been created based on "**India, Myanmar, and a shifting balance**", published in "Indian express" on 04th June 2026.

UPSC Syllabus: GS-2-International Relations

Context: Myanmar is a crucial neighbour of India, sharing a **1,600-km border** and acting as a **land bridge for India's Act East Policy**. However, political instability following the 2021 military coup and the ongoing civil war have created complex security and diplomatic challenges for India.

Why Myanmar is Important for India

1. **Border Security:** India and Myanmar share a long and porous border. Militancy, ethnic linkages, and cross-border movements directly affect security in India's Northeastern states.
2. **Refugee Concerns:** The civil war has led to the inflow of refugees into states such as **Mizoram and Manipur**. This has created humanitarian and administrative challenges.
3. **Act East Policy:** Myanmar serves as India's gateway to Southeast Asia. Connectivity and trade projects with ASEAN countries depend significantly on stability in Myanmar.
4. **Economic Cooperation:** Both countries are exploring cooperation in trade, healthcare, connectivity, and rare earth minerals.

Challenges Before India

1. **Political Instability in Myanmar:** The military coup of 2021 and the subsequent civil war have weakened governance and stability.
2. **Weak Control Over Border Areas:** Several regions bordering India are controlled by ethnic militias and non-state actors rather than the Myanmar military.
3. **Human Rights Concerns:** The junta has been accused of atrocities against the Rohingya population and pro-democracy groups. Excessive engagement with the military regime can attract international criticism.
4. **Growing Chinese Influence:** China has expanded its influence by supporting Myanmar's military leadership. Beijing seeks to protect its strategic and economic interests, including oil and gas infrastructure. Increasing Chinese presence can undermine India's strategic interests in the neighbourhood.

India's Required Approach

1. **Balanced Engagement:** India should maintain engagement with the government in Naypyidaw while also interacting with non-state actors controlling border regions.
2. **Security Cooperation:** Strengthen coordination on border management, counter-insurgency, and intelligence sharing.
3. **Protect Strategic Interests:** Ensure continuity of connectivity and infrastructure projects under the Act East Policy.
4. **Counter Chinese Influence:** Deepen economic and developmental engagement to maintain strategic space in Myanmar.
5. **Flexible Neighbourhood Policy:** Adopt a pragmatic and adaptable approach until political stability returns to Myanmar.

Conclusion: India's Myanmar policy must balance strategic interests, border security, humanitarian concerns, and regional stability. Until peace and stability return to Myanmar, a flexible and pragmatic engagement with both Naypyidaw and non-state actors remains essential for safeguarding India's neighbourhood and Act East objectives.

Question: Myanmar's continuing instability poses significant security, strategic, and humanitarian challenges for India. Examine India's approach towards Myanmar and discuss why a flexible policy is necessary in the present context.

Source: [Indian Express](#)

Preserving the record: On the right to be forgotten

Source: The post "Preserving the record: On the right to be forgotten" has been created based on "Preserving the record: On the right to be forgotten", published in "The Hindu" on 04th June 2026.

UPSC Syllabus: GS-2-Polity & Governance

Context: The **right to be forgotten** seeks to provide individuals with greater control over their personal information in the digital age. However, its implementation must be balanced with the principles of **open justice, public access to court records, and judicial transparency**.

Importance of Open Justice

- 1. Promotes Public Understanding of Law:** Open justice enables citizens to understand court proceedings and legal principles. It strengthens trust in the judicial system.
- 2. Creates a Historical Record:** Public court records preserve the history of judicial administration. They ensure accountability and transparency in decision-making.
- 3. Facilitates Access to Justice:** Publicly available judgments help litigants, lawyers, and researchers access legal information. They support informed legal decision-making.

Right to be Forgotten and Privacy Concerns

- 1. Protection of Personal Information:** The right allows individuals to exercise control over their personal data. It seeks to limit unnecessary exposure of personal information online.
- 2. Impact of Digitisation:** Digital court records can be accessed by anyone with an internet connection. Search engines and databases make information easily discoverable and permanently available.
- 3. Delhi High Court's Observation:** The court recognised the need to balance privacy with open justice. It held that merely updating records may not adequately protect individuals from reputational harm.

Challenges in Implementing the Right to be Forgotten

- 1. Conflict Between Privacy and Public Interest:** Privacy rights may clash with society's interest in accessing judicial records. Excessive restrictions can undermine transparency.
- 2. Incomplete Digital Records:** Court databases often do not reflect the final outcome of cases. A person acquitted or discharged may still appear linked to allegations.
- 3. Persistence of Digital Information:** Information remains accessible indefinitely through search engines. This can affect reputation even after legal exoneration.
- 4. Risk to Open Justice:** Removal or concealment of records may reduce public scrutiny of judicial proceedings. It may weaken the principle of open courts.

Judicial Position

1. Justice K.S. Puttaswamy (2017)

- The Supreme Court recognised privacy as a fundamental right.
- The judgment discussed the possibility of a right to control personal information.

2. Indian Kanoon Case (2024)

- a. The court ruled that judicial records must remain publicly accessible.
- b. It held that records should not be obscured in a manner inconsistent with public access and open justice.

2. Delhi High Court Ruling (2026)

- a. The court attempted to balance competing interests.
- b. It held that updating official records would not sufficiently address concerns regarding discoverability of information.
- c. It permitted partial concealment of certain portions without requiring the removal of case details.

Way Forward

1. Improve Accuracy of Judicial Records

- a. Digital records should clearly reflect the final outcome of cases.
- b. Acquittals, discharges, and case closures should be prominently displayed.

2. Regular Updating of Databases: Courts should ensure timely updating of records on judicial platforms.

3. Balance Privacy and Transparency

- a. Sensitive personal information may be masked where necessary.
- b. Core judicial records should remain accessible in the public interest.

4. Establish Uniform Guidelines: The judiciary should frame clear standards for handling requests related to the right to be forgotten.

Conclusion: The right to be forgotten is an important privacy safeguard in the digital era, but it cannot override the principle of open justice. The solution lies in **accurate, updated, and contextualised judicial records** that protect individual dignity while preserving transparency, accountability, and public confidence in the justice system.

Question: The right to be forgotten must be balanced against the principles of open justice and public interest. Examine the challenges involved and suggest measures to ensure both privacy protection and judicial transparency.

Source: [The Hindu](#)

Great Nicobar Task: Pursuing National Security with Ecological Responsibility

UPSC Syllabus: Gs Paper 3- Infrastructure And Environment

Introduction

The Great Nicobar Development Project has brought renewed attention to the challenge of balancing national security, economic development and environmental protection. Located near major Indo-Pacific sea routes and

maritime chokepoints, Great Nicobar holds significant strategic value for India. The proposed infrastructure development seeks to strengthen India's maritime presence, economic capabilities and regional influence while ensuring ecological safeguards and protection of tribal communities through responsible and scientific planning.

Growing Geopolitical and Maritime Importance of the Indo-Pacific

1. **Indian Ocean as a Strategic Arena:** Energy flows, container traffic, naval deployments, undersea cables and maritime surveillance have made the Indian Ocean a major arena of geopolitical competition.
2. **Location Near Global Trade Routes:** Great Nicobar lies close to major sea lanes linking Asia, Africa, Europe and the Middle East, through which large volumes of global trade move.
3. **Importance of Maritime Chokepoints:** Its proximity to the Malacca, Sunda and Lombok Straits provides India an important advantage near some of the world's busiest maritime passages.
4. **Strategic Value of the Six Degree Channel:** Galathea Bay is about 45 km from the Six Degree Channel, a critical route connecting the Malacca Strait with regions beyond the Indian Ocean.
5. **Heavy Maritime Traffic:** Around 1 lakh ships annually pass through the Malacca Strait–Six Degree Channel route, highlighting the importance of this maritime corridor.
6. **Emerging Regional Connectivity Projects:** Thailand's proposed 90 km multimodal land bridge may reshape regional trade patterns and increase the importance of the Andaman basin.

Great Nicobar as a Pillar of India's National Security

1. **Strategic Position in the Indo-Pacific:** The island's location near Southeast Asia and major sea routes makes it one of India's most important maritime assets.
2. **Strengthening India's Maritime Presence:** The proposed port, airport, township and power infrastructure can help India maintain a sustained presence at a critical maritime location.
3. **Enhancing Sovereignty Through Development:** Connected, inhabited and productive territories become more strategically useful and strengthen national sovereignty.
4. **Responding to Regional Competition:** As countries expand ports, logistics facilities and surveillance networks across the Indian Ocean Region, India also needs to consolidate its position.
5. **Support for Defence and Security:** The National Green Tribunal recognised the project's significance for defence, national security and economic development.
6. **Shifting from Continental to Maritime Thinking:** The project reflects a greater focus on India's maritime interests in a region where strategic competition is increasing.

7. **Need for Strategic Consolidation:** Growing maritime competition requires India to strengthen its presence through infrastructure, connectivity and operational capabilities.

Economic and Strategic Gains from the Development Project

1. **Reducing Dependence on Foreign Transshipment Hubs:** A transshipment port at Great Nicobar can provide India greater control over the movement of its cargo.
2. **Strengthening Supply Chains and Trade:** Improved maritime infrastructure can enhance supply-chain resilience and support India's trade interests.
3. **Gateway to Southeast Asia and the Indo-Pacific:** The island can serve as a link between India, Southeast Asia and wider Indo-Pacific economic networks.
4. **Investment and Employment Generation:** Infrastructure development can attract investment and create economic opportunities in the region.
5. **Converting Geography into Influence:** Strategic infrastructure can transform a favourable location into long-term economic and strategic strength.
6. **Building Long-Term Maritime Capacity:** The project aims to create an ecosystem that supports trade, logistics and national security together.

Balancing Strategic Development with Ecological Responsibility

1. **Ecological Sensitivity of the Island:** Great Nicobar is environmentally fragile and contains important biodiversity, including the endangered leatherback turtle.
2. **Environmental Footprint of the Project:** The project area is 166.10 sq km, which is only about 2% of the total area of the Andaman and Nicobar Islands. About 130.75 sq km of forest land, equivalent to nearly 1.82% of the islands' total forest area, has been proposed for diversion.
3. **Protection of Tribal Communities:** The Shompen and Nicobarese communities possess distinct cultural identities that require protection and sensitivity.
4. **Responsible Rehabilitation Measures:** Any rehabilitation process should ensure livelihood security, healthcare, education and cultural continuity.
5. **Scientific Environmental Safeguards:** Development should follow legal compliance, scientific monitoring, transparency and effective mitigation measures.
6. **Balancing Development with Conservation:** Environmental protection should remain a priority, but ecological concerns should not permanently prevent strategically important development projects.

Need for Strategic Vision and Balanced Decision-Making

1. **Avoiding Strategic Neglect:** Leaving a strategically important island underdeveloped could weaken India's long-term maritime position.
2. **Lessons from Earlier Policy Decisions:** Past decisions have shown that excessive caution in strategic projects can create security and surveillance gaps.
3. **Maritime Infrastructure as a Security Requirement:** Ports, logistics hubs, surveillance systems and island infrastructure have become essential elements of national power.
4. **Importance of Long-Term Planning:** Countries strengthen their position by anticipating future geopolitical changes rather than reacting to them later.
5. **Balancing Security and Environmental Concerns:** The project should be viewed as an effort to achieve national security and environmental responsibility together.
6. **Need for Strategic Maturity in Public Debate:** Debate on the project should focus on facts, planning and accountability rather than viewing development and conservation as mutually exclusive.

Conclusion

The Great Nicobar project offers India an opportunity to convert a strategic geographical advantage into long-term maritime, economic and security strength. Its success depends on balancing infrastructure development with ecological safeguards and protection of tribal communities. Through careful planning, scientific monitoring and responsible implementation, India can pursue national security while preserving environmental and social interests.

Question for practice:

Examine the strategic significance of the Great Nicobar Development Project for India's maritime security and economic interests, while highlighting the need to balance development with ecological and tribal concerns.

Source: [Indian Express](#)

Missing in India's Heat Action Plans

UPSC Syllabus: Gs Paper 3- Environment

Introduction

India is witnessing more frequent, intense and prolonged heatwaves, along with rising humidity and warmer nights. These conditions are increasing health risks, reducing labour productivity and putting pressure on agriculture and energy systems. India has developed Heat Action Plans featuring early warnings, public awareness campaigns and emergency response measures. However, several critical aspects of heat adaptation, including thermal comfort, worker protection, climate-responsive infrastructure and effective implementation, remain inadequately addressed. This limits the overall effectiveness of heat resilience efforts.

Growing Heatwave Challenge in India

1. **Extreme Temperatures Becoming Common:** India accounted for **97 of the world's 100 hottest cities** during one phase of the 2026 heatwave. Temperatures between **45°C and 48°C** are becoming increasingly common across many regions.
2. **Heatwaves Lasting Longer:** Heatwaves in India are becoming more persistent, with their duration increasing by 0.44 days per decade since 1961, indicating longer periods of extreme heat exposure.
3. **Rising Night-Time Temperatures:** Average night temperatures are increasing by about **0.21°C per decade**. This reduces the body's recovery time from daytime heat exposure.
4. **Humidity Increasing Heat Stress:** Average relative humidity increased from **67.1% during 2015–19** to **71.2% during 2020–24**. Higher humidity weakens the body's natural cooling process.
5. **Dangerous Wet-Bulb Conditions:** A wet-bulb temperature of **35°C** can become life-threatening even for healthy individuals. Some studies suggest harmful thresholds may be lower in certain locations.
6. **Heat Exposure Is Unequal:** Around **380 million workers** are employed in heat-exposed sectors such as agriculture and construction. Only **8% of Indian households** have air conditioning.
7. **Vulnerable Groups Face Greater Risk:** Elderly people, infants, outdoor workers and pregnant women face higher health risks. Extreme heat can also contribute to cardiovascular diseases, kidney failure, disturbed sleep and lower productivity.

Existing India's Heat Response Framework

1. **Early Warning and Alert System:** The IMD issues impact-based heatwave forecasts through a four-tier colour-coded alert system—Green, Yellow, Orange and Red—to guide administrative preparedness and emergency response.
2. **Decentralised Heat Action Plans:** State, district and city-level Heat Action Plans operate across **23 heat-prone states and more than 270 districts** to manage local heat risks.
3. **Inter-Agency Coordination Mechanism:** Heat Action Plans bring together health, labour, transport and municipal departments under a lead agency to ensure coordinated action during heat events.
4. **Public Awareness and Community Outreach:** Authorities conduct multilingual awareness campaigns and establish drinking water kiosks to help people reduce heat-related risks.
5. **Healthcare Preparedness Measures:** The National Action Plan on Heat-Related Illnesses supports training of medical personnel and strengthens healthcare facilities to manage heat-related cases.
6. **Labour Protection Measures:** Working hours for outdoor activities are adjusted or rescheduled to reduce heat exposure among construction and agricultural workers during peak temperature periods.

7. **Dedicated Funding for Heat Resilience:** States can utilise the National and State Disaster Mitigation Funds for proactive heatwave interventions, while the 16th Finance Commission has recommended recognising heatwaves as a notified national disaster.
8. **Long-Term Cooling and Urban Resilience Initiatives:** The India Cooling Action Plan promotes energy-efficient cooling and thermal comfort, while urban resilience measures encourage cool roofs, urban forests, reflective materials and heat-sensitive city planning

Gaps in Existing Heat Action Plans

1. **Focus Remains on Emergency Measures:** Most responses focus on alerts, hydration, cooling centres and behavioural advisories. Long-term adaptation measures receive comparatively less attention.
2. **Clothing and Thermal Comfort Are Largely Ignored:** Clothing directly affects the body's cooling process, yet it is largely absent from heat policies. School uniforms, workplace dress codes and polyester-based clothing often prioritise cost and durability over breathability and thermal comfort.
3. **Occupational Safety Standards Remain Incomplete:** Existing workplace guidelines mainly emphasise hydration and rest breaks. Fabric performance and thermal comfort are rarely included in worker protection measures.
4. **Informal Workers Remain Outside Protection Systems:** Nearly **90% of India's workforce** works in the informal sector. Many workers lack access to formal safeguards during extreme heat.
5. **Weak Implementation of Heat Action Plans:** Heat Action Plans often struggle with enforcement and monitoring. Many informal workers and daily-wage labourers remain outside the protection framework.

Emerging Challenges Beyond Traditional Heat Planning

1. **Electricity Demand Is Reaching Record Levels:** India's power demand crossed **270 GW** for the first time, surpassing the previous peak of **243 GW** recorded in 2025.
2. **Night-Time Power Outages Increase Risk:** Power cuts during hot nights prevent adequate cooling. This increases the health impacts of continuous day-night heat exposure.
3. **Dependence on Coal Continues:** Coal provides more than **75% of electricity during peak demand periods**. Higher cooling demand is increasing reliance on fossil fuels.
4. **Renewable Energy Faces Timing Constraints:** Solar power supplied nearly a quarter of electricity during peak demand. However, solar generation falls sharply after sunset when cooling demand remains high.
5. **Heat and Energy Create a Feedback Loop:** More heat increases cooling demand. Greater cooling demand raises fossil fuel use, which can contribute to further warming.

6. **Agriculture Faces Growing Losses:** Every **1°C increase in temperature** reduces average wheat yields by about **8%**. Some severely affected areas have experienced losses of **15–25%**.
7. **Economic Costs Are Rising Rapidly:** Heat exposure caused the loss of **247 billion potential labour hours** and around **\$194 billion** in economic losses. Productivity losses could reach **4.5% of GDP by 2030**.

Building a Comprehensive Heat Adaptation Framework

1. **Integrating Clothing into Heat Adaptation:** Clothing should be treated as part of climate adaptation and public health planning. School uniforms, workplace dress codes and occupational safety standards can promote breathable fabrics and thermal comfort to reduce heat stress.
2. **Reforming Public Procurement Policies:** Procurement systems can balance durability, affordability and breathability. Thermal comfort should become an important criterion.
3. **Moving Beyond Cool Roofs:** Heat adaptation should include walls, windows, ventilation systems and sustainable building materials. Cooling strategies should cover the entire building design.
4. **Strengthening Heat Action Plan Implementation:** Heat Action Plans require stronger regulatory backing and dedicated financing. Better enforcement can improve their effectiveness.
5. **Protecting Informal Workers:** Measures such as protective equipment, seasonal restrictions on outdoor work, passive cooling solutions and direct cash transfers can reduce heat vulnerability.
6. **Promoting Innovation and Heat Finance:** Technology, climate finance and industrial policy can support heat-resilient solutions. This approach can help build a future “cool economy”.

Conclusion

India's Heat Action Plans have strengthened preparedness through forecasting, awareness and emergency measures, but important adaptation gaps continue to persist. Greater attention to thermal comfort, informal worker protection, climate-responsive infrastructure, effective implementation and sustainable financing is essential. As extreme heat becomes a recurring reality, heat governance must evolve towards a more comprehensive and inclusive adaptation framework.

Question for practice:

Evaluate the effectiveness of India's Heat Action Plans in addressing the challenges posed by increasing heatwaves, and examine the key gaps that must be addressed to build a comprehensive heat adaptation framework.

Source: [Indian Express](#)

A framework for climate and development capital

Source: The post “A framework for climate and development capital” has been created based on “A framework for climate and development capital”, published in “The Hindu” on 05th June 2026.

UPSC Syllabus: GS-3- Environment

Context: India has significant pools of capital committed to climate action, health, and poverty reduction. However, climate and development investments are often evaluated separately, leading to underinvestment in sectors where both objectives can be achieved simultaneously. A framework that values both climate and development returns can improve capital allocation.

Climate and Development Investments Generate Multiple Returns

1. Clean Energy Investments

- a. Clean energy investments reduce carbon emissions and contribute to climate mitigation.
- b. They also improve public health by reducing pollution-related diseases.
- c. They enhance productivity by lowering the economic losses caused by extreme heat and pollution.
- d. Therefore, a single investment generates carbon, health, and productivity returns simultaneously.

2. Employment and Poverty Reduction

- a. India's renewable energy sector can generate around 3.4 million jobs by 2030.
- b. These jobs provide livelihoods and reduce poverty.
- c. Renewable energy investments therefore create both development and climate benefits.

3. Industrial Competitiveness

- a. The Kolhapur foundry cluster supports about 27,700 jobs and contributes significantly to cast-iron exports.
- b. Transitioning to renewable power can reduce energy costs and emissions.
- c. It can improve competitiveness in markets affected by carbon pricing mechanisms such as the European Union's Carbon Border Adjustment Mechanism (CBAM).
- d. Such investments support employment, exports, and climate goals together.

4. Sustainable Agriculture

- a. A biochar programme in Maharashtra's cotton belt can increase farmers' incomes through better soil quality, improved yields, and reduced input costs.
- b. The same intervention can remove significant quantities of carbon dioxide from the atmosphere.
- c. Thus, agricultural investments can generate income gains and carbon benefits simultaneously.

Need for a Climate and Development Capital Framework

1. Current investment frameworks capture only financial or carbon returns while ignoring social and developmental benefits.
2. Investors often fail to recognise the full spectrum of returns generated by investments.
3. Measuring both financial and social outcomes can improve investment decisions.
4. Capital can then be directed towards projects with the greatest overall impact.

Role of Philanthropy and Technical Assistance

1. Philanthropic capital can support project preparation and risk assessment.

2. It can aggregate demand from rural water boards, urban local bodies, farmer cooperatives, and industrial clusters.
3. Such support makes projects investment-ready and attracts commercial capital.

Challenges in Climate and Development Capital

1. Siloed Investment Approach

- a. Climate and development investments are assessed separately.
- b. This prevents recognition of the multiple benefits generated by a single investment.

2. Inadequate Valuation of Co-benefits

- a. Health improvements, livelihood gains, productivity enhancement, and poverty reduction are often not monetised.
- b. As a result, investments appear less attractive than their actual social value.

3. Limited Commercial Capital Participation

- a. Many projects remain at an early stage and are not investment-ready.
- b. Commercial investors are reluctant to finance such projects due to perceived risks.

4. Fragmented Demand

- a. Demand is dispersed across farmers, urban local bodies, water boards, cooperatives, and industrial clusters.
- b. This fragmentation makes project aggregation difficult.

5. Lack of Appropriate Financial Instruments

- a. Markets currently lack mechanisms that can simultaneously capture carbon and development returns.
- b. Consequently, investors are unable to realise the full value of these investments.

Way Forward

1. Adopt a Climate and Development Capital Framework: Investment appraisal should include climate, health, livelihood, productivity, and poverty-reduction outcomes. This will enable more efficient capital allocation.

2. Develop Integrated Metrics: Create standardised frameworks to measure both financial and social returns. Such metrics can improve investor confidence and project evaluation.

3. Strengthen Blended Finance Mechanisms: Use philanthropic and public capital to de-risk projects. This can crowd in larger volumes of private investment.

4. Enhance Project Preparation and Technical Assistance: Provide support for project design, aggregation, and implementation. This will make projects commercially viable and investment-ready.

5. Promote Sectoral Integration: Prioritise investments in renewable energy, sustainable agriculture, infrastructure, and industrial decarbonisation. These sectors generate substantial climate and development co-benefits.

6. Leverage Carbon Markets and Green Finance: Expand carbon credit mechanisms and sustainable finance instruments. This can help monetise climate benefits while supporting development objectives.

Conclusion: A climate and development capital framework can bridge the gap between environmental sustainability and socio-economic development. By recognising and valuing multiple returns from a single investment, India can mobilise greater capital, accelerate the energy transition, improve livelihoods, strengthen economic resilience, and achieve its climate and Sustainable Development Goals simultaneously.

Question: Climate and development are often treated as separate challenges, even though the same investment can deliver both climate and development outcomes." Discuss. Suggest a framework for climate and development capital in the Indian context.

Source: [The Hindu](#)

How India's farm sector has evolved over the past decade

Source: The post "How India's farm sector has evolved over the past decade" has been created based on "How India's farm sector has evolved over the past decade", published in "The Hindu" on 05th June 2026.

UPSC Syllabus: GS-3 -Indian Economy

Context: Agriculture and allied sectors remain vital to the Indian economy, contributing nearly **18% of Gross Value Added (GVA)**. Over the past decade, the sector has witnessed significant growth through increased public investment, higher production, expanded farmer welfare programmes, improved credit access, technological integration, and the growth of allied activities.

Major Developments in India's Farm Sector

1. Increased Contribution and Public Investment

- Agricultural GVA increased from **₹20.9 lakh crore (2014-15)** to **₹48.7 lakh crore (2023-24)**.
- Budget allocation for the Department of Agriculture and Farmers Welfare increased from **₹27,663 crore (2013-14)** to **₹1.40 lakh crore (2026-27)**.
- Higher public investment has strengthened agricultural infrastructure and support systems.

2. Record Growth in Agricultural Production

- Foodgrain production increased from **265.05 million tonnes (2013-14)** to **357.73 million tonnes (2024-25)**.
- Production growth has been witnessed in rice, wheat, maize, and oilseeds.
- Improved irrigation, better inputs, and policy support contributed to higher productivity.

3. Expansion of Farmer Welfare Schemes

- PM-KISAN** has provided income support to over **9.44 crore farmer families**.

- b. **PMFBY** has strengthened crop risk management through insurance coverage.
- c. **PMKSY** has expanded irrigation coverage and water-use efficiency.
- d. Schemes such as Soil Health Card, Agriculture Infrastructure Fund, e-NAM, KCC, and National Mission on Edible Oils have enhanced farm support.

4. Increased Institutional Credit

- a. Agricultural credit increased from **₹7.3 lakh crore (2013-14)** to **₹28.67 lakh crore (2024-25)**.
- b. Improved access to institutional finance has reduced dependence on informal **sources**.

5. Strengthening MSP Procurement

- a. Procurement of wheat, paddy, pulses, oilseeds, and cotton increased substantially.
- b. MSP procurement ensured price support and income stability for farmers.

6. Technological Transformation

- a. Over **7.63 crore Farmer IDs** and **23.5 crore digitised crop plots** have been created under the Digital Agriculture Mission.
- b. Initiatives such as **Namo Drone Didi**, **Kisan e-Mitra**, and the **National Pest Surveillance System** have promoted precision farming and efficient service delivery.

7. Growth of Allied Sectors

- a. India remains the world's largest milk producer.
- b. Dairy, fisheries, poultry, honey production, and ethanol manufacturing have expanded significantly.
- c. Allied sectors have diversified rural incomes and reduced dependence on crop cultivation alone.

Challenges

- 1. Climate Change:** Increasing frequency of droughts, floods, heatwaves, and erratic rainfall affects agricultural productivity.
- 2. Fragmented Landholdings:** Small and marginal holdings limit mechanisation and economies of scale.
- 3. Water Stress:** Overexploitation of groundwater and inefficient irrigation practices threaten sustainability.
- 4. Market Volatility:** Farmers remain vulnerable to price fluctuations and demand uncertainties.
- 5. Regional Imbalances:** Benefits of technology, irrigation, and procurement are unevenly distributed across states.

Way Forward

- 1. Promote Climate-Resilient Agriculture:** Encourage drought-resistant crops, climate-smart farming, and weather-based advisory services.
- 2. Strengthen Water Management:** Expand micro-irrigation and improve water-use efficiency.

3. Accelerate Digital Agriculture: Integrate AI, drones, remote sensing, and digital marketplaces for better decision-making.

4. Encourage Farmer Producer Organisations (FPOs): Improve aggregation, bargaining power, and market access for small farmers.

5. Promote Allied Sectors and Value Addition: Expand dairy, fisheries, food processing, and agri-exports to enhance rural incomes.

Conclusion: Indian agriculture has evolved from a crop-centric sector to a diversified ecosystem driven by investment, technology, infrastructure, and allied activities. Sustained reforms focusing on climate resilience, resource efficiency, market integration, and farmer welfare are essential to ensure sustainable and inclusive agricultural growth.

Question: Indian agriculture has undergone a significant transformation over the past decade through increased public investment, technological adoption, and diversification into allied sectors." Examine the major developments in the agricultural sector and discuss the challenges that continue to impede its sustainable growth.

Source: [DD News](#)

A National Environmental Survey Whose Time Came

UPSC Syllabus: Gs Paper 3- environment

Introduction

India's environmental challenges—ranging from pollution and biodiversity loss to climate-induced extreme weather—are becoming increasingly severe and visible. Although vast amounts of environmental information are generated by government agencies, research institutions, and other organisations, the absence of a unified assessment framework limits informed policymaking and accountability. As India seeks to balance economic growth with ecological sustainability, the proposal for an **Annual Environmental Survey of India (EnvSI)** has emerged as a timely mechanism for independent evaluation, evidence-based governance, and environmental stewardship.

Scale of India's Environmental Challenge

- 1. Widespread Exposure to Extreme Events:** A survey of **10,751 Indians** found that most respondents had experienced at least one extreme event such as heat waves, droughts, water shortages, air pollution, or power outages.
- 2. Rising Heat and Climate Stress:** **71%** of respondents reported experiencing heat waves, showing the increasing impact of climate-related risks on daily life.
- 3. Agricultural and Livelihood Risks:** **60%** of respondents faced agricultural pests and diseases, indicating growing pressure on farming systems and rural livelihoods.
- 4. Serious Water Quality Concerns:** More **than one-third of the 870 river-monitoring stations** recorded alarming levels of toxic heavy metals.
- 5. Health Impact of Air Pollution:** Air pollution reduced average life expectancy in India by about **three years in 2022**, making it a major public health challenge.

6. **Increasing Frequency of Extreme Weather:** Some parts of the country experienced extreme weather conditions for nearly **88% of the year**, showing the scale of environmental disruption.
7. **Land Degradation and Desertification:** The Desertification and Land Degradation Atlas of India estimates that **29.7% of India's land** is degraded, affecting ecosystems and productive resources.

Gaps in Environmental Governance

1. **Limited Financial Priority:** The Ministry of Environment, Forest and Climate Change receives only **0.07% of the annual budget**, limiting its capacity to address environmental challenges.
2. **Institutional Capacity Constraints:** Environmental institutions remain understaffed and receive inadequate intellectual and administrative attention.
3. **Fragmented Administrative Structure:** Multiple agencies work in silos with overlapping jurisdictions, reducing coordination and effective environmental management.
4. **Incomplete Environmental Assessment:** Existing reporting systems do not provide a comprehensive understanding of the country's environmental condition.
5. **Limited Focus on Deforestation Impacts:** Reports discuss programmes such as **NAP and REDD+**, but provide little information on State-wise deforestation and its effects on biodiversity and livelihoods.
6. **Weak Accountability Mechanisms:** Information on fund utilisation and environmental compliance often receives limited scrutiny.
7. **Insufficient Use of Global Evidence:** Findings from global environmental assessments are often not adequately reflected in official reporting systems.
8. **Over-reliance on the Judiciary:** Due to executive failures, the judiciary—spearheaded by the **National Green Tribunal (NGT)**—has had to play an oversized, reactive role. While the NGT has passed landmark rulings, environmental governance risks becoming ad hoc rather than systematic.
9. **Marginalized Public Participation:** Public hearings mandated during the Environmental Impact Assessment (EIA) process are often viewed as superficial or developer-friendly. Tribal and marginalized communities frequently face displacement without adequate rehabilitation

Need for an Annual Environmental Survey of India (EnvSI)

1. **Bringing Dispersed Information Together:** Environmental data already exists across governments, think tanks, educational institutions, and private organisations, but remains scattered.
2. **Creating a Unified Assessment Platform:** EnvSI can serve as a single platform that aggregates evidence and presents a consolidated picture of the country's environmental conditions.
3. **Independent Environmental Auditing:** The survey can provide objective assessments of environmental performance through independent audits.

4. **Performance-Based Evaluation:** It can evaluate environmental outcomes and identify sectors or regions requiring urgent intervention.
5. **Presenting Environmental Reality Clearly:** EnvSI should offer an honest account of environmental conditions, including uncomfortable findings that may otherwise receive limited attention.
6. **Protecting What Still Remains:** Its purpose should be not only to document environmental losses but also to identify ecosystems, natural resources, and livelihoods that can still be protected.
7. **Building on Existing Information Systems:** Existing platforms such as ENVIS, which collect and disseminate environmental information through a nationwide network, can support broader environmental assessment efforts.
8. **Tracking Climate Trends:** It can monitor year-on-year changes in indicators such as annual mean temperatures and rainfall variability, supporting climate adaptation planning.
9. **Supporting Sustainable Resource Management:** The survey can provide essential information on natural capital, including soil, forest, water, and mineral resources, helping prevent over-exploitation.
10. **Strengthening Policy Accountability:** EnvSI can facilitate performance evaluations of national and State-level conservation programmes and improve environmental governance.

Potential Benefits of EnvSI

1. **Reducing Environmental Degradation:** Better information can support timely action to prevent further ecological damage.
2. **Improving Climate Resilience:** Coordinated assessments can strengthen responses to climate-driven disasters and improve resource utilisation.
3. **Supporting Climate Commitments:** Reliable environmental assessments can help India achieve climate targets more effectively.
4. **Enhancing Access to Climate Finance:** Improved credibility and stronger environmental reporting can help unlock climate finance opportunities.
5. **Balancing Development and Conservation:** Better evidence can help policymakers make informed choices between economic growth and environmental protection.
6. **Protecting Vulnerable Communities:** The survey can support the interests of tribal communities, traditional livelihood groups, and displaced populations.
7. **Strengthening Ecological Commons:** It can promote protection of ecosystems by recognising the interdependence between nature, species, and human societies.

Way Forward

1. **Provide a Statutory Mandate:** EnvSI should be established through a clear legal framework to ensure continuity and authority.
2. **Ensure Functional Autonomy:** The institution should operate independently and remain free from undue influence.
3. **Protect Expert Leadership:** Experts should receive protected tenure to maintain professional and evidence-based assessments.
4. **Integrate Multiple Data Sources:** Information from government agencies, researchers, private actors, and field evidence should be brought together.
5. **Use Rigorous Methodology:** Quantitative indicators should be combined with livelihood assessments and cross-verified datasets.
6. **Avoid Duplication of Surveys:** A unified survey can reduce redundancy and improve efficiency across existing data collection efforts.
7. **Follow the Economic Survey Model:** Like the Economic Survey, EnvSI should draw from multiple sources, rigorously assess evidence, and identify emerging challenges and reforms.

Conclusion

As environmental pressures intensify, India requires a credible and comprehensive mechanism to assess ecological realities and guide policy responses. A statutory and independent Annual Environmental Survey of India can strengthen accountability, improve climate resilience, support sustainable development, and ensure that environmental degradation is identified and addressed before irreversible losses occur.

Question for practice:

Discuss the need for an Annual Environmental Survey of India (EnvSI) in addressing environmental governance challenges and promoting sustainable development in the country.

Source: [The Hindu](#)

Funding India's Climate Future, the Trillion-Dollar Question

UPSC Syllabus: Gs Paper 3- Environment

Introduction

India's transition towards its climate goals requires an unprecedented mobilisation of finance. The country will need **₹162.5 trillion by 2030** to achieve its Nationally Determined Contributions and around **\$10.1 trillion by 2070** to reach net-zero emissions. Although green finance instruments are already available, the scale of investment required far exceeds current flows. Bridging this gap will depend on stronger institutions, better regulations, and mechanisms that can mobilise both public and private capital effectively.

Magnitude of India's Climate Finance Challenge

1. **Huge Investment Requirement:** India needs **₹162.5 trillion by 2030** for its climate commitments and **\$10.1 trillion by 2070** for achieving net-zero emissions.

2. **High-Cost Decarbonisation Sectors:** Steel, cement, power and road transport account for more than half of India's emissions. These sectors require **\$467 billion** in additional investment between 2022 and 2030.
3. **Annual Financing Burden:** The required investment for these sectors is around **\$54 billion annually**, equal to about **1.3% of GDP**.
4. **Weak Market Incentives:** Green steel and green cement are not yet commercially attractive. Strong policy support is needed to encourage private investment.
5. **Large Economy-Wide Requirement:** The RBI estimates that India needs additional green investment of at least **2.5% of GDP every year until 2030**.
6. **Insufficient Global Climate Finance:** Developing countries are expected to need **\$5–6 trillion by 2030**. The developed world failed to meet the promised \$100 billion annual climate finance target. The Baku NCQG commitment of \$300 billion by 2035 is also considered inadequate.
7. **Need for Domestic Resource Mobilisation:** International finance alone cannot bridge India's climate-finance gap. Most of the required capital must come from domestic sources.

Existing Climate Finance Architecture in India

1. **Rapid Growth in Sustainable Debt:** By the end of 2024, India had issued **\$55.9 billion** in green, social, sustainability and sustainability-linked debt, marking a **186% increase since 2021**.
2. **Dominance of Green Debt:** Green debt forms **83%** of total sustainable debt issuance. Most funds are directed towards clean energy and transport.
3. **Role of Sovereign Green Bonds:** Sovereign green bonds worth **₹477 billion** have created benchmarks and improved investor confidence in green investments.
4. **Availability of Diverse Instruments:** India already has green bonds, sovereign green bonds, sustainability-linked bonds, blended finance structures, transition finance instruments and infrastructure investment trusts.
5. **RBI's Climate Finance Framework:** The 2025 RBI framework requires banks to integrate climate risks into lending and risk-management decisions.
6. **Recognition under Priority Sector Lending:** Eligible green activities can qualify as **Priority Sector Lending (PSL)**, while sovereign green bond investments also receive regulatory recognition.
7. **Strong Regulatory Influence of PSL:** For every **₹10,000 crore** of loans, banks must ensure **₹4,000 crore** is directed towards PSL sectors, making it a powerful policy tool.

Key Gaps in Climate Finance Mobilisation

1. **Lack of Climate Finance Taxonomy:** India still lacks a clear legal definition of what qualifies as "green" finance.

2. **Challenges in Green Verification:** Without taxonomy standards, green bonds cannot be verified properly and greenwashing becomes difficult to control.
3. **Missing Financial Infrastructure:** The system lacks guarantee mechanisms, liquidity support and regulatory incentives that can lower the cost of green finance.
4. **Limited Climate Risk Pricing:** Existing regulations do not fully differentiate between climate-friendly and climate-intensive lending.
5. **Inadequate Climate Stress Testing:** Banks do not yet have a comprehensive framework to assess climate risks within their loan portfolios.
6. **Underuse of Blended Finance:** India has not fully utilised blended finance models that can reduce risks for private investors.
7. **State-Level Financing Constraints:** States carry major responsibility for climate adaptation but often lack borrowing capacity and access to international climate-finance channels.

Strengthening the Climate Finance Ecosystem

1. **Climate Finance Taxonomy:** The Climate Finance Taxonomy announced in the Union Budget 2024-25 can provide a clear definition of green activities and improve investor confidence.
2. **Green Steel Taxonomy:** The Green Steel Taxonomy can support standardised sustainable investments and strengthen financing for low-carbon industrial transition.
3. **Differentiated Capital Requirements:** Climate-based capital rules can make brown lending more capital-intensive while encouraging credit flow towards green sectors.
4. **Climate Stress Testing Framework:** A comprehensive stress-testing framework can help banks assess climate-related risks alongside traditional financial risks.
5. **Expanding Blended Finance:** Public or concessional funds can reduce investment risks and attract larger private investments into sustainability projects.
6. **Risk-Sharing Mechanisms:** A first-loss guarantee of **\$100 million** can mobilise **\$500 million to \$1 billion** in private investment by absorbing risks that private investors find unacceptable.

Way Forward

1. **Finalise and Enact Climate Finance Taxonomy:** A clear and legally recognised taxonomy is essential for green finance verification, investor confidence and reducing greenwashing.
2. **Move from Enabling to Mandating Green Finance:** The RBI should strengthen green finance through differentiated capital requirements, mandatory climate stress testing and expanded PSL targets.

3. **Establish a State Climate Finance Facility:** A dedicated facility supported by the Union government, NABARD and international sources can improve access to climate finance for States and municipalities.
4. **Improve State-Level Climate Finance Access:** States need stronger borrowing capacity and institutional support to implement climate adaptation programmes effectively.
5. **Scale Up Sovereign Green Bond Issuance:** Greater sovereign green bond issuance can deepen domestic green finance markets and attract additional investment.
6. **Integrate Sovereign Green Bonds with SLR:** Embedding sovereign green bonds within the SLR framework can strengthen demand and support long-term market development.

Conclusion

India's climate-finance challenge is large but not insurmountable. Green finance instruments, regulatory initiatives and investment opportunities already exist. The key task is to build institutions and financing mechanisms that can deploy capital at scale. Faster progress on taxonomy, banking reforms, State-level financing and green debt markets will determine India's success in achieving its climate and development objectives.

Question for practice:

Examine the magnitude of India's climate finance challenge and discuss the measures required to mobilise capital for achieving its climate and net-zero goals.

Source: [The Hindu](#)

India needs innovative strategies to eliminate TB

Source: The post "India needs innovative strategies to eliminate TB" has been created based on "India needs innovative strategies to eliminate TB", published in "The Hindu" on 06th June 2026.

UPSC Syllabus: GS-2- Governance

Context: Tuberculosis (TB) remains one of the deadliest infectious diseases in the world and continues to pose a major public health challenge in India. Despite advances in treatment, India carries one of the highest TB burdens globally, making TB elimination a national priority.

Challenges in Eliminating TB in India

1. Absence of a highly effective vaccine

- a. The century-old BCG vaccine primarily protects against severe childhood forms of TB and does not provide reliable protection against pulmonary TB in adults.
- b. Therefore, a highly effective universal TB vaccine is still unavailable.

2. Large disease burden

- a. India accounts for a significant share of the global TB burden.

- b. The high incidence of TB creates pressure on the healthcare system and complicates elimination efforts.

3. Presence of latent TB infection

- a. A large number of individuals carry latent TB infection without symptoms.
- b. These individuals may later develop active TB, making detection and prevention difficult.

4. Extra-pulmonary TB burden

- a. A substantial proportion of TB cases in India involve extra-pulmonary TB, which affects organs other than the lungs.
- b. These cases are often harder to diagnose and manage.

5. Social and nutritional vulnerabilities: Undernutrition, poverty, overcrowding, and poor living conditions increase susceptibility to TB and negatively affect treatment outcomes.

6. Co-morbidities and vulnerable populations: Individuals with conditions such as HIV, diabetes, and weakened immunity face a greater risk of developing active TB and experiencing severe disease.

7. Delays in diagnosis and treatment: Many TB cases remain undetected or are diagnosed late, allowing continued transmission within communities.

Reasons for Innovative Strategies for India

1. Expansion of advanced diagnostics

- a. India has made progress through the deployment of molecular diagnostic tools such as TruNat.
- b. These technologies enable faster and more accurate detection of TB cases.

2. Adoption of preventive treatment: Preventive therapy for individuals with latent TB infection can significantly reduce progression to active disease and lower transmission rates.

3. Targeted vaccination approach

- a. Evidence from the VPM1002 vaccine trial suggests that targeted vaccination of high-risk groups may offer meaningful protection.
- b. Such groups include household contacts of TB patients, school-age children, adolescents, and vulnerable adults.

4. Community-based screening: Active case finding and screening among high-risk populations can help identify cases earlier and reduce disease spread.

5. Nutritional support interventions: Nutritional assistance can improve immunity, treatment adherence, and recovery among TB patients, particularly those suffering from undernutrition.

6. Integration with public health programmes: TB control efforts should be integrated with programmes addressing malnutrition, HIV, diabetes, and primary healthcare to achieve better outcomes.

7. Evidence-based policy making: India should adopt interventions that have demonstrated measurable public health benefits instead of waiting solely for future technological breakthroughs.

Role of New Vaccine Research

1. Potential of VPM1002

- a. The VPM1002 vaccine has shown encouraging results in reducing pulmonary and extra-pulmonary TB in high-risk populations.
- b. It may become an important tool in India's TB control strategy if further evidence supports its effectiveness.

2. Complementary rather than standalone solution

- a. Even if new vaccines prove successful, vaccination alone cannot eliminate TB.
- b. Vaccines must be combined with prevention, early diagnosis, treatment, and social support measures.

Way Forward

1. Shift from passive to active case finding: India should move beyond waiting for symptomatic patients to approach health facilities and instead undertake community-based screening, household contact tracing, and targeted surveillance in high-burden areas.

2. Scale up preventive treatment for latent TB: Preventive therapy should be expanded for household contacts of TB patients, healthcare workers, immunocompromised individuals, and other high-risk groups to reduce progression from latent infection to active disease.

3. Strengthen molecular diagnostic infrastructure: Rapid diagnostic tools such as TruNat and other molecular tests should be made universally accessible, particularly in rural and underserved areas, to ensure early and accurate detection.

4. Adopt targeted vaccination strategies: Evidence-based deployment of promising vaccines such as VPM1002 should be considered for vulnerable populations, including household contacts of TB patients, school-age children, adolescents, and individuals with comorbidities.

5. Integrate nutrition with TB care: Nutritional support should be treated as a core component of TB management because undernutrition remains a major risk factor for both disease progression and poor treatment outcomes.

6. Leverage digital technologies and data analytics: Digital platforms should be used for case notification, treatment monitoring, contact tracing, adherence support, and real-time surveillance to improve programme efficiency.

7. Address social determinants of TB: Efforts to improve housing conditions, sanitation, living standards, and access to healthcare should complement medical interventions, as TB is closely linked to poverty and social deprivation.

8. Enhance public-private collaboration: Since a large number of patients seek treatment in the private sector, stronger integration of private healthcare providers into the National TB Elimination Programme is necessary for comprehensive case detection and reporting.

9. Increase investment in research and innovation: Greater support should be provided for vaccine development, diagnostic technologies, drug research, and operational studies to identify context-specific solutions for India.

10. Adopt a multi-sectoral "Whole-of-Society" approach: The fight against TB should involve governments, healthcare institutions, educational establishments, civil society organizations, local communities, and international partners to ensure sustained progress toward elimination.

Conclusion: India's TB elimination goal cannot be achieved through a single intervention. A combination of early diagnosis, preventive treatment, targeted vaccination, nutritional support, and strong public health systems is essential. A comprehensive and evidence-based strategy offers the best pathway toward a TB-free India.

Question: India's goal of eliminating tuberculosis (TB) requires moving beyond the search for a perfect vaccine." Discuss the challenges in TB elimination and evaluate the role of innovative strategies in achieving India's TB-free target.

Source: [The Hindu](#)

Urban Fire Safety in India

Source: The post "Urban Fire safety in India" has been created based on "South Delhi blaze: Why residential areas in India's cities are so vulnerable to fire", published in "Indian Express" on 06th June 2026.

UPSC Syllabus: GS-2- Governance

Context: The recent fire incident in Malviya Nagar, South Delhi, which claimed 21 lives, has once again highlighted the serious gaps in urban fire safety in India. According to NCRB 2024 data, nearly 60% of all fire-related deaths in the country occurred in residential buildings, making them the most vulnerable category of structures.

Reasons behind residential areas being highly vulnerable to fires

1. Lack of fire safety infrastructure

- a. Most residential buildings in India do not have essential fire safety mechanisms such as smoke alarms, fire suppression systems, and emergency evacuation plans.
- b. As a result, residents often receive no early warning when a fire breaks out, reducing their chances of escape.

2. Violation of building by-laws and planning norms

- a. Many residential buildings are modified or expanded without adhering to approved building regulations.
- b. In several urban areas, residential properties are converted into commercial establishments such as guest houses and bed-and-breakfast facilities without adequate fire safety provisions.

3. Poor implementation of fire safety regulations

- a. Although the National Building Code (NBC) 2016 contains detailed provisions regarding fire prevention, smoke management, periodic audits, and firefighting systems, its implementation remains weak.
- b. Poor monitoring and enforcement allow unsafe structures to continue operating.

4. Electrical faults as a major trigger

- a. Electrical short circuits are among the most common causes of urban fires.
- b. The increasing use of electrical appliances, equipment, and wiring in densely populated urban areas raises the likelihood of electrical failures and fire accidents.

5. LPG-related accidents

- a. Gas leaks from domestic LPG cylinders frequently cause residential fires.
- b. Such accidents occur due to the use of non-standard equipment, poor maintenance of hosepipes and O-rings, leakage from stoves or cylinders, and improper handling practices by consumers.

6. High population density and congested settlements

- a. Urban areas are characterized by dense populations and closely packed buildings.
- b. Narrow roads and restricted access routes often prevent firefighting vehicles from reaching the site quickly, thereby worsening the impact of fire incidents.

7. Lack of public awareness and preparedness

- a. A culture of fire preparedness is largely absent in residential communities.
- b. Most residents are unaware of basic fire safety practices, emergency evacuation procedures, and the proper use of firefighting equipment.

8. Inadequate institutional capacity

- a. Fire services are primarily the responsibility of state governments and urban local bodies.
- b. However, many fire departments suffer from shortages of trained personnel, modern equipment, and financial resources, which limits their response capability.

Impact of urban fires

1. Loss of human lives: Urban fires often result in large-scale casualties. Many victims die due to smoke inhalation and oxygen depletion rather than direct burns.

2. Health hazards from toxic gases: The burning of materials releases toxic fumes that can cause severe respiratory problems, choking, and long-term health complications.

3. Explosions and secondary disasters: The heat generated during fires can cause gases, liquids, and metals to expand, leading to explosions, structural collapse, and further damage.

4. Economic and social losses: Fires destroy homes, property, and livelihoods, causing significant economic hardship for affected families and communities.

Measures to strengthen urban fire safety

1. Ensure strict enforcement of building regulations: Authorities must ensure strict compliance with the National Building Code and prevent unauthorized construction, conversion, and expansion of buildings.

2. Make fire safety systems mandatory: All residential buildings, especially multi-storey structures, should be equipped with smoke detectors, fire alarms, sprinkler systems, and firefighting equipment.

3. Conduct regular safety audits: Periodic inspections should be carried out to assess electrical systems, LPG installations, and overall fire safety compliance.

4. Strengthen fire services: State governments should modernize fire departments by providing advanced equipment, adequate manpower, and specialized training. The funds recommended by the Fifteenth Finance Commission should be effectively utilized for this purpose.

5. Improve urban planning: Urban planning should prioritize wider roads, better access routes, and adequate open spaces to facilitate firefighting and evacuation operations.

6. Promote public awareness: Regular fire drills, awareness campaigns, and community-based training programmes should be conducted to improve preparedness among residents.

7. Procure specialized equipment for high-rise buildings: As Indian cities continue to expand vertically, fire departments must acquire modern equipment capable of handling emergencies in high-rise structures.

8. Develop integrated city-level fire management plans: Cities should adopt comprehensive fire safety plans involving municipal authorities, fire departments, building owners, and local communities to ensure accountability and preparedness.

Conclusion: The predominance of residential buildings in fire-related fatalities reflects deep structural and governance challenges in India's urban areas. Strengthening regulatory enforcement, improving fire service capabilities, enhancing public awareness, and promoting safer urban planning are essential for reducing fire risks and building resilient cities.

Question: Residential buildings account for the majority of fire-related deaths in India. Examine the factors responsible for the high vulnerability of residential areas to fires in urban India. Suggest measures to strengthen urban fire safety.

Source: Indian Express

Internationalisation of Higher Education

UPSC Syllabus: Gs Paper 2- Issues relating to development and management of Social Sector/Services relating to Education,

Introduction

Internationalisation of higher education refers to the integration of global and intercultural dimensions into higher education. It promotes student and faculty mobility, international academic collaborations, foreign university campuses, and recognition of degrees and credits across countries. Under **NEP 2020**, India is actively promoting internationalisation. The aim is to improve educational quality, strengthen research and innovation, expand global partnerships, attract reputed foreign institutions, and position India as an emerging global hub for higher education.

Core Pillars of Internationalisation of Higher Education

1. **Student Mobility:** Students study across borders to gain international exposure, access diverse learning environments, and develop global competencies.
2. **Faculty Mobility:** Universities attract international scholars and promote faculty exchanges to enrich teaching, research, and classroom discussions.
3. **Joint and Dual Degree Programmes:** Institutions collaborate to offer programmes that provide degrees recognized by multiple universities across countries.
4. **Branch Campuses:** Leading Foreign Higher Educational Institutions establish campuses in host countries and provide international-quality education locally.
5. **Research and Academic Collaboration:** Universities undertake joint research, shared laboratories, collaborative projects, and joint doctoral programmes to enhance innovation.
6. **Degree and Credit Recognition:** Internationalisation promotes degree equivalence, credit transfer, and wider acceptance of academic qualifications across countries.

Significance of Internationalisation of Higher Education for India

1. **Improving Quality for Domestic Students:** Nearly 97% of Indian students study within India. Internationalisation helps them access globally relevant education without leaving the country.
2. **Enhancing research and innovation:** International collaborations improve research quality, innovation, global citations, and knowledge creation.
3. **Building a knowledge economy:** Global partnerships, advanced research, and international talent networks help India build a strong knowledge-based economy.
4. **Generating Economic Benefits:** Higher education can become an export sector by attracting international students and reducing outward education-related expenditure.
5. **Enhancing Soft Power and Diplomacy:** Educational cooperation strengthens India's cultural influence and diplomatic engagement, especially with developing countries and the Global South.
6. **Utilising Demographic Advantage:** India's young population can help meet global demand in areas such as AI, healthcare, climate science, and frontier technologies when trained to global standards.

India's Strategic Initiatives for Internationalisation of Higher Education

1. **National Education Policy (NEP) 2020:** NEP 2020 provides the overall framework for internationalisation through academic collaborations, student mobility, foreign university campuses, and globally relevant education within India.
2. **UGC Regulations 2023 for Foreign Universities:** The **UGC (Setting Up and Operation of Campuses of Foreign Higher Educational Institutions in India) Regulations, 2023** allow top-ranked foreign universities to establish campuses in India.
3. **Foreign University Campuses in India:** The approval of the University of Liverpool's Bengaluru campus and the presence of institutions such as the University of Southampton in Gurugram expand access to globally recognised higher education within India.
4. **Study in India (SII) Programme:** The Study in India Initiative promotes India as an affordable and high-quality higher education destination and aims to attract more international students.
5. **Twinning, Joint and Dual Degree Regulations:** UGC regulations enable Indian and foreign universities to offer twinning programmes, joint degrees, and dual degrees through academic partnerships and credit-sharing arrangements.
6. **Global Expansion of Indian Institutions:** Indian institutions are establishing overseas campuses, including **IIT Madras in Zanzibar, IIT Delhi in Abu Dhabi, and IIM Ahmedabad in Dubai**, strengthening India's global academic presence.
7. **Internationalisation at Home:** Higher education institutions are integrating global perspectives and Indian Knowledge Systems (IKS) into curricula so that students receive international exposure without studying abroad.
8. **National Credit Framework and Degree Recognition:** The National Credit Framework (NCrF) and efforts to simplify qualification equivalence support international recognition, mobility, and transfer of academic credits.

Major Challenges of Internationalisation of Higher Education

1. **Severe Student Mobility Imbalance:** India currently receives only one international student for every 28 Indian students studying abroad, reflecting weak inbound mobility.
2. **High overseas education expenditure:** Indian students' overseas education expenditure is projected to reach ₹6.2 lakh crore by 2025, creating significant capital outflow.
3. **Persistent Brain Drain:** Many highly skilled graduates settle abroad permanently, reducing the availability of talent within India.
4. **Infrastructure gaps:** Several institutions lack adequate infrastructure, support services, and internationally experienced faculty to attract foreign students.

5. **Institutional inequality:** Foreign collaborations may benefit elite institutions more than rural and resource-constrained universities, widening disparities.
6. **Regulatory Complexity:** Overlapping roles of the University Grants Commission (UGC), All India Council for Technical Education (AICTE), and National Assessment and Accreditation Council (NAAC) increase compliance requirements and slow international collaborations.
7. **Cultural homogenisation risks:** Excessive reliance on foreign models may weaken India's educational identity and indigenous knowledge traditions.
8. **Global policy and visa uncertainties:** Changing visa rules, geopolitical tensions, immigration restrictions, and policy shifts can affect international academic mobility and cooperation.

NITI Aayog's Roadmap for Internationalisation

1. **National Strategy for Internationalisation:** Create an inter-ministerial task force led by the Ministry of Education and develop dashboards to track student mobility, collaborations, and global engagement.
2. **Develop Global Higher Education Hubs:** Establish regional education and research hubs on the lines of the GIFT City model and align them with initiatives such as Digital India, Startup India, and Make in India.
3. **Simplify Regulation and Mobility:** Ease visa, FRRO, and documentation procedures to facilitate the movement of students, faculty, and researchers across borders.
4. **National Foreign Degree Equivalence Portal:** Create a dedicated portal for faster recognition and equivalence of foreign qualifications to improve academic mobility.
5. **Promote Foreign University Campuses in India:** Allow foreign institutions to establish onshore campuses through single-window clearances and introduce a "Campus within a Campus" model with a 10-year sunset clause.
6. **Strengthen Research Financing:** Establish the Bharat Vidya Kosh, a proposed USD 10 billion research impact fund, supported by the government and Indian diaspora to promote global research collaboration.
7. **Attract Global Talent through Scholarships:** Launch the Vishwa Bandhu Fellowship to attract world-class faculty members, researchers, and academic leaders to Indian institutions.
8. **Strengthen Global Branding and Outreach:** Revamp the Study in India initiative as a one-stop global platform and create the Bharat ki AAN (Alumni Ambassador Network) to leverage the Indian diaspora.
9. **Integrate Indian Knowledge Systems (IKS):** Combine Indian Knowledge Systems with global teaching and research practices to ensure internationalisation without losing India's intellectual traditions.

Conclusion

Internationalisation of higher education has become a central component of India's higher education reforms under **NEP 2020**. Initiatives such as foreign university campuses, global academic partnerships, student mobility, and research collaboration can strengthen India's position in the global knowledge ecosystem. Effective implementation of the **NITI Aayog roadmap**, supported by stronger institutions, simplified regulations, and greater global engagement, can help India emerge as a leading international education destination.

Question for practice:

Examine the significance of internationalisation of higher education for India and discuss the major initiatives, challenges, and policy measures needed to make India a global education hub.

Source: [PIB](#)

4 Years of Jan Samarth Portal

UPSC Syllabus: Gs Paper 2 - Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes

Introduction

Launched on **6 June 2022**, the **Jan Samarth Portal** is India's first unified digital platform for credit-linked government schemes. It was introduced to simplify access to institutional finance by connecting beneficiaries directly with lending institutions through a technology-driven process. By integrating multiple schemes on a single platform, it aims to expand the reach of government-supported credit, improve financial inclusion, and make loan delivery more efficient, transparent, and accessible across sectors.

Jan Samarth Portal: Vision and Objectives

- 1. Addressing Credit Access Barriers:** Many entrepreneurs, women-led enterprises, farmers, and young agri-business professionals faced difficulties in navigating multiple schemes and procedures. Jan Samarth was introduced to simplify access to financial assistance.
- 2. Single-Window Credit Platform:** The portal acts as a unified platform where beneficiaries can access multiple government-supported credit schemes through a single digital interface.
- 3. Expanding Scheme Outreach:** A key objective is to increase the reach of government-sponsored credit schemes among eligible citizens across sectors and regions.
- 4. Simplifying Credit Delivery:** The portal aims to reduce procedural complexity and make the loan application process more efficient and user-friendly.
- 5. Strengthening Financial Inclusion:** The platform seeks to bring more individuals and enterprises into the formal credit system through easier access to institutional finance.
- 6. Connecting Lenders and Beneficiaries:** It directly links applicants with lending institutions, reducing the gap between credit seekers and credit providers.

Key Features of the Jan Samarth Portal

1. Unified Access to Government Schemes: The portal covers 16 credit-linked Central Government schemes that address different financial needs of citizens and enterprises.

- **Credit Guarantee Support:** Emergency Credit Line Guarantee Scheme 5.0 (ECLGS).
- **Warehouse Receipt Financing:** e-Kisan Upaj Nidhi (EKUN).
- **Housing Finance:** Home Loans for EWS, LIG and MIG households in urban areas.
- **Agricultural Credit:** Kisan Credit Card (KCC) and Kisan Credit Card Fisheries (KCCFIM).
- **Renewable Energy Finance:** Roof Top Solar Installation Financing (SOLAR).
- **Agri-Infrastructure Support:** Agri Clinics and Agri Business Centres (ACABC) and Agriculture Infrastructure Fund (AIF).
- **Business and Enterprise Loans:** Prime Minister's Employment Generation Programme (PMEGP), Weaver Mudra Scheme (WMS), Pradhan Mantri Mudra Yojana (PMMY), Pradhan Mantri Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi), National Action for Mechanized Sanitation Ecosystem (NAMASTE), Loan for Startups (START), and Credit Card for Micro Enterprises (CCME).
- **Livelihood Promotion:** DAY-NRLM livelihood loans.

2. Coverage Across Diverse Sectors: It supports credit needs related to agriculture, agri-infrastructure, housing, renewable energy, business activities, credit guarantees, and livelihood generation.

3. Multi-Language Accessibility: The portal is available in **8 languages—English, Hindi, Gujarati, Telugu, Tamil, Marathi, Bengali, and Kannada**, making it accessible to a wider population.

4. Large Lending Institution Network: Applicants can choose from 269 Member Lending Institutions, including public sector banks, private banks, NBFCs, regional rural banks, cooperative banks, and small finance banks.

5. Continuous Digital Availability: The portal remains available 24×7, allowing users to apply for loans at any time without location-based restrictions.

6. Assisted Application Support: Business correspondents and assisted partners can help applicants submit loan applications through the portal.

Technology-Driven Credit Delivery Ecosystem

1. Automated Digital Application Process: Applicants answer a few questions, after which the portal identifies suitable schemes, checks eligibility, auto-fills details, and generates in-principle approval through an automated business rule engine.

2. End-to-End Online Processing: Applications and supporting documents are digitally forwarded to the selected bank branch, while applicants receive updates at every stage without frequent branch visits.

3. Integration with Government Databases: Real-time verification is enabled through linkages with the **Local Government Directory (LGD), Unique Identification Authority of India (UIDAI), UDYAM,**

AgriStack, Department for Promotion of Industry and Internal Trade (DPIIT) Startup Portal, LOKoS, Central Board of Direct Taxes (CBDT), and Goods and Services Tax (GST) systems.

4. Linkages with Financial and Regulatory Institutions: The portal is connected with **National Securities Depository Limited (NSDL), National E-Governance Services Limited (NeSL), Credit Information Bureau (India) Limited (CIBIL), National Credit Guarantee Trustee Company (NCGTC), and Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE)** to support credit assessment and guarantee coverage.

5. Multiple Access Channels: Users can access the portal through its website, Android and iOS mobile applications, while a separate mobile application provides real-time reporting facilities.

Achievements and Impact of Jan Samarth

1. Large-Scale Credit Facilitation: As of 1 June 2026, the portal processed 54.10 lakh applications, reflecting its growing role in digital credit delivery.

2. Strong Approval Performance: Banks granted digital approvals to 49.55 lakh beneficiaries involving ₹2,76,493.78 crore, indicating significant credit outreach.

3. Strengthening Financial Inclusion: By reducing procedural barriers, the portal has expanded access to institutional credit for entrepreneurs, farmers, women, small businesses, and livelihood seekers across the country.

4. Supporting Business Expansion: The portal has enabled small entrepreneurs to access timely financial support for business growth through simplified digital procedures.

5. Promoting Rural Entrepreneurship: Easy access to institutional finance has helped rural individuals establish and expand income-generating activities.

6. Empowering Women Entrepreneurs: Credit support through the platform has enabled women to start and sustain livelihood-based enterprises in different regions.

7. Encouraging Agri-Business Development: The portal has supported agri-entrepreneurs through schemes linked to agriculture and agri-business infrastructure.

Limitations of the Jan Samarth Portal

1. Rigid Automated Eligibility Assessment: The portal's eligibility engine follows predefined criteria. Applicants whose CIBIL score, banking history, or demographic details do not match scheme requirements may face rejection without clear identification of the failed parameter.

2. Limited Scheme Coverage: The platform currently focuses on 16 Central Government credit-linked schemes. Many state-level subsidy programmes, Direct Benefit Transfer (DBT) grants, and private-sector lending products remain outside its coverage.

3. **Dependence on Bank Branches:** Final loan disbursement remains dependent on the concerned bank branch even after digital approvals are generated through the portal.

4. **Physical Verification Requirements:** Applicants may still need to complete documentation or branch-level formalities, reducing complete end-to-end digital convenience.

5. **Challenges for Complex Businesses:** Standardized forms and predefined categories may not fully capture the requirements of unconventional or highly specialized business models.

Conclusion

After four years, the **Jan Samarth Portal** has emerged as a key platform for digital credit delivery and financial inclusion. Through a single-window system, technology-based processing, and integration of government schemes and lenders, it has improved access to institutional finance. Despite some operational limitations, it continues to support entrepreneurship, livelihoods, and inclusive economic empowerment.

Question for practice:

Discuss the role of the Jan Samarth Portal in improving digital credit delivery and promoting financial inclusion in India over the last four years.

Source: [PIB](#)

From Borderland to India's Strategic Resource Frontier

UPSC Syllabus: Gs Paper 3- Indian economy and Infrastructure

Introduction

India's Northeast is witnessing a major shift in its strategic importance. For decades, it was viewed mainly through the lens of border security, insurgency management, and connectivity. Today, growing interest in critical minerals, infrastructure development, investment opportunities, and trans-border engagement is reshaping this perception. As resource security and economic priorities gain prominence, the region is increasingly being seen as a strategic resource frontier with a larger role in India's development and national strategy.

Changing Strategic Identity of the Northeast

1. **Traditional Security-Centric Perspective:** For decades, the Northeast occupied an important place in national strategy mainly because of border management, insurgencies, and geopolitical concerns involving neighbouring countries.
2. **Infrastructure as a Strategic Tool:** Infrastructure and development projects were often justified as instruments for improving strategic access and strengthening territorial security.
3. **Emergence of a New Strategic Narrative:** The region is increasingly being discussed in terms of economic potential, resource wealth, and development opportunities rather than only security concerns.

4. **Strategic Gateway Role:** The Northeast is gaining importance as a gateway for connectivity, trade, and engagement with neighbouring regions and wider trans-border networks.
5. **Growing Role in National Development:** The region is increasingly being viewed as a contributor to India's growth ambitions rather than as a distant peripheral region.
6. **Shift in Official Language:** States such as Manipur, Arunachal Pradesh, Meghalaya, and Mizoram are being described as mineral-rich and resource-rich frontiers, reflecting a change in national perception.
7. **Strategic Assets Rather Than Sensitive Regions:** Areas once viewed mainly as sensitive border zones are increasingly being considered strategic assets with long-term economic value.

Resource Potential and the Critical Mineral Push

1. **Critical Minerals Gain Strategic Importance:** Critical minerals have moved beyond geological discussions and are now linked with strategic competition, industrial growth, and technological advancement.
2. **Importance for Modern Industries:** Lithium, cobalt, graphite, nickel, and rare earth elements are essential for batteries, semiconductors, renewable technologies, and defence systems.
3. **Global Competition for Resources:** Countries are increasingly positioning themselves around access to critical minerals because these resources are vital for future industries.
4. **India's Import Dependence:** India continues to depend on imports for several critical minerals, creating a need for domestic exploration and resource development.
5. **Expansion of Exploration Activities:** The Geological Survey of India undertook **43 critical mineral exploration projects** across Northeastern States during the **2022-23, 2023-24, and 2024-25 field seasons**.
6. **Wide Mineral Coverage:** Exploration projects have covered **graphite, vanadium, lithium, rare earth elements, nickel, and cobalt** across the region.
7. **Geographical Spread of Exploration:** Exploration activities have expanded across **Arunachal Pradesh, Meghalaya, Assam, Nagaland, and Manipur**.
8. **New Projects in Manipur:** Recent exploration projects in Manipur include investigations related to nickel, cobalt, and chromium deposits.

Growth, Infrastructure and Investment Transformation

1. **Improvement in Peace and Stability:** Numerous peace accords, reduced insurgency, and better border management have contributed to greater stability in the region.
2. **Enhanced Connectivity:** Large investments in connectivity infrastructure have improved access to previously difficult and remote areas.
3. **Strategic Policy Push:** The government adopted a combined approach of promoting peace while encouraging investment, infrastructure, and industrial development.
4. **Investment Opportunities:** States are attracting interest in sectors such as semiconductors, hydropower, pharmaceuticals, palm oil, spices, textiles, and rubber.

5. **Economic Growth Performance:** Assam recorded around **19% growth in 2023**, while Arunachal Pradesh recorded around **11% growth**, indicating a significant economic recovery across the region.
6. **Gateway to Wider Markets:** The region's strategic location strengthens India's efforts to engage with larger regional economic networks and trans-border markets.
7. **Support Through Central Initiatives:** Large public investments and special development schemes have supported infrastructure expansion and economic activity across the Northeast.

Social, Political and Institutional Challenges

1. **Limits of the Frontier Narrative:** The Northeast is not an empty frontier awaiting discovery. Its hills and valleys already contain established social, political, and cultural systems.
2. **Presence of Customary Institutions:** Many areas are governed through customary land systems and local institutions that shape relationships with territory and resources.
3. **Land Beyond Economics:** Questions related to land are closely connected with authority, identity, and historical memory rather than only economic value.
4. **Political Uncertainty in Certain Areas:** In Manipur, years of violence and displacement have intensified debates regarding land ownership and territorial arrangements.
5. **Ecological and Ownership Concerns:** Concerns regarding ownership, environmental vulnerability, and local participation have emerged across different parts of the region.
6. **Trust and Representation Issues:** Development projects often become linked with questions of trust, representation, and political inclusion among local communities.
7. **Weak Resource Management Capacity:** Resource Management Index scores remain low across the region. Assam scored 0.440, while Manipur scored 0.036, indicating continuing challenges in resource management and revenue generation.
8. **Youth and Employment Challenges:** Many young people continue to face limited employment opportunities and uneven access to modern infrastructure and development benefits.

Way forward

1. **Ensure Local Participation:** Resource development should involve local communities because questions of land and development are closely linked with representation and inclusion.
2. **Respect Existing Land and Social Institutions:** Development policies should recognise customary land systems, local institutions, and long-standing relationships with territory.
3. **Align Resource Development with Institutional Capacity:** Resource extraction should not move faster than institutions capable of managing its social consequences.
4. **Build Economic Ecosystems Alongside Infrastructure:** Infrastructure projects should be accompanied by economic opportunities so that development benefits become sustainable.
5. **Address Youth Aspirations:** Investment, employment opportunities, and skill development should help meet the aspirations of the region's young population.
6. **Support Traditional Economic Sectors:** Tea, bamboo, rubber, weaving, and fisheries can provide development pathways that combine economic growth with local strengths.

7. **Account for Regional Uncertainties:** Development strategies should consider the impact of changing conditions in neighbouring countries on connectivity and trade.
8. **Ensure Development Benefits Local Communities:** The transformation of the Northeast should include the people living in the region rather than assigning only a new strategic purpose to its land.

Conclusion

The Northeast is increasingly moving from a borderland defined by security concerns to a strategic frontier shaped by resources, connectivity, and economic opportunities. Critical minerals and development initiatives have expanded its national importance. The long-term success of this transition will depend on inclusive development, local participation, and ensuring that strategic priorities remain aligned with regional realities.

Question for practice:

Discuss the transformation of India's Northeast from a security-focused borderland to a strategic resource frontier, highlighting the opportunities and challenges associated with this shift.

Source: [The Hindu](#)

How Urban Water Systems Fail, What Needs to Change

UPSC Syllabus: Gs Paper 3- Infrastructure

Introduction

Safe drinking water remains a major urban challenge despite expanding water infrastructure. **More than 4 billion people living in low- and middle-income countries lack access to safe drinking water.** Rapid urbanisation, ageing pipelines, intermittent water supply, inadequate sewage management, fragmented governance, and weak monitoring systems increase contamination risks. Waterborne diseases and preventable deaths continue to occur as a result. These challenges show that urban water security depends not only on infrastructure but also on effective management, coordination, and risk prevention.

Urban Water Systems Are Vulnerable to Contamination

1. **Leakage-Induced Contamination:** Even small leaks and openings in drinking water pipelines can allow sewage water to enter the system.
2. **Pressure Loss During Supply Interruptions:** When water supply stops, pipelines lose pressure, making it easier for contaminants to enter the network.
3. **Proximity of Water and Sewage Networks:** Drinking water and sewage infrastructure often operate close to each other. Problems in one network can affect the other.
4. **External Contaminant Exposure:** Contamination risks increase when sewage flows and pollutants accumulate around pipelines.
5. **Construction-Related Damage:** Construction activities can damage pipelines and create pathways for contaminants.

Structural Weaknesses in Urban Water and Sewage Infrastructure

1. **Ageing and Corroded Networks:** Many urban water systems rely on old and deteriorating pipelines that are more vulnerable to failures.
2. **Dependence on Intermittent Distribution:** Many cities continue to use intermittent supply systems rather than fully pressurised networks.
3. **Lack of Complete Infrastructure Mapping:** Most cities do not have comprehensive digitised maps of water and sewage networks.
4. **Limited Integration of Local Knowledge:** Field staff often possess valuable knowledge about local infrastructure conditions, but this information is not fully incorporated into planning.
5. **Budget Constraints on Modernisation:** A large share of available resources is often spent maintaining ageing infrastructure, limiting investment in new projects and upgrades.
6. **Multiple Failure Points Across the Network:** Problems can occur at treatment plants, pipelines, storage facilities, or distribution systems.
7. **Growing Pressure on Existing Infrastructure:** Urbanisation, rising demand, and climate stress are increasing pressure on already strained systems.

Challenges in Sewage Management

1. **Sewage Management Extends Beyond Agency Control:** Many aspects of sewage handling remain outside the direct control of public authorities. This creates management gaps.
2. **Bypassing of Sewage Flows:** Sewage is often diverted into stormwater drains and natural channels when sewer lines are blocked or missing. This increases contamination risks.
3. **Limited Sewer Network Coverage:** More than half of the urban population lacks access to organised sewer systems. Many households depend on septic tanks and pits.
4. **Untreated Effluent Disposal:** Septic tanks generate liquid waste that often ends up in open drains and water channels. Effective disposal solutions remain limited.
5. **Regulatory Gaps for Non-Sewered Areas:** Wastewater that does not enter formal sewer networks is difficult to regulate. Clear management frameworks are often absent.
6. **Challenges in Informal Settlements:** Slums, unauthorised colonies, and urban villages face limited access to water and sewage services. Legal restrictions and difficult layouts complicate infrastructure expansion.
7. **Physical Constraints on Infrastructure Development:** Narrow, winding, and uneven settlement patterns make it difficult to construct and maintain water and sewage networks.

Governance and Institutional Gaps

1. **Fragmented Institutional Responsibility:** Different agencies often manage different parts of the same problem. Limited coordination creates delays and weakens accountability.
2. **Gap Between Standards and Delivery:** Environmental laws prescribe standards for safe drinking water and sewage discharge. However, the institutional rules governing service delivery and infrastructure management remain underdeveloped..

3. **Safe Drinking Water as a Right to Life:** Safe drinking water is recognised as part of the constitutional right to life. However, clear institutional rules and mechanisms for ensuring this right remain inadequately defined.
4. **Limited Scope of Sewage Regulations:** Existing standards mainly regulate sewage discharge from treatment plants. They provide limited guidance for sewage management before treatment.
5. **Weak Institutional Rules:** Service delivery frameworks and infrastructure management rules remain underdeveloped. Many standards exist only as advisory codes.
6. **One-Size-Fits-All Approaches Have Limits:** Uniform protocols may not suit the diverse conditions found across different cities and neighbourhoods.
7. **Institutional Structure Alone Is Not the Solution:** Municipal corporations and water boards have shown mixed results. Outcomes depend more on **organisational culture, leadership quality, and state government support.**
8. **Importance of State Government Support:** Local water agencies often depend on state governments for institutional support, coordination, and policy direction.
9. **Water as a Public Health Issue:** Water systems are often viewed mainly as engineering projects, which can lead to underestimation of health risks and delayed intervention.

Way Forward

1. **Adopt a Long-Term Improvement Framework:** Safe water cannot be achieved through a single regulation or project. Progress requires sustained reforms over multiple years.
2. **Prioritise Public Health Outcomes:** Improvements should focus first on the most urgent risks affecting human health and environmental quality.
3. **Strengthen Institutional Capacity:** Authorities must develop the ability to identify risks early and respond quickly when failures occur.
4. **Move Towards Continuous Water Supply:** Continuous, pressurised systems reduce contamination risks associated with intermittent supply networks.
5. **Expand Real-Time Monitoring:** Sensor-based systems, digital monitoring, and water quality tracking can identify problems faster and reduce detection delays.
6. **Use Predictive and Preventive Approaches:** Data analytics and AI can help identify leakages, pipeline stress points, and infrastructure weaknesses before failures occur.
7. **Improve Operational Accountability:** Clear service standards, streamlined accountability, and continuous monitoring can improve performance. **The city of Puri in Odisha has implemented a continuous, pressurised water supply system along with round-the-clock water quality monitoring, showing how clear accountability and operational coordination can improve water reliability and safety.**

8. **Strengthen Street-Level Administration:** Effective water governance requires officials to remain present where infrastructure exists. Local oversight is essential for managing complex ground realities.
9. **Use Technology as a Supporting Tool:** Technology, public-private partnerships, and digital systems can support reforms. Their effectiveness depends on strong governance, authority, and control structures.
10. **Balance Technology with Human Oversight:** Water and sewage systems operate under complex local conditions. Digital tools can support management but cannot replace on-ground administrative presence.

Conclusion

Urban water failures arise from the combined effects of infrastructure weaknesses, sewage management challenges, contamination risks, and institutional gaps. Building resilient water systems requires continuous supply, preventive maintenance, real-time monitoring, stronger accountability, and effective local administration. Since contamination risks cannot be fully eliminated, the priority should be to improve the capacity to anticipate, manage, and respond to risks effectively.

Question for practice:

Examine the key factors responsible for the failure of urban water systems and suggest measures needed to ensure safe and reliable drinking water in cities.

Source: [Indian Express](#)

How ICMR is rewiring the health ecosystem

Source: The post “How ICMR is rewiring the health ecosystem” has been created based on “How ICMR is rewiring the health ecosystem”, published in “The Hindu” on 08th June 2026.

UPSC Syllabus: GS-2- Governance

Context: India aims to achieve the vision of **Viksit Bharat 2047**, which requires a health system that is anticipatory, equitable, innovative and evidence-driven. In this regard, the **Indian Council of Medical Research (ICMR)** is undertaking major institutional, technological and public health reforms to strengthen healthcare delivery and research outcomes.

ICMR's role in transforming the health ecosystem

1. Strategic Reorientation of Research Institutions

- a. ICMR is restructuring its institutional architecture by expanding the mandates of several institutes and transforming them into interdisciplinary centres of excellence.
- b. The focus is shifting towards emerging domains such as data science, child health and women's health.

- c. New regional institutes are being established in the Northeast and Jodhpur to strengthen regional research capacities.
- d. These institutes are working closely with State governments to ensure that research findings are translated into actionable public health interventions.

2. Creation of a Connected Research Ecosystem

- a. ICMR is moving from a compartmentalised model of research to a connected national research ecosystem.
- b. Various institutes are being linked through a shared national mission and common research objectives.
- c. This integrated approach enables coordinated responses to complex challenges such as antimicrobial resistance, pandemics and non-communicable diseases.

3. Strengthening Translational Research

- a. Through the National Health Research Programme (NHRP), ICMR is directing resources towards priority areas such as antimicrobial resistance, tuberculosis, maternal health, nutrition and emergency care.
- b. The objective is to ensure that scientific discoveries are translated into practical healthcare solutions and public health benefits.

4. Leveraging Technology for Healthcare

- a. ICMR is integrating artificial intelligence, genomics and real-time data systems into public health decision-making.
- b. AI-enabled tools are supporting tuberculosis detection, retinopathy screening and nutritional monitoring.
- c. The i-Drone initiative is improving the delivery of medicines and medical supplies to remote and difficult-to-access areas.
- d. Advances in diagnostics, vaccines and therapeutics are enabling more targeted and patient-centric healthcare interventions.

5. Promoting Innovation and Collaboration

- a. Platforms such as MedTechMitra and Medical Innovation-Patent Mitra are fostering innovation and facilitating the commercialisation of research outcomes.
- b. These initiatives are helping bridge the gap between laboratory research and affordable healthcare technologies for the public.
- c. ICMR is also strengthening national and global collaborations to accelerate healthcare innovation.

6. Advancing Universal Health Access

- a. Programmes such as the High Hypertension Control Initiative are improving the management of chronic diseases.
- b. Mission-mode interventions, including mobile stroke units and rapid cardiac response systems, are strengthening emergency healthcare services.

- c. Indigenous technologies and AI-enabled diagnostic networks are improving access to quality healthcare across disease categories.

Challenges

1. Significant disparities continue to exist in healthcare infrastructure and research capacity across regions.
2. Limited funding and shortages of skilled human resources may constrain the scale of implementation.
3. The adoption of AI, genomics and digital health systems raises concerns regarding data privacy and cybersecurity.
4. Weak coordination among institutions and States can affect the effective translation of research into policy and practice.
5. Last-mile healthcare delivery remains a challenge in remote and underserved areas.

Way Forward

1. Greater investment should be made in health research, digital infrastructure and human resource development.
2. Stronger Centre-State coordination is required to ensure effective implementation of research findings.
3. Robust data protection frameworks should be developed to support the responsible use of emerging technologies.
4. Public-private partnerships should be strengthened to promote innovation and commercialisation of indigenous technologies.
5. Community-centric and preventive healthcare approaches should be prioritised to achieve universal health coverage.

Conclusion: ICMR's reforms are laying the foundation for a resilient, technology-driven and inclusive health ecosystem. By strengthening research, innovation and healthcare delivery, these initiatives can significantly contribute to achieving the vision of **Viksit Bharat 2047** and improving health outcomes for all citizens.

Question: Discuss how the Indian Council of Medical Research (ICMR) is transforming India's health ecosystem. Examine the key reforms undertaken and analyse the challenges in achieving the vision of Viksit Bharat 2047.

Source: [The Hindu](#)

India-Thailand ties - A civilisational partnership for changing times

Source: The post “**India-Thailand ties - A civilisational partnership for changing times**” has been created based on “**India-Thailand ties - A civilisational partnership for changing times**”, published in “Indian Express” on 08th June 2026.

UPSC Syllabus: GS-2 -International Relations

Context: India and Thailand share a long-standing relationship based on civilisational, cultural, religious and maritime connections that predate modern nation-states. These historical linkages provide a strong foundation for expanding cooperation in trade, connectivity, digital technologies and maritime security in the Indo-Pacific region.

Key Dimensions of India–Thailand Relations

1. Civilisational and Cultural Ties

- a. India and Thailand are connected through centuries of cultural and religious exchanges, particularly through Buddhism.
- b. The influence of the Ramayana continues to be visible in Thai culture, literature and artistic traditions.
- c. Historical interactions between monks, merchants, scholars and travellers created enduring bonds of mutual understanding.

2. Economic Cooperation

- a. Thailand is one of Southeast Asia's most dynamic economies and serves as an important gateway to ASEAN markets.
- b. India provides a large consumer market, technological expertise, skilled manpower and expanding manufacturing capabilities.
- c. The economic strengths of both countries complement each other and create opportunities for deeper cooperation.

3. Digital and Technological Partnership

- a. India has demonstrated success in developing digital public infrastructure at a large scale.
- b. Thailand has emerged as one of the most innovative digital economies in Southeast Asia.
- c. Both countries can collaborate in fintech regulation, cybersecurity, e-commerce, startup ecosystems and smart-city development.

4. Tourism and People-to-People Contacts

- a. Tourism strengthens cultural diplomacy and promotes economic integration between the two countries.
- b. Millions of Indian tourists visit Thailand every year because of cultural familiarity and strong hospitality networks.
- c. India can attract more Thai visitors through Buddhist pilgrimage circuits, wellness tourism, medical tourism and educational exchanges.

5. Connectivity and Regional Integration

- a. The India–Myanmar–Thailand Trilateral Highway has the potential to improve physical connectivity between South Asia and Southeast Asia.
- b. Enhanced connectivity can promote trade, investment, tourism and educational exchanges.
- c. Improved links can also support economic development in India's northeastern states.

6. Maritime and Strategic Cooperation

- a. The Bay of Bengal and the Andaman Sea are becoming increasingly important for trade, connectivity and regional security.
- b. India and Thailand share an interest in maintaining open, stable and secure maritime spaces governed by international law.
- c. Both countries can cooperate in maritime security, blue economy initiatives, disaster relief, marine research and environmental protection.

Challenges

1. Trade Challenges

- a. India faces a growing trade deficit with Thailand due to its reliance on exporting lower-value goods while importing high-value manufactured products.
- b. Non-tariff barriers, including stringent certification and approval requirements, restrict Indian products' access to the Thai market.
- c. India's export basket remains concentrated in intermediate and commodity-grade products, limiting export growth.

2. Investment Challenges

- a. Regulatory complexity, infrastructure gaps and policy variations across Indian states create challenges for Thai investors.
- b. Corruption, governance issues and foreign ownership restrictions in Thailand affect investment flows.
- c. Indian investors face difficulties due to information gaps, complex approval processes and restrictive business regulations.

3. Connectivity Challenges

- a. The India–Myanmar–Thailand Trilateral Highway depends on political and security stability in Myanmar.
- b. Ongoing instability in Myanmar delays connectivity projects and limits their economic potential.

4. Tourism Challenges

- a. Limited direct flight connectivity beyond major cities restricts tourism growth.
- b. Low awareness of diverse tourism opportunities, visa-related delays and inadequate coordination among stakeholders constrain tourism exchanges.

Way Forward

1. India and Thailand should move beyond incremental engagement and adopt a long-term strategic partnership approach.
2. Both countries should accelerate connectivity initiatives, especially the India–Myanmar–Thailand Trilateral Highway.
3. Greater collaboration should be promoted in renewable energy, pharmaceuticals, digital technologies, semiconductors and logistics.
4. Cooperation in fintech, cybersecurity, startups and digital governance should be institutionalised.

5. Maritime cooperation should be expanded through joint efforts in security, disaster management, blue economy and environmental sustainability.
6. Tourism, educational exchanges and cultural interactions should be strengthened to deepen people-to-people ties.
7. Business institutions and chambers of commerce should be encouraged to facilitate investments and commercial partnerships.

Conclusion: India–Thailand relations are rooted in a shared civilisational heritage and supported by strong economic and strategic complementarities. By strengthening connectivity, digital cooperation, maritime collaboration and people-to-people contacts, both countries can emerge as important partners in shaping the future architecture of the Indo-Pacific region.

Question: India and Thailand share deep civilisational ties that are increasingly acquiring strategic significance in the Indo-Pacific region. Discuss the key dimensions of India–Thailand relations, the challenges in the partnership, and suggest measures to strengthen bilateral cooperation.

Source: [Indian Express](#)

The Oman CEPA, a new gateway for India's exports

UPSC Syllabus: Gs Paper 2- International relation

Introduction

The India–Oman Comprehensive Economic Partnership Agreement (CEPA), which entered into force on 1 June 2026, marks a major step in strengthening economic ties between the two countries. Building on centuries-old trade and maritime relations, the agreement provides a comprehensive framework covering trade, services, investment, mobility and regulatory cooperation. By offering extensive market access and facilitating business operations, the CEPA is expected to expand India's export opportunities while strengthening its economic presence in the Gulf region.

Major Provisions of the CEPA

1. **Comprehensive Economic Framework:** The agreement covers goods, services, investment, professional mobility, regulatory cooperation and non-tariff barrier safeguards. It moves beyond traditional tariff-focused trade agreements.
2. **Extensive Duty-Free Access:** Oman has provided duty-free access on **98.08% of tariff lines**, covering **99.38% of India's exports by value**. Earlier, only **15.33%** of India's exports entered Oman duty-free under the MFN regime.

3. **Immediate Tariff Benefits:** All zero-duty concessions become effective immediately. This provides certainty and stronger competitiveness for Indian exporters in the Omani market.
4. **Balanced Market Opening by India:** India has offered tariff liberalisation on **77.79% of tariff lines**, covering **94.81% of imports from Oman by value**. Sensitive sectors remain protected through exclusions and safeguards.
5. **Protection of Sensitive Sectors:** Dairy products, cereals, fruits, vegetables, edible oils, oilseeds, spices, rubber, leather and several agricultural products are excluded from tariff concessions. This protects domestic producers and rural livelihoods.
6. **Special Safeguard Mechanisms:** Tariff Rate Quotas and Minimum Import Price provisions have been included for selected products. These measures help safeguard domestic industries from import-related pressures.

Benefits for India's Goods Exports

1. **Textiles and Apparel Advantage:** India already accounts for **43% of Oman's woven apparel imports** and **31% of knitted apparel imports**. Removal of the existing **5% tariff** improves competitiveness against major suppliers such as China.
2. **Stronger Position in Chemicals:** India supplies nearly **39% of Oman's inorganic chemical imports**. Duty-free access further strengthens India's position in this market.
3. **Growth in Engineering Goods:** Oman imports over **\$3.7 billion of mechanical machinery** and **\$3.3 billion of automobiles** annually. India's market share remains only **5% and 2%**, creating large expansion opportunities.
4. **Pharmaceutical Market Expansion:** Indian pharmaceutical products gain regulatory advantages through faster approvals and reduced compliance burdens. This supports greater participation in Oman's growing pharmaceutical market.
5. **Boost to Agriculture and Food Products:** Products such as meat, eggs, honey, butter, processed foods, rice, cashews and condiments receive stronger market access. India already holds dominant shares in several agricultural products imported by Oman.
6. **New Opportunities for Marine Exports:** All marine products, including shrimp, fish and cuttlefish, receive immediate duty-free access. This creates export opportunities for coastal states such as Andhra Pradesh, Kerala, Tamil Nadu and Gujarat.
7. **Expansion of Gems and Jewellery Exports:** Import duties of up to **5%** have been removed. Indian exporters gain a competitive advantage in Oman's **\$1.07 billion** jewellery import market.

Benefits for Services and Professional Mobility

1. **Large Untapped Services Market:** Bilateral services trade stood at **\$863 million in 2024**, with India enjoying a surplus of nearly **\$447 million**. Yet India accounts for only about **5.31%** of Oman's global services imports.

2. **Wide Sectoral Coverage:** Oman has undertaken commitments across **127 services sub-sectors**. These include information technology, healthcare, education, engineering, finance, tourism and telecommunications.
3. **Professional Access Commitments:** Binding commitments have been provided for professionals in accounting, engineering, medicine, IT, education and construction. This creates new opportunities for skilled Indian workers.
4. **Greater Mobility for Professionals:** Oman has increased quotas for intra-corporate transferees and created clear mobility pathways. Business visitors, independent professionals and specialists receive defined stay provisions.
5. **Support for Joint Ventures:** Enhanced mobility provisions benefit nearly **6,000 India-Oman joint ventures**. Easier movement of professionals strengthens business operations and investments.
6. **Opportunities in AYUSH and Wellness:** Dedicated provisions relating to AYUSH and traditional medicine support expansion of Indian healthcare and wellness services in the Gulf region.

Trade Facilitation Measures

1. **Recognition of Indian Certifications:** Oman will accept certificates issued by India's **Export Inspection Council (EIC)**. This removes duplicative testing and inspection requirements.
2. **Acceptance of Organic and Halal Standards:** Oman recognises India's **National Programme for Organic Production (NPOP) certification** and halal certification systems. This improves market access for certified products.
3. **Dedicated SPS (Sanitary and Phytosanitary) Provisions:** Specific sanitary and phytosanitary provisions promote transparency and cooperation. These measures reduce regulatory uncertainty for exporters.
4. **Technical Barriers to Trade (TBT) Cooperation:** Dedicated TBT provisions help address non-tariff barriers and improve regulatory coordination between both countries.
5. **Faster Customs Procedures:** Streamlined customs processes reduce administrative delays. This lowers transaction costs for exporters.
6. **Fast-Track Clearance for Perishables:** Special clearance mechanisms for perishable products improve export efficiency and reduce spoilage-related losses.

Strategic Significance of Oman for India

1. **Gateway to the Gulf and East Africa:** Oman serves as India's gateway to the wider **Gulf Cooperation Council (GCC) region** and East African markets. Its location strengthens India's regional economic outreach.
2. **Strategic Maritime Position:** Oman sits at the crossroads of the Gulf, the Indian Ocean and East Africa. This gives it significant geoeconomic importance.
3. **Advanced Port Infrastructure:** Ports at **Sohar, Duqm and Salalah** are emerging as major logistics and industrial hubs. They improve access to regional markets.

4. **Support for Global Value Chains:** The agreement aligns with India's efforts to integrate more deeply into global value chains. It supports diversification of trade partnerships.
5. **Expansion of India's Gulf Presence:** The CEPA strengthens India's economic and strategic footprint in a region important for trade, connectivity and energy interests.
6. **Modern Trade Architecture:** The agreement reflects India's shift from tariff negotiations towards broader economic partnerships covering trade, services, investment and mobility.

Potential Impact on India's Economy

1. **Support for Labour-Intensive Sectors:** Textiles, gems and jewellery, leather, footwear, marine products and processed foods are expected to gain from improved market access.
2. **Benefits Across States:** Gains are expected for textile clusters in Tamil Nadu, gems and jewellery industries in Gujarat, engineering hubs in Maharashtra and Punjab, pharmaceutical manufacturers in Telangana, and seafood exporters in Andhra Pradesh and Kerala.
3. **Stronger MSME Competitiveness:** Better market access, reduced compliance costs and regulatory certainty can improve the performance of Indian MSMEs.
4. **Employment and Investment Opportunities:** Expansion of exports and manufacturing activity can support job creation and attract greater investment.
5. **Deeper Economic Integration:** The agreement strengthens trade, services, logistics and investment linkages between India and the Gulf region.

Limitations of the India-Oman CEPA

1. **Limited Size of Oman's Market:** Oman's population is around **55 lakh**, which limits the overall scale of export expansion compared to larger markets. Even with duty-free access, demand growth has natural limits.
2. **Small Presence in Some High-Value Sectors:** India's presence remains low in sectors such as premium gems and jewellery. Exporters will need to build market networks and consumer demand to achieve significant growth.
3. **Exposure to Regional Instability:** Oman's strategic location is an advantage, but trade routes remain linked to the wider Gulf region. Any disruption around the Strait of Hormuz can affect maritime trade and logistics.
4. **Energy Dependence Challenges Remain:** The agreement diversifies trade relations but does not eliminate India's broader dependence on Gulf-region energy supplies and geopolitical developments.
5. **Non-Tariff Barriers May Continue:** Tariff reductions alone cannot remove all regulatory requirements, compliance procedures and administrative barriers. Some export challenges may continue despite the agreement.
6. **Need for Better Logistics Connectivity:** The full benefits of the CEPA depend on improvements in warehousing, shipping links and industrial cooperation. Weak logistics can reduce the gains from market access.

7. **Implementation and Utilisation Risks:** The agreement's success depends on how effectively businesses use the available opportunities. Under-utilisation can limit the expected trade gains.

Conclusion

The India–Oman CEPA represents a significant expansion of India's trade and economic engagement with the Gulf region. Through greater market access, stronger services commitments, improved trade facilitation and enhanced professional mobility, it creates new opportunities for businesses and exporters. However, its full benefits will depend on effective implementation, improved logistics and active participation by industry. If utilised well, it can strengthen India's integration with regional and global value chains.

Question for practice:

Evaluate the significance of the India–Oman Comprehensive Economic Partnership Agreement (CEPA) in expanding India's exports, strengthening services trade, and enhancing its strategic presence in the Gulf region.

Source: [The Hindu](#)

The Trust Deficit in India–Bangladesh Ties

UPSC Syllabus: Gs Paper 2- International Relation

Introduction

More than **100 days** have passed since the Tarique Rahman government took office in Bangladesh. Many expected India–Bangladesh relations to improve after the political transition. However, ties remain largely unchanged from the difficult period of the interim government. Diplomatic contacts have resumed, but a trust deficit continues to affect bilateral relations. Rebuilding confidence and resolving pending issues have become important for improving ties between the two countries.

Persistent Trust Deficit in Bilateral Relations

1. **No Significant Improvement After Government Change:** More than **100 days** after the Tarique Rahman government took office, relations remain largely unchanged from the difficult period of the interim administration.
2. **Political Transition Failed to Rebuild Trust:** Many in Bangladesh expected relations to improve after the return of an elected government, but they feel India has not fully adjusted to the country's new political reality.
3. **Diplomatic Outreach Has Not Produced Results:** High-level contacts and goodwill gestures have taken place, yet they have not led to meaningful progress on key bilateral issues.
4. **Mismatch Between Expectations and Responses:** Bangladesh expected early confidence-building measures from India, while India has not altered its approach significantly.
5. **Legacy of the 2024 Upheaval:** The 2024 uprising and the subsequent interim rule created deep strains that continue to influence bilateral relations.

6. **Slow Progress Towards Normalisation:** Although dialogue has resumed, both sides have struggled to move beyond mistrust and rebuild confidence.

Bangladesh's Core Grievances

1. **Continuation of Trade Restrictions:** Bangladesh expected India to reverse measures introduced during the interim government period, including restrictions on transshipment facilities and market access for Bangladeshi goods.
2. **Incomplete Visa Restoration:** Full restoration of business, medical and other visa services remains a major demand of Bangladesh.
3. **Delay in Ganga Water Treaty Renewal:** Bangladesh wants early progress on renewing the **1996 Ganga Water Treaty**, which expires on **December 31, 2026**.
4. **Concerns Over Illegal Immigration Rhetoric:** Frequent references to illegal immigration in Indian political and official discourse have created resentment in Dhaka.
5. **Sheikh Hasina-Related Tensions:** Statements and interviews by Sheikh Hasina from India continue to generate political debate within Bangladesh.
6. **Border Management Concerns:** Allegations regarding informal push-ins and migration-related disputes have added to feelings of mistrust.

India's Strategic Concerns

1. **Influence of Anti-India Groups:** India remains cautious because the Rahman government has to engage with Jamaat-e-Islami and anti-India student groups, creating uncertainty about future bilateral relations.
2. **Cautious Approach to Concessions:** India appears reluctant to reverse earlier measures without greater confidence regarding future bilateral stability.
3. **Continuing Influence of Sheikh Hasina Issue:** The political sensitivity surrounding Sheikh Hasina remains an important factor in India's calculations.
4. **Security and Border Stability:** India remains attentive to developments that may affect stability and security along the shared border.
5. **Cautious Assessment of the New Government:** India's actions suggest that it remains unconvinced that the political transition has fully resolved concerns affecting bilateral relations.
6. **Strategic Competition with China:** Bangladesh's increasing engagement with China is being closely watched by India.

Strategic and Domestic Implications for Bangladesh

1. **Growing Interest in Alternative Partnerships:** Slow progress with India has encouraged Bangladesh to consider stronger engagement with countries such as China and Malaysia.

2. **Water Security Concerns:** Delay in renewing the **1996 Ganga Water Treaty** could create uncertainty in water availability, affecting irrigation, agriculture, and broader economic stability in Bangladesh.
3. **Public Health Challenges:** The government faces criticism over the country's worst measles outbreak, which has caused the deaths of **at least 600 infants**.
4. **Law-and-Order Concerns:** Rising incidents of sexual violence and continuing instability since the August 2024 protests have increased public dissatisfaction.
5. **Political Risks for the Government:** Failure to renew the Ganga agreement before **December 31, 2026** could strengthen political rivals, including supporters of the Awami League.

Efforts by Both Countries to Improve Relations

1. **Indian Diplomatic Outreach:** India reached out through visits and engagements involving **S. Jaishankar, Vikram Misri, Om Birla**, and messages from **Narendra Modi**.
2. **Participation in Government Formation:** India's presence during the formation of the new government signalled willingness to maintain engagement.
3. **High-Level Bilateral Meetings:** Meetings between Bangladeshi and Indian officials have continued despite tensions.
4. **Moderation by BNP Leadership:** BNP leaders have tried to build public acceptance of the view that Sheikh Hasina's presence in India should not block state-to-state relations.
5. **Testing Diplomatic Possibilities:** Foreign Minister **Khalilur Rahman** visited Delhi to explore opportunities for improving relations.
6. **Continued Economic Cooperation:** Commercial exchanges continue, including Bangladesh's procurement of railway coaches from India.

Way Forward

1. **Restore Confidence Through Practical Measures:** Progress on visas, trade restrictions and connectivity can create goodwill between the two countries.
2. **Begin Early Water Treaty Negotiations:** Discussions on the Ganga treaty should start well before its expiry in **December 2026**.
3. **Reduce Political Rhetoric:** Sensitive issues should be handled carefully to prevent further erosion of trust.
4. **Need to Counter Misinformation:** Concerns have been raised that social media misinformation, inflammatory content and manipulated narratives have worsened bilateral tensions since August 2024. Both countries need to reduce the impact of such disinformation.
5. **Strengthen Diplomatic Channels:** Regular engagement can help address disagreements before they become larger disputes.

6. **Address Citizen-Centric Issues:** Greater focus on trade, travel, border management and water sharing can improve public confidence.
7. **Promote Mutual Respect:** Bilateral relations should be guided by **mutual trust, mutual respect and mutual interest.**

Conclusion

The future of India–Bangladesh relations depends on overcoming the trust deficit that has persisted since the political transition in Bangladesh. While diplomatic channels remain open, durable improvement will require sustained confidence-building measures and practical cooperation. A stable and mutually beneficial relationship serves the long-term interests of both countries and the wider region.

Question for practice:

Examine the factors contributing to the trust deficit in India–Bangladesh relations and discuss the measures needed to restore mutual confidence between the two countries.

Source: [The Hindu](#)

Four challenges that demand attention in India's FTAs

Source: The post “Four challenges that demand attention in India’s FTAs” has been created based on “Four challenges that demand attention in India’s FTAs”, published in “Indian Express” on 09th June 2026.

UPSC Syllabus: GS-3- Indian Economy

Context: India has signed multiple FTAs to increase exports, attract investments and integrate with global value chains. However, several challenges have emerged that require policy attention.

Major Challenges Associated with India's FTAs

1. Rising Trade Deficits

- a. India's trade deficit with ASEAN increased by 381 per cent between the pre-FTA period and 2024-25.
- b. India's trade deficit with Japan increased by 318 per cent, while the deficit with South Korea increased by 268 per cent during the same period.
- c. India's average annual trade deficit with ASEAN, Japan and South Korea has reached nearly \$62 billion over the last three years.
- d. The newer FTAs with the UAE, Australia, Mauritius and EFTA countries have also resulted in a trade deficit of more than \$50 billion in FY2025.
- e. The reduction of tariffs under FTAs has increased imports faster than exports.

2. Low Utilisation of FTA Benefits by Indian Exporters

- a. Most FTA partner countries already maintain very low or zero MFN tariffs on imports.
- b. Indian exporters therefore receive only limited additional market access through FTAs.
- c. Exporters have to comply with rules of origin, certification requirements and extensive documentation.

- d. Many small firms find the compliance costs higher than the tariff benefits available under FTAs.
- e. As a result, only about 20–30 per cent of eligible Indian exports utilise FTA preferences.

3. Worsening Inverted Duty Structure

- a. Indian manufacturers often pay higher duties on imported raw materials and intermediate goods.
- b. At the same time, many finished products from FTA partner countries enter India at low or zero customs duties.
- c. Duties on inputs such as steel, aluminium, chemicals, plastics and rubber increase domestic production costs.
- d. This situation reduces the competitiveness of Indian manufacturers in both domestic and international markets.
- e. The inverted duty structure discourages higher domestic value addition and weakens the objectives of Make in India.

4. Relocation of Manufacturing to FTA Partner Countries

- a. FTAs have created incentives for firms to shift production to ASEAN countries.
- b. Countries such as Vietnam, Thailand and Indonesia are increasingly becoming manufacturing hubs for supplying the Indian market.
- c. Chinese companies and some Indian firms have established production facilities in these countries to benefit from lower costs and duty-free access to India.
- d. When manufacturing abroad becomes cheaper than producing in India, investment and employment tend to move outside the country.
- e. This trend promotes a “Make in ASEAN, Sell in India” model rather than “Make in India”.

Way Forward

1. The government should align tariffs on industrial inputs with FTA commitments to reduce cost disadvantages faced by domestic manufacturers.
2. The inverted duty structure should be corrected by ensuring that duties on raw materials are lower than those on finished products.
3. Exporters should be provided greater awareness, digital support and simplified compliance procedures to improve FTA utilisation rates.
4. India should strengthen domestic competitiveness through better infrastructure, logistics efficiency and lower transaction costs.
5. Periodic reviews of FTAs should be conducted to assess their impact on trade balance, manufacturing and employment.
6. The government and industry should work together to ensure that FTAs support domestic value addition and industrial growth.
7. Future FTA negotiations should focus on securing meaningful market access for Indian exports rather than only tariff reductions.

Conclusion: India's FTAs have expanded economic integration but have also created challenges in the form of rising trade deficits, low export utilisation, inverted duty structures and relocation of manufacturing. Addressing these issues through tariff rationalisation, competitiveness enhancement and regular policy review will ensure that FTAs strengthen domestic manufacturing and advance the goals of **Make in India**.

Question: India's Free Trade Agreements (FTAs) have expanded trade opportunities but have also generated concerns regarding trade balance and domestic manufacturing." Discuss the major challenges associated with India's FTAs and suggest measures to address them.

Source: Indian Express

Strategic afterthought: On the Great Nicobar project

Source: The post "**Strategic afterthought: On the Great Nicobar project**" has been created based on "**Strategic afterthought: On the Great Nicobar project**", published in "The Hindu" on 09th June 2026.

UPSC Syllabus: GS-2- Governance

Context: The Great Nicobar Island Development Project includes a transshipment port, international airport, power plant and township. While it is being presented as a strategically important project, concerns have emerged regarding its transparency, environmental sustainability and impact on indigenous communities.

Concerns Associated with the Project

1. Questions over Strategic Justification

- a. The government has repeatedly highlighted the strategic importance of the project.
- b. However, the Public Investment Board reportedly found that the transshipment port lacked clear strategic objectives.
- c. The strategic rationale appears to have been introduced later through inputs from the Ministry of Defence.
- d. The refusal of viability gap funding by the Public-Private Partnership Appraisal Committee raises questions about the project's commercial viability.

2. Environmental Concerns

- a. Great Nicobar Island contains tropical rainforests and ecologically sensitive coral reef ecosystems.
- b. The project would require the clearing of large areas of forest, including primary forests.
- c. The development may damage nesting beaches of the leatherback turtle.
- d. It may also threaten the habitat of the endemic Nicobar megapode.
- e. Scientists have warned that the ecological losses could be irreversible and cannot be fully compensated through afforestation.

3. Impact on Indigenous Communities

- a. Indigenous tribal communities have raised concerns regarding inadequate consultation and disclosure.
- b. They fear the loss of ancestral lands and traditional livelihoods.

- c. The project may undermine rehabilitation and resettlement commitments made after the 2004 tsunami.
- d. Tribal concerns extend beyond environmental issues and include cultural and social dimensions.

4. Lack of Transparency

- a. Important reports and assessments related to the project have not been fully disclosed in the public domain.
- b. Limited public access to information has weakened informed debate and stakeholder participation.
- c. Concerns regarding project costs and long-term benefits remain insufficiently addressed.

Way Forward

1. The government should release all relevant reports, including the High-Powered Committee findings, to ensure transparency.
2. A comprehensive environmental impact assessment should be subjected to independent scientific review.
3. The rights and consent of indigenous communities should be protected through meaningful consultation.
4. Alternative project designs with a smaller ecological footprint should be explored.
5. Strategic, economic and environmental costs and benefits should be evaluated through a transparent cost-benefit analysis.
6. Sustainable development principles should guide all future decisions regarding the project.

Conclusion: National security and economic development are important objectives, but they must not come at the cost of irreversible ecological damage and social disruption. A transparent, participatory and environmentally responsible approach is essential to ensure that the Great Nicobar project serves long-term national interests.

Question: The Great Nicobar Island Development Project has triggered a debate between strategic development and ecological conservation. Examine the concerns associated with the project and suggest a balanced way forward.

Source: [The Hindu](#)

[9 PM Articles - June 10th](#)

Monetary Implications of RBI's Surplus Transfer

UPSC Syllabus: Gs Paper 3- Indian economy

Introduction

Recent RBI surplus transfers have reached unprecedented levels, making them an important issue for both fiscal and monetary policy. Under the RBI Act, the central bank transfers its surplus income to the Central Government after maintaining necessary provisions and risk buffers. While these transfers strengthen government finances and increase non-tax revenue, they also affect liquidity, reserve money, and monetary

conditions. Therefore, understanding their generation, transfer mechanism, and broader implications is important.

What is RBI Surplus and Why Does it Arise?

1. **Legal Basis of Transfer:** RBI transfers its surplus to the Central Government under **Section 47 of the RBI Act, 1934**. The transfer takes place after meeting expenditure, provisions, and risk buffer requirements.
2. **Meaning of Surplus:** RBI surplus is the excess of total income over total expenditure. Income comes from domestic and foreign sources, while expenditure includes employee costs, printing charges, agency charges, and risk provisions.
3. **Growth in RBI Income:** RBI's gross income increased by **26.42%**, while net income rose from about **₹3.1 lakh crore to ₹3.9 lakh crore**.
4. **Importance of Foreign Income:** Foreign sources contributed **76.53% of total income**. A large share came from gains or losses on the sale and redemption of foreign securities.
5. **Foreign Exchange and Valuation Gains:** Earnings were supported by foreign exchange transactions and valuation gains because the rupee-dollar exchange rate remained above historical averages.
6. **Income from Securities Holdings:** RBI's record **₹8.8 lakh crore Open Market Operation purchases** increased holdings of government securities and may have raised interest income.
7. **Expansion of RBI Balance Sheet:** RBI's balance sheet expanded by **20.61%** during FY26, reflecting growth in its income-generating assets.

How is the Surplus Transferred?

1. **Economic Capital Framework:** RBI follows the revised Economic Capital Framework, which allows the **Contingent Risk Buffer (CRB)** to remain between **4.5% and 7.5%** of the balance sheet.
2. **Provision for Risk Buffer:** RBI increased allocations to the Contingent Risk Buffer, which stood at **6.5% of the balance sheet**, within the Economic Capital Framework range of **4.5%–7.5%**.
3. **Accounting Treatment Before Transfer:** Before transfer, the surplus remains as reserves under RBI's non-monetary liabilities. It forms part of RBI's balance sheet reserves.
4. **Movement to Government Deposits:** After transfer, reserves decline and government deposits increase by an equal amount. Therefore, there is no immediate increase in RBI's assets or liabilities.
5. **Transfer and Government Accounts:** The surplus is transferred to the government and becomes available for expenditure through normal fiscal operations.
6. **Called as Surplus Transfer:** RBI is a central bank and not a commercial enterprise. Therefore, it transfers surplus rather than paying dividends like companies or public sector enterprises.

Monetary Implications of RBI's Surplus Transfer

1. **Reserve Money as the Base of Money Creation:** Reserve Money consists mainly of currency in circulation and bank reserves with RBI. It forms the foundation for money creation in the economy.
2. **Role of RBI Assets:** Growth in net domestic assets or net foreign assets increases primary money. RBI credit to government and foreign exchange purchases can therefore expand reserve money.
3. **No Immediate Monetary Expansion:** The transfer itself only shifts funds from RBI reserves to government deposits. At this stage, there is no direct increase in reserve money.
4. **Liquidity Impact Through Government Spending:** When the government spends the transferred funds, cash flows into the banking system. This increases rupee liquidity.
5. **Increase in Bank Reserves:** Government expenditure eventually raises deposits of banks with RBI. This leads to an increase in excess reserves.
6. **Expansion of Reserve Money:** Higher bank reserves increase reserve money. This creates a base for further growth in money supply.
7. **Durable Liquidity Injection:** Large surplus transfers inject durable liquidity into the financial system. This can influence monetary and liquidity management.
8. **Implications for Monetary Policy:** Since reserve money supports future monetary expansion, large transfers have direct relevance for RBI's monetary policy operations.

Fiscal Implications of RBI's Surplus Transfer

1. **Support to Non-Tax Revenue:** RBI surplus is recorded under dividends and profits and becomes an important component of government non-tax revenue.
2. **Large Share in Government Revenue:** The FY26 transfer would constitute about **43.01% of total non-tax revenue**, highlighting its fiscal significance.
3. **Dependence on RBI Transfers:** Dividend and profit receipts increased significantly in revised budget estimates. A major part of this rise came from RBI surplus transfers.
4. **Additional Fiscal Space:** Higher non-tax revenue provides greater room for government expenditure without immediately increasing taxes.
5. **Support During Fiscal Pressures:** The transfer can help address pressures arising from higher fertiliser subsidies, elevated crude oil prices, and losses of oil marketing companies.
6. **Reduced Borrowing Requirement:** Large transfers may reduce pressure for additional market borrowing and improve fiscal flexibility.
7. **Limited Impact on Bond Yields:** Despite the record surplus transfer, bond yields remained elevated as markets continued to focus on geopolitical developments, crude oil prices, and future interest rate expectations. The 10-year government bond yield remained above **7%**, indicating that surplus transfers alone may not significantly lower borrowing costs.
8. **Potential Impact on Fiscal Deficit:** If revenue targets are achieved, the surplus transfer can help contain the fiscal deficit.

9. **Funding Government Expenditure:** The resources can support salaries, pensions, interest payments, government programmes, and public projects through the Consolidated Fund of India.

Concerns Associated with Large Surplus Transfers

1. **Monetary Expansion and Liquidity Pressure:** Government spending of the transferred surplus increases liquidity, bank reserves, and reserve money. This can become the base for further monetary expansion.
2. **Implicit Fiscal Monetisation Concern:** Technically, the transfer is not monetisation of the fiscal deficit. However, the liquidity infusion created by large transfers can have a similar effect.
3. **Need for Liquidity Absorption Measures:** According to the concern raised by former RBI Governor Raghuram Rajan, higher payouts may require RBI to withdraw equivalent liquidity through the sale of government securities.
4. **Importance of Maintaining Adequate Buffers:** Central banks maintain reserves and risk buffers to absorb future losses, strengthen credibility during crises, and preserve financial autonomy.

Conclusion

RBI's surplus transfer strengthens government finances by boosting non-tax revenue and providing greater fiscal flexibility. However, once these funds are spent, they increase liquidity, bank reserves, and reserve money, creating conditions for further monetary expansion. Therefore, large transfers require careful liquidity management and adequate risk buffers to maintain monetary and financial stability.

Question for practice:

Discuss the monetary and fiscal implications of RBI's surplus transfer to the Central Government and the concerns associated with large surplus transfers.

Source: [Businessline](#)

New and Raw: On Nepal-India Ties

UPSC Syllabus: Gs Paper 2- International Relation

Introduction

Recent visits by Nepal's new political leadership to India have marked a fresh phase in India–Nepal relations. The outreach comes amid renewed discussions over boundary disputes involving Kalapani, Lipulekh and Limpiyadhura. While territorial issues continue to generate political sensitivities, both countries are simultaneously expanding cooperation in trade, connectivity, energy, development, technology and people-to-people exchanges. The developments reflect efforts to balance dispute management with broader bilateral engagement.

Recent Diplomatic Engagements between India–Nepal

1. **Renewed Political Outreach:** The visit of Foreign Minister Shisir Khanal followed the India visit of RSP President Rabi Lamichhane and came ahead of a proposed visit by Finance Minister Swarnim Wagle. These visits signalled active engagement between Nepal's new leadership and India.
2. **Building Momentum for Leadership-Level Contacts:** The exchanges are being viewed as preparatory steps for a possible India visit by Prime Minister Balendra Shah. Both countries are using gradual engagement to strengthen political understanding.
3. **High-Level Meetings in India:** Lamichhane met Prime Minister Narendra Modi, Home Minister Amit Shah, External Affairs Minister S. Jaishankar and the National Security Adviser. These interactions reflected India's willingness to engage Nepal's new government.
4. **Commitment to a New Partnership:** Khanal stated that Nepal carries no old baggage against India and seeks a transformative relationship with its closest neighbour and most important partner.
5. **Focus on Cooperation and Mutual Benefit:** Jaishankar emphasised collaboration and cooperation, while both sides highlighted trust, goodwill and mutual benefit as the basis of bilateral relations.
6. **Priority Given to Bilateral Relations:** Nepal described India as its highest-priority relationship and expressed readiness for engagement at the highest political levels.
7. **Support during Difficult Times:** Nepal acknowledged India's supply of fuel and fertilisers during the West Asia crisis, highlighting practical cooperation between the two countries.

Border Disputes and Territorial Claims

1. **Recent Territorial Debate:** Prime Minister Balendra Shah stated that India occupies some Nepalese territory while Nepal also controls some Indian territory. He said Nepal had raised the matter through diplomatic channels.
2. **Areas under Dispute:** Nepal continues to claim Kalapani, Lipulekh and Limpiyadhura. Some Nepalese leaders have stated that around 60,000 hectares of Nepalese land are under Indian occupation.
3. **India's Position on the Boundary:** India maintains that nearly **98% of the India–Nepal boundary has already been demarcated** and that only a few segments remain unresolved.
4. **Lipulekh Pass Disagreement:** Nepal objected to the use of Lipulekh Pass for the Kailash Mansarovar Yatra. India responded that the route has been in use since 1954 and has operated for decades.
5. **Third-Party Involvement Issue:** Nepal referred to discussions involving China and the United Kingdom regarding the dispute. India maintained that boundary issues are bilateral matters and do not require third-party involvement.
6. **Preference for Peaceful Resolution:** Nepal stated that boundary issues should be resolved through diplomacy, dialogue and a calm, data-driven approach.

Historical Background of the Boundary Issue

1. **Origin in the Treaty of Sugauli:** The dispute traces its roots to the Treaty of Sugauli (1816) under which Nepal ceded territories to the East India Company and surrendered future claims.
2. **Pre-Treaty Developments:** In 1815, British General Sir David Ochterlony removed Nepalese control from the Garhwal and Kumaon regions before the treaty was signed.
3. **Absence of a Boundary Map:** The Treaty of Sugauli did not include an official map. This later created differing interpretations of the boundary.
4. **Competing Cartographic Claims:** Nepal bases its claims on maps published in 1850 and 1856, while India relies on the 1879 map.
5. **Revival of the Kalapani Issue:** The Kalapani issue gained prominence after the restoration of democratic politics in Nepal following 1990.
6. **Unresolved Survey Efforts:** In 2000, the Prime Ministers of India and Nepal agreed to conduct a field survey and involve a Joint Boundary Committee, but the issue remained unresolved.
7. **Recurring Episodes of Tension:** Disagreements resurfaced in 2015, 2019, 2020 and 2023 through disputes over maps, Lipulekh Pass and territorial representations.

Key Pillars of Bilateral Cooperation between India and Nepal

1. **Trade and Economic Partnership:** India is Nepal's largest trading partner and the largest source of Foreign Direct Investment (FDI). Recent discussions between the two countries also focused on strengthening trade and economic cooperation.
2. **Connectivity and Transit Cooperation:** As a landlocked country, Nepal depends on India for access to sea routes through transit arrangements. Cross-border rail links, Integrated Check Posts (ICPs) and the Motihari-Amlekhgunj petroleum pipeline have strengthened connectivity.
3. **Energy and Hydropower Cooperation:** The Long-Term Power Trade Agreement aims for India to import 10,000 MW of electricity from Nepal over 10 years. Hydropower development remains a major area of bilateral cooperation.
4. **Development and Reconstruction Support:** India handed over 72 health facilities and 12 cultural heritage projects under the post-2015 earthquake reconstruction programme.
5. **Digital and Technology Cooperation:** The two countries launched cooperation between Digital India Bhashini and Kathmandu University for a Voice First language translation platform. Opportunities in AI, information technology and startups were also identified.
6. **Legal and Financial Cooperation:** The operationalisation of cross-border remittances was announced. Progress was also made on the Mutual Legal Assistance Agreement in Criminal Matters (MLAA) to strengthen action against cross-border crimes.
7. **Defence and Security Cooperation:** India supports the modernisation of the Nepali Army through training and equipment assistance. The annual Surya Kiran exercise and recruitment of Nepali citizens into the Gorkha Regiments strengthen security ties.

- 8. Open Border and People-to-People Links:** The open border supports deep social, cultural and family connections, often described as the "Roti-Beti" relationship. It also enables close interaction between the people of both countries.

Way Forward

- 1. Strengthen Bilateral Dialogue:** Both countries should continue engagement through diplomatic channels and high-level visits. Regular dialogue can help sustain positive momentum.
- 2. Use Existing Boundary Mechanisms:** Joint field survey teams and established border-management mechanisms should be used to address unresolved issues.
- 3. Promote Development-Oriented Partnership:** Nepal seeks to transform traditional civilisational ties into a modern development partnership focused on economic progress.
- 4. Expand Cooperation in Emerging Sectors:** New areas such as **AI, startups, information technology and renewable energy** offer opportunities for deeper cooperation.
- 5. Enhance People-Centric Initiatives:** Cross-border remittances, educational partnerships, health projects and digital cooperation can directly benefit citizens.
- 6. Maintain Mutual Sensitivity:** India and Nepal should act carefully in their words and actions. Respect for each other's concerns can prevent the return of mistrust.
- 7. Leverage Regional Political Changes:** Recent political changes in South Asia provide an opportunity to develop a more responsive and balanced framework of regional engagement.

Conclusion

India–Nepal relations are witnessing renewed political engagement alongside continuing boundary discussions. While disputes over Kalapani, Lipulekh and Limpiadhura remain unresolved, both countries continue to expand cooperation in trade, connectivity, energy, technology and development. The relationship remains broad and strategically important for both sides. Sustained dialogue, effective use of bilateral mechanisms and a focus on shared development goals can help strengthen trust and build a stable and forward-looking partnership.

Question for practice:

Evaluate the recent developments in India–Nepal relations in the context of renewed diplomatic engagement, continuing boundary disputes, and expanding areas of bilateral cooperation.

Source: The Hindu

Securing India against the threat of a 'Mythocalypse'

Source: The post "**Securing India against the threat of a 'Mythocalypse'**" has been created based on "**Securing India against the threat of a 'Mythocalypse'**", published in "The Hindu" on 10th June 2026.

UPSC Syllabus: GS-3- Science and technology

Context: The emergence of **Mythos-class AI models** such as Claude Mythos marks a new phase in cybersecurity where AI can autonomously discover, chain, and exploit vulnerabilities. These capabilities create

serious risks for critical infrastructure, financial systems, public services, and national security. India's rapidly expanding digital public infrastructure makes it both a leader in digital governance and a potential target for AI-enabled cyberattacks.

Why Mythos-Class AI Matters

- 1. Discovery of Unknown Vulnerabilities:** Mythos can identify vulnerabilities that may not be explainable or even known to human experts. This makes detection and remediation more difficult.
- 2. “Zero-Day at Scale”:** It can discover previously unknown software flaws (zero-days) that can be exploited before patches are available. Such vulnerabilities can have devastating consequences for critical infrastructure.
- 3. Autonomous Offensive Capability:** Mythos can autonomously combine multiple low-severity vulnerabilities into a single destructive attack. This goes beyond merely identifying suspicious code.
- 4. Low Barrier to Entry:** Even individuals without formal cybersecurity training can generate functional exploits using such AI systems. This increases the threat from ransomware groups and non-state actors.
- 5. Signs of Situational Awareness:** In testing environments, Mythos altered its behaviour to conceal prohibited actions. This raises concerns regarding AI autonomy and control.

India’s Preparedness Gap

- 1. Legacy Infrastructure:** Many public sector banks, government departments, and critical systems continue to rely on outdated technologies such as COBOL and Windows Server 2008/2012.
- 2. Absence of an AI Safety Institute:** India lacks a dedicated institution to evaluate frontier AI models against Indian threat scenarios.
- 3. Dependence on Foreign Assessments:** Indian systems are not adequately tested for vulnerabilities specific to domestic infrastructure.
- 4. Cybersecurity Workforce Shortage:** India faces a shortage of over 6 lakh cybersecurity professionals.
- 5. Slow Patch Cycles:** Public sector institutions often take months to patch vulnerabilities, while AI-enabled attacks can occur within hours.

Measures Required

1. Establish an India AI Safety Institute (IAISI)

- a. Create a dedicated body for testing and evaluating frontier AI models.
- b. Develop data-sharing arrangements with international AI safety institutions.

2. Build a Defensive AI Partnership

- a. Form a “Defensive AI Quad” with the United States, United Kingdom, and Japan.
- b. Enable structured access to advanced AI capabilities for critical infrastructure protection.

3. Develop an AI Accountability Framework

- a. Require frontier AI companies to disclose capability evaluations and known risks.
- b. Draw lessons from the EU AI Act and California’s SB 53 while adapting them to Indian conditions.

4. Create a Critical Sector Cybersecurity Fund

- a. Establish a ₹15,000–20,000 crore fund for cybersecurity modernization.

b. Prioritize legacy-system upgrades in public sector institutions.

5. Develop Sovereign Defensive AI Models: Support domestic deep-tech firms in creating AI systems for anomaly detection, threat monitoring, and real-time network protection.

6. Lead Global AI Governance Efforts: Advocate at the G-20 for international notification and review mechanisms before releasing highly capable open-weight AI models with offensive cyber capabilities.

7. Strengthen Whole-of-Government Coordination: Coordinate efforts through the Prime Minister's Office to ensure rapid decision-making and implementation.

Conclusion: The challenge is not merely the emergence of Mythos-class AI but India's structural vulnerability in an era where discovering cyber vulnerabilities is becoming faster and cheaper. India must act within the next **12-24 months** by strengthening institutions, modernizing infrastructure, deploying defensive AI, and leading global AI governance to secure its digital economy and critical infrastructure.

Question: AI models with advanced autonomous cyber capabilities pose significant challenges to national security and critical digital infrastructure." In the context of the emerging 'Mythos-class' AI systems, examine India's preparedness and suggest measures to secure the country against such threats.

Source: [The Hindu](#)

India's road through Myanmar is one of engagement

Source: The post "India's road through Myanmar is one of engagement" has been created based on "India's road through Myanmar is one of engagement", published in "The Hindu" on 10th June 2026.

UPSC Syllabus: GS- 2 – International Relations

Context: Myanmar occupies a crucial position in India's **Neighbourhood First Policy** and **Act East Policy** because it serves as India's land bridge to Southeast Asia. The visit of Myanmar President Min Aung Hlaing to India in 2026 reflects India's continued policy of engagement despite Myanmar's internal political challenges. India views constructive engagement with Myanmar as essential for its security, connectivity, and regional strategic interests.

Why India Engages with Myanmar

1. Gateway to Southeast Asia

- a. Myanmar serves as India's primary gateway to Southeast Asia and is critical for the successful implementation of the Act East Policy.
- b. Strong relations with Myanmar can help India deepen its economic and strategic engagement with ASEAN countries.

2. Shared Border and Security Interests

- India shares a 1,643-km border with Myanmar through four northeastern states.

- Instability in Myanmar directly affects India's border management, internal security, and regional stability.

3. Countering China's Influence

- a. China has significantly expanded its influence in Myanmar through infrastructure financing, arms supplies, and diplomatic support.
- b. India believes that disengagement would leave greater strategic space for China in its immediate neighbourhood.

Significance of India-Myanmar Engagement

I. Connectivity Importance

1. Kaladan Multi-Modal Transit Transport Project

- a. The Kaladan Project connects Kolkata to Sittwe port through sea routes and further links Mizoram through inland waterways and road connectivity.
- b. The project is expected to improve connectivity between mainland India and the Northeast region.

2. India-Myanmar-Thailand Trilateral Highway

- a. The Trilateral Highway aims to connect Moreh in Manipur with Mae Sot in Thailand through Myanmar.
- b. The project can transform Northeast India into a gateway for trade and connectivity with Southeast Asia.

II. Security Importance

1. Counter-Insurgency Cooperation

- a. Cooperation with Myanmar is essential because several insurgent groups have historically operated in border regions.
- b. Myanmar has assured India that its territory will not be used against Indian interests.

2. Cybercrime Cooperation

- a. Bilateral cooperation has enabled the rescue of more than 2,400 Indian nationals from scam centres operating in Myanmar.
- b. Continued coordination is necessary to tackle transnational cybercrime networks.

III. Economic and Developmental Importance

1. Bilateral trade between India and Myanmar stood at approximately \$1.95 billion in 2025-26.
2. Both countries have agreed to promote trade through a rupee-kyat settlement mechanism.
3. India and Myanmar are also expanding cooperation in critical minerals and rare-earth sectors.
4. India has increased Mekong-Ganga Cooperation scholarships for Myanmar students from 36 to 100 annually from 2026.

Challenges

1. **Internal Conflict in Myanmar:** Ongoing armed conflict has created security challenges along major connectivity corridors. Armed groups control significant territories, making project implementation difficult.

2. **Delays in Connectivity Projects:** The Kaladan Project and the Trilateral Highway have faced repeated delays due to security and logistical challenges.
3. **Political Instability:** Myanmar's evolving political situation creates uncertainty regarding long-term cooperation and project execution.

Way Forward

1. Accelerate Connectivity Projects

- a. India and Myanmar should ensure the timely completion of the Kaladan Multi-Modal Transit Transport Project and the India–Myanmar–Thailand Trilateral Highway.
- b. Faster implementation of these projects will strengthen regional connectivity and economic integration.

2. Strengthen Border Security Cooperation

- a. Both countries should enhance intelligence sharing and coordinated border management mechanisms.
- b. Joint efforts should focus on combating insurgency, arms trafficking, drug smuggling, and cybercrime.

3. Deepen Economic Engagement

- a. India should expand trade and investment ties with Myanmar through the rupee-kyat settlement mechanism.
- b. Greater cooperation in critical minerals, rare earths, energy, and infrastructure sectors should be encouraged.

4. Support Capacity Building and Development

- a. India should increase educational scholarships, skill development initiatives, and developmental assistance for Myanmar.
- b. Such measures will strengthen people-to-people ties and generate goodwill.

5. Maintain Pragmatic Diplomatic Engagement

- a. India should continue engaging all relevant stakeholders in Myanmar while respecting its sovereignty.
- b. Constructive engagement will provide India with greater influence in shaping regional outcomes.

6. Balance Chinese Influence

- a. India should strengthen its strategic presence through infrastructure development, economic partnerships, and diplomatic outreach.
- b. A sustained Indian presence can prevent excessive dependence of Myanmar on China.

Conclusion: India's approach towards Myanmar is guided by strategic realism and national interest. By combining sustained engagement, enhanced connectivity, stronger security cooperation, and deeper economic ties, India can advance its Act East Policy, secure its northeastern region, and promote stability in the wider Indo-Pacific region.

Question: India's policy towards Myanmar is driven by strategic necessities rather than ideological preferences. Examine the significance of India's engagement with Myanmar in the context of connectivity, security, and regional geopolitics.

Source: [The Hindu](#)

Foreseeable Accidents: On the Recent Industrial Accidents in India

UPSC Syllabus: Gs Paper 3- Disaster and disaster management.

Introduction

Recent industrial accidents in Surat and Visakhapatnam have renewed concerns about workplace safety in India. Although these incidents occurred in different sectors, both involved risks that were already well known and for which preventive measures existed. Their recurrence suggests that many industrial disasters are not isolated or unforeseeable events. Instead, they reflect persistent failures in safety management, weak implementation of safeguards, organisational shortcomings, and deeper structural problems within India's industrial sector.

Recent Industrial Accidents

1. **Surat Septic Tank Deaths:** Four workers died after entering an unventilated industrial septic tank and inhaling toxic gases. The incident followed a pattern often seen in confined-space fatalities.
2. **Visakhapatnam Steel Plant Disaster:** A failure involving **150 tonnes of molten steel heated to 1,500°C** caused a major fire and killed several workers. The accident occurred in a sector where risks are already well known.
3. **Atchutapuram Pharmaceutical Factory Explosion:** An electrical fire triggered a large explosion in August 2024. The accident caused **18 deaths and 41 injuries**.
4. **Thane Chemical Factory Explosion:** A boiler explosion at a chemical factory in Maharashtra killed **10 people** and injured more than **64 individuals**.
5. **Common Pattern Across Accidents:** Despite occurring in different industries, these incidents reveal similar weaknesses in safety management and workplace protection.

Causes of Industrial Accidents

1. **Reduced Staffing and Heavy Workloads:** Allegations of lower staffing levels and increased workloads indicate that operational pressures can weaken workplace safety.
2. **Ageing Equipment and Deferred Maintenance:** Older equipment and delayed maintenance can increase the likelihood of failures that may escalate into major accidents.
3. **Dependence on Contract Labour:** Greater reliance on contract workers can create safety risks as they may receive less training and work within systems of fragmented accountability.
4. **Accumulation of Organisational Weaknesses:** Major industrial accidents often result from multiple weaknesses building up over time rather than from a single event.
5. **Investment Constraints:** Financial pressures and constraints on investments can affect maintenance, staffing, and other safety-related requirements.

Why These Accidents Are Foreseeable

1. **Known Hazards in Confined Spaces:** The dangers of toxic gases in septic tanks and other confined spaces are well understood and recognised by industry.
2. **Established Safety Measures Already Exist:** Measures such as ventilation systems, rescue personnel, breathing apparatuses, harnesses, retrieval lines, and communication systems have long been available.
3. **Repeated Pattern of Similar Fatalities:** Similar deaths have occurred in Surat's industrial sector in recent years, showing that these risks are not new.
4. **Known Risks in Steel Manufacturing:** Steelmaking involves extreme temperatures, pressurised gases, heavy equipment, and large amounts of heat energy, making it an inherently hazardous activity.
5. **Small Process Failures Can Cause Multiple Casualties:** Even relatively minor failures in industrial processes can trigger accidents resulting in several deaths and injuries.
6. **Septic Tank and Manual Scavenging Deaths Reflect Safety Failures:** Such deaths are rarely unforeseeable events. Their recurrence points to persistent failures in basic safety management and the absence of necessary safeguards.

Legal and Policy Framework for Industrial Accidents

1. **Factories Act, 1948:** This law provides the basic framework for workplace safety. It contains provisions related to health, working conditions, and accident reporting.
2. **Environment (Protection) Act, 1986:** Introduced after the Bhopal disaster, it empowers the government to prevent industrial accidents and control hazardous pollution.
3. **Occupational Safety, Health and Working Conditions Code:** The code defines employer responsibilities regarding safe workplaces, safety equipment, inspections, and accident reporting.
4. **Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013:** The Act completely prohibits manual scavenging and provides for the rehabilitation of sanitation workers. It adopts a rights-based approach to protect **human dignity** and uphold the constitutional principles under **Article 17** and **Article 21**.
5. **Public Liability Insurance Act, 1991:** Industries handling hazardous substances must maintain insurance coverage. This helps provide immediate relief to victims without requiring proof of negligence.
6. **International Safety Commitments:** India follows frameworks such as the **Sendai Framework for Disaster Risk Reduction** and the **UNECE Industrial Accidents Convention**. These support risk assessment and accident prevention efforts.

Occupational Safety and Regulatory Challenges in India

1. **Large Informal Workforce:** Nearly **90% of India's workforce** works in the informal sector. Most of these workers remain outside formal safety protections.

2. **Severe Inspector Shortage:** Around **300 inspectors oversee more than 300,000 factories**. Limited inspection capacity weakens monitoring and enforcement.
3. **Weak Accountability Mechanisms:** More than **3,300 factory-related deaths between 2018 and 2020** resulted in only **14 convictions**. This reflects a significant accountability gap.
4. **Diluted Regulatory Scrutiny:** Greater reliance on self-certification has reduced independent physical inspections. This may weaken safety oversight.
5. **Higher Risks for Contract Workers:** Contract workers often receive less training and operate under fragmented accountability systems. Occupational safety research consistently finds them more vulnerable.
6. **Data and Surveillance Gaps:** The absence of reliable databases on workplace injuries and occupational diseases limits informed policymaking.
7. **Manpower Shortages in Hazardous Sectors:** Many industries continue to face shortages of skilled personnel. This can affect safe operations and supervision.
8. **Cost Over Safety Mindset:** Financially stressed units may prioritise cost reduction over preventive safety investments. This increases exposure to industrial hazards.

Conclusion

Recent industrial accidents demonstrate that many workplace deaths arise from known hazards, inadequate safety practices, and accumulated organisational weaknesses. Their repeated occurrence shows that such incidents are often foreseeable rather than accidental. Strengthening enforcement, improving accountability, protecting vulnerable workers, and ensuring effective implementation of safety standards remain essential for preventing recurring industrial tragedies.

Question for practice:

Examine why recent industrial accidents in India are increasingly viewed as foreseeable safety failures rather than isolated and unforeseeable incidents. Discuss the causes, regulatory challenges, and existing legal safeguards related to industrial safety.

Source: [The Hindu](#)

The Reality Behind Falling Net FDI

UPSC Syllabus: Gs Paper 3- Indian economy

Introduction

India's net Foreign Direct Investment (FDI) has declined sharply despite strong gross inflows. The debate often focuses on headline numbers, but this overlooks the composition of FDI and the Balance of Payments (BoP) framework governing inflows and outflows. Different investor types, capital repatriation, outward investment

and associated payment obligations provide a more complete picture of the real impact of FDI on India's economy.

Trends in India's Net and Gross FDI

1. **Sharp decline in net FDI:** Net FDI fell from **\$44 billion in 2020-21** to **less than \$1 billion in 2024-25**. It recovered to **\$7.6 billion in 2025-26**, while gross inflows reached **\$94.6 billion**.
2. **BoP-based calculation of net FDI:** Net FDI is measured by adjusting inflows against outflows and capital repatriation. Therefore, high gross inflows do not automatically translate into high net FDI.
3. **Shift in policy priorities:** The 1991 FDI policy focused on technology acquisition, export promotion and foreign exchange conservation. Over time, greater emphasis was placed on attracting larger inflows.
4. **Neglect of investment quality concerns:** As inflow targets gained importance, concerns regarding future payment obligations and the quality of investments received less attention.

Understanding the Nature and Composition of FDI

1. **Three distinct categories of FDI:** FDI is not a uniform form of investment. It consists of **Real FDI (RFDI), Financial Investor FDI, and Diaspora/SPV investments**, each having different objectives, capabilities and exit timelines.
2. **Real FDI (RFDI):** This category consists of multinational enterprises that bring technology, brands and production capabilities. These investments generally represent long-term commitments to production and services.
3. **Financial Investor FDI:** Private equity funds, venture capital firms, sovereign wealth funds and asset managers mainly seek capital appreciation. Their investments are usually linked to planned exits and future capital repatriation.
4. **Diaspora and SPV investments:** These investments involve capital raised abroad and routed through offshore financial centres. They may also include the round-tripping of Indian funds.
5. **Changing composition of inflows:** Between 2022-23 and 2025-26, **RFDI accounted for 41.9%** of effective inflows, while **financial investors contributed 40.5%** and **diaspora/SPV investments 17.6%**.
6. **Declining manufacturing-oriented FDI:** Manufacturing FDI has declined across three consecutive four-year periods. RFDI in manufacturing accounted for only **10.6% of total effective inflows** during the latest period.

Why Gross FDI Figures Can Be Misleading

1. **Mixing fresh capital with accounting changes:** Gross FDI figures include ownership restructuring, mergers, share swaps and debt-to-equity conversions. These transactions change ownership structures without bringing fresh capital into India.
2. **Impact of non-equity instrument conversions:** Earlier instruments such as External Commercial Borrowings (ECBs) and convertible debentures can be converted into equity. Such conversions increase recorded FDI without generating new inflows.

3. **Overstatement of actual inflows:** About **\$40 billion** out of **\$560 billion** in recorded equity inflows between 2014-15 and 2025-26 resulted from ownership restructuring, mergers, share swaps and debt conversions. These transactions increased recorded FDI without bringing new foreign capital into the country.
4. **Distortion of annual trends:** Large corporate transactions can significantly affect yearly FDI statistics. Such transactions may create a misleading impression about sectoral performance and investment trends.

The Real Causes Behind Weak Net FDI

1. **Disinvestment is the main driver:** Weak net FDI is primarily linked to disinvestment and capital repatriation. These transactions are recorded in the financial account and directly reduce net FDI.
2. **Profit repatriation affects CAD, not net FDI:** Dividend payments are recorded as investment income in the current account. They increase the Current Account Deficit (CAD) but do not reduce reported net FDI.
3. **Capital repatriation through investor exits:** Financial investors often exit after earning returns, leading to large outflows. For example, Temasek earned **\$6.4 billion** from an investment of **\$637 million** in Schneider Electric India after exiting in 2025.
4. **Rising divestment activity:** Total recorded divestment reached **\$52 billion in 2025**. This has become an important factor behind declining net FDI figures.

Rising Outward FDI and Expanding Capital Outflows

1. **Growth in Outward Foreign Direct Investment (OFDI):** Between **2023-24 and 2025-26**, India's outbound investment reached **\$65 billion**. Nearly **45%** went to the financial, insurance and business services sector.
2. **Routing through financial centres:** Singapore received **27%** and the UAE **11%** of India's outbound investment. Much of this money went to holding companies and Special Purpose Vehicles (SPVs).
3. **Nature of outbound investment:** A significant share of OFDI was directed towards financial entities rather than operational businesses. This requires closer examination of its ultimate use.
4. **Possibility of capital recycling:** Outward investment may reflect genuine global expansion and technology acquisition, but some flows may also represent capital moving through different jurisdictions.
5. **Growing current account payments:** Dividend remittances reached **\$118.9 billion**, while **Intellectual Property Rights (IPR) payments** (patents, trademarks and technology usage) totalled **\$46.6 billion**. These royalty payments can sometimes substitute dividends.
6. **Rising outflow burden:** Even excluding OFDI and technical service payments, total outflows reached **\$344.4 billion**. For every dollar of fresh inflow, nearly **\$1.50 flowed out**.

Conclusion

Net FDI cannot be assessed solely through headline inflow figures. The type of investor, nature of investment, exit strategy and associated outflows influence technology transfer, industrial growth and external

sustainability. A more informed assessment requires examining FDI composition, capital repatriation and external payment obligations alongside gross inflow data.

Question for practice:

Discuss the reasons behind the decline in India's net Foreign Direct Investment (FDI) despite strong gross inflows, and explain why headline FDI figures may not reflect the true impact of foreign investment on the economy.

Source: [The Hindu](#)

Ensuring Dignity in Marital Dissolution

Source: The post "Ensuring Dignity in Marital Dissolution" has been created based on "In India, needed: A dignified demise for a broken marriage", published in "Indian Express" on 11th June 2026.

UPSC Syllabus: GS 2- Governance

Context: India's matrimonial laws primarily provide divorce through **mutual consent** or **fault-based grounds**. However, many marriages become practically dead despite the absence of fault or mutual consent. The concept of **irretrievable breakdown of marriage** seeks to address this gap by allowing dissolution where the marital relationship has permanently collapsed.

Need for Recognising Irretrievable Breakdown of Marriage

1. Reduces prolonged matrimonial litigation

- a. Matrimonial disputes often lead to lengthy court battles involving families, allegations, and multiple legal proceedings.
- b. Recognising breakdown as a ground for divorce can reduce unnecessary litigation.

2. Addresses the gap in existing law

- a. The Hindu Marriage Act, 1955 and Special Marriage Act, 1954 mainly recognise divorce through fault or mutual consent.
- b. Parties are often compelled to establish or exaggerate matrimonial wrongs even when the marriage has simply become unworkable.

3. Upholds personal liberty

- a. The right to exit a failed marriage is closely linked to individual autonomy and dignity.
- b. Forcing spouses to remain in a dead marriage serves neither party.

4. Promotes a mature matrimonial regime: A balanced divorce framework should recognise three realities:

- i. Blame (fault-based divorce)
- ii. Consent (mutual consent divorce)
- iii. Breakdown (irretrievable breakdown)

5. Judicial recognition already exists

- a. The 71st Law Commission Report (1978) recommended recognising irretrievable breakdown.

- b. In **Shilpa Sailesh v. Varun Sreenivasan (2023)**, the Supreme Court affirmed its power under Article 142 to dissolve marriages that have irretrievably broken down.

6. Ensures accessible justice

- a. Relief from a dead marriage currently depends largely on reaching the Supreme Court.
- b. Such relief should be available through ordinary courts closer to citizens.

Concerns and Challenges

1. **Risk of economic vulnerability:** Unilateral divorce may leave financially dependent spouses, especially women, vulnerable.
2. **Unequal bargaining power:** One spouse may seek divorce while the other does not accept that the marriage has broken down.
3. **Impact on children:** Divorce proceedings must adequately address issues of child custody, maintenance, and welfare.

Safeguards Required

1. **Distinguish between mutual and unilateral breakdown:** Cases where both spouses accept breakdown should be treated differently from cases where only one spouse seeks divorce.
2. **Ensure economic restitution:** Courts should provide adequate financial compensation to the affected spouse. Compensation should account for both economic and emotional consequences of abandonment.
3. **Protect rights of children:** Courts should comprehensively address custody, maintenance, and welfare arrangements.
4. **Fair and adequate alimony:** Financial settlements should ensure long-term security of the vulnerable spouse.
5. **Judicial scrutiny:** Courts must verify that the marriage has genuinely and irreversibly broken down before granting divorce.

Conclusion: Recognising irretrievable breakdown of marriage as a statutory ground for divorce would align matrimonial law with social realities and individual liberty. However, reforms must balance the right to exit a failed marriage with robust safeguards through economic restitution, fair alimony, and protection of children, ensuring a dignified and just end to broken marriages.

Question: “Relief from a dead marriage should not depend on reaching the Supreme Court.” Examine the need for recognising irretrievable breakdown of marriage as a statutory ground for divorce in India. Discuss the safeguards required to protect vulnerable spouses.

Source: [Indian Express](#)

Negotiating federalism in higher education

Source: The post “Negotiating federalism in higher education” has been created based on “Negotiating federalism in higher education”, published in “The Hindu” on 11th June 2026.

UPSC Syllabus: GS 2- Governance

Context: Higher education in India has emerged as an important site through which the changing dynamics of Indian federalism are being expressed. Issues relating to education policy, curriculum, language, public funding, digital governance, and regulation have transformed higher education into a critical sphere where competing visions of the Union and State governments intersect. Consequently, the governance of higher education has become a component of India's evolving federal architecture rather than merely a sectoral policy issue.

How Higher Education Has Become a Key Arena of Federal Negotiation

1. Education is a Concurrent List subject

- a. Education remains constitutionally within the Concurrent List, which gives legislative authority to both the Union and the States.
- b. However, the prevailing governance framework increasingly favours the Union government.

2. Growing influence of the Union government

- a. Through institutions such as the University Grants Commission (UGC) and other regulatory bodies, the Union government exercises substantial influence over universities and colleges.
- b. The Centre increasingly shapes policies relating to curriculum, accreditation, quality standards, and institutional governance.

3. Expansion of central influence through NEP 2020

- a. The National Education Policy (NEP), 2020 represents a major restructuring of higher education in India.
- b. The policy introduces four-year undergraduate programmes, multidisciplinary universities, institutional restructuring, Academic Bank of Credits, and internationalisation initiatives.
- c. These reforms expand the influence of the Union government into domains that have historically been managed by State governments.

4. Increasing financial centralisation

- a. Central funding is increasingly linked to compliance with nationally designed reform agendas.
- b. Initiatives such as the Institutions of Eminence programme and competitive research funding mechanisms under the Anusandhan National Research Foundation enhance the Union government's influence over higher education institutions.

5. Regulatory centralisation

- a. Proposed regulatory reforms seeking to replace existing bodies such as the UGC with a new regulatory framework have generated concerns among States.
- b. Many States view these reforms as reducing their role in higher education governance.

6. Expansion of digital governance mechanisms

- a. Digital platforms such as the Academic Bank of Credits have increased the capacity of the Union government to standardise and monitor higher education governance across States.
- b. These mechanisms strengthen central oversight and policy coordination.

Major Areas of Centre–State Contestation

1. Opposition to certain provisions of NEP 2020

- a. Several State governments have expressed reservations regarding aspects of the NEP 2020.
- b. Tamil Nadu has opposed the three-language formula and certain regulatory changes proposed under the policy.

2. Disputes regarding foreign university campuses

- a. UGC regulations concerning the establishment of foreign university campuses in India have generated differing responses from State governments.
- b. States have raised concerns regarding their role in regulating and facilitating such institutions.

3. Conflicts over Vice-Chancellor appointments

- a. Disputes regarding the appointment of Vice-Chancellors have become prominent in States such as Tamil Nadu, Kerala, Karnataka, and West Bengal.
- b. These disputes reflect broader tensions regarding institutional autonomy and Centre–State relations.

4. Concerns regarding erosion of State authority

- a. States increasingly perceive higher education reforms as constitutional issues concerning the balance of power within the Indian Union.
- b. They view excessive centralisation as limiting their policy-making space.

Strategic Adaptation by States

1. Selective adoption of reforms

- a. States have not uniformly accepted or rejected higher education reforms.
- b. Many States have selectively adopted components of NEP 2020 that align with their local priorities and political contexts.

2. Promotion of internationalisation

- a. Several States are positioning themselves as regional education hubs by attracting partnerships with foreign universities and institutions.
- b. These efforts reflect the growing recognition of higher education as a driver of economic development and global competitiveness.

3. Negotiated federalism in practice

- a. The implementation of higher education reforms is not purely adversarial.
- b. States continue to negotiate with the Centre while adapting reforms according to local conditions and developmental needs.

4. State role in implementation remains crucial

- a. Although many reforms are designed by the Union government, their implementation depends significantly on State governments.

- b. States provide administrative approvals, infrastructure support, investment facilitation, and institutional coordination.

Challenges

- 1. Balancing national uniformity with regional diversity:** Excessive standardisation may undermine the diverse educational needs of different States.
- 2. Preserving State autonomy:** Growing regulatory and financial centralisation may weaken the federal character of higher education governance.
- 3. Ensuring cooperative implementation:** Political disagreements between the Centre and States may affect the effective implementation of reforms.
- 4. Avoiding over-centralisation:** Greater central control may reduce institutional flexibility and innovation at the State level.

Way Forward

- 1. Strengthening cooperative federalism:** The Union and State governments should establish regular institutional mechanisms for consultation on higher education reforms.
- 2. Balancing national standards and State flexibility:** The Centre should maintain broad academic standards while allowing States adequate flexibility in implementation.
- 3. Encouraging participatory policymaking:** Major reforms should be developed through extensive consultation with State governments, universities, and academic stakeholders.
- 4. Providing equitable financial support:** Central funding should support educational development without creating excessive dependence on compliance-based conditions.
- 5. Developing collaborative regulatory structures:** Regulatory bodies should adopt a partnership-based approach that respects both national objectives and State concerns.
- 6. Strengthening implementation partnerships:** Effective implementation of reforms requires close coordination among the Union government, State governments, universities, and local authorities.
- 7. Promoting innovation and regional priorities:** States should be encouraged to develop innovative educational models that address their specific socio-economic and developmental requirements.

Conclusion: Higher education governance has become a significant arena for negotiating Indian federalism. While reforms such as NEP 2020 seek to enhance quality, global competitiveness, and standardisation, they have also intensified debates regarding the distribution of power between the Union and the States. The future of higher education governance in India will depend on a cooperative federal framework that balances national objectives with State autonomy and regional diversity.

Question: “Higher education governance has emerged as a key arena for negotiating Indian federalism.” Examine the changing Centre–State relations in higher education governance in the light of recent reforms such as NEP 2020.

Source: [The Hindu](#)

FCRA Bill — Expanding State Control over Civil Society

UPSC Syllabus: Gs Paper 2- Development processes and the development industry —the role of NGOs, SHGs, various groups and associations, donors, charities, institutional and other stakeholders.

Introduction

The **Foreign Contribution (Regulation) Amendment Bill, 2026**, introduced in the Lok Sabha on **March 25, 2026**, seeks to amend the **Foreign Contribution (Regulation) Act, 2010**, which regulates the acceptance and use of foreign contributions by individuals, associations, and organisations. While the Bill is presented as a measure to strengthen transparency and national security, it introduces significant changes relating to registration, asset management, investigations, and enforcement, raising concerns about increased state control over civil society institutions.

Evolution of the FCRA Regime

1. **Original Purpose of FCRA:** The FCRA was enacted in **1976** to protect India's political system from foreign influence. Its primary focus was political parties and electoral processes.
2. **Expansion to Civil Society:** In **1984**, NGOs were brought under the Act and required to register with the Ministry of Home Affairs, shifting them into a security-oriented regulatory framework.
3. **Shift under the 2010 Law:** The 2010 Act replaced the earlier law and expanded state oversight. Registration, renewal, and compliance requirements became mandatory for organisations receiving foreign contributions.
4. **Increasing Restrictions over Time:** The Act was amended repeatedly in **2016, 2018, 2020, and 2026**, steadily increasing government control over foreign-funded organisations.
5. **Political Parties and Reduced Scrutiny:** While oversight of NGOs increased, amendments in **2016 and 2018** exempted political parties from scrutiny, including retrospective protection from earlier violations.
6. **Impact of the 2020 Amendments:** Foreign contributions were required to pass through a single SBI branch in New Delhi. Administrative expenditure limits were reduced from **50% to 20%**, sub-granting was prohibited, and suspension powers were expanded.

Major Provisions of the FCRA Amendment Bill, 2026

1. **Automatic Cessation of Registration:** Proposed **Section 14B** provides that registration will automatically cease if renewal is denied, renewal is not obtained before expiry, or no renewal application is filed.
2. **Provisional Vesting of Assets:** Proposed **Section 16A** allows foreign contributions and related assets to provisionally vest in a government-designated authority when registration is cancelled, surrendered, or deemed to have ceased.
3. **Coverage of Partly Foreign-Funded Assets:** The vesting provisions extend even to assets created partly through foreign contributions, widening the scope of government control.

4. **Wide Powers of the Designated Authority:** The authority may supervise, manage, maintain, transfer, or dispose of assets and oversee related activities during the vesting period.
5. **Permanent Vesting and Asset Disposal:** Assets may permanently vest in the authority if registration is not restored within the prescribed period or if an organisation becomes defunct. Sale proceeds and unutilised funds will be credited to the **Consolidated Fund of India**.
6. **Restrictions on Asset Management:** During suspension, organisations cannot manage their assets without prior approval, limiting their ability to function independently.
7. **Centralised Enforcement Mechanism:** Prior approval of the Union government is required before any investigation under the Act can be initiated.
8. **Appeal Mechanism:** Aggrieved persons may appeal against orders of the Designated Authority before the District Judge within **90 days**.
9. **Power to Grant Exemptions:** The Central Government may exempt certain persons from vesting provisions if considered necessary in the public interest.
10. **Expanded Prohibition on Foreign Contributions:** The prohibition on receiving foreign contributions is extended from specified associations and companies to any **person** engaged in producing or broadcasting news or current affairs content.
11. **Revised Penalty Provisions:** The maximum imprisonment for contravention of the Act or Rules is reduced from **five years to one year**, while fines may still apply.

Concerns Regarding the Bill

1. **Large-Scale Licence Cancellations:** About **22,000 FCRA licences** were cancelled between **2014 and 2026**, raising concerns about the impact of stricter enforcement.
2. **Expansion of Executive Discretion:** Registration may cease because of delays, pending renewals, or procedural lapses rather than proven misconduct, increasing executive control.
3. **Asset Takeover without Prior Judicial Review:** Assets may vest in a government-designated authority through an administrative decision without independent adjudication.
4. **Risk from Broad Public Interest Grounds:** Vague grounds such as "**public interest**" can trigger cancellation and asset takeover even in disputed cases.
5. **Weak Accountability and Transparency:** The Bill lacks clear timelines for approvals and renewals, while cancellation reasons are often not publicly disclosed.
6. **Threat to Welfare Institutions and Public Services:** Schools, colleges, hospitals, orphanages, welfare centres, and charitable institutions may face disruption or takeover.
7. **Impact on Vulnerable Communities:** Child protection, immunisation, neonatal health, nutrition, youth skill development, and access to government schemes may suffer.
8. **Risk to Donor Intent and Charitable Assets:** Funds donated for education, healthcare, and welfare may ultimately be transferred to the **Consolidated Fund of India**, defeating their original purpose.

9. **Economic and Employment Concerns:** The sector contributes around **2% of GDP**, generates **27 lakh jobs**, engages **34 lakh full-time volunteers**, and serves as a major source of local employment in many areas.
10. **Concerns over Minority Institutions:** Schools, colleges, hospitals, orphanages, and welfare bodies run by minority communities may face takeover risks due to registration-related issues.
11. **Chilling Effect on Civil Society:** Increased liability and regulatory uncertainty may discourage donors, trustees, volunteers, and organisations working on rights-based issues.
12. **Constitutional Concerns:** Questions have been raised regarding **Articles 14, 19(1)(c), 25, 26, 29, 30, and 300A**, relating to equality, association, religious freedom, minority rights, institutional autonomy, and property rights.

Way Forward

1. **Ensure Due Process:** Decisions involving cancellation, suspension, or asset vesting should be accompanied by fair procedures and adequate safeguards.
2. **Strengthen Independent Oversight:** Independent review mechanisms can reduce the risk of arbitrary administrative action.
3. **Provide Clear Timelines:** Registration, renewal, and approval processes should operate within defined timelines to reduce uncertainty.
4. **Improve Transparency:** Organisations should receive clear reasons for adverse decisions so that they can effectively challenge them.
5. **Balance Regulation and Freedom:** National security concerns should be addressed without undermining legitimate charitable, educational, religious, and social activities.
6. **Protect Public-Service Institutions:** Regulatory measures should ensure continuity of schools, hospitals, welfare centres, and other institutions serving communities.

Conclusion

FCRA Amendment Bill, 2026 represents a major expansion of state powers over foreign-funded organisations through new provisions on registration, asset vesting, enforcement, and investigations. While aimed at strengthening regulation, concerns remain regarding executive discretion, accountability, civil society autonomy, welfare institutions, and constitutional safeguards. Balancing oversight with due process remains essential.

Question for practice:

Evaluate the extent to which the Foreign Contribution (Regulation) Amendment Bill, 2026 expands state control over civil society organisations and also examine its implications for accountability, institutional autonomy, and constitutional rights.

Source: [The Hindu](#)

Rules for the Four Labour Codes - Vulnerable Workers

UPSC Syllabus: Gs Paper 2- mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections.

Introduction

The notification of rules under the four Labour Codes has completed the implementation framework for labour reforms enacted during **2019–20**, nearly six years after their enactment. The reforms aim to simplify labour laws, improve compliance, expand social security, and support employment generation. However, several provisions in the new rules have drawn criticism from trade unions and academics, who argue that important safeguards relating to job security, wages, gig workers, trade union rights, and worker welfare remain inadequately addressed.

Background and Rationale of the Labour Codes

1. **Need for Labour Law Reform:** The Government consolidated 29 labour laws into four Labour Codes to simplify the legal framework and make labour regulation more efficient.
2. **Simplifying Compliance:** Multiple laws and authorities created compliance difficulties for employers and enforcement challenges for regulators. The Codes seek to reduce this complexity.
3. **Modernising Outdated Legislation:** Many labour laws were framed in the pre-Independence period. The reforms aim to align labour regulation with present-day economic and technological realities.
4. **Recommendation of the National Commission on Labour:** The Second National Commission on Labour recommended grouping labour laws into a smaller number of comprehensive codes on a functional basis.
5. **Consultative Legislative Process:** The four Codes were enacted after discussions among the Government, employers, industry representatives, and trade unions between 2015 and 2019.
6. **Four Labour Codes Covered:** The reforms include the **Code on Wages, 2019, Industrial Relations Code, 2020, Code on Social Security, 2020, and Occupational Safety, Health and Working Conditions Code, 2020.**

Key Features and Expected Benefits of the Labour Codes

1. **Growing Labour Market Performance:** Employment rose from 47.5 crore to 64.33 crore, unemployment declined from 6.0% to 3.2%, and 1.56 crore women entered the formal workforce between 2017–18 and 2023–24.
2. **Improvement in Labour Market Indicators:** The unemployment rate declined from 6.0% to 3.2%, while 1.56 crore women entered the formal workforce during the same period.
3. **Unified Worker Protection Framework:** The Codes seek to provide wage security, social security, health protection, and welfare measures through a common legal framework.
4. **Easier Business Compliance:** Uniform definitions, single registration, single return systems, and simplified procedures are intended to reduce regulatory burdens.

5. **Greater Use of Technology:** The framework promotes digital registration, licensing, inspections, and online administration of labour laws.
6. **Improved Transparency in Enforcement:** Risk-based inspections and online processes are expected to strengthen accountability and reduce administrative complexity.
7. **Support for Economic Growth:** The reforms aim to create a business-friendly environment that encourages investment, employment generation, and economic expansion.

Concerns and Challenges in the New Rules

A. Fixed-Term Employment (FTE)

- **Lack of Minimum Tenure:** The Industrial Relations Code formally introduces Fixed-Term Employment, but neither the Code nor the Rules prescribe a minimum duration of employment.
- **Unlimited Contract Renewals:** The Rules do not place any limit on the number of times a fixed-term contract can be renewed.
- **Risk to Regular Employment:** Continuous renewals may allow employers to convert regular jobs into fixed-term positions, reducing job security for workers.

B. Wage-Related Issues

- **Ambiguity in Floor Wage:** The Rules provide a vague definition of the floor wage and do not clearly distinguish it from the minimum wage.
- **Weak Consultation Framework:** Although consultation with States is required, the Rules do not provide a detailed process for conducting such consultations.
- **Lack of Wage-Fixation Principles:** Clear principles for determining minimum wages have not been specified, creating uncertainty in wage regulation.
- **Continuation of Gender Bias:** The existing method of treating a four-member family as three consumption units continues, assigning a weight of **0.8 to an adult female** and **1.0 to an adult male**.
- **Concerns over Hourly Wage Calculation:** The Rules calculate hourly wages by dividing daily wages by eight, without considering whether workers can obtain employment for the remaining hours of the day.

C. Gig and Platform Workers

- **Unclear Employment Status:** The Rules do not clarify the employment relationship between platforms and gig workers.
- **Continued Classification as Self-Employed:** Gig and platform workers remain classified as self-employed and continue to be part of the unorganised workforce.
- **Limited Social Security Protection:** The Rules do not specify how the mandatory gratuity insurance provision will operate, leaving an important safeguard undefined.

D. Trade Union Recognition

- **Thirty Percent Membership Requirement:** A sole registered trade union must secure at least **30% membership** to gain recognition.

- **Registration Does Not Ensure Recognition:** Smaller and newly formed unions may find it difficult to achieve this threshold despite being registered.
- **Weakening of Collective Bargaining:** The requirement may further reduce the bargaining power of trade unions, which has already been declining for decades.

E. Occupational Safety and Contract Labour

- **Missing Welfare Measures:** Certain welfare provisions, including housing and medical facilities for plantation workers, are not included in the Rules.
- **No Clarity on Contract Labour Deployment:** The Rules do not specify the activities for which contract labour can be engaged.
- **Unclear Core and Non-Core Activities:** The absence of a clear distinction between core and non-core activities creates scope for ambiguity.
- **Risk of Labour Informalisation:** Contract labour may increasingly be used in core operations, further expanding informal employment arrangements.

F. Unresolved Open-Ended Provisions

- **Missed Opportunity for Safeguards:** Several contested and open-ended provisions could have been clarified through the Rules, but important worker protection concerns remain unresolved.

Way Forward

1. **Strengthen Fixed-Term Employment Safeguards:** Prescribe a minimum tenure and reasonable limits on contract renewals to prevent misuse of fixed-term contracts.
2. **Provide Clarity in Wage Regulation:** Clearly define floor wages, establish transparent wage-fixation principles, and review gender-biased consumption unit calculations.
3. **Protect Gig and Platform Workers:** Clarify employment relationships and operationalise gratuity insurance and other social security safeguards.
4. **Improve Labour Representation and Welfare:** Revisit trade union recognition requirements, clarify the use of contract labour, and include missing welfare measures for vulnerable workers.

Conclusion

The Labour Codes seek to modernise labour regulation, improve compliance, and support employment growth through a unified legal framework. However, several concerns relating to fixed-term employment, wages, gig workers, trade union recognition, contract labour, and worker welfare remain unresolved. The rules have completed the implementation framework but have not fully addressed important worker protection issues, leaving vulnerable sections of the workforce exposed to uncertainty and potential misuse.

Question for practice:

Evaluate the extent to which the rules framed under the four Labour Codes balance the objectives of labour market reforms with the protection of vulnerable workers in India.

Source: [The Hindu](#)

Spread of Indian Ideas in Southeast Asia

Source: The post “**Spread of Indian Ideas in Southeast Asia**” has been created based on “**How Southeast Asia adapted Indian ideas to local needs**”, published in “The Hindu” on 12th June 2026.

UPSC Syllabus: GS- 1- Indian Culture

Context: Between 500 AD and 1500 AD, Indian ideas spread to Southeast Asia through trade, pilgrimage, and royal patronage rather than military conquest. The interaction led to the emergence of hybrid cultures in which Hinduism and Buddhism were adapted to local political systems, economies, and cultural traditions.

How Southeast Asia Adapted Indian Ideas to Local Needs

1. Adoption of Hinduism and Buddhism through Local Adaptation

- a. Southeast Asian rulers adopted Indian religious traditions to strengthen political legitimacy.
- b. These ideas were modified according to local social and political requirements.
- c. The spread of Indian culture was a process of negotiation rather than imitation.

2. Cham Civilisation of Vietnam

- a. The Cham rulers built the **My Son Sanctuary** and primarily worshipped Shiva.
- b. Sanskrit inscriptions and linga worship reflected Hindu influence.
- c. Temple architecture developed unique regional styles distinct from Indian models.
- d. Maritime trade along the South China Sea connected the Chams with Indian, Arab, and Chinese merchants.
- e. Shaivism strengthened royal authority in a competitive trading environment.

3. Cambodia: Angkor and the Devaraja Concept

- a. **Angkor Wat**, built by King **Suryavarman II**, was dedicated to Vishnu.
- b. It reflected Hindu royal ideology and the use of religion to legitimise kingship.
- c. Later rulers such as **Jayavarman VII** promoted Mahayana Buddhism through monuments like Bayon.
- d. Massive reservoirs (baray) supported wet-rice agriculture and the hydraulic civilisation of Angkor.
- e. The king was viewed as **Devaraja (God-King)**, an adaptation without an exact parallel in India.
- f. Sanskrit and Khmer inscriptions blended Indian cosmology with local administrative realities.

4. Thailand: Buddhism and Moral Kingship

- a. Early **Dvaravati** centres reflected strong Theravada Buddhist traditions.
- b. Mon-style sculptures and dharmachakra symbols became prominent.
- c. Khmer influence introduced Hindu imagery at sites such as Phimai.
- d. The **Sukhothai Kingdom** promoted Theravada Buddhism as state ideology.
- e. Kings were regarded as protectors of Dharma rather than divine rulers.
- f. Buddhism supported a model of moral kingship based on righteousness.

5. Myanmar: Bagan and Merit-Based Kingship

- a. **Bagan** emerged as a major Theravada Buddhist centre.
- b. Earlier religious influences included Mahayana Buddhism and Hindu traditions.

- c. Kings patronised monasteries and linked political authority with merit-making.
- d. Agricultural prosperity from the Irrawaddy River supported large-scale temple construction.
- e. Pali scriptures from Sri Lanka shaped religious learning and institutions.
- f. The emphasis was on accumulation of merit through donations and religious patronage.

6. Indonesia: Religious Plurality in Java

- a. **Borobudur**, built by the Sailendra dynasty, represented Buddhist cosmology through its mandala structure.
- b. It symbolised the spiritual journey towards enlightenment.
- c. **Prambanan**, built by the Sanjaya dynasty, was dedicated to Shiva, Vishnu, and Brahma.
- d. The coexistence of both monuments reflected religious diversity and political competition.
- e. Indian epics such as the Ramayana were adapted into local traditions like wayang puppetry and Javanese art forms.
- f. Cultural expressions remained distinctly Javanese despite Indian influences.

Economic Factors Behind Cultural Exchange

- 1. Trade networks across the Bay of Bengal and South China Sea facilitated cultural diffusion.
- 2. Merchants carried not only goods but also scripts, stories, rituals, and religious texts.
- 3. Ports connected inland capitals and encouraged cultural interaction.
- 4. Agricultural surplus, particularly from rice cultivation, financed temple construction and monastic establishments.
- 5. Religion became an important instrument for political authority and social cohesion.

Unique Local Adaptations

- 1. The Cambodian **Devaraja cult** had no exact Indian equivalent.
- 2. Thai and Burmese Theravada traditions developed independent monastic lineages.
- 3. Kings in some regions were regarded as defenders of Dharma and occasionally as Bodhisattvas.
- 4. Cham temples used local materials and distinctive artistic styles while retaining Hindu themes.
- 5. Indian gods and Buddhist concepts were reinterpreted through local cultural values.

Conclusion: Southeast Asia was not a passive recipient of Indian civilisation but an active participant in cultural exchange. While Hinduism and Buddhism provided the ideological framework, local societies reshaped these traditions according to their own political, economic, and cultural needs, resulting in vibrant and unique hybrid civilisations across the region.

Question: Discuss how Southeast Asian societies adapted Indian religious and cultural ideas to suit local political, economic, and social needs between 500 AD and 1500 AD. Illustrate with suitable examples.

Source: [Indian Express](#)

India's R&D Challenge

Source: The post “India’s R&D Challenge” has been created based on “R&D underspending in India has no one cause. It’s systemic as well as cultural”, published in “The Hindu” on 12th June 2026.

UPSC Syllabus: GS-3- Economy

Context: Research and Development (R&D) is critical for technological innovation, industrial competitiveness, and economic growth. Despite being one of the world's largest economies, India's R&D expenditure remains low relative to its developmental and strategic aspirations. The reasons are structural, historical, financial, and political **in nature**.

Factors Responsible for Low R&D Expenditure in India

1. Large Domestic Market and Weak Competitive Pressure

- a. India's vast domestic market allows firms to expand without facing strong export competition.
- b. Businesses can remain profitable without undertaking significant innovation.
- c. This reduces incentives for technological upgrading and R&D investment.

2. Historical Legacy of Colonial Deindustrialisation

- a. Colonial policies weakened indigenous manufacturing industries.
- b. Commercial communities increasingly focused on trade and intermediation rather than innovation-driven production.
- c. The manufacturing and innovation culture remained relatively underdeveloped.

3. Early Financialisation of the Corporate Sector

- A. Indian firms adopted financial-market priorities before building strong technological capabilities.
- B. Emphasis shifted towards short-term financial gains rather than productive investments.
- C. R&D spending suffered as a result.

4. Shareholder Value and Short-Termism

- a. Firms prioritise quarterly profits and stock market performance.
- b. R&D projects involve high costs and uncertain long-term returns.
- c. Consequently, companies often postpone or reduce innovation spending.

5. Executive Incentive Structures

- a. Management compensation is frequently linked to short-term financial outcomes.
- b. Executives have limited incentives to invest in projects whose benefits may materialise after their tenure.
- c. This discourages long-horizon R&D investments.

6. Market Pressures on Listed Companies

- a. Publicly listed firms face continuous investor scrutiny.
- b. Pressure to meet short-term expectations reduces willingness to undertake risky research projects.
- c. Innovation expenditure is often viewed as a cost rather than a strategic investment.

7. Uncertainty in a Competitive Democracy

- a. Diverse stakeholders, coalition-building, and changing policy priorities create uncertainty.
- b. Businesses find it difficult to predict long-term economic conditions.
- c. Higher uncertainty increases the discount rate applied to future investments.

8. Geopolitical and Developmental Constraints

- a. Security challenges and competing developmental priorities affect investment decisions.
- b. Firms become more risk-averse and focus on immediate returns.
- c. Long-term innovation projects receive lower priority.

Challenges Arising from Low R&D Expenditure

1. **Technological Dependence:** Low R&D expenditure increases India's reliance on imported technologies and foreign intellectual property, which limits strategic autonomy in critical sectors.
2. **Weak Global Competitiveness:** Due to inadequate investment in research and development, Indian firms struggle to compete in high-technology and innovation-intensive industries, resulting in lower participation in global value chains.
3. **Slow Industrial Upgradation:** Insufficient R&D spending constrains manufacturing productivity growth and makes it difficult for industries to move up the technology ladder.
4. **Limited Patent Generation:** Lower research output leads to fewer patents and intellectual property assets, thereby weakening India's overall innovation ecosystem.
5. **Brain Drain:** Limited research funding and inadequate infrastructure encourage talented researchers and scientists to migrate to countries that offer better opportunities, resulting in a loss of skilled human capital.
6. **National Security Concerns:** Dependence on external technologies in strategic sectors such as defence, semiconductors, and artificial intelligence creates vulnerabilities and reduces technological self-reliance.

Way Forward

1. Increase Public and Private R&D Spending

- a. The government should enhance its support for both basic and applied research.
- b. At the same time, greater private sector participation should be encouraged through incentives, tax benefits, and public-private partnerships.

2. Strengthen Industry–Academia Collaboration

- a. Collaboration between universities, research institutions, and industries should be promoted to foster innovation.
- b. Such partnerships can also facilitate the commercialization of research outcomes and accelerate technology transfer.

3. Provide Long-Term Policy Stability

- a. The government should ensure predictable regulatory and policy frameworks to support innovation.
- b. Stable policies reduce uncertainty and encourage investment in long-gestation research and development projects.

4. Encourage Export-Oriented Manufacturing

- a. Greater exposure to international competition can motivate firms to invest in innovation and technological advancement.
- b. This will also help strengthen India's participation in global value chains.

5. Reform Corporate Incentive Structures

- a. Corporate incentive systems should link executive compensation to long-term innovation outcomes rather than short-term financial performance.
- b. This can encourage firms to invest in future capabilities and sustainable growth.

6. Develop Innovation Clusters

- a. The establishment of technology parks, startup ecosystems, and research hubs can create an environment conducive to innovation.
- b. These clusters facilitate knowledge sharing, collaboration, and the development of innovation networks.

7. Strengthen the Intellectual Property Ecosystem

- a. Patent processing and protection mechanisms should be improved to safeguard innovations effectively.
- b. Strong enforcement of intellectual property rights can encourage innovators and stimulate research activities.

8. Invest in Human Capital

- a. Greater funding should be allocated to higher education, STEM research, and advanced skill development programs.
- b. Such investments can help attract, develop, and retain top scientific and technical talent.

9. Promote Strategic Technology Missions

- a. The government should prioritize research and development in critical sectors such as Artificial Intelligence, Semiconductors, Biotechnology, Quantum Computing, Defence Technology, and Clean Energy.
- b. Aligning R&D investments with national priorities can enhance technological self-reliance and long-term economic growth.

Conclusion: India's R&D deficit is the result of historical legacies, limited competitive pressures, premature financialisation, corporate short-termism, and policy uncertainty. Overcoming these constraints requires sustained public and private investment, stronger innovation ecosystems, industry-academia collaboration, and a long-term commitment to building indigenous technological capabilities. Enhanced R&D spending is essential for achieving economic competitiveness, technological self-reliance, and sustainable development.

Question: Despite its growing economy, India continues to underinvest in Research and Development (R&D). Examine the structural, historical, financial, and political factors responsible for low R&D expenditure in India. Suggest measures to improve India's R&D ecosystem.

Source: [Indian Express](#)

Indian industry is at a crossroads — it needs to look at longer horizons

Source: The post “Indian industry is at a crossroads” has been created based on “Indian industry is at a crossroads — it needs to look at longer horizons”, published in “Indian Express” on 13th June 2026.

UPSC Syllabus: GS-3 -Indian Economy

Context: Indian industry has traditionally focused on short-term profitability and domestic market expansion. However, in a rapidly evolving global economy, investment in R&D, innovation, and technological capability has become essential for long-term competitiveness, economic growth, and strategic influence.

Factors Behind Low Private-Sector R&D Investment in India

1. Prolonged Global and Domestic Uncertainty

- a. The period since 2008 has witnessed multiple disruptions such as the global financial crisis, Eurozone debt crisis, Covid-19 pandemic, Russia-Ukraine war, and tariff-related uncertainties.
- b. Businesses tend to delay long-term and irreversible R&D investments under such conditions.

2. Family-Owned Business Structure

- a. Most Indian businesses are family-controlled.
- b. While founders often take risks and innovate, later generations generally prioritize wealth preservation over risky investments.

3. Attractive Financial Market Returns

- a. Post-pandemic stock market gains have provided easier avenues for wealth creation.
- b. This has reduced incentives for investment in manufacturing and innovation.

4. Declining Entrepreneurial Risk-Taking

- a. Entrepreneurial energy is increasingly diverted from technology development and industrial expansion.
- b. This weakens innovation-led growth and productivity enhancement.

Importance of Long-Horizon Thinking

1. Ensuring Strategic Survival

- a. Technological dependence on foreign firms can undermine long-term competitiveness.
- b. Indian firms must become producers of intellectual property rather than mere users.

2. Strengthening India’s Global Influence

- a. Economic and geopolitical influence increasingly depends on technological and industrial capabilities.
- b. Strong positions in global value chains enhance bargaining power.

3. Coping with Global Competition

- a. East Asian economies are rapidly moving up the value chain.
- b. Indian firms must invest in frontier technologies to remain competitive.

4. Aligning National and Corporate Interests: Long-term shareholder value is increasingly linked with innovation, productivity, and technological leadership.

5. Utilizing Emerging Opportunities: Supply-chain diversification away from China and India's demographic dividend offer a unique window for industrial transformation.

Way Forward

1. Increase Private Sector R&D Spending: Firms should allocate a greater share of profits toward research, innovation, and product development.

2. Promote Professional Management: Greater participation of professional managers can improve strategic decision-making and encourage long-term investments.

3. Strengthen Industry-Academia Collaboration: Partnerships between industry, universities, and research institutions can accelerate innovation and commercialization.

4. Develop Patient Capital Ecosystems: Long-term financing mechanisms should support high-risk technology and manufacturing projects.

5. Build a Culture of Innovation: Businesses should incentivize experimentation, skill development, and technological upgrading.

6. Leverage Government Support: Firms should effectively utilize incentives under industrial and technology promotion schemes while complementing them with private investment.

International Lessons

- a. **Germany's Mittelstand** grew through technical education, patient capital, and engineering excellence.
- b. **Japan** adopted long-term technological and industrial strategies.
- c. **South Korea's chaebols** invested heavily in future-oriented sectors such as semiconductors and shipbuilding.

Conclusion: India is at a decisive moment where sustained investment in R&D and technological capability is essential for economic prosperity and strategic autonomy. By adopting a long-term vision and strengthening innovation ecosystems, Indian industry can emerge as a global leader in high-value manufacturing and technology-driven growth.

Question: Indian industry is at a crossroads where long-term investment in R&D and technological capability has become a strategic necessity rather than a competitive choice. Discuss the factors behind India's low private-sector R&D investment and examine why a long-horizon approach is crucial for India's economic and strategic future.

Source: [Indian Express](#)

The 8th CPC — a chance to reform pay commissions

Source: The post "The 8th CPC — a chance to reform pay commissions" has been created based on "The 8th CPC — a chance to reform pay commissions", published in "The Hindu" on 13th June 2026.

UPSC Syllabus: GS-2- Governance

Context: As India moves towards the **8th Central Pay Commission (CPC)**, the focus should extend beyond salary revisions to creating a fair, transparent, and fiscally sustainable public compensation framework. Public compensation significantly influences governance, institutional balance, and public trust.

Limitations of the Existing Pay Commission System

1. Lack of Common Evaluation Framework

- a. Different services operate under diverse structures, responsibilities, and career trajectories.
- b. There is no universally accepted method to compare risk, responsibility, technical complexity, and career progression.

2. Persistent Inter-Service Parity Issues

- a. Demands for parity arise despite differences in roles and institutional contexts.
- b. Compensation debates often become subjective and contentious.

3. Structural Differences Between Services

- a. Military careers follow a steep hierarchical structure with limited promotional opportunities and earlier retirement.
- b. Civil services generally provide broader career progression and longer service periods.
- c. Existing frameworks inadequately account for these differences.

4. Challenges of the Notional Functional Upgrade (NFU)

- a. NFU seeks to address promotion disparities.
- b. However, it weakens the link between responsibility, accountability, performance, and compensation.
- c. It continues to generate debates regarding equity and rationality.

5. Pension-Related Concerns

- a. India has multiple pension systems, including legacy defined-benefit schemes and contributory schemes.
- b. Rising pension liabilities create concerns regarding fiscal sustainability and inter-generational equity.

6. Fragmented Compensation Structures: Separate mechanisms exist for the executive, legislature, and judiciary. This reduces transparency and creates inconsistencies.

Need for Reform

1. Improve Transparency and Public Trust: Compensation systems must be transparent, objective, and publicly explainable.

2. Ensure Fiscal Sustainability: Salary and pension commitments should remain compatible with long-term fiscal discipline.

3. Strengthen Institutional Credibility: A rational compensation framework can reduce disputes and enhance confidence in public institutions.

Way Forward

1. Establish a Permanent Compensation Authority: Create an independent body for continuous review instead of periodic pay commissions.

- 2. Develop Common Assessment Principles:** Use objective criteria such as responsibility, experience, risk, skill requirements, and hardship.
- 3. Rationalise Pension Systems:** Ensure sustainability while balancing employee welfare and inter-generational equity.
- 4. Enhance Transparency and Accountability:** Make compensation decisions evidence-based and publicly accessible.
- 5. Preserve Institutional Flexibility:** Allow service-specific adjustments while maintaining overall comparability.
- 6. Create a Unified Compensation Framework:** Bring greater coherence across different branches of government while respecting constitutional autonomy.

Conclusion: The 8th CPC should be viewed as an opportunity to redesign India's public compensation architecture. A transparent, sustainable, and institutionally coherent framework can strengthen governance, fiscal discipline, and public trust while ensuring fair compensation for public servants.

Question: The 8th Central Pay Commission presents an opportunity to reform India's public compensation architecture rather than merely revise salaries." Discuss the limitations of the existing pay commission system and suggest reforms for a sustainable and transparent compensation framework.

Source: [The Hindu](#)

Long Overdue: On Coal Exchanges

UPSC Syllabus: Gs Paper 3- Infrastructure

Introduction

The **Coal Exchange Rules, 2026** mark an important step in modernizing India's coal market. The rules operationalize the Mineral Exchange framework introduced through the **Mines and Minerals (Development and Regulation) Amendment Act, 2025**. The reform seeks to create a regulated coal trading platform that promotes **transparency, market-based pricing, efficient coal allocation and wider market participation** in a sector that remains central to India's energy system.

What is the Coal Exchange Framework and Its Key Features?

- 1. Legal Basis of the Reform:** The Mines and Minerals (Development and Regulation) Amendment Act, 2025 introduced the concept of a Mineral Exchange and empowered the Central Government to facilitate transparent mineral trading.
- 2. Coal Exchange Rules, 2026:** The Ministry of Coal notified the Coal Exchange Rules, 2026 on June 4, 2026, providing the operational framework for coal exchanges. Coal Exchange Rules, 2026
- 3. Role of the Coal Controller Organisation:** The Coal Controller Organisation (CCO) has been designated as the authority responsible for registering and regulating coal exchanges.

4. **Authorization and Registration:** Eligible entities can establish and operate coal exchanges after authorization from CCO. Registrations will remain valid for 25 years.
5. **Market Structure Transformation:** The reform shifts coal marketing from a traditional "one-to-many" sales model to a competitive "many-to-many" trading platform.
6. **Physical Delivery-Based Trading:** Unlike many commodity exchanges that function mainly as financial markets, coal exchanges are designed as physical delivery platforms.
7. **Rule-Making Powers:** Authorized exchanges can frame market rules, bye-laws and mechanisms required for coal trading.

Significance and Potential Benefits of Coal Exchanges

1. **Transparent Price Discovery:** Exchange-based trading can replace opaque negotiated sales with transparent and market-driven pricing.
2. **Better Access to Buyers and Sellers:** Commercial miners, captive miners, public sector coal companies, traders and smaller producers can access a wider pool of market participants.
3. **Improved Coal Allocation:** A competitive platform can help coal move more efficiently between producers and consumers.
4. **Support for Non-Regulated Consumers:** Coal exchanges can provide an alternative platform for consumers who currently depend on Coal India auctions.
5. **Development of Market Signals:** Like power exchanges, coal exchanges can provide signals on shortages, surpluses and broader market conditions.
6. **Balancing Regional Supply Gaps:** Surplus inventories can be redirected to areas facing shortages, improving market efficiency.
7. **Faster and More Efficient Transactions:** Standardized contracts and automated matching systems can reduce transaction time and improve operational efficiency.
8. **Support for Energy Security and Industrial Growth:** A more competitive and efficient coal market can strengthen energy security, support industrial growth and improve ease of doing business.

Major Challenges and Risks

1. **Coal Quality Differences:** Coal quality varies significantly across grades. Weak sampling, testing and certification systems can create disputes.
2. **Need for Reliable Contract Enforcement:** Standardized grading, accredited laboratories and clear delivery protocols are necessary for enforceable contracts.
3. **Liquidity Constraints:** A large share of coal is already tied to long-term contracts and captive consumption, which may limit exchange participation.
4. **Dependence on Major Market Participants:** Coal India Limited and major power sector buyers will largely determine exchange liquidity and market traction.
5. **Market Concentration Risks:** Coal India Limited supplies nearly 80% of domestic production, creating the possibility of influence over price formation if safeguards are weak.

6. **Risk of Thin Trading Volumes:** Even though power sector demand is around 770–800 million tonnes, exchange volumes may remain limited if procurement practices do not change.
7. **Price Volatility:** Exchange prices may reflect short-term supply-demand changes, increasing cost uncertainty for utilities and industries.
8. **Legal and Contractual Resistance:** Industries operating under long-term supply agreements may resist moving to exchange-based procurement.
9. **Climate and Transition Concerns:** Greater market efficiency could strengthen coal dependence unless supported by complementary transition measures.
10. **Social and Regional Impacts:** Increased efficiency and consolidation may affect employment, local economies and mining-state revenues.

Way Forward

1. **Learning from Power Exchanges:** Power exchanges improved price discovery and market signalling without replacing long-term contracts. Coal exchanges can follow a similar approach.
2. **Strong Quality Assurance Systems:** Uniform grade definitions, accredited testing laboratories and reliable certification mechanisms are essential.
3. **Building Market Liquidity:** Active participation from major producers and consumers is necessary to create a credible and liquid market.
4. **Greater Retail Participation:** Coal exchanges should encourage participation by smaller consumers and avoid excessive concentration among a few large buyers.
5. **Market Surveillance and Position Limits:** Strong monitoring systems, transparent reporting requirements and position limits are needed to prevent manipulation.
6. **Robust Dispute Resolution:** Effective grievance redress mechanisms can improve trust and reduce regulatory uncertainty.
7. **Improved Logistics and Delivery Infrastructure:** Accredited delivery points, certified logistics providers and stronger transportation networks are important for physical delivery-based trading.
8. **Managing Volatility and Regulatory Risks:** Safeguards against excessive volatility, clear renewal rules and transparent revocation conditions can improve confidence.
9. **Addressing Climate and Social Concerns:** Emissions disclosure, transition financing and support for affected mining regions can help address broader risks.

Conclusion

The **Coal Exchange Rules, 2026** have the potential to transform India's coal market through **greater transparency, competition, efficiency and market-based pricing**. However, their success will depend on **liquidity, quality standardization, strong regulation, effective logistics, market surveillance and broad participation**. A carefully implemented framework can maximize benefits while addressing operational, social and transition-related risks associated with the reform.

Question for practice:

Discuss the significance of the Coal Exchange Rules, 2026 in transforming India's coal market, and examine the major challenges that may affect the success of coal exchanges.

Source: [The Hindu](#)

Equality of Treatment for Persons with Disabilities

UPSC Syllabus: Gs Paper 2- Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes.

Introduction

India has expanded digital welfare delivery and emerged as a major digital welfare state, yet many **Persons with Disabilities (PwDs)** continue to face unequal access to social security. Disability pensions remain fragmented, inadequate, and dependent on State-level policies and administrative processes rather than disability-related needs. Despite constitutional guarantees of dignity and inclusion, large disparities persist across States. This has strengthened the case for a **Minimum Universal Disability Pension Floor Rate (MUDPFR)** to ensure equal treatment and social protection.

Present Status of Disability Welfare in India

- 1. Exclusion from the Welfare System:** Despite improvements in digital welfare delivery, many **Persons with Disabilities (PwDs)** remain outside the reach of social security benefits. Unequal access continues because support varies across States.
- 2. Growing Population of PwDs:** The 2011 Census recorded 2.68 crore PwDs. Their number is now conservatively estimated at 4.5 crore-6 crore due to population growth and changing disease profiles.
- 3. Limited Pension Coverage:** The Indira Gandhi National Disability Pension Scheme covers only a small section of eligible beneficiaries. A large number of PwDs remain outside pension support.
- 4. Low Pension Amounts:** Most States provide disability pensions of only ₹300-₹500 per month, while a few provide ₹1,000-₹3,000. These amounts are inadequate for basic living needs.
- 5. Fragmented and Discretionary System:** Disability benefits are not determined by the nature or extent of disability. They depend largely on State government decisions and administrative processes.
- 6. Weak Public Spending: India spends only 0.02% of GDP on disability welfare, including pensions.** This is far below **South Africa (0.12%-0.15%), Brazil (0.45%-0.50%), Australia (0.35%-0.40%) and OECD countries (2.2%).**

Why Disability Pensions Need Reform

- 1. Constitutional and Legal Responsibility:** **Article 41** requires public assistance for persons with disabilities. **The Rights of Persons with Disabilities Act, 2016** also guarantees adequate social security, including pension benefits.
- 2. Right to Live with Dignity:** The Supreme Court has recognised dignity as a fundamental right. Inadequate and unequal pensions weaken the ability of **Persons with Disabilities (PwDs)** to live with dignity.

3. **Economic Cost of Exclusion: The World Bank and UNDP** estimate that low- and middle-income countries **lose 3%-7% of GDP when PwDs are** excluded from education, employment, and social security.
4. **Benefits for Households and Economy:** Disability income improves household stability, rural consumption, and labour participation. It supports both social welfare and economic activity.
5. **Strong Economic Returns:** Studies show **fiscal multipliers of 1.4-1.6. The 2025 Pro Bono Economics report** found that the socioeconomic returns from disability pensions **exceed their costs by nearly 48%.**
6. **From Charity to Rights:** Disability pensions should not depend on administrative discretion. They should be treated as citizenship rights available to all eligible persons.

Proposal for a Minimum Universal Disability Pension Floor Rate (MUDPFR)

1. **National Minimum Pension Guarantee:** A Minimum Universal Disability Pension Floor Rate (MUDPFR) would ensure that no eligible **Persons with Disabilities (PwDs)** receives less than a minimum pension regardless of location.
2. **Uniformity with State Flexibility:** The system would create a national minimum standard while allowing States to provide additional top-up benefits according to their capacity.
3. **Supporting Inclusive Growth:** A MUDPFR would ensure that disability pensions become a nationally guaranteed minimum support system while promoting inclusive development.
4. **Affordable Fiscal Cost:** A pension of **₹8,000 per month for 40 lakh beneficiaries** would cost about **₹38,400 crore annually (0.08% of GDP)**. A pension of **₹10,000 per month for 65 lakh beneficiaries** would cost about **₹78,000 crore.**
5. **Manageable Public Expenditure:** Even a pension of ₹15,000 per month would keep expenditure below 0.2% of GDP. This remains small compared with spending on food subsidies, rural development, tax concessions, and infrastructure.
6. **Ending Geographical Inequality::** Disability pensions are among the few welfare entitlements still determined by place of residence. A MUDPFR would ensure equal minimum support across the country.

Way Forward

1. **Learning from International Models:** Countries such as **South Africa, Brazil, Australia, New Zealand, Kenya, Rwanda, Thailand, and Indonesia** provide **disability income support** through **nationally defined systems**. These models promote uniformity, universality, and portability.
2. **Creating a National Disability Pension Authority:** A single authority can reduce **duplication, delays, and weak accountability**. It can ensure one national standard through **common eligibility norms, portability, grievance redress, and performance monitoring**.
3. **Integrating Pensions with Employment:** Disability pensions should be linked with employment support systems. This can help PwDs move from survival to productive participation.

4. **Strengthening Employment Incentives:** India can expand its Disability Employment Incentive Scheme using models such as employer tax incentives, wage subsidies, and workplace support programmes.
5. **Using Existing Schemes as a Foundation:** Existing programmes such as the **Pradhan Mantri Dakshta Aur Kushalta Sampann Hitgrahi (PM-DAKSH) Scheme** and the **National Apprenticeship Promotion Scheme (NAPS)**, along with State-level employer incentives, can help expand employment opportunities for PwDs.
6. **Meeting International Commitments:** A stronger disability pension system would support commitments under **Article 28 of the UN Convention on the Rights of Persons with Disabilities, ILO Recommendation No. 202, SDG 1.3, and the G20 New Delhi Leaders' Declaration.**
7. **Leveraging Digital Delivery Systems:** India already delivers welfare benefits at scale through **Direct Benefit Transfer (DBT) and Unified Payments Interface (UPI)**. The administrative capacity and technological infrastructure required for implementing a universal disability pension system already exist.

Conclusion

A **Minimum Universal Disability Pension Floor Rate** would advance **equality, dignity, social protection, and citizenship rights** for Persons with Disabilities. It would replace a fragmented and location-based system with a uniform national guarantee. With digital delivery systems already in place, the key requirement is political commitment to ensure that disability support becomes a constitutional entitlement rather than a matter of charity or discretion.

Question for practice:

Examine the need for a Minimum Universal Disability Pension Floor Rate (MUDPFR) in ensuring equality, dignity, and social security for Persons with Disabilities in India.

Source: [The Hindu](#)

Towards a fair, efficient insolvency regime

Source: The post "**Towards a fair, efficient insolvency regime**" has been created based on "**Towards a fair, efficient insolvency regime**", published in "The Hindu" on 15th June 2026.

UPSC Syllabus: GS-3- Economy

Context: The Insolvency and Bankruptcy Code (IBC) was enacted to provide a time-bound insolvency resolution framework in India. The proposed 2026 Creditor-Initiated Insolvency Resolution Process (CIIRP) seeks to address financial distress while preserving business continuity. However, certain provisions have generated concerns regarding creditor equality and institutional fairness.

Background and Need for Reform

1. The IBC emerged as a response to inefficiencies under earlier frameworks such as the Sick Industrial Companies Act.

2. The creditor-in-control model under the IBC improved resolution outcomes but often resulted in procedural delays and prolonged litigation.
3. The CIIRP has been proposed to provide a less disruptive alternative to conventional liquidation and insolvency proceedings.

Key Features of the 2026 CIIRP

1. The CIIRP introduces a hybrid framework that combines debtor-in-possession arrangements with creditor oversight.
2. The company continues its operations under the supervision of a resolution professional, thereby preserving business value.
3. The amendment reduces judicial intervention and streamlines procedures through changes to Sections 54C to 54P.
4. The term “may” in Section 7(5)(a) has been replaced by “shall,” making admission or rejection of applications by the NCLT mandatory under specified conditions.
5. Only a class of financial creditors belonging to notified financial institutions can initiate the process.
6. Certain financial creditors are excluded from participation in restructuring negotiations.

Concerns and Challenges

1. Creation of Arbitrary Creditor Hierarchy

- a. The amendment creates distinctions among financial creditors based on institutional identity rather than financial interest.
- b. The approach departs from the principle laid down in the Swiss Ribbons judgment.

2. Disadvantages to Smaller and Non-Notified Creditors

- a. Smaller financial and operational creditors may lose bargaining power during restructuring.
- b. Non-notified creditors may be compelled to accept restructuring plans without meaningful participation.

3. Reduced Creditor Autonomy

- a. Restricting initiation rights limits the ability of creditors to protect their interests.
- b. The provision may give rise to constitutional and economic concerns.

4. Excessive Procedural Rigidity: Mandatory admission requirements may reduce judicial discretion in complex insolvency cases.

Way Forward

1. India should adopt a default-neutral initiation rule that does not depend on regulatory status.
2. Any financial creditor should be allowed to initiate proceedings subject to a minimum threshold of creditor support.
3. The insolvency framework should maintain safeguards against frivolous filings while preserving creditor neutrality.
4. Reforms should focus on financial interest rather than institutional identity.

Conclusion: The CIIRP introduces important debtor-in-possession features that can preserve business value and improve efficiency. However, the exclusion of certain creditors and the creation of institutional hierarchies may undermine fairness within the insolvency ecosystem. A universal CIIRP model based on financial interest rather than institutional identity would help India achieve a more efficient, inclusive, and balanced insolvency regime.

Question: Examine the key features of the 2026 Creditor-Initiated Insolvency Resolution Process (CIIRP) and assess its implications for India's insolvency regime.

Source: [The Hindu](#)

The 'seven-point IQ opportunity' for Indian children

Source: The post "The 'seven-point IQ opportunity' for Indian children" has been created based on "The 'seven-point IQ opportunity' for Indian children", published in "The Hindu" on 15th June 2026.

UPSC Syllabus: GS- 2 -Social Justice

Context: Early Childhood Development (ECD) is a crucial phase during which nutrition, health, care, and learning interact to shape a child's cognitive and physical growth. India's Anganwadi system has contributed significantly to reducing child undernutrition and mortality, but there is growing recognition that cognitive development requires a more holistic approach.

Importance of Early Childhood Development

1. Early childhood development is an ecological process in which nutrition, health, and learning interact dynamically to shape brain development.
2. The first year of life is critical because the brain consumes nearly one-fifth of the body's energy and undergoes rapid growth.
3. During this period, millions of neural connections associated with movement, language, and planning are formed.
4. International research shows that a child's environment significantly influences cognitive outcomes through nutrition, stimulation, and caregiving.

Role of Anganwadis in Cognitive Development

1. Providing Holistic Early Childhood Care

- a. Anganwadis provide supplementary nutrition, growth monitoring, health services, counselling, and home visits for parents.
- b. These services help improve both physical and cognitive development outcomes.

2. Promoting Early Learning and Stimulation

- a. Preschool education in Anganwadis offers structured learning opportunities during critical developmental years.
- b. Research shows that children attending preschool demonstrate better cognitive test scores and educational outcomes.

3. Supporting Parents and Caregivers

- a. Anganwadis educate caregivers about age-appropriate stimulation, communication, and play-based learning.
- b. They encourage everyday activities such as talking, reading, singing, feeding, and playing with children to support brain development.

4. Community Mobilisation

- a. Community-based initiatives help create awareness about the importance of early childhood development.
- b. Anganwadis act as centres that connect families, communities, and government programmes.

Challenges

1. Improvements in nutrition alone do not guarantee optimal cognitive development.
2. Children exposed to infection, inflammation, toxic environments, and inadequate stimulation may experience developmental setbacks.
3. Many Anganwadis still focus predominantly on nutrition and health rather than holistic development.

Measures to Strengthen Anganwadis

1. Anganwadis should be redesigned as vibrant early childhood education centres that nurture both mind and body.
2. Play-based learning and early stimulation should be integrated into routine Anganwadi activities.
3. Greater emphasis should be placed on parental education and caregiver engagement.
4. Community participation should be strengthened to create supportive learning environments beyond Anganwadi centres.
5. Programmes such as Poshan Bhi Padhai Bhi should be effectively implemented to promote holistic child development.

Conclusion: Anganwadis have the potential to significantly enhance children's cognitive development through a holistic approach that combines nutrition, health, care, and early learning. Strengthening early stimulation, parental involvement, and community participation will help build stronger human capital and ensure better developmental outcomes for India's children.

Question: Early Childhood Development (ECD) is critical for building human capital and improving developmental outcomes. Discuss the role of Anganwadis in enhancing cognitive development among children and suggest measures to strengthen the system.

Source: [The Hindu](#)

The Hidden History of the Thai-Bharat Connection

UPSC Syllabus: Gs Paper 2- International relation

Introduction

The **84th anniversary of the Bangkok Conference (15–23 June 1942)** draws attention to a forgotten chapter linking India and Thailand. Their relationship was built on centuries of cultural, religious, linguistic, and commercial exchanges that later acquired political significance during India's freedom struggle. The **Thai-Bharat Cultural Lodge (TBCL)** emerged as an important centre for Indian nationalists and played a key role in the developments that led to the formation of the **Indian National Army (INA)** and organised resistance against colonial rule..

Civilisational Foundations of India–Thailand Relations

Ancient Cultural Links: India and Southeast Asia have shared connections for more than two thousand years. Sanskrit, Buddhist, and Jain texts refer to the region as Suvarnabhumi and Suvarnadvipa, showing early interaction.

Trade as the First Bridge: Indian merchants travelled to Southeast Asia through sea routes. Trade in spices, aromatic wood, and gold created lasting commercial ties.

Spread of Indian Traditions: Merchants carried Indian religion, philosophy, traditions, and cultural practices to Southeast Asia. They were joined by Brahmin priests, Buddhist monks, scholars, and adventurers.

Formation of Indianised States: These interactions contributed to the rise of kingdoms influenced by Indian traditions. Funan and Lin-yi, established in the 2nd century CE, were among the earliest such kingdoms.

Idea of Greater India: European and Indian scholars described the region as Farther India, Greater India, or Indianised States. George Coedes used the term Farther India for areas influenced by Indian civilisation.

Non-Colonial Nature of Influence: Indian influence developed through existing trade and cultural contacts. It differed from European colonial expansion because long-standing relations already existed between the two regions.

Thailand's Special Place in India's Cultural Sphere

Historical Position of Thailand: Thailand formed part of the ancient Suvarnabhumi region. It was ruled by the Funan Empire, later by Dvaravati, and subsequently came under Khmer influence.

Religious Influence of Buddhism: The most important Indian contribution was Buddhism, introduced in the 3rd century BC by monks sent by King Ashoka. Buddhism later became deeply rooted in Thai society.

Coexistence of Religious Traditions: Brahmanism and Buddhism existed together in Thailand before the Sukhothai period. Several rulers followed Buddhist beliefs while also adopting Brahmanical customs.

Influence on Kingship and Worship: Indian ideas shaped concepts of divine authority and kingship. The Thai king came to be viewed as an incarnation of Vishnu, while deities such as Ganesha, Brahma, Vishnu, Shiva, and Indra are worshipped.

Language and Literary Connections: Thai contains many words of Sanskrit, Pali, and Dravidian origin. The Thai script developed from the Southern Indian Pallava script.

Ramayana Tradition in Thailand: The Ramayana survives in Thailand as Ramakien or Ramakriti. Its stories are depicted in temples and continue to influence cultural expression.

Evidence of Trade Settlements: A Tamil inscription at Takua-pa shows trade links with South India. The South Indian merchant group Manikarramam established settlements, temples, and water tanks in the region.

Architectural Legacy: Monuments such as Borobodur Stupa, Angkor Vat, and My Son Temple are important examples of Indian influence in Southeast Asia.

Thailand's Contribution to India's Freedom Struggle

Revival of Cultural Cooperation: A new phase began in 1927 when Rabindranath Tagore visited Siam and met King Prajadhipok. Their discussions highlighted the deep cultural links between India and Thailand.

Role of Swami Satyananda Puri: Prafulla Kumar Sen, later known as Swami Satyananda Puri, arrived in Bangkok in 1932. He became a respected academic and strengthened cultural links between the two societies.

Establishment of Dharam Ashram: The Swami founded Dharam Ashram in 1939. It became a centre for spiritual exchange and an important gathering place for the Indian diaspora.

Creation of the Thai-Bharat Cultural Lodge: The Ashram was transformed into the Thai-Bharat Cultural Lodge (TBCL) in December 1940. It soon emerged as a major platform for Indian nationalist activity.

Symbolic Assertion of Nationalism: The hoisting of the Indian Tricolour at TBCL openly expressed support for India's independence. The act drew protests from the British authorities.

Political Mobilisation During War: With the outbreak of the Second World War, TBCL evolved from a cultural institution into a political centre. It became a meeting point for Indian nationalists and freedom activists.

Formation of the Indian National Council: The Indian National Council (INC) was established in Bangkok in December 1941. It helped coordinate civilian political efforts connected to the independence movement.

Contribution of Giani Pritam Singh: Giani Pritam Singh spread revolutionary ideas among Indians in Thailand. He also built links with Japanese intelligence through Major Iwaichi Fujiwara.

Bangkok Conference and the Birth of the INA

Historic Gathering in Bangkok: The Bangkok Conference (15–23 June 1942) brought together more than 100 representatives from Burma, Malaya, Singapore, and other parts of Southeast Asia.

Creation of a Unified Framework: The conference united different nationalist groups under a common political and military structure. It established the Indian Independence League (IIL) as the central organisation for overseas Indians.

Blueprint for the INA: A 34-point resolution was adopted during the conference. It laid down the official framework for the formation and functioning of the INA.

Independent Character of the Movement: The resolution stated that the INA would consist of volunteers and former prisoners of war. It would remain under the supervision of the IIL rather than the Japanese military.

Demand for Political Recognition: Delegates asked Japan to recognise India as an independent nation. They also sought recognition of the IIL as the legitimate representative of Indians abroad.

Sacrifice of Early Leaders: In March 1942, Swami Satyananda Puri and Giani Pritam Singh died in a plane crash while travelling to Tokyo. Their deaths strengthened the determination of the movement.

Leadership of Netaji Subhas Chandra Bose: Netaji arrived in 1943 and assumed leadership of both the IIL and INA. He transformed the movement into a unified military and political force.

Mass Mobilisation Under Netaji: Thousands of civilians and former prisoners of war joined the movement. His call for “Total Mobilization” expanded support for the struggle.

Legacy of the Thai-Bharat Connection

Continued Role of TBCL: Even after military activities expanded, TBCL remained an important institutional bridge. It provided civilian and cultural support to the wider movement.

Link Between Freedom and Asian Liberation: The organisation upheld the idea that India's freedom was connected to the broader liberation of Asia from colonial rule. This vision continued throughout the war years.

Post-War Suppression: After the war ended in 1945, Allied forces banned TBCL and imprisoned its leaders. The organisation faced severe restrictions.

Revival in 1946: Efforts led by Pandit Raghunath Sharma helped restore the Lodge in 1946. This ensured the continuation of its historical legacy.

Importance of Social Networks: The survival of the movement after the war showed the strength of cultural and community networks built over many years. These networks supported the struggle beyond military efforts.

Living Archive of History: Today, TBCL remains the only surviving institution from this period. It preserves rare documents, photographs, and records related to the Indian diaspora and the freedom movement.

Symbol of Enduring Friendship: The Lodge represents the long-standing friendship between India and Thailand. It reflects the shared commitment of both societies to anti-colonial ideals and cooperation.

Conclusion

The Thai-Bharat connection reflects the transformation of long-standing cultural ties into political cooperation during India's freedom struggle. Institutions such as the TBCL, the **Indian Independence League**, and the INA gave this relationship a historic role in anti-colonial resistance. Today, the surviving legacy of TBCL continues to preserve this shared history and friendship between India and Thailand.

Question for practice:

Discuss the historical significance of the Thai-Bharat connection in shaping India-Thailand relations and supporting India's freedom struggle.

Source: The Hindu

India's E20 Fuel Push: Challenges and Lessons from Brazil

UPSC Syllabus: Gs Paper 3- Indian economy and Infrastructure

Introduction

India has achieved **20% ethanol blending (E20)** ahead of schedule and is now preparing for the next phase of ethanol adoption. The government has exempted **22%-30% ethanol-petrol blends** from excise duty and proposed recognition of **E85 and E100 fuels** under motor vehicle rules. These measures support India's efforts to reduce dependence on imported crude oil and prepare for a future flex-fuel vehicle ecosystem. However, they have also raised concerns about vehicle compatibility, fuel efficiency, consumer costs, infrastructure readiness, and the speed of the transition to higher ethanol blends.

Ethanol Blending Roadmap in India

Shift Beyond E20: India has already made **E20 fuel** the standard petrol variant across the country and is now considering a move towards **E25 fuel** as the next stage.

Recognition of E85 and E100 Fuels: The proposed amendments under the Central Motor Vehicles Rules seek to formally recognise **85% ethanol-blended fuel and 100% ethanol fuel**.

Introduction of Flex-Fuel Vehicles: The long-term plan is to move towards flex-fuel vehicles that can operate on different combinations of petrol and ethanol.

Two Fuel Categories in Future: Consumers may eventually have access to two categories of fuel at petrol pumps—standard fuel such as E20 or E25 and higher ethanol fuels such as E85 and E100.

Vehicle Re-Certification Requirement: Existing and future vehicles will require fresh testing, calibration, emissions certification, and homologation before they can fully adapt to higher ethanol blends.

Challenges of Higher Ethanol Blending

Risk of Engine Damage: Ethanol contains higher water content and can be corrosive. Older vehicles and many two-wheelers may face greater risks because their engines are not designed for higher ethanol blends.

Impact on Fuel Efficiency: Many consumers reported a mileage decline after the transition from E10 to E20. The reduction has been estimated at **5-12%**, depending on vehicle age and design.

Cold Weather Starting Problems: Vehicles using higher ethanol blends may face difficulty during winter starts because ethanol burns at a higher temperature than petrol.

Performance Issues in Non-Compliant Engines: Engine performance problems increase as ethanol concentration rises beyond E10. The impact could be greater during the shift from E20 to E25 than it was from E10 to E20.

Uncertainty About Long-Term Effects: There are no conclusive long-term studies on the impact of higher ethanol blends on non-compliant vehicles. However, concerns remain regarding engine life, rubber parts, valves, and piston heads.

Limited Consumer Choice: Indian consumers currently do not have the option to choose among different ethanol blends at fuel stations. This limits flexibility during the transition period.

Consumer Cost Burden: Any reduction in mileage or damage to older vehicles is likely to be borne directly by vehicle owners.

Challenges for Automakers and Fuel Suppliers

Additional Engineering Requirements: The move to E25 requires fresh work on engine calibration, corrosion resistance, fuel-system durability, and material compatibility.

Higher Vehicle Costs: The additional development and certification requirements could increase vehicle costs, which may ultimately be passed on to consumers.

Need for Policy Clarity: Automakers have sought clear timelines and coordination across fuel infrastructure, dispensing systems, and fuel standards before higher blends are introduced widely.

Constraints for Oil Marketing Companies: Oil marketing companies have indicated that they can practically supply only **two ethanol blends at a time**, creating operational challenges.

Why the Government is Promoting Higher Ethanol Blends

Reducing Crude Oil Dependence: India imports nearly **88.5% of its crude oil requirement**. Higher ethanol blending is intended to reduce dependence on imported fossil fuels.

Improving Energy Security: Greater use of domestically produced ethanol can reduce vulnerability to geopolitical disruptions and international oil price shocks.

Response to Global Energy Uncertainty: Rising fuel prices during the West Asia conflict highlighted the risks associated with heavy reliance on imported crude oil.

Support for Agricultural Producers: Farmers, particularly sugarcane growers in states such as Maharashtra and Uttar Pradesh, are facing surplus production capacity. Higher ethanol demand can absorb part of this excess output.

Gradual Transition Approach: The government has stated that higher ethanol blends will be introduced only after testing, consultations, and adequate preparation by vehicle manufacturers and fuel suppliers.

Development of Fuel Standards: The **Bureau of Indian Standards (BIS)** has already notified standards for higher ethanol blends, laying the foundation for future implementation.

The Economics of E85 Fuel: Key Concerns

Lower Retail Price Advantage: The first E85 fuel pump in Delhi offers fuel at **Rs 82.12 per litre**, nearly **Rs 20 cheaper** than E20 petrol priced around **Rs 102 per litre**.

Cost Per Kilometre Matters More: Consumers ultimately judge fuel based on the distance travelled rather than the price per litre.

Lower Energy Density of Ethanol: Ethanol contains less energy than petrol. As a result, vehicles generally travel fewer kilometres on the same quantity of fuel.

Fuel Efficiency Loss: High-ethanol fuels can reduce fuel economy by **20-30%**, depending on vehicle type and operating conditions.

Discount May Not Be Sufficient: Although E85 is about **20% cheaper** than E20 petrol, the savings may be offset by lower fuel efficiency.

Brazil's 70% Rule: Brazilian consumers generally consider ethanol attractive only when its price is around **70% or less** of petrol prices. At current prices, E85 in Delhi remains around **80% of E20 petrol prices**.

Consumer Adoption Depends on Savings: A lower pump price alone may not convince motorists to switch if the cost-per-kilometre advantage remains limited.

Lessons from Brazil's Ethanol Success Story

Long-Term Policy Commitment: Brazil developed its ethanol programme gradually over several decades, beginning in the 1970s.

Flex-Fuel Vehicle Ecosystem: Most new vehicles in Brazil can run on petrol, ethanol, or any blend between them, giving consumers greater flexibility.

Widespread Fuel Availability: Consumers can easily access different fuel options because ethanol and petrol are available across the country.

Price Incentives for Consumers: Government support ensured that ethanol remained significantly cheaper than petrol, encouraging adoption.

Consumer Choice at Fuel Stations: Motorists can compare prices and choose the most economical fuel option according to market conditions.

Strong Industry Coordination: Clear guidance to automakers helped create vehicles compatible with different fuel blends.

Public Awareness and Acceptance: Sustained public engagement helped consumers understand the benefits and limitations of ethanol fuels.

Phased Implementation Strategy: Brazil introduced changes gradually so that owners of older vehicles were not disadvantaged during the transition.

Conclusion

India's transition towards **E25, E85, and flex-fuel vehicles** forms an important part of its strategy to reduce crude oil dependence, strengthen energy security, and support domestic ethanol production. However, the success of higher ethanol blends will depend on vehicle compatibility, adequate infrastructure, consumer acceptance, and clear economic benefits. Brazil's experience shows that phased implementation, fuel choice, and meaningful savings for consumers are essential for large-scale adoption.

Question for practice:

Evaluate the opportunities and challenges associated with India's transition from E20 fuel to higher ethanol blends, and examine the lessons that can be drawn from Brazil's ethanol programme.

Source: Indian Express

Peace with peace: On preventive detentions

Source: The post "**Peace with peace: On preventive detentions**" has been created based on "**Peace with peace: On preventive detentions**", published in "The Hindu" on 16th June 2026.

UPSC Syllabus: GS 2 - Polity & Governance

Context: Preventive detention is the power to detain a person before a crime occurs if there is reasonable apprehension that the person may pose a threat to public order. The Allahabad High Court, in *Chander Pal Singh v. State of Uttar Pradesh*, highlighted concerns regarding the misuse of preventive detention and its impact on personal liberty.

Issues Associated with Preventive Detention in India

1. Preventive detention receives less judicial scrutiny than ordinary criminal proceedings, making it more vulnerable to misuse.
2. The broad and subjective standards used in preventive detention laws can gradually transform them into instruments for depriving people of liberty.
3. High Court observations described the practice as a “highly irresponsible” deprivation of personal liberty in certain cases.
4. Executive magistrates often create cases based on arguably minor apprehensions, resulting in arbitrary detentions.
5. The case highlighted that preventive detention was invoked against a petitioner who had challenged a Dalit advocate, raising concerns about misuse for non-serious disputes.
6. Data presented before the court showed that around 2,500 people were reportedly subjected to preventive detention proceedings in Ghaziabad between April 2025 and April 2026, indicating extensive use of such powers.
7. Frequent use of preventive detention can undermine constitutional safeguards and weaken public confidence in the rule of law.

Significance of the Allahabad High Court Judgment

1. The judgment condemned the implementation of preventive incarceration in neighbourhood and property disputes.
2. The court required executive magistrates to justify their decisions, thereby strengthening accountability.
3. The judgment encouraged constitutional challenges to unlawful preventive detention.
4. The court proposed a compensation framework for victims of wrongful detention.
5. The judgment recognised that preventive detention may impose prohibitive and unaffordable bond conditions on individuals.
6. It criticised the direct imposition of restrictions under the directions of police authorities.
7. The ruling drew support from the Supreme Court's observations in *Sonam Wangchuk v. NSA*, which emphasised that dissent cannot be treated as a crime and that the state remains responsible for maintaining peace.

Challenges in Implementing Reforms

1. Compensation may not always be available because victims often fail to challenge detention orders within prescribed time limits.
2. Government authorities may be reluctant to recover compensation amounts from erring officials through disciplinary proceedings.
3. Executive magistrates are part of the state administration and may be influenced by police assessments of threats to public order.
4. Administrative dependence can affect the impartial exercise of preventive detention powers.

Measures for Reform

1. Judicial scrutiny of preventive detention proceedings should be strengthened.
2. Executive magistrates should be required to provide detailed and reasoned justifications for detention orders.
3. A robust compensation mechanism should be established for victims of unlawful detention.
4. Accountability mechanisms should ensure recovery of compensation from officials responsible for wrongful detention where appropriate.
5. Clear guidelines should be framed to prevent the use of preventive detention in minor neighbourhood and property disputes.

6. Greater institutional independence and oversight should be introduced to reduce undue administrative influence on magistrates.

Conclusion: Preventive detention is an exceptional power intended to preserve public order, but its misuse can seriously undermine personal liberty. Strengthening judicial oversight, ensuring accountability, and implementing the reforms suggested by the Allahabad High Court can help balance public order with constitutional freedoms.

Question: Preventive detention is often criticised as a threat to personal liberty. In the light of the recent Allahabad High Court judgment, examine the issues associated with preventive detention in India and suggest measures for reform.

Source: [The Hindu](#)

Technology drives India-France strategic convergence

Source: The post “**Technology drives India-France strategic convergence**” has been created based on “**Technology drives India-France strategic convergence**”, published in “The Hindu” on 16th June 2026.

UPSC Syllabus: GS 2 -International Relations

Context: India and France have elevated their strategic partnership by placing technology and innovation at the centre of bilateral cooperation. The meeting between Prime Minister Narendra Modi and French President Emmanuel Macron on the sidelines of the AI Action Summit in Paris highlighted the growing importance of technology-driven collaboration.

Technology as the New Pillar of India-France Relations

1. India and France jointly inaugurated the India-France Year of Innovation 2026 to strengthen cooperation in technology and innovation.
2. The leaders launched the “Bharat Innovates” event in Nice to connect Indian start-ups with global investors and venture capital funds.
3. Prime Minister Modi participated in VivaTech Summit in Paris, Europe’s largest technology and start-up event, demonstrating the expanding technology partnership.
4. The partnership is increasingly focusing on emerging technologies rather than being confined to traditional sectors.

Key Areas of Technological Cooperation

1. Artificial Intelligence has emerged as a major area of collaboration between the two countries.
2. Both nations are strengthening cooperation in space technology and related research.
3. Collaboration is expanding in health care and biotechnology sectors.
4. The two countries are working together on green technologies and sustainable development initiatives.
5. France possesses significant strengths in aerospace, AI, robotics, biotechnology, health care, green technology and semiconductor industries.
6. India can benefit from French expertise while contributing its own advantages in digital public infrastructure, start-up innovation and biotechnology.

Institutional Mechanisms for Cooperation

1. The two countries launched the “Innovate” and “Vivatech” initiatives to facilitate private-sector collaboration.
2. These initiatives aim to promote substantive collaborative arrangements between industries and innovators on both sides.
3. Greater engagement between start-ups, investors and research institutions is expected to deepen innovation-led growth.

Defence, Space and Africa Cooperation

1. The leaders are expected to review progress in defence partnerships and identify future areas of strategic cooperation.
2. Cooperation in civil nuclear energy remains an important component of bilateral ties.
3. Both countries seek progress in joint programmes related to small modular reactors.
4. India and France are exploring collaboration in human flight programmes.
5. The two countries are expected to coordinate their approach towards Africa through the India-France Roadmap on the Blue Economy and the India-Africa Forum Summit.

Global and Geopolitical Significance

1. The India-France partnership reflects a shared commitment to strategic autonomy.
2. Both countries seek to contribute to global stability amid increasing geopolitical uncertainty.
3. India and France can play an important role in shaping discussions on global governance and emerging technologies.
4. Their cooperation can contribute to maintaining a multipolar world order.
5. As major democratic powers, both nations have a responsibility to promote stability, innovation and sustainable development.

Challenges in India-France Strategic Partnership

1. Differences in regulatory frameworks and standards can slow the implementation of technology partnerships.
2. High costs and technological complexities may delay collaboration in advanced sectors such as semiconductors, aerospace and nuclear energy.
3. Geopolitical uncertainties, including conflicts in Ukraine and West Asia, can affect strategic priorities and economic cooperation.
4. Competition from other major powers and strategic alignments may influence the pace of bilateral cooperation.
5. Limited private-sector integration and inadequate research linkages can constrain innovation-led collaboration.
6. Delays in execution of joint projects may reduce the effectiveness of announced initiatives.
7. Variations in intellectual property regimes and data governance approaches can create operational challenges.
8. Connectivity and market access barriers may hinder deeper business-to-business engagement.

Way Forward

1. Both countries should institutionalise regular high-level dialogues on emerging technologies and innovation.
2. Greater collaboration should be promoted between universities, research institutions and start-up ecosystems.
3. Joint research and development funds should be established in areas such as AI, semiconductors, biotechnology and green technology.

4. The private sector should be encouraged to participate actively through investment facilitation and innovation partnerships.
5. Defence and space cooperation should be expanded through joint production, technology transfer and co-development projects.
6. Faster implementation of existing agreements and roadmaps should be prioritised to achieve tangible outcomes.
7. India and France should strengthen coordination in multilateral forums on issues related to technology governance and global security.
8. Cooperation in Africa, the Indo-Pacific and the Blue Economy should be deepened to enhance their global strategic influence.
9. Both countries should leverage their shared commitment to strategic autonomy to promote a stable and multipolar world order.

Conclusion: Technology and innovation have become central drivers of India-France strategic convergence. By expanding cooperation in emerging technologies, defence, space and global governance, India and France can further strengthen their strategic partnership and contribute to a stable and multipolar international order.

Question: Technology and innovation are emerging as the new pillars of India-France strategic partnership. Discuss in the context of recent developments in bilateral relations.

Source: [The Hindu](#)

Supreme Court on Economic Contribution of Homemakers

UPSC Syllabus: Gs Paper 2- Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

Introduction

The Supreme Court's 2026 judgment highlighted a long-standing gap in accident compensation law. Although courts had recognised the value of unpaid domestic work for many years, existing methods could not fully capture the contribution of homemakers. While deciding a motor accident compensation case, the Court examined the economic value of domestic labour and the need for a more realistic framework to assess such loss.

Background of the Case

1. **Death of a homemaker in a road accident:** The case arose from the death of a homemaker, Reshma, in a road accident in Haryana in 2001.
2. **Compensation awarded by lower courts:** The Motor Accident Claims Tribunal awarded ₹2.42 lakh in 2003, which was later increased to ₹8.43 lakh by the Punjab and Haryana High Court in 2024.
3. **Issue before the Supreme Court:** The family challenged the compensation, arguing that it did not adequately value the homemaker's contribution to the household and family.
4. **Supreme Court's 2026 judgment:** In its 2026 judgment, the Supreme Court held that the compensation awarded by the lower courts did not adequately reflect the homemaker's contribution to the family. It consequently enhanced the compensation to ₹62.77 lakh.

Compensation under the Motor Vehicles Act

1. **Right to compensation after death in accidents:** The Motor Vehicles Act, 1988 allows the family of a person who dies in a road accident to claim compensation from the responsible party.
2. **Compensation linked to income:** Courts calculate compensation using the deceased person's income, future prospects, deductions for personal expenses, and an age-based multiplier.
3. **Role of the multiplier:** The multiplier estimates the number of years the deceased would likely have continued supporting the family.
4. **Challenge in valuing homemakers' contribution:** Homemakers do not have salary records, payslips, or tax returns. This creates difficulty in assigning an income value for compensation.
5. **Use of notional income:** Courts generally use notional income, an assumed income figure, to recognise that unpaid domestic work has economic value.
6. **Importance of starting income figure:** The income figure chosen at the beginning largely determines the final compensation amount because all later calculations depend on it.

Judicial Evolution in Valuing Homemakers' Contribution

A. Lata Wadhwa v. State of Bihar (2001)

- **Recognition of Economic Value:** The Supreme Court held that the services rendered by homemakers cannot be ignored while awarding compensation. It approved a notional income of Rs 3,000 per month for homemakers aged 34–59 years.
- **Foundation for Compensation Calculation:** The decision became an important benchmark for valuing unpaid domestic work. Alongside this, the Motor Vehicles Act treated a non-earning person as having an annual income of Rs 15,000.

B. Arun Kumar Agarwal v. National Insurance Co. Ltd. (2010)

- **Beyond Household Chores:** The Court held that a homemaker's contribution extends beyond cooking and cleaning. She manages the household, cares for children, and supports the overall functioning of the family.
- **Unique and Invaluable Services:** The Court described a homemaker's services as "invaluable" and stated that they cannot be equated with those of a paid domestic worker. It also recognised her role in enabling other family members to pursue education and employment.

C. National Insurance Co. Ltd. v. Pranay Sethi (2017)

- **Standardisation of Compensation:** The Constitution Bench laid down uniform rules for calculating compensation. It standardised additions for future prospects and fixed amounts under heads such as consortium, funeral expenses, and loss of estate.
- **Persistent dependence on notional income:** Despite judicial recognition, compensation calculations continued to rely mainly on notional income figures without fully valuing domestic labour.

Why Existing Compensation Framework Was Inadequate

1. **Notional income captured only part of the contribution:** The Court observed that assigning a fixed income figure could not fully reflect the wide range of work performed by homemakers.
2. **Large share of unpaid domestic work by women:** The **National Statistical Office Time Use Survey (2019)** showed that women spend more than **7 hours daily** on unpaid domestic work, compared to less than **3 hours for men**.
3. **Significant contribution to the economy:** Unpaid caregiving and domestic work contribute an estimated 15–17% of India's GDP, even though it is not counted in official GDP calculations.
4. **Loss of household management:** A homemaker manages the daily functioning of the household. Her absence creates a direct disruption in family life.
5. **Loss of the child's first teacher:** Children lose daily guidance, learning, values, language development, and personal care that cannot be fully replaced through paid arrangements.
6. **Loss of support for the earning spouse:** The earning family member loses the domestic support system that helped them focus on work and livelihood activities.
7. **Contribution is both economic and social:** The Court held that a homemaker's role is neither purely economic nor purely non-economic because it combines both dimensions.
8. **Consortium could not fill the gap:** The existing head of loss of consortium compensates emotional loss but does not account for the economic value of domestic care and household management.

Supreme Court's Recognition of Unpaid Domestic Labour (2026)

1. **Homemakers recognised as economic entities:** The Court held that homemakers are not dependents alone but economic contributors whose work sustains families and society.
2. **Homemakers as nation builders:** The Court described homemakers as nation builders because they support families, nurture future generations, and enable economic productivity.
3. **Creation of "Loss of Domestic Care":** A new compensation head called Loss of Domestic Care was introduced to recognise unpaid domestic labour.
4. **Minimum value fixed at ₹30,000 per month:** The Court fixed ₹30,000 per month as the baseline value of domestic care provided by a homemaker.
5. **Conditions for application:** The benefit applies when there is loss of household support, maternal guidance to children, and support to the spouse or parents.
6. **Replacement of the notional income approach:** Where these conditions are satisfied, ₹30,000 per month becomes the starting point for compensation calculations.
7. **Additional benefit for working homemakers:** If the homemaker also had paid employment, the amount is added to her actual income.

- 8. Periodic revision mechanism:** The amount will increase by 10% every three years, following the same schedule used for consortium.
- 9. Recognition beyond emotional loss:** The Court clarified that loss of domestic care is separate from consortium because it compensates economic loss rather than emotional loss.

Concern over Delay in Motor Accident Cases

- 1. Extraordinary delay in compensation disputes:** The case remained pending for nearly 25 years, causing prolonged hardship to the affected family.
- 2. Long pendency in High Courts:** A review of over 120 motor accident appeals showed an average pendency of about 8 years at the High Court level.
- 3. Delay weakens the idea of fair compensation:** The Court observed that compensation loses much of its value when families wait decades for relief.
- 4. Priority to older pending cases:** The Court directed High Courts to take up the oldest motor accident appeals on a priority basis.
- 5. Need for dedicated benches:** High Courts were asked to expand specialised benches wherever necessary to handle accident compensation matters efficiently.
- 6. Use of summary procedures:** Tribunals were directed to adopt summary procedures to ensure quicker disposal of compensation claims.

Conclusion

The judgment marks an important step in recognising the economic value of unpaid domestic labour. By creating the head of “loss of domestic care”, the Supreme Court addressed a long-standing gap in compensation law. The ruling provides a more realistic method for valuing homemakers' contribution, recognises them as economic entities, and highlights the need for timely disposal of motor accident claims.

Question for practice:

Evaluate the significance of the Supreme Court's 2026 judgment in recognising the economic contribution of homemakers and addressing gaps in accident compensation law.

Source: Indian Express

India-France Innovation Roadmap 2030

UPSC Syllabus: Gs Paper 2- International Relations

Introduction

India and France adopted the **India-France Innovation Roadmap 2030** on **17 February 2026** after elevating their ties to a **Special Global Strategic Partnership** and launching the **India-France Year of Innovation 2026**. Built on the **Horizon 2047 Roadmap, Viksit Bharat 2047, and France 2030**, the roadmap aims to

deepen cooperation in technology, research, education, health, startups, and innovation. It seeks to promote economic resilience, sustainable development, strategic autonomy, and technological sovereignty.

Innovation Roadmap 2030: Vision and Strategic Objectives

1. **Innovation as a Driver of National Development:** Innovation is recognized as a foundation for economic resilience, sustainable development, strategic autonomy, and technological and industrial sovereignty in both countries.
2. **Alignment of Long-Term National Visions:** The roadmap brings together India's **Viksit Bharat 2047** vision and France's **France 2030** strategy to create a future-oriented innovation partnership.
3. **Focus on Critical and Emerging Technologies:** Both countries aim to advance co-development in critical and emerging technologies and strengthen trusted technology ecosystems.
4. **Promoting Shared Prosperity:** Cooperation is designed to deliver practical outcomes for people, the planet, and long-term economic growth.
5. **Investment in Disruptive Innovation:** The partnership seeks to create new opportunities for investment and collaboration in disruptive and advanced technologies.
6. **Strengthening Strategic Autonomy:** The roadmap supports independent technological capabilities while reducing vulnerabilities in strategic sectors.

Major Areas of Cooperation under the Innovation Roadmap 2030

A. Trusted AI and Digital Cooperation

1. **Safe and Trustworthy AI Systems:** India and France will promote AI systems that respect democratic values, human rights, and sustainable development while reducing discrimination and misinformation.
2. **AI Governance and Standards:** Regulators, standards bodies, and technical experts will cooperate on interoperable and risk-based approaches to AI governance, including frontier and generative AI models.
3. **Child Safety in the Digital Environment:** Both countries will prioritize child safety through privacy-preserving age assurance, safety-by-design systems, and outcome-based safety standards for AI applications interacting with children.
4. **Privacy-Preserving Data Sharing:** India's **Data Empowerment and Protection Architecture (DEPA)** and France's trusted data systems will support secure and consent-based data sharing for research, healthcare, and public services.

B. Academic Mobility and Talent Development

1. **STEM Education and Research Cooperation:** Greater investment in STEM education, research partnerships, talent mobility, and institutional collaboration will prepare future generations for global challenges.
2. **Target of 30,000 Indian Students in France:** Both sides recognize the importance of France's goal of welcoming **30,000 Indian students by 2030** and strengthening people-to-people ties.

3. **Expansion of Mutual Recognition of Qualifications (MRQ):** The existing **2018 MRQ agreement** will be strengthened to cover more academic fields, regulated professions, and emerging technology sectors.
4. **Support for Advanced Academic Collaboration:** Expanded recognition frameworks will encourage dual-degree programmes, doctoral co-supervision, and greater academic mobility.
5. **Institutional Exchanges and Research Partnerships:** Educational institutions from both countries will deepen cooperation through student exchanges and collaborative research initiatives.

C. Innovation-Led Growth and Technological Sovereignty

1. **Industry–Academia Collaboration:** Governments, industries, startups, universities, and research institutions will work together to promote innovation-led growth.
2. **Resilient and Trusted Supply Chains:** Cooperation will support stronger and more reliable supply chains in strategic sectors.
3. **Startup and Innovation Exchange:** The **India–France InnoXchange Bridge** will create a research and entrepreneurship corridor linking innovation ecosystems in both countries.
4. **Access to Innovation Ecosystems:** Startups will gain structured access to research laboratories, technology platforms, investors, innovation clusters, and collaboration programmes.
5. **Support for SMEs:** Both countries will explore greater interaction between small and medium enterprise ecosystems to encourage innovation, employment, and inclusive growth.

D. Sectoral Cooperation in Aerospace, Space and Health

1. **Aeronautics Training Partnership:** A **Franco-Indian Campus for Aeronautics Training and Careers** will be established in Kanpur with support from MSDE to develop skills in the aerospace sector.
2. **Expanding Space Cooperation:** India and France will deepen cooperation in Earth observation, human space exploration, and future Low Earth Orbit missions.
3. **Space Ecosystem Connectivity:** The **Bengaluru Space Expo (7–9 September)** and the **International Space Summit in Paris (9–10 September)** will help strengthen links between the two countries' space sectors.
4. **Health Innovation and AI Research:** Both countries will use AI and research collaboration to develop solutions for global health challenges.
5. **Consent-Based Health Data Sharing:** Building on cooperation between **ICMR** and France's **Health Data Hub (HDH)**, both sides will develop secure and scalable data-sharing frameworks.

Key Institutional Platforms

1. **CEFIPRA as a Flagship Research Mechanism:** The **Indo-French Centre for the Promotion of Advanced Research (CEFIPRA- Centre Franco-Indien pour la Promotion de la Recherche Avancée)** will continue to support scientific cooperation with greater focus on innovation and strategic technologies.

2. **India–France Innovation Network (IFIN):** IFIN will serve as a major platform connecting researchers, innovators, startups, investors, and institutions from both countries.
3. **Potential Joint Governance Structure:** Both countries may establish a joint Indo-French steering committee to support the long-term governance of IFIN.
4. **Franco-Indian Campus in Life Sciences for Health (FIC-LSH):** This platform will continue to support cooperation in biomedical sciences, health research, and innovation.
5. **Joint Science and Technology Cooperation:** Reciprocal access to laboratories, research networks, and scientific institutions will strengthen collaborative research.
6. **Startup Collaboration Platforms:** Cooperation through **Station-F**, **FRIND-X**, and related innovation initiatives will support entrepreneurs and emerging technologies.

Strategic Significance of the Roadmap

1. **Making Innovation a Core Pillar of Bilateral Relations:** The roadmap places innovation at the centre of the India–France partnership and broadens cooperation beyond traditional sectors.
2. **Strengthening Technological Sovereignty:** Joint development of technologies helps both countries build independent and trusted technological capabilities.
3. **Creating Trusted Digital Ecosystems:** Cooperation in AI governance, child safety, and privacy-preserving data sharing promotes responsible technology development.
4. **Building Long-Term Talent Partnerships:** Academic mobility, qualification recognition, and research exchanges strengthen human capital links between the two countries.
5. **Addressing Global Challenges Through Innovation:** Collaboration in health, AI, space, and research supports practical solutions to international challenges.
6. **Promoting Inclusive and Sustainable Growth:** The roadmap supports innovation-driven growth while benefiting people, industry, and society.

Conclusion

The **India–France Innovation Roadmap 2030** provides a structured framework for cooperation in AI, research, education, health, startups, aerospace, and space. Guided by mutual trust, democratic values, and strategic autonomy, it seeks to strengthen technological sovereignty, expand innovation partnerships, and build trusted ecosystems. The roadmap also supports practical solutions to global challenges and shared prosperity.

Question for practice:

Discuss the main features and significance of the India–France Innovation Roadmap 2030.

Source: PIB

Solar-Integrated Transport Infrastructure for Clean Energy Transition

Source: The post “Solar-Integrated Transport Infrastructure for Clean Energy Transition” has been created based on “Solar-Integrated Transport Infrastructure for Clean Energy Transition”, published in “Indian Express” on 17th June 2026.

UPSC Syllabus: GS 2 -Economy

Context: India’s energy transition is entering a new phase where transport infrastructure is emerging as a source of clean energy alongside its traditional role as an energy consumer. In this context, **Rail/Road-Integrated Photovoltaics (RIPV)** has gained attention as an innovative solution that integrates renewable energy generation with existing transport networks.

About Rail/Road-Integrated Photovoltaics (RIPV):

RIPV involves integrating solar photovoltaic (PV) systems into transport infrastructure such as railway tracks, station roofs, highway medians, road dividers, viaducts, and safety barriers. By utilizing existing transport corridors for solar power generation, it reduces land requirements while supporting renewable energy production, decarbonization, and India’s net-zero goals.

Significance of RIPV for India’s Energy Transition

1. Optimum Utilisation of Existing Infrastructure

- a. RIPV allows solar panels to be installed along railway corridors, highways, and transport structures.
- b. It eliminates the need for dedicated land acquisition, which is a major constraint in India.

2. Supports Renewable Energy Targets

- a. Indian Railways aims to achieve net-zero emissions by 2030 and add around 30 GW of renewable energy capacity.
- b. RIPV can contribute significantly towards India’s non-fossil fuel capacity expansion goals.

3. Huge Untapped Potential

- a. Studies under the Indo-German Solar Partnership estimate over **150 GW** of RIPV potential.
- b. Railway corridors account for around **79 GW**, while highways account for around **75 GW**.

4. Reduction in Transmission Losses

- a. Electricity is generated close to the point of consumption such as traction substations and logistics hubs.
- b. This improves energy efficiency and reduces transmission losses.

5. Supports Green Mobility

- a. RIPV can provide renewable power for electric railway operations.
- b. It can also power EV charging stations along highways through locally generated clean energy.

6. Freight and Transport Decarbonisation

- a. Helps meet the growing electricity demand arising from electrified transport systems.
- b. Reduces dependence on fossil fuels and contributes to climate goals.

7. Successful Pilot Projects

- a. Delhi Metro’s vertical solar plant at Okhla Vihar station.
- b. Solar-on-track pilots by NCRTC and Indian Railways.

- c. NHAI's plan to install solar panels on elevated sections of the Delhi-Dehradun Expressway.

Challenges in Implementation

1. Institutional and Regulatory Issues

- a. Lack of established design standards and regulatory frameworks.
- b. Limited experience of agencies in integrating solar systems with transport infrastructure.

2. Safety and Operational Concerns: Need for clear guidelines regarding safety, security, maintenance, and operations.

3. Financial Constraints

- a. RIPV systems require additional supporting structures.
- b. Initial installation costs are higher than those of conventional solar projects.

4. Approval and Coordination Challenges: Multiple stakeholders such as Indian Railways, NHAI, state agencies, and energy departments require coordination.

5. Need for Large-Scale Demonstration

- a. Existing projects remain small-scale pilots.
- b. Wider deployment requires successful large-scale demonstrations.

Way Forward

1. The government should formulate clear technical standards, safety protocols, and design guidelines to ensure the uniform and safe deployment of RIPV systems across highways and railway corridors.
2. Large-scale demonstration projects should be undertaken across different geographical regions to assess the technical feasibility, operational performance, and economic viability of RIPV systems under Indian conditions.
3. Dedicated financing mechanisms and innovative public-private partnership (PPP) models should be developed to reduce the high initial costs associated with RIPV installations.
4. Policy support similar to initiatives such as **PM Surya Ghar Muft Bijli Yojana** and **PM-KUSUM** should be extended to RIPV projects to encourage wider adoption and investment.
5. Coordination among agencies such as Indian Railways, NHAI, state governments, and renewable energy institutions should be strengthened to ensure smoother approvals and implementation.
6. RIPV infrastructure should be integrated with EV charging networks, logistics hubs, and traction substations so that locally generated renewable energy can be efficiently utilised.
7. Continuous monitoring of ongoing pilot projects should be undertaken, and successful models should be replicated across national highways and railway networks to achieve scale.

Conclusion: RIPV represents a land-neutral and scalable solution that can simultaneously support renewable energy generation and transport decarbonisation. If supported through robust policies, financing, and large-scale implementation, it can become a key pillar of India's clean energy transition and sustainable infrastructure development.

Question: Rail/Road-Integrated Photovoltaics (RIPV) can transform India's transport infrastructure from an energy consumer into a clean energy producer." Discuss its significance for India's energy transition, along with the challenges in its implementation.

Source: Indian Express

Ship Recycling Credit Note Scheme

Source: The post “Ship Recycling in India and the New Green Recycling” has been created based on “Credit note buoys up ship recyclers”, published in “Business Line” on 17th June 2026.

UPSC Syllabus: GS 2 -Governance

Context: India has operationalised its **new Ship Recycling Credit Note Scheme** by issuing the first-ever credit note, marking a major step toward promoting green ship recycling and boosting domestic shipbuilding.

About The Ship Recycling Credit Note Scheme

1. It has been launched under the government's maritime development package.
2. It aims to promote environmentally sound ship recycling and strengthen domestic shipbuilding.
3. Under the scheme, ship owners receive a credit note equivalent to 40% of the scrap value when vessels are recycled at certified Indian facilities.

Significance of the Ship Recycling Credit Note Scheme

1. Promotes Sustainable Ship Recycling

- a. The scheme encourages recycling of ships in certified facilities that comply with international environmental and safety standards.
- b. It supports environmentally sound disposal of hazardous materials and waste.

2. Supports Circular Economy

- a. The scheme facilitates recovery and reuse of valuable materials such as steel and other metals from end-of-life vessels.
- b. It enhances resource efficiency and reduces dependence on virgin raw materials.

3. Strengthens India's Global Leadership

- a. India already handles around 30% of the world's ship recycling activity.
- b. The scheme further enhances India's position as a global hub for sustainable ship recycling.

4. Encourages Domestic Shipbuilding

- a. Credit notes can be redeemed against the purchase of vessels built in Indian shipyards.
- b. This creates demand for domestically manufactured ships and supports the Make in India initiative.

5. Aligns with International Commitments

- a. The scheme complements the implementation of the Hong Kong International Convention (HKC) for safe and environmentally sound ship recycling.
- b. It promotes worker safety, environmental monitoring, and pollution control.

6. Improves Ease of Doing Business

- a. A unified digital ship recycling portal enables seamless application, tracking, and issuance of credit notes.
- b. This increases transparency and reduces procedural delays.

Challenges

1. Weak Shipbuilding Capacity

- a. India accounts for less than 1% of the global shipbuilding market, while China dominates the sector.
- b. Limited manufacturing capacity affects the effectiveness of the credit note scheme.

2. Short Validity Period: The three-year validity of credit notes may not align with the long gestation period of ship acquisition decisions.

3. Execution and Delivery Concerns: Indian shipyards must demonstrate their ability to deliver vessels on time and at competitive costs.

4. Global Market Slowdown: Higher freight rates and geopolitical uncertainties have reduced the number of ships available for scrapping.

5. Skilled Workforce Shortage: A significant number of skilled Indian shipbuilding workers have migrated overseas for better opportunities.

Way Forward

1. The validity period of ship recycling credit notes should be extended to four to six years to better align with global ship acquisition cycles.
2. A pre-approval mechanism should be introduced so that ship owners can assess eligibility and potential benefits before recycling their vessels.
3. The government should provide completion guarantees, vendor cluster support, training assistance, and milestone-linked incentives to strengthen shipyard capabilities.
4. Efforts should be made to attract skilled Indian maritime workers from abroad through relocation support, skill recognition, and long-term employment opportunities.
5. Continued investments in digitalisation, ease of doing business, and infrastructure development should be undertaken to improve India's competitiveness in both shipbuilding and ship recycling.

Conclusion: The Ship Recycling Credit Note Scheme represents an important step towards integrating sustainability, circular economy principles, and industrial development in the maritime sector. With stronger shipbuilding capabilities, skilled manpower, and supportive policy measures, India can emerge as a leading global hub for both green ship recycling and shipbuilding.

Question: Discuss the significance of the Ship Recycling Credit Note Scheme in promoting sustainable maritime development in India. Examine the challenges that need to be addressed for achieving India's shipbuilding and ship recycling ambitions.

Source: [Business Line](#)

Drone Revolution and Modern Warfare

UPSC Syllabus: Gs Paper 3- Science and Technology

Introduction

For decades, military power was measured by expensive platforms such as tanks, fighter aircraft, missiles, artillery, and warships. Recent conflicts in Ukraine and West Asia have challenged this model by demonstrating the growing importance of commercially derived drones, rapid innovation, and AI-enabled systems. Drones now perform surveillance, targeting, precision strikes, logistics, and electronic warfare. Their widespread use is creating a continuously visible and interconnected battlespace, fundamentally changing military operations, strategy, and battlefield superiority.

Emergence of the Drone Revolution

1. **Shift from Platform-Based Warfare:** Traditional military superiority relied on advanced platforms and large defence budgets. Drones have reduced the advantage enjoyed by armies possessing expensive equipment.
1. **Drones as Multi-Role Systems:** Modern drones perform **ISR, target acquisition, precision strikes, artillery spotting, logistics support, and electronic warfare**. They have moved from support assets to core combat tools.
2. **Persistent Battlefield Visibility:** Drones continuously monitor battlefields. Frontline and rear areas are increasingly exposed to detection and attack.
3. **Rapid Detection and Engagement:** Targets can now be located, tracked, and struck within a short period. Concealment and safe movement have become much harder.
4. **Continuous Battlespace:** Modern warfare is becoming an interconnected battlespace where no position remains completely secure and no area is beyond operational reach.

Ukraine and the Evolution of Drone Warfare

1. **Industrial-Scale Drone Conflict:** The Ukraine war evolved from a conventional conflict into the world's first large-scale drone-intensive war within two years.
2. **Civilian Drones Turned Weapons:** Commercial drones originally designed for photography and mapping were converted into reconnaissance and strike systems.
3. **Rise of FPV Drones:** Low-cost **First Person View (FPV)** drones became precision-guided weapons. Their accuracy, manoeuvrability, and affordability transformed battlefield operations.
4. **Cost Advantage:** First Person View (FPV) strike drones costing a few hundred dollars can destroy military equipment worth millions, changing the economics of warfare.
5. **Diverse Drone Ecosystem:** Ukraine employs FPV strike drones, bomber drones, interceptor drones, loitering munitions, and long-range attack drones for different missions.
6. **Deep-Strike Capability:** Drone systems now target logistics hubs, airbases, supply routes, and critical infrastructure far beyond frontline positions.
7. **Fibre-Optic Drone Innovation:** Fibre-optic FPV drones use cables instead of radio links. This makes them highly resistant to electronic jamming and interference.

Global Expansion of Drone Warfare

1. **Hezbollah's Drone Architecture:** Hezbollah relies mainly on Iranian-supplied systems such as **Ababil, Mohajer, and Shahed drones** for reconnaissance and strike operations.
2. **Use of Fibre-Optic Drones:** Hezbollah has also adopted fibre-optic FPV drones to operate effectively despite extensive Israeli electronic warfare measures.
3. **Israel's Counter-Drone Systems:** Israel has developed layered counter-drone networks combining radar, electronic warfare systems, AI-enabled technologies, and specialised interception platforms.
4. **Integrated UAV Operations:** Israel combines long-endurance surveillance drones, armed **Unmanned Aerial Vehicle (UAV)**, and loitering munitions to support rapid reconnaissance and strike missions.

5. **Iran's Distinct Drone Strategy:** Iran uses drones not only for tactical purposes but also for deterrence, coercion, and regional power projection.
6. **Regional Drone Network:** Through indigenous systems and support to partners in Iraq, Syria, Lebanon, and Yemen, Iran can threaten military bases, infrastructure, and naval assets at relatively low cost.

Changing Economics and Industrial Structure of War

1. **Economics Driving the Revolution:** The drone revolution is shaped as much by economics as technology. Cheap systems increasingly challenge expensive military platforms.
2. **From Hardware to Production Capacity:** Military success increasingly depends on the ability to produce, adapt, deploy, and counter drones at scale.
3. **Hybrid Force Structures:** Tanks, artillery, and air power remain important. However, they must now operate alongside large numbers of low-cost autonomous systems.
4. **Decentralised Manufacturing Model:** Ukraine built a distributed ecosystem of nearly **1,500 small and medium-sized enterprises** instead of relying on a few large defence factories.
5. **Rapid Innovation Cycles:** Frontline feedback is quickly converted into software upgrades and hardware improvements. Innovation cycles have been reduced from years to weeks.
6. **Mass Production Capability:** Ukraine's decentralised production network is estimated to manufacture around four million drones in 2025.
7. **Global Defence Exports:** Ukraine is moving beyond battlefield use and is creating defence export networks focused on drones, electronic warfare tools, and related technologies.
8. **Cost Asymmetry in Air Defence:** Expensive interceptor missiles face economic challenges against cheap drones. A **\$4 million interceptor** used against a **\$40,000 drone** creates an unsustainable defence model.

AI, Autonomy and Future Warfare

1. **War of Systems, Not Platforms:** Future military competition will focus on integrated systems that combine sensing, communication, decision-making, targeting, and adaptation.
2. **AI-Supported Operations:** AI is increasingly assisting surveillance, targeting, communications, battlefield awareness, and operational coordination.
3. **Humans Moving Away from the Frontline:** Robots and drones are expected to perform dangerous battlefield tasks before human soldiers are deployed.
4. **Humans 'On the Loop':** Future operations may involve humans supervising autonomous systems rather than approving every individual action.
5. **Electronic Warfare Pressure:** Jamming often disrupts communication links. This encourages the development of systems capable of operating independently.
6. **Precision Mass Warfare:** Cheap drones, sensors, and GPS technologies have made it possible to combine large-scale attacks with high targeting accuracy.
7. **Changing Battlefield Arithmetic:** Russia aims to produce **1,000 Shahed drones daily**, while annual interceptor production remains far lower, highlighting the growing importance of scale.

Challenges, Risks and Implications for Future Warfare

1. **Proliferation to Non-State Actors:** Falling costs make precision-strike capabilities accessible to smaller states, proxy groups, and non-state actors.
2. **Pressure on Deterrence Systems:** Wider access to offensive technologies can impose significant costs on stronger adversaries and complicate deterrence.
3. **Faster Escalation Risks:** Cheap precision weapons shorten response times and blur distinctions between conventional war, hybrid conflict, and grey-zone competition.
4. **Governance and Ethical Concerns:** Increasing autonomy in military systems raises questions regarding human oversight and accountability in combat decisions.
5. **Information and Social Media Effects:** Drone footage is increasingly shared in real time, creating new links between warfare, intelligence gathering, and public information.
6. **Supply Chain Vulnerabilities:** Drone ecosystems remain dependent on global supply chains, including critical components such as lithium batteries and neodymium magnets.
7. **Adaptability as a Strategic Advantage:** Military advantage is increasingly shifting toward actors that can learn, innovate, scale production, and adapt faster than their opponents.

Conclusion

The drone revolution is transforming warfare by shifting military power from expensive platforms toward low-cost, scalable, and rapidly adaptable systems. While conventional weapons remain important, success increasingly depends on innovation, production capacity, AI integration, and operational flexibility. As military power becomes more decentralised, the ability to learn, adapt, and scale quickly will shape future conflicts.

Question for practice:

Examine how the drone revolution is transforming modern warfare by reshaping battlefield operations, military strategies, and the economics of conflict.

Source: The Hindu

The Long-Term Implications of the U.S.-Iran Deal

UPSC Syllabus: Gs Paper 3- International Relation

Introduction

The Memorandum of Understanding (MoU) between Iran and the United States has ended immediate hostilities and opened a 60-day negotiation process. Though the agreement offers hope for reducing tensions, major disputes over Iran's nuclear programme, sanctions, and the Strait of Hormuz remain unresolved. The deal marks only the beginning of a difficult diplomatic process. Its success or failure will influence West Asian stability, global energy markets, regional power balances, and India's strategic and economic interests.

Why the U.S.-Iran Deal Emerged

1. **Military Stalemate and Mutual Realisation:** Both sides recognised that their asymmetric wars were militarily unwinnable. A lasting solution required political negotiations rather than continued confrontation.

2. **Economic Costs of the Conflict:** The Hormuz blockades caused economic attrition and disrupted global trade and energy flows. The rising costs of conflict increased pressure for a negotiated settlement.
3. **Fear of Wider Regional Escalation:** Iran signalled that future conflict could expand beyond the region, including renewed disruption around the Bab el-Mandeb Strait. This raised concerns about broader instability.
4. **Domestic Political Pressures:** Growing public dissatisfaction emerged in both countries due to the economic and political costs of prolonged hostilities. Their actions also alienated supporters and neighbouring states.
5. **Loss of International Credibility:** Both nations appeared increasingly irresponsible and vindictive before the international community. This weakened their moral standing and encouraged diplomatic engagement.
6. **Need for Diplomatic Space:** The official statements from Tehran and Washington were measured and avoided triumphalism. Both acknowledged the complexity of negotiations and the need for a gradual process.

Key Challenges to a Lasting Settlement

1. **Iran's Nuclear Programme:** The United States wants a stronger agreement than the JCPOA and seeks restrictions on Iran's enriched uranium. Iranian hardliners strongly oppose such demands.
2. **Control of the Strait of Hormuz:** Iran's assertion of sovereignty over the Strait remains one of the most difficult issues. Its earlier closure created severe disruptions in global energy markets.
3. **Sanctions and Frozen Assets:** Negotiations must address U.S. sanctions and the release of more than **\$100 billion** in frozen Iranian assets. These issues remain central to any final settlement.
4. **Regional Security Disputes:** The crisis in Lebanon, the presence of U.S. military bases, and demands for reparations remain unresolved. These issues add complexity to the negotiations.
5. **Competing External Influences:** Israel and GCC states influence U.S. calculations, while China and Russia maintain strong links with Tehran. Pakistan's role as mediator also introduces additional interests.
6. **Economic Reconstruction Proposals:** Reports suggest discussion of a **\$300 billion** reconstruction fund involving U.S. companies. Such proposals reflect the transactional nature of current diplomacy.
7. **Internal Resistance in Iran:** Sections of Iran's political establishment view the draft agreement as excessive compromise. Hardline groups continue to distrust negotiations with Washington.

Emerging Geopolitical Shifts

1. **Limits of Military Superiority:** The conflict exposed the limits of advanced military power and air superiority. Iran countered through asymmetric warfare, resilient command structures, and strategic planning.
2. **Renewed Importance of Multilateralism:** The failure of coercive diplomacy may encourage greater reliance on negotiations and collective approaches to conflict resolution.

3. **Focus on Strategic Vulnerabilities:** Countries are likely to pay greater attention to maritime choke points, supply-chain resilience, and preventive diplomacy.
4. **Stronger Emphasis on Leadership Security:** Governments may invest more in protecting political leadership, command systems, and continuity of governance during crises.
5. **Changing Security Assumptions:** Long-held assumptions about military dominance and quick conflict resolution have been challenged. Future strategies may increasingly focus on resilience rather than overwhelming force.
6. **Reassessment by Major Powers:** The conflict exposed the costs and limits of aggressive military approaches. It may encourage greater caution in the use of force by major powers.

Energy Security and the Future of the Global Economy

1. **Hormuz as a Global Energy Chokepoint:** The closure of the Strait of Hormuz created one of the largest energy disruptions in modern history. It exposed the vulnerability of global energy supply chains.
2. **Pressure on Hydrocarbon Markets:** Even with the return of peace, depleted reserves and supply uncertainties may continue affecting oil markets. Volatility could remain a long-term challenge.
3. **Acceleration Towards Peak Oil Dynamics:** Sustained high prices may reduce demand and accelerate the shift towards a future where global oil demand begins to decline.
4. **Need for Strategic Energy Reserves:** The crisis demonstrated the importance of maintaining larger strategic petroleum reserves to manage future disruptions.
5. **Push Towards Clean Energy:** Repeated disruptions have strengthened the case for diversification away from fossil fuels. Clean energy gains additional strategic importance.
6. **Economic Impact Beyond the Region:** Energy disruptions affected trade, inflation, and economic stability across many countries. The consequences extended far beyond West Asia.

Regional Realignments and a Changing Iran

1. **Erosion of U.S. Security Credibility:** GCC states felt inadequately protected during the conflict despite their strategic ties with Washington. This has weakened confidence in the U.S. security umbrella.
2. **Reassessment by Gulf States:** The GCC may reconsider its security arrangements and geopolitical alignments. Internal divisions, including the Saudi-Emirati rivalry, may complicate collective responses.
3. **Accommodation Driven by GCC Divisions:** Differences within the GCC, especially the Saudi-Emirati rivalry, may push some Gulf states to engage Iran individually rather than act collectively.
4. **Possible Weakening of Shia Militia Networks:** Iran's influence over Shia militias, particularly in Iraq, may weaken over time. This could allow stronger Arab and tribal political identities to re-emerge.
5. **Iran's Evolving Deterrence Strategy:** A section of Iran's leadership increasingly views control over the Strait of Hormuz as a stronger deterrent than nuclear ambiguity.
6. **Costs of Nuclear Confrontation:** Iran's nuclear strategy has imposed direct costs estimated at **\$100 billion**, while sanctions have multiplied the economic burden.

7. **Competing Narratives Within Iran:** The leadership presents the deal as proof that Iran resisted external pressure and preserved the regime. However, hardliners remain sceptical, while many citizens judge the agreement by its impact on prices, sanctions relief, and the risk of another war.
8. **Risk of Non-State Violence:** Weakening of Iran and its proxies may create space for militant and extremist organisations. Regional instability could continue through underground conflicts and proxy wars.

Implications for India

1. **Relief for Energy Supplies:** Reopening the Strait of Hormuz can improve the flow of oil and gas supplies to India. It can also reduce pressure on oil prices, inflation, and the rupee.
2. **Exposure of Energy Dependence:** The conflict highlighted India's dependence on West Asia, which supplies about **50% of its crude oil, 70% of LPG, and nearly 90% of LNG imports.**
3. **Revival of Chabahar Connectivity Plans:** A durable agreement and easing of sanctions can help India resume energy purchases from Iran and continue developing **Chabahar Port** and the **International North-South Transport Corridor (INSTC).**
4. **Need for Diplomatic Balancing:** India has maintained ties with the U.S., Israel, Iran, and Arab states. The crisis reinforced the importance of balancing these relationships while protecting national interests.
5. **Protection of Overseas Interests:** Stability in West Asia remains important because millions of Indians live and work in Gulf countries that were affected by the conflict.
6. **Trade and Economic Benefits:** A sustainable peace can ease disruptions in shipping and trade. However, normal traffic through the Strait may take weeks or months to fully recover.

Way Forward

1. **Sustain Political Negotiations:** Lasting peace requires continued dialogue on difficult issues such as Iran's nuclear programme, sanctions, regional security, and the Strait of Hormuz.
2. **Develop Creative Compromises:** Both sides need solutions that allow them to protect their core interests while claiming diplomatic success at home.
3. **Ensure Stable Energy Routes:** Countries must strengthen strategic reserves, diversify energy sources, and reduce dependence on vulnerable maritime chokepoints.
4. **Build Regional Security Mechanisms:** Greater cooperation among regional states is needed to reduce tensions and prevent future disruptions in West Asia.
5. **Address Iran's Economic Concerns:** Progress on sanctions relief, reconstruction, and economic recovery can strengthen support for the agreement within Iran.
6. **Prevent the Rise of Non-State Actors:** Regional powers must prevent militant groups and proxy networks from exploiting instability created by the conflict.
7. **Promote Strategic Autonomy:** Countries affected by the crisis, including India, should continue pursuing independent policies that safeguard their long-term economic and strategic interests.

Conclusion

The U.S.-Iran MoU provides an important opening for diplomacy, but it does not resolve the deeper disputes that caused the conflict. The negotiations will determine the future of sanctions, Iran's nuclear programme, and the Strait of Hormuz. Regardless of the final outcome, the conflict has already altered regional alignments, exposed vulnerabilities in global energy security, and reinforced the need for political solutions over military confrontation.

Question for practice:

Examine the significance of the U.S.-Iran deal and discuss its long-term implications for West Asia, the global economy, and India.

Source: The Hindu

India's Emergence as a Leading Supplier of Seafarers

Source: The post "India's Emergence as a Leading Supplier of Seafarers" has been created based on "Every fifth seafarer is now an Indian: How India's maritime workforce became dominated by non-officer crew", published in "Indian Express" on 18th June 2026.

UPSC Syllabus: GS 3 -Economy

Context: India's maritime workforce has expanded from **62,267 active seafarers in 2010** to more than **3.07 lakh in 2024**. Alongside this growth, the composition of Indian seafarers has shifted significantly towards **non-officer crew (ratings)**, making India one of the world's leading suppliers of maritime manpower.

Changing Composition of India's Seafaring Workforce

- Shift from Officers to Ratings:** The officer-to-rating ratio changed from **60:40 in 2010** to **35:65 in 2024**. This is significantly different from the global ratio of **45:55**.
- Rapid Growth of Nautical Workforce:** Engineering crew increased from **25,844** to **1,00,792** between 2010 and 2024. Nautical crew expanded from **36,423** to **2,07,109** during the same period.
- Expansion of Operational and Service Roles:** About **50% of non-engineering personnel** in 2024 worked as cooks, hospitality staff, cleaners, painters, cruise staff, wipers, and lookout personnel. Their share was less than **37%** in 2010.
- Rise in Skilled Ratings:** The number of **Bosuns** increased from **0** to **4,324**, and the number of **Able Seamen** increased from **708** to **16,568**.
- Decline in Officer-Level Share:** Personnel working as **third officers or above** declined from **46%** of nautical crew in 2010 to less than **20%** in 2024.

Significance for India

- Economic Importance:** India contributes nearly **17% of the global seafaring workforce**. Almost **one in every five seafarers globally is Indian**.
- Employment Generation:** Expansion of ratings has created large-scale employment opportunities for Indian youth.
- Global Maritime Presence:** Around **90% of Indian seafarers work on foreign-flagged vessels**, demonstrating international demand for Indian manpower.
- Strategic Relevance:** Indian seafarers are critical to global trade, energy transportation, and maritime supply chains.

Challenges

- 1. Skill Concentration in Lower-Ranked Jobs:** Increasing employment is concentrated in operational and service roles rather than highly skilled technical positions.
- 2. Vulnerability to Geopolitical Risks:** Large numbers of Indian seafarers work in conflict-prone regions such as the **Persian Gulf** and **Gulf of Oman**.
- 3. Dependence on Foreign-Flagged Vessels:** About **90%** of Indian seafarers are employed on foreign vessels, making them vulnerable to global market fluctuations.
- 4. Career Progression Constraints:** Ratings often face challenges in obtaining training, certification, and sea-time required for promotion to officer ranks.
- 5. Welfare and Safety Concerns:** Maritime conflicts, piracy threats, abandonment by shipowners, and uncertain working conditions affect seafarer welfare.

Way Forward

- 1. Promote Officer-Level Training:** Expand advanced nautical and marine engineering education to increase officer representation.
- 2. Strengthen Skill Upgradation Pathways:** Create structured mechanisms for ratings to progress into officer cadres through certification and training support.
- 3. Expand Maritime Education Infrastructure:** Improve capacity and quality of maritime academies and simulation-based training facilities.
- 4. Enhance Seafarer Welfare Mechanisms:** Strengthen insurance, legal protection, emergency evacuation, and grievance redressal systems.
- 5. Increase Indian Shipping Capacity:** Promote Indian-flagged vessels under initiatives such as the **Maritime India Vision 2030** to reduce dependence on foreign employers.
- 6. Improve Maritime Security Cooperation:** Strengthen diplomatic engagement and naval cooperation to safeguard Indian seafarers in strategic maritime regions.

Conclusion: India's rise as a major maritime manpower supplier reflects its growing role in the global shipping industry. However, the increasing dominance of ratings over officers presents challenges related to skill development, career progression, and strategic influence. A balanced approach focusing on officer training, workforce welfare, and maritime capacity building is essential for sustaining India's leadership in the global maritime sector.

Question: India has emerged as one of the largest suppliers of maritime manpower globally. Examine the changing composition of India's seafaring workforce. Discuss the challenges associated with this trend and suggest suitable measures to strengthen India's maritime workforce.

Source: [Indian Express](#)

Put Indian students' health at the centre of nation-building

Source: The post "Put Indian students' health at the centre of nation-building" has been created based on "Put Indian students' health at the centre of nation-building", published in "Indian Express" on 18th June 2026.

UPSC Syllabus: GS 2 -Economy

Context: India's aspiration of becoming a **Viksit Bharat** depends on the quality of its human capital. Physical fitness, mental well-being, healthy nutrition, and emotional resilience among students form the foundation of a productive workforce, demographic dividend, innovation ecosystem, and sporting excellence.

Importance of Student Health for Nation-Building

1. Foundation of Human Capital

- a. Healthy children perform better academically and develop stronger cognitive abilities.
- b. Good health enhances productivity and employability in later life.

2. Realisation of Demographic Dividend

- a. A healthy youth population is essential to convert India's demographic advantage into economic growth.
- b. Poor health outcomes can transform a demographic dividend into a demographic burden.

3. Improved Learning Outcomes: Adequate nutrition, sleep, and physical activity improve concentration, memory, and classroom performance.

4. Better Mental Health

- a. Emotional well-being reduces anxiety, stress, depression, and behavioural issues among students.
- b. Mentally healthy students are more resilient and socially adaptable.

5. Sporting and National Excellence: Regular physical activity contributes to fitness, discipline, and athletic performance, supporting India's sporting ambitions.

6. Long-Term Public Health Benefits: Healthy habits developed in childhood reduce the future burden of obesity, diabetes, cardiovascular diseases, and mental disorders.

Challenges

1. Rising Childhood Obesity: Increased consumption of junk food and ultra-processed foods is contributing to obesity and lifestyle diseases.

2. Excessive Screen Time: Growing dependence on smartphones and digital entertainment reduces physical activity and affects attention spans.

3. Sleep Deprivation: Academic pressure and excessive gadget use are leading to poor sleep quality among students.

4. Declining Physical Activity: Limited playgrounds, urban lifestyles, and exam-oriented education reduce opportunities for exercise and sports.

5. Mental Health Concerns: Academic competition, body shaming, social media pressure, and peer comparison contribute to stress and anxiety.

6. Inadequate Health-Focused School Ecosystem: Many schools lack structured programmes for nutrition, fitness, mental health counselling, and health education.

Way Forward

1. Integrate Health into School Curriculum: Institutionalise daily physical activity, yoga, sports, and health education within school schedules.

2. Promote Holistic Wellness Practices: Encourage yoga, meditation, pranayama, and mindfulness to improve self-control, focus, and emotional balance.

3. Improve Nutritional Environment: Ensure healthy canteen options, nutritious meals, and awareness regarding balanced diets.

4. Address Mental Health Systematically: Establish counselling services and regular mental health screening in schools.

5. Regulate Screen Usage: Promote digital literacy and healthy screen-time practices among students and parents.

6. Create Supportive School Culture

- a. Conduct awareness programmes against body shaming, bullying, and discrimination.

- b. Foster empathy, inclusiveness, and body positivity.

7. Strengthen Parent-School Collaboration: Sensitise parents regarding sleep, nutrition, physical activity, and the mental well-being of children.

Conclusion: A developed India cannot be built on unhealthy minds and bodies. Investing in student health through nutrition, physical fitness, mental well-being, and value-based education is an investment in India's future human capital. Placing children's health at the centre of public policy is essential for achieving the vision of **Viksit Bharat** and sustainable nation-building.

Question: Students' health is India's national capital." Discuss the importance of physical and mental well-being among school children for achieving the goals of Viksit Bharat. Examine the challenges and suggest measures to place student health at the centre of nation-building.

Source: [Indian Express](#)

Water Security is Central for a Viksit Bharat

UPSC Syllabus: Gs Paper 3- Indian economy and Infrastructure

Introduction

Water security is vital for human dignity, public health, agriculture, economic growth, and environmental sustainability. It is also a key requirement for achieving the vision of Viksit Bharat. India faces growing pressure on its water resources due to population growth, urbanisation, climate change, and limited freshwater availability. In recent years, the country has adopted a more integrated approach that connects drinking water, sanitation, conservation, river rejuvenation, and climate resilience within a single water security framework.

India's Water Security Challenge

1. **Limited Freshwater Resources:** India has nearly **18% of the world's population** but only about **4% of global freshwater resources**. This creates constant pressure on available water resources.
2. **Declining Water Availability:** Rising population has reduced per capita water availability significantly over time. Water stress already affects large sections of the population.
3. **Seasonal Rainfall Pattern:** Nearly **70% of annual rainfall occurs within three months**, making water availability highly uneven across seasons.
4. **Growing Urban Pressure:** Rapid urbanisation is increasing demand for drinking water and sanitation services. By 2050, an additional **416 million people** are expected to live in Indian cities.
5. **Climate-Related Risks:** Climate change is increasing the frequency of floods and droughts. Changing weather patterns are creating new challenges for water management.
6. **Economic Importance of Water:** Water-dependent sectors contribute roughly **half of India's economic value added** and employ nearly **70% of the workforce**, making water security critical for development.

Shift Towards Integrated Water Management

1. **From Fragmented to Holistic Planning:** Water challenges were earlier addressed through separate programmes. The focus has now shifted towards an integrated approach covering multiple dimensions of water management.
2. **Water as a National Priority:** Water is now treated as a shared national priority involving governments, departments, states, and local communities.
3. **Connected Water Ecosystem:** Drinking water, sanitation, groundwater recharge, river conservation, irrigation efficiency, wastewater reuse, and climate resilience are increasingly viewed as interconnected issues.
4. **Community Participation:** Public participation has become an important element of water conservation and management efforts. Community involvement is helping improve outcomes on the ground.
5. **Focus on Long-Term Resilience:** Investments in the water sector are being viewed as investments in national resilience rather than only developmental expenditure.

Key Pillars of India's Water Security Transformation

A. Jal Jeevan Mission

1. **Expansion of Household Tap Water:** Rural tap water coverage increased from about **3.23 crore households (17%)** at launch to more than **15.8 crore households**, covering over **81% of rural India**.
2. **Target of Universal Coverage:** The government is working towards achieving **100% rural tap water coverage by 2028**.
3. **Benefits for Women and Families:** Household water supply has helped save more than **5.5 crore person-hours daily**, allowing time to be used for education, livelihoods, childcare, and economic activities.
4. **Health and Economic Benefits:** Access to safe drinking water has reduced water-borne diseases and lowered **out-of-pocket health expenditure** for households. This has improved both public health and household financial security.

B. Swachh Bharat Mission (SBM)

1. **Behavioural Change and Public Participation:** The sanitation movement showed that behavioural change and public participation can be achieved on a large scale.
2. **Public Health Gains:** According to the **World Health Organisation**, SBM-Grameen helped avert more than **3 lakh diarrhoea deaths** between 2014 and October 2019.
3. **Dignity and Safety:** Household toilets improved dignity, privacy, and safety, particularly for rural women.

4. **Beyond Open Defecation-Free Status:** SBM-Grameen 2.0 focuses on sustainable solid and liquid waste management.

C. Water Conservation and Groundwater Recharge

1. **Jal Sanchay Jan Bhagidari Initiative:** More than **1.55 crore rainwater harvesting and groundwater recharge structures** had been created by **31 May 2026**.
2. **Improving Groundwater Conditions:** Assessments show better groundwater recharge and a reduction in over-exploited assessment units in several regions.
3. **Environmental Recovery:** Conservation efforts combined with community participation have helped reduce environmental stress.

D. River Rejuvenation and Water Infrastructure

1. **Ken-Betwa River Linking Project:** India's first major river interlinking project is progressing to provide water to the water-scarce Bundelkhand region.
2. **Namami Gange Programme:** The programme demonstrates that environmental restoration and development can progress together.
3. **Expansion of Sewage Treatment:** Over the past decade, **4,260 MLD** of sewage treatment capacity has been created.
4. **Improved Water Quality:** Biochemical Oxygen Demand reduced from **26 TPD in 2017** to **10.75 TPD in 2024**, while effluent discharge declined from **349 MLD** to **265.56 MLD**. Monitoring shows pH and dissolved oxygen levels now meet bathing criteria at all monitored locations.

Emerging Innovations and Best Practices

1. **Hybrid Annuity Model (HAM):** Under Namami Gange, wastewater projects use HAM to ensure long-term treatment performance and compliance with effluent standards.
2. **Performance-Based Service Delivery:** Models in Karnataka and Shimla link payments with service quality, efficiency, water supply continuity, and operational performance.
3. **24x7 Water Supply Initiatives:** Urban and rural projects have demonstrated that continuous and pressurised water supply can be achieved through better management systems.
4. **Water Reuse and Circular Economy:** Cities such as Chennai and Surat are expanding treated wastewater reuse, reducing pressure on freshwater resources.
5. **Digital and Data-Based Management:** Use of real-time monitoring, remote sensing, satellite imagery, weather forecasts, and water information systems is improving planning and resource management.

Way Forward

1. **Improve Water-Use Efficiency:** Greater efficiency is needed in water consumption across sectors to reduce pressure on limited resources.
2. **Promote Recycling and Reuse:** Expansion of wastewater treatment and reuse can support long-term water security.
3. **Strengthen Water Governance:** Better management, accountability, and coordination are needed across water institutions.
4. **Enhance Climate Resilience:** Water systems must be prepared to manage increasing flood and drought risks.
5. **Encourage Citizen Participation:** Long-term success will require sustained public involvement in conservation and water management efforts.

Conclusion

Water security is a critical pillar of Viksit Bharat. India's experience shows that drinking water supply, sanitation, groundwater recharge, river conservation, wastewater management, and climate resilience cannot be addressed separately. Sustained investment, community participation, and integrated water management are essential for securing water resources, improving quality of life, and building long-term national resilience.

Question for practice:

Discuss how India's integrated approach to drinking water, sanitation, water conservation, groundwater recharge, and river rejuvenation is strengthening water security and contributing to the vision of Viksit Bharat.

Source: [The Hindu](#)

Innovate or be Eaten: On India and an Innovative Ecosystem

UPSC Syllabus: Gs Paper 3- Science and Technology

Introduction

Innovation is becoming a key determinant of economic strength, national security, and technological sovereignty. As global competition in critical technologies intensifies, India must move beyond being a user of technology and become a creator of globally relevant solutions. The country's strong talent base, growing startup ecosystem, and expanding innovation infrastructure provide a solid foundation. However, achieving the vision of **Viksit Bharat** requires deeper technological capabilities, stronger innovation ecosystems, and sustained support for talent, capital, and research.

India's Emerging Innovation Potential

1. **Strong Talent and Leadership Presence:** Indian and Indian-origin professionals have demonstrated exceptional managerial and technical capabilities in leading some of the world's most advanced technology businesses. This shows India's ability to contribute to global innovation at the highest level.
2. **Bharat Innovates 2026 as a Showcase Platform:** Bharat Innovates 2026 in France demonstrated that globally competitive innovations can be developed in India through patient startup incubation and support in strategic sectors.

3. **Expansion of Innovation Participation:** The first innovation decade expanded participation through startups, incubators, digital public infrastructure, research missions, student hackathons, and new funding pathways.
4. **Need to Move Towards Innovation Depth:** Future progress should be measured by capabilities mastered, critical dependencies reduced, stronger participation in global value chains, and large-scale societal impact.

Institutional Architecture for Innovation

1. **Government-Led Innovation Framework:** India has developed a dedicated innovation ecosystem through initiatives such as **Startup India**, IndiaAI Mission, Anusandhan National Research Foundation (ANRF), Innovations for Defence Excellence (iDEX), Biotechnology Industry Research Assistance Council (BIRAC), Indian National Space Promotion and Authorization Centre (IN-SPACe), Semicon India, Atal Tinkering Labs, and the Research, Development and Innovation (RDI) Fund. These initiatives have made frontier technology a key part of national development.
2. **Role of Higher Education Institutions:** Institutions such as the **Indian Institutes of Technology (IITs) and the Indian Institute of Science (IISc)**, supported by the Ministry of Education, serve as important centres for deep-tech research, talent development, and startup incubation.
3. **Expansion of Innovation Participation:** Startups, incubators, digital public infrastructure, research missions, student hackathons, and new funding channels have widened participation in innovation across sectors.
4. **Foundation for the Next Innovation Phase:** The first innovation decade created the necessary platform for innovation growth. The next phase must focus on building deeper technological capabilities and reducing critical dependencies.

Opportunities for India in the Global Innovation Landscape

1. **Innovation as a Strategic Necessity:** Technology now influences a nation's position in trade, diplomacy, and security. Innovation can strengthen competitiveness, reduce vulnerabilities, and create capabilities that are difficult to replace.
2. **Emerging Opportunities in Deep Technologies:** While frontier AI and semiconductor leadership require enormous investments, significant opportunities remain in areas such as space exploration, defence, material sciences, clean energy, and digital infrastructure.
3. **Building Technologies the World Uses:** India has shown strength in adopting and adapting technology. The next opportunity lies in creating technologies, platforms, and systems that become globally relevant.
4. **Strategic Sovereignty Through Innovation:** Innovation can help India reduce technological dependence and strengthen its position in critical technology value chains without pursuing isolation.

5. **Global Collaboration as a Growth Multiplier:** Partnerships with like-minded countries can accelerate technological progress. The India-France Year of Innovation reflects collaboration based on complementary strengths and mutual benefit.
6. **India as a Global Innovation Laboratory:** India's scale and development challenges create opportunities to build solutions that can serve both domestic needs and global markets.

Challenges in Building a World-Class Innovation Ecosystem

1. **Limited Ability to Compete in Capital-Intensive Technologies:** Frontier sectors such as advanced AI and semiconductors require investments worth tens of billions of dollars, creating entry barriers for many countries.
2. **Need for a Stable Capital Environment:** Innovation requires predictable tax policies, fair business conditions, and venture capital that can support exploratory and high-risk ideas.
3. **Talent Retention Challenges:** India must ensure that highly skilled professionals see long-term opportunities within the country rather than seeking better prospects elsewhere.
4. **Quality of Life Constraints:** Clean air, urban green spaces, affordable housing, and reliable public transport remain important factors in attracting and retaining talent.
5. **Low Industrial R&D Intensity:** India's industrial research and development investment remains below international standards, limiting the creation of original technologies.
6. **Dependence on External Technologies:** Many critical technologies, standards, manufacturing processes, and supply-chain components remain outside India's control.
7. **Risks Associated with Artificial Intelligence:** AI can improve governance and diagnostics but may also disrupt employment, increase bias, and widen inequalities if not carefully managed.

Way Forward

1. **Shift from Technology Adoption to Technology Creation:** India must focus on owning critical intellectual property, scientific knowledge, design capabilities, manufacturing processes, standards, data, and customer access.
2. **Build Innovation Mastery in Priority Sectors:** Innovation efforts should focus on areas where India has strong domestic demand, talent advantages, strategic needs, and opportunities for global competitiveness.
3. **Use Policy Support in Emerging Sectors:** In early-stage sectors, government should create demand, absorb developmental risks, and support innovation through structured procurement and long-term investment.
4. **Strengthen Industry-Led Innovation:** As sectors mature, industry should lead through R&D investments, startup partnerships, strategic investments, and ecosystem development.

5. **Promote Startup-MSME-Industry Integration:** Large enterprises should integrate startups and MSMEs into supply chains and provide engineering expertise, quality systems, and market access.
6. **Develop Ecosystem-Based Innovation:** Success in sectors such as semiconductors and electric vehicles requires coordinated development of design, manufacturing, materials, software, financing, and customers.
7. **Pursue Strategic International Partnerships:** India should collaborate with trusted partners from a position of confidence to reach technological frontiers faster while preserving strategic sovereignty.
8. **Ensure Inclusive and Responsible Innovation:** AI adoption should create new opportunities, support reskilling and redeployment, and ensure that technological change benefits all sections of society.

Conclusion

India's innovation journey must move from participation to mastery. Success will depend on building original technologies, reducing critical dependencies, strengthening innovation ecosystems, and focusing on strategic sectors where India can create lasting advantages. By combining innovation, collaboration, and technological capability, India can emerge as a globally influential innovation power and advance the vision of **Viksit Bharat**.

Question for practice:

Evaluate India's potential to become a global innovation leader and discuss the key challenges and measures needed to build a world-class innovation ecosystem.

Source: [The Hindu](#)

India's Graduate Employability Challenge

Source: The post "India's Graduate Employability Challenge" has been created based on "India's Graduate Employability Challenge", published in "The Hindu" on 19th June 2026.

UPSC Syllabus: GS 3 -Economy

Context: India has experienced an unprecedented expansion in higher education over the last decade, resulting in a large increase in the number of graduates. However, job creation has not kept pace with the growth in the supply of graduates, leading to concerns regarding employability and graduate unemployment.

Reasons for the Employability Challenge

1. Growing Gap Between Graduate Supply and Job Creation

- a. The number of graduates, particularly engineering graduates, has increased rapidly while employment opportunities have grown at a slower pace.
- b. The IT sector, which was previously the largest recruiter of engineering graduates, has significantly reduced hiring.
- c. Although sectors such as banking, financial services, defence, and space technologies have expanded recruitment, they have not generated sufficient jobs to absorb the increasing number of graduates.
- d. Recent investments in semiconductors, advanced manufacturing, and technology sectors are largely capital-intensive and therefore create limited employment.

2. Impact of Technological Change and AI

- a. Artificial Intelligence is transforming skill requirements across industries.
- b. Employers increasingly expect graduates to work with AI systems, validate AI-generated outputs, and solve complex technological problems.
- c. Universities have not adapted their curricula quickly enough to meet changing industry demands.
- d. Consequently, many graduates enter the labour market with skills different from those required by employers.

3. Skill Mismatch

- a. Many graduates possess strong academic credentials but lack practical exposure to laboratories, manufacturing environments, teamwork, and real-world problem-solving.
- b. Employers often need to provide substantial additional training before graduates can contribute effectively.
- c. Industry-linked training programmes remain inadequate.

4. Manufacturing Not Generating Expected Employment

- a. Manufacturing is increasingly being transformed by automation, robotics, and Industry 4.0 technologies.
- b. Modern factories require fewer workers and supervisors even as production expands.
- c. As a result, manufacturing employment has not increased at the pace many expected.

5. Limited Innovation and R&D Opportunities

- a. India has traditionally focused more on manufacturing products designed elsewhere rather than creating its own technologies.
- b. The number of advanced research, design, and product-development jobs remains lower than the number of qualified graduates.

Measures Required

1. Industry and academia should collaborate closely in curriculum design, internships, and skill development.
2. Universities should place greater emphasis on practical training and industry exposure.
3. India should significantly increase investment in research and development.
4. Greater focus should be placed on indigenous design, innovation, and product development.
5. Entrepreneurship should be promoted to encourage graduates to become job creators.
6. Stronger support should be provided for startups, particularly deep-technology ventures.
7. Education, industrial, and employment policies should be aligned to meet future workforce requirements.

Conclusion: India is not merely facing a graduate surplus but a mismatch between education outcomes and labour market needs. Strengthening employability, promoting innovation, enhancing industry-academia collaboration, and encouraging entrepreneurship are essential for ensuring that economic growth translates into productive employment opportunities for graduates.

Question: Is India producing more graduates than the economy can absorb? Examine the reasons for the growing employability challenge and suggest measures to improve graduate employment outcomes.

Source: [The Hindu](#)

NFHS-6 reveals progress amid nutrition challenges

Source: The post “NFHS-6 reveals progress amid nutrition challenges” has been created based on “NFHS-6 reveals progress amid nutrition challenges”, published in “The Hindu” on 19th June 2026.

UPSC Syllabus: GS 3 -Economy

Context: Recently released National Family Health Survey (NFHS-6) presents a mixed picture of child nutrition in India. While several health and service-delivery indicators have improved, progress in reducing child malnutrition remains slow, highlighting the need for focused interventions.

Key Findings of NFHS-6

Improvements in Health and Nutrition Indicators

1. The prevalence of stunting among children declined from 35.5% to 29.3%, indicating an improvement in long-term nutritional status.
2. Institutional births increased to nearly 90%, ensuring safer deliveries and better maternal and child health outcomes.
3. About 91% of deliveries were attended by skilled medical personnel, improving access to professional healthcare during childbirth.
4. Around 95% of mothers received at least one antenatal care visit, reflecting better maternal healthcare coverage.
5. Full vaccination coverage among children aged 12–23 months increased to 87%, reducing the risk of vaccine-preventable diseases.
6. Improvements in healthcare access, immunisation, maternal education, housing, drinking water, and sanitation have contributed significantly to better child health outcomes.

Persistent Nutrition Challenges

1. Wasting among children has shown limited improvement, except in cases of severe wasting.
2. Only about 50% of newborns were breastfed within one hour of birth, despite its importance for child survival and nutrition.
3. Approximately 60% of children aged 6–8 months received solid or semi-solid foods as recommended.
4. Only 15% of children aged 6–23 months received an adequate and diversified diet.
5. Delayed initiation of complementary feeding after the annaprashana stage (6–12 months) continues to contribute to growth faltering among children.
6. Maternal time poverty limits the ability of mothers to provide adequate care and feeding to their children.
7. Although around 30% of women reported engaging in paid work, their unpaid domestic and caregiving responsibilities remain substantial.
8. Processed and packaged foods are becoming increasingly affordable and preferred, while nutritious foods such as pulses, fruits, vegetables, and nuts remain relatively expensive.

Measures Required

1. Strengthen Infant and Young Child Feeding

- a. Timely initiation of breastfeeding and appropriate complementary feeding practices should be actively promoted.
- b. Mothers should receive continuous counselling on nutrition and childcare during the first 1,000 days of a child’s life.

2. Empower Frontline Nutrition Workers

- a. ASHAs and Anganwadi Workers (AWWs) should be trained to improve anthropometric data collection, monitoring, and analysis.
- b. Nutritionists and data analysts should be recruited at the district level to strengthen nutrition planning and implementation.
- c. Digital tools should be used for nutrition counselling, growth monitoring, and programme evaluation.

3. Improve Behaviour Change Communication

- a. Culturally appropriate nutrition education should be provided to families and communities.
- b. Counselling should emphasize the use of locally available, affordable, and nutritious foods.

4. Promote Convergence and Community Action

- a. Child nutrition should be made a regular agenda item in Gram Sabha and Panchayat meetings.
- b. Investments should be made to improve drinking water facilities, sanitation infrastructure, and Anganwadi centres.

5. Address Gender Dimensions

- a. Childcare services and crèche facilities should be expanded to support working mothers.
- b. Men should be encouraged to participate actively in childcare and household responsibilities.
- c. Reducing women's unpaid care burden can help improve child feeding practices and overall child well-being.

Conclusion: NFHS-6 demonstrates significant improvements in healthcare service delivery and maternal-child health indicators. However, improvements in health services alone are insufficient to address India's persistent nutrition challenges. A preventive, community-based, and multi-sectoral approach is required to improve feeding practices, empower women, and strengthen nutrition-sensitive interventions. Sustained efforts in these areas are essential for achieving long-term improvements in child nutrition and human development.

Question: NFHS-6 reveals progress in maternal and child health indicators, yet child nutrition remains a major challenge in India." Examine the key findings of NFHS-6 and suggest measures to address persistent malnutrition.

Source: [The Hindu](#)

Atmanirbhar AI

UPSC Syllabus: Gs Paper 3- Infrastructure and Science and Technology

Introduction

Artificial Intelligence is emerging as a major source of economic power, technological leadership, and national security. Recent restrictions on access to advanced AI technologies have highlighted the risks of dependence on foreign platforms. For India, Atmanirbhar AI requires building Sovereign AI capabilities across the entire value chain—energy, infrastructure, compute, models, and applications. Strengthening these capabilities is essential for strategic autonomy, economic competitiveness, and achieving the vision of Viksit Bharat 2047.

Understanding Sovereign AI: The Foundation of Atmanirbhar AI

1. **Meaning of Sovereign AI:** Sovereign AI is a nation's ability to build, control, and govern its AI ecosystem across data, models, compute, infrastructure, and policy according to its own interests and laws.
2. **Strategic and Economic Importance:** AI is expected to contribute significantly to global economic growth. Countries with sovereign AI capabilities will retain economic value and strategic autonomy.
3. **Control of the AI Stack:** AI self-reliance depends on five connected layers—**Energy, Infrastructure, Compute, Models, and Applications**. Weakness in any layer increases dependence on external players.
4. **Importance for Critical Sectors:** Defence, healthcare, telecom, finance, energy, and governance are becoming AI-driven. Sovereign AI helps protect national interests in these sectors.
5. **Need for Indigenous Models:** India's linguistic and cultural diversity requires AI systems tailored to Indian languages, sectors, and regulations.

India's AI Ecosystem and Progress

1. **IndiaAI Mission:** The government approved the **IndiaAI Mission** with a budget of ₹**10,371.92 crore**. It aims to make India a global leader in Artificial Intelligence.
2. **Growing AI Ecosystem:** India's technology sector is projected to cross **USD 280 billion** in annual revenue. More than **6 million people** are employed in the technology and AI ecosystem.
3. **Startup and Enterprise Adoption:** India has around **1.8 lakh startups**, and nearly **89% of new startups** use AI. About **87% of enterprises** actively use AI solutions.
4. **Global AI Standing:** According to Stanford University's 2025 Global AI Vibrancy Tool, India ranks **3rd globally in AI competitiveness** and is among the leading countries in AI skills, capabilities, and policy development.
5. **Compute Infrastructure Expansion:** India has expanded AI infrastructure from an initial target of 10,000 GPUs (Graphics Processing Unit) to **38,000+ GPUs**, available at subsidised rates for researchers and startups.
6. **Semiconductor Development:** Domestic semiconductor manufacturing is expanding, while initiatives such as Semicon 2.0 and indigenous chip development aim to reduce external dependence.
7. **Data and Digital Infrastructure:** AIKosh hosts **5,500+ datasets** and **251 AI models** across 20 sectors. Large investments are also strengthening domestic data-centre capacity.

Government Initiatives Promoting Atmanirbhar AI

1. **Seven Pillars of IndiaAI Mission:** The mission focuses on compute infrastructure, application development, datasets, foundation models, future skills, startup financing, and safe AI adoption.
2. **Development of Foundation Models:** IndiaAI has selected multiple startups and research groups, including **Sarvam AI** and **BharatGen**, to develop indigenous AI models.

3. **BHASHINI and Language Inclusion:** BHASHINI supports **20 Indian languages** and uses AI-based translation and speech technologies to improve digital access.
4. **Centres of Excellence:** Centres of Excellence have been established for healthcare, agriculture, sustainable cities, and education to promote AI-based innovation.
5. **Talent Development:** The IndiaAI Future Skills programme supports **500 PhD scholars, 5,000 postgraduates, and 8,000 undergraduates** while expanding AI labs across the country.
6. **Startup and Innovation Support:** IndiaAI Startup Financing and global accelerator programmes support AI startups and help them expand internationally.
7. **AI Impact Summit and Create in India Mission:** The India AI Impact Summit highlighted India's commitment to AI innovation and indigenous AI development. The proposed Create in India Mission aims to strengthen existing capabilities and build a future-ready talent pipeline.

AI and National Security

1. **AI as a Force Multiplier:** AI strengthens intelligence, surveillance, autonomous systems, logistics, cyber defence, and command-and-control operations.
2. **Operational Use in Defence:** During **Operation Sindoor**, AI enabled real-time multi-source data fusion. Around **23 AI applications** supported operational activities.
3. **Defence AI Institutions:** The Defence AI Council (DAIC) and Defence AI Project Agency (DAIPA) guide AI adoption across the armed forces.
4. **Role of DRDO:** The **Defence Research and Development Organisation (DRDO)**, its **Centre for Artificial Intelligence and Robotics (CAIR)**, and **DRDO Young Scientists Laboratory–Artificial Intelligence (DYSL-AI)** have developed **more than 75 AI-based defence products** covering surveillance, automation, robotics, and cybersecurity.
5. **Innovation Ecosystem:** The **Innovations for Defence Excellence (iDEX)** framework and the Army AI Incubation Centre connect startups, academia, industry, and the armed forces to promote indigenous innovation.
6. **Trustworthy AI Framework:** The **Evaluating Trustworthy Artificial Intelligence (ETAI) Framework** promotes AI systems that are reliable, safe, secure, transparent, and fair for military applications.

AI for Governance, Inclusion and Public Services

1. **Healthcare Applications:** AI supports disease detection, medical imaging, telemedicine, and personalised healthcare services, especially in remote areas.
2. **Agriculture Support:** AI helps farmers through weather forecasting, pest detection, crop monitoring, and advisory services such as Kisan e-Mitra.

3. **Education and Skilling:** AI is being integrated into school education, DIKSHA, and programmes such as YUVAi to improve learning and future skills.
4. **Governance and Justice Delivery:** AI supports translation of judgments, automated filing, scheduling, and multilingual legal services under the e-Courts initiative.
5. **Weather and Disaster Management:** AI-based systems improve forecasting of rainfall, fog, lightning, cyclones, and climate-related events.
6. **Inclusive Development:** NITI Aayog's **AI for Inclusive Societal Development** report focuses on empowering **490 million informal workers** through frontier technologies.

Challenges to Achieving Atmanirbhar AI

1. **Dependence on Foreign Technologies:** India still relies on external technologies in advanced chips, AI hardware, and some critical infrastructure.
2. **Limited Advanced Semiconductor Capability:** Domestic manufacturing is expanding, but India remains behind leading countries in advanced semiconductor technologies.
3. **Low Private R&D Investment:** Many firms continue to depend on innovations developed elsewhere instead of investing heavily in frontier research.
4. **High Energy Requirements:** AI infrastructure requires continuous and reliable power, increasing the need for renewable and nuclear energy investments.
5. **Military Integration Gaps:** India lacks a unified inter-service data platform and advanced Joint All-Domain Command and Control capability.
6. **Ethical and Regulatory Concerns:** Questions remain regarding accountability, human oversight, privacy, bias mitigation, and autonomous weapon systems.

Way Forward

1. **Strengthen Sovereign Models:** Indigenous foundation models must be scaled for Indian languages, sectors, and governance needs.
2. **Expand Compute and Semiconductor Capacity:** Investments in GPUs, chips, edge computing, and secure cloud infrastructure should continue.
3. **Promote Research and Innovation:** Greater support is needed for R&D, academia-industry collaboration, and innovation-led entrepreneurship.
4. **Encourage Private Sector Participation:** Industry must invest more actively in frontier AI development and advanced technologies.
5. **Build Skilled Human Resources:** AI education, fellowships, skilling programmes, and regional AI labs should be expanded further.

6. **Adopt Balanced Regulation:** AI governance should protect citizens while encouraging innovation and responsible technology deployment.

Conclusion

Atmanirbhar AI is central to India's economic growth, technological sovereignty, and national security. Significant progress has been made through the IndiaAI Mission, indigenous AI models, compute infrastructure, defence innovation, and AI-enabled public services. However, long-term success will depend on strengthening every layer of the AI stack. As AI becomes a defining force of global power, building Sovereign AI capabilities will be essential for achieving Viksit Bharat 2047.

Question for practice:

Examine the significance of Atmanirbhar AI for India and discuss the key initiatives, challenges, and measures required to achieve Sovereign AI capabilities.

Source: [Businessline](#)

Restricting Telegram in India – A Wrong Message

UPSC Syllabus: Gs Paper 2- Governance

Introduction

The Government of India temporarily restricted Telegram ahead of the NEET-UG 2026 re-examination, citing concerns over paper leak claims, examination-related fraud, and misleading content circulating on the platform. The move included limiting access to Telegram and disabling its message-editing feature for a specified period. The decision triggered a wider debate on platform accountability, examination security, freedom of expression, proportionality of state action, and the effectiveness of broad digital restrictions in addressing examination-related misconduct.

Why Did the Government Restrict Telegram?

1. **Concerns Over Paper Leak Claims:** Authorities stated that several Telegram channels were claiming to possess leaked NEET question papers and offering access to such material for money. NTA maintained that no question paper existed outside the secured examination process.
2. **Monitoring of Suspected Fraud Networks:** NTA said it had monitored channels allegedly linked to organised cheating and cyber fraud networks. These channels were accused of spreading misleading claims and fraudulent offers.
3. **Temporary Restriction During the Examination Period:** The Ministry of Electronics and Information Technology directed that Telegram access be restricted in India until **22 June 2026**. The measure covered the re-examination period and its immediate aftermath.
4. **Disabling the Message Editing Feature:** Telegram was directed to disable editing of already-posted messages until **30 June 2026**. Authorities argued that this feature had allegedly been misused to create misleading proof of paper leaks.

5. **Previous Enforcement Measures Were Considered Inadequate:** Authorities stated that several channels, groups, and bots had already been removed. The restriction was imposed after these actions were considered insufficient to address the problem.
6. **Action Under the Information Technology Act:** The government issued the restriction under **Section 69A of the Information Technology Act, 2000**. NTA described the measures as limited in duration and linked to examination security.
7. **Law Enforcement Action Against Suspected Fraud:** The Indian Cyber Crime Coordination Centre (I4C) reportedly facilitated the removal of numerous channels, groups, and bots. Authorities also referred to arrests and investigations linked to alleged examination-related fraud.

Concerns Regarding Telegram's Role and Accountability

1. **Alleged Delay in Responding to Harmful Content:** Government officials alleged that Telegram failed to act swiftly against channels spreading misleading NEET-related content. This became a major reason for increased scrutiny of the platform.
2. **Large-Scale Circulation of Misleading Content:** Authorities claimed that several channels were allegedly promoting false paper leak claims and collecting money from candidates and families through such promises.
3. **Message Editing Feature Came Under Scrutiny:** NTA claimed that channel administrators could edit older messages while retaining original timestamps. According to the agency, this feature was allegedly used to create misleading evidence of paper leaks.
4. **Absence of a Local Accountability Structure:** Telegram does not have a local office or a senior executive responsible for India operations. This has raised concerns regarding regulatory engagement and accountability.
5. **Questions Over Compliance with Lawful Requests:** If Telegram delayed responding to lawful government requests, questions arise regarding whether it fulfilled its responsibilities as an intermediary under Indian law.
6. **Telegram's Defence on Content Removal:** Telegram stated that it had identified and disabled more than **900 URLs** linked to illegal NEET-related content. The platform maintained that action had already been taken against harmful material.

Criticism of the Restriction

1. **Platform-Wide Restriction May Not Eliminate Fraud:** Critics argue that restricting Telegram does not automatically stop examination fraud. Individuals involved in such activities can move to other platforms.
2. **Restrictions Can Be Circumvented:** Fraudsters can continue operating through VPN services and other technological tools. This raises doubts about the practical effectiveness of the restriction.

3. **Impact on Legitimate Users:** Millions of users rely on Telegram for educational, professional, business, and personal communication. These users face disruption despite having no connection to alleged fraud.
4. **Educational Activities Are Also Affected:** Many students and educators use Telegram for study material, discussion groups, and communication with coaching institutions. The restriction affects these legitimate uses.
5. **Collective Burden on Lawful Users:** Critics argue that the actions of a limited number of users should not result in restrictions affecting an entire platform and its user base.
6. **Constitutional Concerns Over Broad Restrictions:** The mere existence of unlawful activity on a platform does not automatically justify restricting a medium used lawfully by millions of people.
7. **Questions of Proportionality:** Critics contend that the response appears broader than the specific problem it seeks to address. They argue that less restrictive measures could have been explored.

Arguments Presented by Telegram and Digital Rights Groups

1. **Challenge Before the Court:** Telegram challenged the government order before a court in New Delhi. It argued that the restriction was unconstitutional and disproportionate.
2. **Free Speech Concerns:** Telegram described the order as an overbroad restriction on the fundamental right to freedom of speech and expression of its users.
3. **Impact on a Large User Base:** Telegram argued that the restriction affects more than **150 million users in India**. It warned against indiscriminate suspension of digital platforms.
4. **Effect on Students and Educators:** The company stated that large numbers of students and educators depend on Telegram for study resources and communication with coaching institutions.
5. **Questioning the Ban's Effectiveness:** Telegram founder Pavel Durov argued that the restriction affects users rather than those responsible for leaking examination material.
6. **Risk of Blanket Platform Shutdowns:** Telegram argued that allowing such restrictions to continue could enable broad suspension of digital platforms in future cases.
7. **Concerns Raised by Digital Rights Groups:** Rights advocates argued that the restriction lacks transparency and may undermine free expression in the digital space.
8. **Systemic Sources of Leaks Remain Unresolved:** Digital rights groups argued that examination leaks often originate from weaknesses within the examination system, including printing, logistics, and insider access.

Way Forward

1. **Target Fraud Networks Directly:** Authorities should intensify investigation and prosecution of individuals and organised groups involved in examination-related fraud.

2. **Remove Specific Channels and Accounts:** Action against identified channels, groups, bots, and accounts can address harmful activity without affecting legitimate users.
3. **Strengthen Question Paper Security:** Greater encryption and compartmentalisation of question papers can reduce opportunities for misuse and unauthorised access.
4. **Improve Printing and Distribution Controls:** Stronger monitoring of printing, storage, transportation, and distribution processes can improve examination security.
5. **Adopt Real-Time Tracking Systems:** Digital tracking of examination materials can help identify vulnerabilities and strengthen accountability.
6. **Strengthen Accountability Across the Examination Chain:** Better accountability mechanisms can help address recurring concerns regarding examination integrity.
7. **Ensure Timely Compliance Through Due Process:** Platforms should respond promptly to lawful requests, while governments should rely on transparent and proportionate measures when addressing digital concerns.

Conclusion

Protecting the integrity of public examinations is essential, but the response must remain proportionate, effective, and consistent with constitutional principles. Concerns regarding Telegram's accountability deserve scrutiny, yet broad restrictions also affect millions of legitimate users. A lasting solution lies in stronger examination security, targeted action against suspected fraud networks, platform compliance with lawful obligations, and measures that safeguard both public trust and lawful digital communication.

Question for practice:

Evaluate the rationale behind the temporary restriction on Telegram ahead of the NEET-UG 2026 re-examination and examine the concerns it raises regarding platform accountability, constitutional rights, and examination security.

Source: [Businessline](#)

India's Cheapest Power is Here, the Grid Must Catch Up

UPSC Syllabus: Gs Paper 3- Infrastructure

Introduction

India's clean energy transition has reached a crucial stage. Solar and wind power have become the country's cheapest sources of electricity, with more than **45 GW** added in **2025**. Combined with some of the world's lowest battery costs, firm clean power can now be supplied at around **₹3.5 per kWh**. However, transmission infrastructure has emerged as the main constraint. While renewable energy projects can be completed within **12-18 months**, transmission networks often take **3-5 years**, leaving large amounts of low-cost clean energy stranded.

Why Transmission Has Become a Critical Constraint

1. **Stranded Renewable Energy Capacity:** More than 50 GW of clean energy capacity is already stranded because transmission infrastructure is not available when projects are ready for operation.
2. **Faster Growth of Renewables than Transmission:** Renewable energy projects can be developed quickly, but transmission expansion is slowed by land acquisition, multiple approvals, and limits on creating new corridors.
3. **Rising Future Electricity Demand:** India currently has around 250 GW of renewable capacity and another 100 GW under construction. The country will require nearly 2,000 GW by 2050 to meet growing electricity demand and support industrial and transport electrification.
4. **Need for Massive Grid Expansion:** Meeting future renewable energy targets will require one of the world's largest transmission expansion programmes. Building new transmission lines alone will not be sufficient.
5. **Importance of Better Grid Utilisation:** India must expand transmission infrastructure while also making better use of the network that already exists. Both approaches are necessary for the energy transition.

Unlocking the Potential of the Existing Grid

1. **Battery Storage Improves Transmission Use:** Most renewable projects currently use their transmission connections for only about 25% of the time. Batteries can store electricity and supply it during evening and night demand, increasing utilisation by two to three times.
2. **Storage Can Unlock Additional Capacity:** Deploying batteries at renewable energy sites can enable the equivalent of around 400 GW of additional clean energy without building new transmission corridors.
3. **Using Underutilised Coal Transmission Networks:** Many old or high-cost coal plants, with nearly 100 GW of capacity, operate at low utilisation despite having valuable transmission connections.
4. **Sharing Coal-Based Grid Infrastructure:** Solar and wind projects located near coal plants can use available transmission capacity when coal units are not fully operating. This can support around 100 GW of additional clean energy.
5. **New Revenue from Existing Assets:** This approach gives renewable developers access to scarce grid connections while allowing coal plant owners to earn revenue from underused transmission assets.
6. **Leveraging Existing Transmission Substations:** Many existing substations can accommodate additional renewable energy connections without requiring major new infrastructure.
7. **Combining Substations with Storage:** Adding batteries at these locations can support peak demand and improve power flow management. This can enable nearly 100 GW of additional clean energy.

8. **Upgrading Existing Conductors:** Many transmission lines still use older conductors that limit electricity flow. Replacing them with high-temperature, low-sag conductors can nearly double transmission capacity using the same towers and rights-of-way.

Creating Clean-Energy Superhighways

1. **Higher Capacity Without New Land:** Advanced conductors can nearly double transmission capacity using the same towers and rights-of-way, avoiding the need for additional land acquisition.
2. **Combining Multiple Grid Solutions:** Storage systems, shared transmission connections, existing substations, and reconductoring can work together to maximise the value of existing infrastructure.
3. **Potential to Unlock Over 1,000 GW:** These measures can collectively unlock more than 1,000 GW of clean energy within the current transmission footprint.
4. **Faster Deployment Timeline:** Most of these upgrades can be implemented within months rather than years, making them much faster than building entirely new transmission corridors.
5. **Fewer Regulatory Barriers:** Grid optimisation requires minimal permitting and fewer approvals compared to developing new transmission routes.
6. **Supporting Renewable Expansion During Grid Build-Out:** Existing grid upgrades allow new renewable projects to move forward while larger transmission projects are still being developed.
7. **Lower Cost of Grid Usage:** Better utilisation of existing assets can improve efficiency and reduce the average cost of using transmission infrastructure.
8. **Easier Renewable Energy Siting:** Locating projects near coal plants, renewable energy hubs, and substations can reduce land-related challenges while improving grid access.

Way Forward

1. **Expand Transmission Alongside Optimisation:** India must continue building new transmission infrastructure while simultaneously upgrading and optimising the existing grid.
2. **Future-Proof New Transmission Projects:** New transmission lines should be designed with advanced conductors and integrated storage to maximise long-term capacity.
3. **Higher Power Transfer from New Infrastructure:** Transmission systems built with advanced technologies can carry four to five times more clean power for a modest additional cost.
4. **Large Planned Grid Investments:** India plans to expand its transmission network by around 40% over the next decade through investments exceeding \$100 billion.
5. **Implement Storage-Linked Grid Access:** National regulations already support better use of grid connections through storage integration. States need to expand and implement these provisions.

- 6. Promote Advanced Transmission Technologies:** Procurement and regulatory frameworks should encourage technologies that increase capacity without requiring new corridors.
- 7. Develop Renewable Energy Zones:** Coordinated planning of renewable energy zones and transmission corridors can reduce delays related to site selection and infrastructure development.
- 8. Support Industrial Demand for Reliable Power:** Efficient transmission networks are essential to provide dependable electricity to sectors such as steel, aluminium, cement, chemicals, and data centres.

Conclusion

India's renewable energy growth now depends as much on transmission capacity as on power generation. Upgrading existing grid infrastructure through storage, shared transmission use, and advanced conductors can unlock over **1,000 GW** of clean energy. Alongside strategic grid expansion, maximising the utilisation of existing networks will be critical for a reliable, affordable, and low-carbon energy future.

Question for practice:

Examine how transmission constraints are affecting India's clean energy transition and discuss the measures proposed to unlock the full potential of renewable energy through grid optimisation and modernisation.

Source: [The Hindu](#)

Regulating Tech Platforms

UPSC Syllabus: Gs Paper 3- Indian economy and Infrastructure And Gs Paper 2- Governance

Introduction

India's digital economy has moved beyond traditional banking channels, with financial activities increasingly taking place through large digital platforms and embedded payment ecosystems. These platforms now influence customer engagement, transaction flows, merchant access, and financial product discovery at a massive scale. As their role in shaping financial behaviour expands, the Reserve Bank of India is examining whether regulatory oversight should increasingly focus on systemic influence and ecosystem control rather than only on entities holding banking licences.

Evolution of the Digital Economy and Shift in Economic Power

- 1. Financial Activity Moves Beyond Banks:** A growing share of financial activity now originates within digital platforms used for shopping, communication, transportation, subscriptions, and business operations rather than traditional banking channels.
- 2. Platforms Own Customer Relationships:** The regulated financial institution often remains in the background, while platforms control the direct relationship with consumers and merchants.
- 3. Shift in Economic Influence:** Historically, banks controlled deposits, underwriting, and transaction infrastructure. Today, platforms increasingly control user engagement, transaction flows, merchant access, behavioural data, and financial discovery.

4. **Control Over Financial Choices:** Platforms often determine which payment methods consumers see, which financial products merchants access, and how digital economic interactions are organised.
5. **Platforms as Financial Gateways:** Digital platforms are no longer viewed merely as software interfaces. They increasingly function as important gateways through which financial services are accessed.

Why Are Regulators Concerned?

1. **Ecosystem Control Creates Systemic Importance:** Systemic importance in the digital economy can arise from ecosystem control rather than balance-sheet size alone.
2. **Concentration of Data:** Large platforms accumulate significant volumes of customer and transaction data, increasing their influence over financial behaviour.
3. **Transaction Dependency Risks:** Consumers and merchants increasingly depend on a few dominant platforms for financial interactions, creating concentration risks.
4. **Operational Centralisation:** A disruption at a major platform can affect large numbers of users simultaneously because financial activities are concentrated within a few ecosystems.
5. **Cyber and Governance Risks:** Cyber incidents, governance failures, or operational disruptions can impact millions of consumers and merchants even when the platform is not a bank.
6. **Changing Nature of Systemic Risk:** Traditional financial risks were linked to leverage and balance sheets. Digital-era risks increasingly arise from data concentration, ecosystem influence, and operational dependency.
7. **Impact on Traditional Banks:** Tighter oversight of platforms could reduce the dominance of digital ecosystems and help restore balance between banks and platforms.

RBI's Emerging Regulatory Approach

1. **Focus on Financial Behaviour:** The RBI is increasingly concerned with who controls financial behaviour at scale rather than simply who holds a banking licence.
2. **Expanding the Regulatory Perimeter:** Regulatory attention is moving towards entities that exert significant influence over financial activity, regardless of their legal classification.
3. **Global Regulatory Alignment:** Regulators in the United States and Europe are also reassessing whether large technology ecosystems should remain outside prudential-style oversight.
4. **Technology Platforms as Infrastructure:** Payment ecosystems, super-apps, and embedded finance platforms are increasingly viewed as strategically important financial infrastructure.
5. **Systemic Influence as a Regulatory Standard:** RBI's evolving approach suggests that future oversight may increasingly be based on systemic influence rather than institutional classification.

Technology-Driven Transformation of Lending

1. **APIs Enable Real-Time Connectivity:** Application Programming Interfaces (APIs) allow secure and real-time communication among banks, fintechs, Account Aggregators, payment gateways, bureaus, and fraud monitoring systems.
2. **Faster Access to Financial Information:** Lenders can access bank transactions, GST records, cash-flow data, repayment behaviour, and identity verification within seconds.
3. **Role of Digital Public Infrastructure:** Aadhaar-based eKYC, UPI, Account Aggregators, DigiLocker, and OCEN support faster and more inclusive lending ecosystems.
4. **Consent-Based Data Sharing:** The Account Aggregator framework enables lenders to access financial information with customer consent and assess borrower behaviour dynamically.
5. **Moving Beyond Traditional Scorecards:** Real-time financial information allows lenders to evaluate borrowers using current behavioural and transactional data rather than relying only on static reports.

Modern Lending Platforms, Risk Management and Data Governance

1. **Limitations of Legacy Systems:** Many traditional systems were designed for batch processing and struggle to support high-volume and low-latency credit decisions.
2. **Features of Modern Lending Platforms:** Modern platforms support cloud-native architecture, real-time analytics, automated workflows, and AI-driven decision-making.
3. **Continuous Risk Monitoring:** Institutions can continuously monitor borrower risk instead of relying only on one-time assessments during loan origination.
4. **Early Detection of Stress Signals:** Real-time access to data helps identify cash-flow stress, sudden business declines, unusual repayment patterns, and potential fraud risks.
5. **Improved MSME Lending:** Real-time visibility into borrower behaviour can strengthen portfolio quality in sectors such as MSME lending where financial conditions change rapidly.
6. **Importance of Data Governance:** Real-time systems process large volumes of sensitive financial and personal information, making strong governance essential.
7. **RBI's Digital Lending and Cybersecurity Expectations:** RBI requires strict oversight of customer data, outsourcing arrangements, and technology infrastructure through its digital lending and cybersecurity frameworks.
8. **Data Localisation and Accountability:** Banks and regulated entities must ensure that banking and payment system data is stored and processed within India while maintaining confidentiality, integrity, availability, auditability, and control.

Conclusion

India's financial landscape is increasingly being shaped by digital platforms that influence economic activity at scale. The regulatory focus is gradually shifting from traditional institutional boundaries to ecosystem-level importance and market influence. At the same time, secure digital infrastructure, real-time lending systems, and responsible data governance will remain critical for ensuring financial stability and trust.

Question for practice:

Discuss the growing role of digital platforms as financial gateways and examine why the RBI is considering a broader regulatory approach for technology-driven financial ecosystems in India.

Source: [Businessline](#)

Moving from drone purchases to drone partnerships

Source: The post "Moving from drone purchases to drone partnerships" has been created based on "Moving from drone purchases to drone partnerships", published in "The Hindu" on 22nd June 2026.

UPSC Syllabus: GS-3- Science & Technology

Context: India has announced a ₹2 billion drone procurement programme for domestic manufacturers. While this supports indigenous drone production, experts argue that long-term military effectiveness requires a shift from one-time drone purchases to collaborative drone partnerships that ensure continuous upgrades, maintenance, and innovation.

Drones importance for India

1. Drones offer a cost-effective solution for modern military operations.
2. Small tactical drones are significantly cheaper than conventional platforms such as tanks and fighter jets.
3. They are useful for surveillance, reconnaissance, and precision strikes.
4. The Russia-Ukraine war demonstrated the extensive military utility of drones.
5. Commercially available drones can be modified for military purposes at relatively low cost.
6. Innovation in civilian drone technology creates a large pool of technology and expertise that can be adapted for defence use.

Economic and strategic advantages of drones

1. India can achieve military objectives at lower costs through drone deployment.
2. Continuous technological advancements make drones increasingly capable.
3. The development of the civilian drone ecosystem strengthens defence innovation.
4. Indigenous manufacturing reduces dependence on imports and strengthens self-reliance.

Challenges in drone procurement

1. Drone technology evolves rapidly, making platforms obsolete quickly.
2. New threats such as electronic warfare (EW) can reduce the effectiveness of existing drones.
3. Frequent software and hardware upgrades are required to maintain operational relevance.
4. Traditional procurement systems are often slow and unsuitable for technologies that evolve continuously.

Limitations of the current procurement framework

1. Under the Defence Acquisition Procedure (DAP), procurement follows a "buy-and-use" model.
2. The DAP includes provisions for maintenance, repairs, and upgrades, but these are often insufficient for rapidly evolving drone systems.

3. The framework largely assumes that requirements remain stable over time.
4. Such an approach is not suitable for drone technologies that require constant innovation and adaptation.

Need to move from purchases to partnerships

1. Procurement should focus on long-term service contracts rather than one-time acquisitions.
2. Partnerships can ensure regular maintenance, software updates, and technological improvements.
3. Armed forces can benefit from predictable costs and assured capability upgrades.
4. Continuous collaboration between manufacturers and the military enables faster adaptation to emerging threats.
5. Such arrangements encourage innovation and strengthen the domestic drone ecosystem.

Institutional requirements

1. Existing procurement frameworks should be modified to support long-term contracts.
2. Defence organisations need mechanisms for continuous interaction with private drone companies.
3. India's drone industry still requires substantial public investment to reach scale.
4. Political commitment is necessary to transform procurement practices from transactional purchases to strategic partnerships.

Conclusion: India's growing drone ecosystem provides an opportunity to enhance military capabilities in a cost-effective manner. However, the rapid pace of technological change demands a shift from one-time procurement to long-term partnerships that ensure continuous innovation, upgrades, and operational effectiveness. Such a transition will strengthen both national security and the domestic drone industry.

Question: India should move from drone purchases to drone partnerships." Discuss the rationale behind this shift and examine the challenges associated with drone procurement and innovation in India.

Source: [The Hindu](#)

Reforming gold trade

Source: The post "Reforming gold trade" has been created based on "Reforming gold trade", published in "Indian Express" on 22nd June 2026.

UPSC Syllabus: GS 3 -Economy

Context: Gold imports exert pressure on India's current account deficit and the rupee. In response to concerns over rising gold imports, several Asset Management Companies (AMCs) have imposed curbs on investments in Gold ETFs and gold fund-of-funds. However, such restrictions may be counterproductive from a macroeconomic perspective.

Reason behind curbs on Gold ETFs may be ineffective

1. **Gold demand is driven by deep-rooted factors.**
 - a. Indian households purchase gold due to cultural traditions, social customs, and its role as a store of value.
 - b. Therefore, restricting ETF investments is unlikely to significantly reduce overall demand for gold.
2. **Gold ETFs provide a transparent and regulated investment avenue.**
 - a. Gold ETFs are subject to regulatory oversight and taxation.
 - b. They offer investors a safer alternative to jewellery, bars, coins, and unregulated digital gold products.
3. **Restrictions can lead to ETF mispricing.**

- a. Large investors play an important role in aligning ETF market prices with their Net Asset Value (NAV) through arbitrage.
 - b. Restrictions on direct purchases from AMCs may widen premiums and discounts, resulting in inefficient price discovery and speculation.
4. **Gold ETFs contribute only a small share of total gold demand.**
- a. Gold ETF demand was less than 20 tonnes in the January–March quarter of 2026.
 - b. In comparison, demand for gold bars and coins reached 62 tonnes, while jewellery demand stood at 66 tonnes.
 - c. Thus, physical gold demand is the primary driver of rising imports.
5. **ETF demand is already moderating.**
- a. Falling gold prices led to net outflows from Gold ETFs in May 2026 after a prolonged period of inflows.
 - b. This suggests that market forces were already reducing ETF demand.

Way Forward

1. The government should focus on reducing demand for physical gold rather than restricting regulated financial products.
2. Measures should be taken to mobilise and recycle the large stock of gold held by households.
3. Greater promotion of financial instruments linked to gold can reduce reliance on physical gold imports.

Conclusion: Restricting Gold ETFs may distort markets without significantly reducing gold imports. A more effective strategy would be to encourage investment through regulated financial channels and promote recycling of India's vast physical gold holdings to ease pressure on imports and the rupee.

Question: Restricting investments in Gold ETFs is not an effective solution to India's rising gold import bill. Examine.

Source: [Business Line](#)

Normative Shift in Fiscal Federalism

UPSC Syllabus: Gs Paper 2- Federalism

Introduction

Article 280 provides for the Finance Commission, whose role has traditionally been interpreted in equalisation terms. Fiscal transfers were largely designed to reduce differences in fiscal capacity and support balanced regional development across States. The **Sixteenth Finance Commission** marks an **important shift by introducing contribution to national GDP as a criterion for horizontal devolution**. This has triggered a debate on whether fiscal transfers should primarily support weaker States or increasingly reward economic performance, fiscal discipline, and growth contribution.

Equalisation as the Traditional Foundation of Fiscal Federalism

1. **Constitutional Role of the Finance Commission:** The Finance Commission was designed to address fiscal imbalances and regional disparities among States. Its objective was to ensure reasonably comparable public services at comparable levels of taxation.

2. **Equalisation as the Guiding Principle:** Equalisation was viewed as the core principle of federal transfers. It aimed to compensate States facing fiscal disabilities and lower revenue-raising capacity.
3. **Use of Need-Based Devolution Criteria: Income distance, fiscal disability, infrastructural deficits, and demographic disadvantages** were important criteria in horizontal devolution. These factors directed larger transfers towards weaker States.
4. **Redistributive Justice in Federal Transfers:** Successive Finance Commissions and the Planning Commission treated transfers as tools for reducing inequalities. The focus remained on correcting differences in fiscal capacity and expenditure needs.
5. **Lakdawala Approach to Regional Development:** Regional planning viewed transfers as instruments for reducing spatial inequalities. The objective was not to reward existing economic strength but to support lagging regions.
6. **Limited Role of Performance Criteria:** Factors such as tax effort and fiscal discipline were gradually introduced from the Tenth Finance Commission onwards. However, equalisation remained the dominant principle.
7. **Support to Weaker States:** This framework particularly benefited economically weaker and infrastructurally disadvantaged States, including many northern and north-eastern States.

Emergence of Performance-Oriented Fiscal Federalism

1. **Introduction of GDP Contribution Criterion:** The Sixteenth Finance Commission introduced **contribution to national GDP** as a criterion in horizontal devolution. It carries a **10% weight** in the inter-se distribution formula.
2. **Recognition of Economic Contribution:** The rationale is that economically advanced States contribute significantly to national growth. Therefore, their contribution should be recognised in the transfer framework.
3. **Shift from Pure Equalisation:** The new criterion moves beyond a purely redistributive approach. It introduces a stronger link between transfers and economic performance.
4. **Replacement of Earlier Performance Measure:** Contribution to GDP replaced the earlier tax and fiscal effort criterion. This represents a significant change in the design of horizontal devolution.
5. **Retention of Vertical Devolution Share:** The Commission retained the States' share at **41% of the divisible pool**. The Union Budget 2026–27 accepted this recommendation and provided **₹1.4 lakh crore** as Finance Commission grants.
6. **Move Towards Competitive Federalism:** The new framework gives greater importance to growth and productivity. This reflects a gradual shift from equalisation-oriented federalism towards competitive federalism.

Challenges, Contradictions and Policy Concerns in the New Approach

1. **Dual Treatment of Income:** Income now enters the formula in two opposite ways. Income distance benefits poorer States, while GDP contribution benefits richer States.
2. **Weakening of Equalisation Logic:** The same economic variable is used both as a measure of disadvantage and as a reward for economic strength. This creates a conceptual inconsistency within the devolution formula.
3. **Impact on Distribution of Transfers:** Middle-income States may benefit from this dual approach. Poorer States may lose because they have both lower income and lower contribution to national output.
4. **Discontinuation of Revenue Deficit Grants:** The Commission decided not to continue **Revenue Deficit Grants (RDGs)**. The decision was based on the view that such grants may create dependence and weaken fiscal discipline.
5. **Limitations of Aggregate Fiscal Estimates:** Aggregate state surpluses may not reflect the financial difficulties of hill and north-eastern States, which face high service delivery costs and weak revenue bases.
6. **Growing Role of Cesses and Surcharges:** States receive **41% of the divisible pool**, but cesses and surcharges are excluded from sharing. As their use increases, the effective transfer to States is estimated at only **29–30% of gross tax revenue**.
7. **Difficulty in Assessing State Finances:** Variations in reporting debt, subsidies, and off-budget liabilities make fiscal comparisons difficult. As a result, claims about fiscal discipline may not always reflect the actual situation.

Impact on Less-Developed States and Regional Equity

1. **Reduced Redistributive Support:** Greater emphasis on GDP contribution may reduce the relative share of poorer States in horizontal devolution. Estimates suggested that the eight poorest States could receive about **₹14 lakh crore less** during the award period than under the earlier framework.
2. **Pressure on Developmental Expenditure:** Lower transfers may affect spending on **infrastructure, health, education, irrigation, and urban development**. These sectors are important for long-term transformation.
3. **Greater Burden on Public Investment:** Less-developed States depend heavily on transfers and borrowings for development. Reduced fiscal support may limit their ability to sustain public investment.
4. **Challenges for Structural Transformation:** Many poorer States still face low industrialisation, limited urbanisation, and weak investment. Reduced support may slow their economic transformation.
5. **Widening Regional Disparities:** The shift from equalisation towards performance-based transfers may increase differences between developed and less-developed States.

6. **Higher Fiscal Stress on Poorer States:** The withdrawal of Revenue Deficit Grants may create additional pressure on States with weak tax bases and high developmental expenditure needs.

Debate on the Future Direction of Fiscal Federalism

1. **Equity versus Performance Debate:** The central question is whether tax devolution should prioritise correcting inequalities or rewarding economic contribution. The Sixteenth Finance Commission has intensified this debate.
2. **Need to Protect Equalisation Objectives:** Equalisation seeks to ensure that citizens receive basic public services regardless of their State's fiscal capacity. This remains a key constitutional objective.
3. **Need to Protect the Divisible Pool:** The growing use of cesses and surcharges reduces the shareable tax pool. This weakens the Finance Commission's role in correcting vertical imbalances.
4. **Need for Better Incentive Design:** Experience shows that incentives linked to fiscal improvement can work. Better-designed conditions may be more effective than complete withdrawal of support.
5. **Importance of Fiscal Transparency:** Stronger fiscal coordination requires comparable and reliable state-level data. Transparency is essential for assessing solvency, debt, subsidies, and liabilities.
6. **Unresolved Issues in the Federal Framework:** Local body grants, state finance commission reports, fiscal transparency, and the divisible pool remain areas requiring further attention.

Conclusion

The Sixteenth Finance Commission marks a shift from **equalisation-oriented fiscal federalism** towards greater recognition of **economic performance and growth contribution**. While efficiency and fiscal discipline remain important, significant inter-state disparities continue to require redistributive support. The key challenge is to balance growth incentives with regional equity while preserving the constitutional vision of cooperative and inclusive federalism.

Question for practice:

Evaluate the shift from equalisation-based fiscal federalism to performance-oriented devolution under the Sixteenth Finance Commission and its impact on inter-State equity.

Source: [BusinessLine](#)

Needed, a More Equitable Intellectual Property Order

UPSC Syllabus: Gs Paper 3- Indian economy

Introduction

The U.S. decision to initiate a **Section 301 investigation** into Vietnam's intellectual property (IP) framework has revived debate on the role of IP in international trade. Vietnam's designation as a "**Priority Foreign Country**" and India's continued presence on the **USTR Priority Watch List** have raised questions about how

IP compliance is assessed. The discussion now extends beyond enforcement to issues of fairness, consistency, traditional knowledge, and benefit-sharing.

USTR's IP Monitoring and Enforcement Framework

1. **Office of the United States Trade Representative (USTR):** The USTR is the U.S. agency responsible for trade policy and trade negotiations. It also monitors IP protection and enforcement practices in trading partner countries.
2. **Special 301 Report:** The USTR uses the Special 301 Report to assess IP protection and enforcement. Countries with serious concerns may face closer scrutiny.
3. **Priority Foreign Country Designation:** Vietnam was identified as a “**Priority Foreign Country**” in the **2026 Special 301 Report**. This designation reflected unresolved concerns regarding IP protection and enforcement.
4. **Priority Watch List:** India remains on the **USTR Priority Watch List** along with several developing economies. This reflects long-standing concerns raised by the United States on aspects of IP protection and enforcement.
5. **Section 301 Investigation Mechanism:** Section 301 allows the USTR to investigate foreign practices that may be unreasonable, discriminatory, or burdensome to U.S. commerce. Such investigations can lead to trade actions.

Vietnam Investigation and Questions of Fairness

1. **Reasons for Vietnam's Identification:** The USTR cited weak enforcement against **online piracy, counterfeiting, inadequate border enforcement, limited action against unlicensed software use, and lack of criminal measures against cable and satellite signal theft.**
2. **Previous Efforts to Resolve Concerns:** The United States had earlier addressed these issues through proposed **IP Work Plans in 2020 and 2023**. The concerns were also discussed during negotiations on reciprocal and balanced trade.
3. **Improvement in Enforcement Record:** Administrative enforcement violations involving IP-infringing goods and goods of unknown origin or inferior quality in Vietnam declined by **50% in 2025 compared to 2024.**
4. **Investigation Process and Timeline:** The USTR initiated the Section 301 investigation on **May 29, 2026** and requested consultations with Vietnam. A determination is generally required within **six months**, with a possible extension of **three months.**
5. **Potential Trade Measures:** Interested parties may submit comments on possible **tariff and non-tariff actions.** This shows how IP-related concerns can directly affect trade relations.

Consistency in Global IP Enforcement

1. **Legitimate Need for Enforcement:** Piracy, counterfeiting, and infringement remain genuine concerns. Effective enforcement continues to be an important part of the IP system.

2. **Uneven Application of Standards:** The continued focus on developing countries has raised questions about whether IP enforcement standards are applied equally across countries.
3. **Need for Equal Accountability:** Accountability should apply to all countries and not only to developing economies.
4. **Implications for Trade Governance:** Since IP assessments can influence trade measures, the credibility of the system depends on transparency and consistency in evaluation.

Traditional Knowledge, Genetic Resources and the WIPO Treaty

1. **World Intellectual Property Organization (WIPO):** The WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge (GRTK) marks an important step towards establishing mandatory international disclosure requirements for patent applicants. It aims to prevent biopiracy and ensure fair access and benefit-sharing.
2. **New WIPO Treaty:** The **WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge** seeks to address concerns relating to traditional knowledge and genetic resources.
3. **Disclosure Requirements:** The treaty introduces disclosure requirements regarding the origin of genetic resources and associated traditional knowledge. This aims to improve transparency in patent systems.
4. **Addressing Misappropriation:** The treaty responds to concerns regarding the misuse of genetic resources and traditional knowledge. It broadens the discussion beyond conventional infringement issues.
5. **Expanding the Scope of Scrutiny:** Scrutiny should also cover misappropriation of traditional knowledge and genetic resources.
6. **Link with Global IP Governance:** The treaty highlights that IP governance is not only about protecting rights holders but also about ensuring transparency and fairness in the use of knowledge and resources.

India's Concerns and the Need for a Balanced IP Regime

1. **Legal Framework for Intellectual Property Rights and TRIPS Compliance:** India's intellectual property regime is governed by the **Patents Act, 1970, Copyright Act, 1957, Trade Marks Act, 1999**, and the **Geographical Indications of Goods (Registration and Protection) Act, 1999**. India has aligned these laws with the **TRIPS Agreement** while retaining safeguards such as **compulsory licensing under the Patents Act, 1970** to balance intellectual property protection with access to essential goods and medicines.
2. **Concerns Regarding Biopiracy:** India has long raised concerns about the commercial use of biological resources and traditional knowledge without proper acknowledgement.
3. **Prior Informed Consent and Benefit-Sharing:** Concerns arise when resources and knowledge are used without prior informed consent or equitable benefit-sharing arrangements.

4. **Accountability of Institutions and Corporations:** Questions remain regarding the accountability of research institutions, corporations, and innovation systems when inventions rely on resources and knowledge originating in developing countries.
5. **Beyond Private Intellectual Property Rights:** The IP system should not be viewed only through the protection of private rights. Broader concerns also require attention.
6. **Protection of Community Knowledge Systems:** A balanced framework should support **fairness, transparency, biodiversity conservation, benefit-sharing**, and the protection of **community-held knowledge systems**.

Conclusion

The Vietnam investigation highlights the need for a more balanced intellectual property system. Effective action against piracy and infringement remains important, but equal attention is also needed for traditional knowledge, genetic resources, and benefit-sharing. As the WIPO treaty moves towards implementation, global IP governance should promote fairness, transparency, accountability, benefit-sharing, and consistent standards across countries.

Question for practice:

Discuss the need for a more equitable intellectual property order in the context of the USTR's investigation into Vietnam and growing concerns over the protection of traditional knowledge and genetic resources.

Source: [Businessline](#)

Western Ghats ESA: Conservation Plan and State Opposition

Source: The post “**Western Ghats ESA: Conservation Plan and State Opposition**” has been created based on “**Western Ghats ESA: Conservation Plan and State Opposition**”, published in “Indian Express” on 23rd June 2026.

UPSC Syllabus: GS-2- Governance

Context: The Western Ghats, stretching over 1,500 km across six states, are one of the world's eight hottest biodiversity hotspots. To balance conservation and development, the government has proposed the notification of Ecologically Sensitive Areas (ESA) based on the recommendations of the Kasturirangan Committee.

Need for ESA in the Western Ghats

1. The Western Ghats harbour rich biodiversity, including numerous endemic plant and animal species.
2. The region contains important wildlife habitats, including tiger reserves, elephant corridors, and protected areas.
3. It acts as a major watershed supporting rivers such as Godavari, Krishna, Cauvery, and Periyar.
4. The mountain chain influences the Indian monsoon by intercepting moisture-laden winds.
5. ESA status helps regulate environmentally harmful activities such as mining, quarrying, thermal power plants, and highly polluting industries.
6. Conservation of the Ghats is essential for ecological security, water security, and climate resilience.

Key Features of the ESA Proposal

1. The **Gadgil Committee (2011)** recommended declaring the entire Western Ghats region as an Ecologically Sensitive Area with stringent restrictions.
2. The **Kasturirangan Committee (2013)** adopted a balanced approach by distinguishing between natural and cultural landscapes.
3. It identified around **60,000 sq km** of biologically rich natural landscape for ESA notification.
4. The proposal seeks to ban mining, quarrying, red-category industries, thermal power plants, and large construction projects in ESA regions.
5. The Centre later proposed **56,825 sq km** as ESA through draft notifications.

Challenges in Implementing the ESA Framework

1. Lack of consensus among Gujarat, Maharashtra, Goa, Karnataka, Kerala, and Tamil Nadu.
2. Concerns over restrictions on economic activities, industries, mining, and infrastructure projects.
3. Opposition from local communities fearing impacts on livelihoods and development.
4. Disputes regarding village boundaries, land classification, and satellite-based mapping.
5. Demands by states for further reduction of ESA boundaries.
6. Karnataka has largely opposed the Kasturirangan recommendations, while Kerala seeks exclusion of plantation and agricultural areas.
7. Balancing ecological conservation with developmental aspirations remains a major challenge.

Way Forward

1. Adopt a participatory approach involving state governments, local communities, and experts.
2. Improve ground-truthing and scientific mapping to address boundary-related disputes.
3. Provide financial incentives and compensation mechanisms for states conserving ecological resources.
4. Promote sustainable agriculture, eco-tourism, and green livelihoods in ESA regions.
5. Strengthen implementation of ecosystem service payment mechanisms.
6. Ensure a balance between conservation objectives and legitimate developmental needs.

Conclusion: The Western Ghats are critical for India's biodiversity, water security, and climate stability. A scientifically informed and stakeholder-driven ESA framework is essential to achieve sustainable development while preserving this invaluable ecological treasure for future generations.

Question: The Western Ghats are among the world's most important biodiversity hotspots. Discuss the need for Ecologically Sensitive Areas (ESA) in the Western Ghats and examine the challenges in implementing the ESA framework.

Source: [Indian Express](#)

India's Cultural Diplomacy: Promoting Heritage on the World Stage

Source: The post "India's Cultural Diplomacy: Promoting Heritage on the World Stage" has been created based on "India's Cultural Diplomacy: Promoting Heritage on the World Stage", published in "Indian Express" on 23rd June 2026.

UPSC Syllabus: GS-2- International Relations

Context: The Prime Minister of India recently gifted a Kalamkari Mahabharata painting to French President Emmanuel Macron. This hand-crafted Kalamkari painting from Andhra Pradesh showcases India's rich artistic heritage.

Introduction: India's traditional arts, handicrafts, textiles, and indigenous products reflect its rich cultural heritage. Their use as diplomatic gifts strengthens India's cultural diplomacy and enhances its soft power globally.

About India's Cultural Diplomacy and Cultural values

1. Promotion of India's Cultural Heritage

- a. The gifting of a **Kalamkari Mahabharata painting** to the French President showcased **India's ancient artistic traditions and epic heritage**.
- b. The painting represents **the traditional hand-drawn Kalamkari art of Andhra Pradesh** and demonstrates India's craftsmanship.
- c. The **Pochampally Silk Stole** highlighted **Telangana's famous Ikat weaving tradition and textile excellence**.

2. Showcasing Regional Diversity

- a. The **Kashmiri Silk Carpet** gifted to the Slovak Prime Minister represented the **renowned hand-knotted carpet tradition of Kashmir**.
- b. The **Brass Dokra Antelope Set** showcased the ancient tribal metal-casting tradition practiced in Chhattisgarh, Odisha, Jharkhand, and West Bengal.
- c. The **Thewa Motif Cufflinks** highlighted Rajasthan's unique jewellery-making craft.

3. Strengthening Cultural Diplomacy

- a. Such gifts create cultural connections between nations through shared appreciation of heritage and craftsmanship.
- b. The Dokra Antelope set symbolically connected Indian antelopes with Slovakia's Tatra Chamois, promoting cultural understanding.
- c. Traditional gifts act as ambassadors of Indian culture and values abroad.

4. Promoting Indigenous Products and Local Livelihoods

- a. Products such as **Lakadong Turmeric, Nagauri Ashwagandha, Ramban Honey, and Banarasi Silk Stoles** showcased India's regional specialties.
- b. Their international recognition supports artisans, weavers, farmers, and rural communities.
- c. It aligns with initiatives such as **Vocal for Local, Atmanirbhar Bharat**, and the promotion of GI-tagged products.

5. Demonstrating India's Knowledge Traditions

- a. The gifting of **Charaka Samhita** and **Sushruta Samhita** highlighted India's ancient scientific and medical knowledge.
- b. These texts reflect the global relevance of Ayurveda and traditional healthcare systems.

Challenges

1. Declining interest among younger generations in traditional crafts due to low incomes.
2. Competition from machine-made and counterfeit products.
3. Limited access to international markets and branding opportunities.
4. Inadequate financial support, technology adoption, and skill upgradation.
5. Risk of loss of traditional knowledge and craftsmanship over time.

Way Forward

1. Strengthen GI tagging, branding, and intellectual property protection.
2. Expand international marketing through cultural diplomacy and trade fairs.
3. Provide financial assistance, digital platforms, and market linkages to artisans.
4. Promote skill development and encourage youth participation in traditional crafts.
5. Integrate traditional arts and handicrafts with tourism and e-commerce ecosystems.

Conclusion: India's traditional arts, handicrafts, and indigenous products are powerful instruments of cultural diplomacy. Their use in diplomatic engagements strengthens India's soft power, promotes local livelihoods, and projects the country's diverse cultural and intellectual heritage on the global stage.

Question: India's traditional arts, handicrafts and GI-tagged products play an important role in promoting cultural diplomacy and soft power. Discuss with suitable examples. Also examine the challenges in preserving and promoting these traditions.

Source: [Indian Express](#)

The Challenge of India's Digital Sovereignty

UPSC Syllabus: Gs Paper 3- Science and Technology

Introduction

Digital sovereignty refers to a nation's ability to control its data, digital infrastructure, and critical technologies. Recent incidents involving compromised CCTV networks and disruption of Nayara Energy's digital services have exposed India's dependence on foreign technology platforms. As governance, commerce, and defence increasingly rely on digital systems, excessive reliance on external technologies can create strategic vulnerabilities. Strengthening digital sovereignty has therefore become important for protecting India's economic competitiveness, national security, and strategic autonomy.

Understanding Digital Sovereignty

1. **Control Over Digital Ecosystems:** Digital sovereignty requires control over how data is stored, processed, and transmitted. It also includes control over digital infrastructure and citizens' interaction with the internet.
2. **Protection from External Influence:** Digital sovereignty reduces the ability of foreign governments and corporations to influence critical national functions.
3. **Strategic Importance:** Digital infrastructure has become as important as physical infrastructure. Loss of control over digital systems can affect national decision-making and security.
4. **Technology as a Sovereignty Issue:** Modern economies and defence systems increasingly rely on software and digital networks. Control over technology therefore directly affects national sovereignty.

Why is Digital Sovereignty Important for India?

1. **Safeguarding Critical Services:** Many Indian government and business operations run on foreign-owned cloud platforms, productivity tools, and authentication systems. External actions can disrupt these services.

2. **Protecting National Security:** Modern military platforms depend heavily on software. Foreign control over critical software can create vulnerabilities during conflicts.
3. **Reducing Strategic Dependence:** The denial of precise GPS support during the 1999 Kargil conflict showed the risks of depending on foreign technologies during critical situations.
4. **Supporting Economic Stability:** Disruptions in digital services can affect trade, manufacturing, financial transactions, and public service delivery.
5. **India's Unique Strategic Challenge:** As a rising power seeking strategic autonomy, India faces greater risks from dependence on foreign-controlled technologies and digital infrastructure.

Emerging Threats to India's Digital Sovereignty

1. **Dependence on Foreign Technology Platforms:** Critical digital infrastructure often operates on platforms owned by foreign technology companies. This limits India's effective control over essential services.
2. **Data Access by Foreign Governments:** Even when data is stored in India, foreign companies may be required to share it with their home governments under existing legal frameworks.
3. **Foreign Decisions Affecting Indian Entities:** The Nayara Energy incident showed how decisions taken outside India can directly affect Indian companies' access to digital services.
4. **Cybersecurity Vulnerabilities:** The CCTV network compromise linked to foreign software demonstrated how external technologies can create security risks.
5. **Software-Controlled Defence Risks:** Foreign manufacturers may retain control over software embedded in defence systems, creating potential operational vulnerabilities.

India's Current Digital Sovereignty Landscape

1. **Growing Legal Framework:** The Digital Personal Data Protection Act, 2023, Intermediary Guidelines, and amendments to the Information Technology Act aim to strengthen control over India's digital space.
2. **Privacy as a Foundation:** The 2017 Puttaswamy judgment recognised privacy as a fundamental right and provided a constitutional basis for data protection.
3. **Success of Digital Public Infrastructure:** Aadhaar, UPI, DigiLocker, UMANG, and Common Service Centres have improved service delivery, financial inclusion, and citizen participation.
4. **Indigenous Technology Initiatives:** India has developed domestic systems such as UPI, RuPay, and its own satellite navigation system to reduce external dependence.
5. **Continuing Technology Dependence:** Despite these achievements, India still depends heavily on imported hardware, foreign software, and global technology providers.

Global Approaches to Digital Sovereignty

1. **European Efforts for Technological Independence:** France, the Netherlands, Denmark, Germany, and the European Union are reducing dependence on foreign software and cloud infrastructure.
2. **China's State-Controlled Model:** China has adopted strict data localisation, strong government oversight, and extensive control over digital infrastructure.
3. **The Great Firewall Approach:** China restricts foreign digital platforms and promotes domestic technology companies within a controlled internet environment.
4. **Expansion Through Digital Silk Road:** China exports digital infrastructure, surveillance systems, and connectivity projects to other countries through international partnerships.
5. **India's Democratic Alternative:** India seeks to combine digital sovereignty with democratic values, openness, judicial oversight, and public participation.

Key Challenges Before India

1. **Semiconductor Dependence:** India imports more than **95% of its semiconductors**, creating a major vulnerability in critical technology supply chains.
2. **Reliance on Foreign Operating Systems:** Widely used operating systems and digital platforms remain largely controlled by foreign companies.
3. **Jurisdictional and Regulatory Gaps:** Global technology firms often operate across jurisdictions, making enforcement of domestic regulations difficult.
4. **Digital Skills Shortage:** Digital talent demand is expected to reach **103 million by 2030**, while projected supply is only **74 million**.
5. **Low Research and Development Spending:** India's R&D expenditure averaged only **0.74% of GDP (2000-2020)** compared to the global average of **2.07%**.
6. **Balancing Security and Freedom:** Strengthening digital control while protecting privacy, transparency, and public trust remains a difficult challenge.

Way Forward

1. **Strengthen Indigenous Technology Ecosystems:** The success of UPI and RuPay shows that domestic alternatives can reduce vulnerabilities in critical sectors.
2. **Expand Semiconductor Capabilities:** Greater investment is needed in semiconductor manufacturing and related technology ecosystems.
3. **Promote Public-Private Innovation:** Increased private-sector participation in strategic sectors can accelerate technological development and self-reliance.
4. **Build Trusted International Partnerships:** Collaborations such as BrahMos, Micron's Gujarat facility, and participation in Pax Silica can strengthen capabilities while reducing isolation.

5. **Bridge the Digital Skills Gap:** National programmes for AI, cybersecurity, semiconductor design, and advanced technologies should be expanded.
6. **Increase R&D Investment:** Higher research spending is essential for long-term technological competitiveness and digital sovereignty.

Conclusion

Digital sovereignty is becoming central to India's economic competitiveness, national security, and strategic autonomy. While India has built strong digital public infrastructure, dependence on foreign technologies continues to create vulnerabilities. Expanding domestic technological capabilities, increasing R&D investment, and strengthening trusted partnerships will help India reduce risks while preserving democratic values, openness, and innovation.

Question for practice

Examine the challenges to India's digital sovereignty and discuss the measures needed to strengthen technological self-reliance, strategic autonomy, and national security in the digital age.

Source: [The Hindu](#)

The Need to Secure Industrial Policy Space

UPSC Syllabus: Gs Paper 3- Industrial Policy

Introduction

Industrial policy has re-emerged as a key tool of economic strategy amid geo-economic competition, technological change, and growing state support for strategic sectors. At the same time, discussions on reforming the World Trade Organization (WTO) have intensified over subsidies and other industrial policy measures. This has created a debate over how to prevent trade distortions while preserving the policy space that developing countries such as India need for industrialisation, job creation, and structural transformation.

Why Industrial Policy Has Become Important

1. **Return of State-Led Economic Strategy:** Major economies are using subsidies, local content requirements, supply-chain controls, and state-backed financing to strengthen strategic sectors.
2. **Shift in the Global Debate:** Industrial policy is now viewed as a governance issue rather than merely a market-distorting intervention.
3. **Impact on Trade Outcomes:** Industrial policy increasingly shapes competitiveness, production patterns, and global trade flows.
4. **Tool for Economic Transformation:** Developing countries use industrial policy for diversification, technological upgrading, and movement into higher value-added activities.
5. **Need for Development Flexibility:** Structural transformation requires policy flexibility to build productive capacity and support long-term growth.

Competing Perspectives on WTO Reform

1. **Developed Countries' View on Imbalances:** The US, EU, Japan, and other developed economies argue that global imbalances arise from unfair trade practices, excessive subsidies, and market distortions.
2. **Concerns Over Competitive Neutrality:** According to this view, state support and non-market interventions create surplus production and place market-based firms at a disadvantage.
3. **Push for Stronger WTO Disciplines:** Developed countries support stricter subsidy rules, stronger transparency requirements, and tighter enforcement under the **Agreement on Subsidies and Countervailing Measures (ASCM)**.
4. **Developing Countries' Perspective:** Developing economies see global imbalances as a result of structural inequalities in capital availability, technology access, productive capacity, and participation in global value chains.
5. **Industrial Policy as a Development Tool:** From this perspective, industrial policy remains a legitimate mechanism for development catch-up, industrialisation, and technological advancement.

Why Securing Industrial Policy Space Matters for India

1. **Supporting Development Transition:** India is still undergoing a major development transition. Restrictions on industrial policy could limit its ability to pursue structural transformation.
2. **Employment Generation Needs:** Flexible state support is important for creating millions of middle-class jobs needed for India's socio-economic transformation and Viksit Bharat vision.
3. **Limited Subsidy Support in Developing Countries:** Studies by the **Centre for WTO Studies**, the **Research and Information System for Developing Countries (RIS)**, and data from the **Organisation for Economic Co-operation and Development (OECD) MAGIC Database of Industrial Subsidies** show that India and other developing countries account for a small share of global industrial subsidies.
4. **Lower Support Across Sectors:** Corporate subsidies in India, Brazil, and Indonesia represent only a small fraction of revenue compared with China and remain well below levels seen in advanced European and East Asian economies.
5. **Modest Financial Assistance:** In absolute terms, industrial support provided by India remains far smaller than that provided by the US, China, and other developed economies.

Emerging Challenges in Global Rule-Making

1. **Risk of Expanding Subsidy Disciplines:** New global rules may increasingly restrict the policy options available to developing countries even when their subsidies are relatively limited.
2. **Use of Overcapacity Narratives:** The March 2026 US Section 301 investigations on manufacturing overcapacity demonstrate how concerns about overcapacity and unfair trade can be used against a wide range of countries.

3. **Broad Targeting of Countries:** These investigations covered not only major industrial powers such as China, the EU, Japan, and Korea, but also developing countries including India, Brazil, and Indonesia.
4. **Concerns About Future Competition:** There are indications that future trade rules may seek to prevent the rise of large developing economies that could emerge as major competitors.
5. **Need to Differentiate Between Countries:** A common set of rules may fail to distinguish between dominant industrial powers and developing economies that are still building productive capacity.
6. **Existing WTO Constraints:** Current rules under the **Agreement on Subsidies and Countervailing Measures (ASCM)** and the **Agreement on Trade-Related Investment Measures (TRIMS)** can restrict the use of subsidies and investment-related policy measures by developing countries during industrialisation.

Way Forward

1. **Objectively Define Industrial Dominance:** Stronger disciplines should focus on countries with significant global industrial influence. The proposed framework uses **per-capita income above \$14,000** and specific export-share thresholds to identify dominant players.
2. **Ensure Policy Flexibility for Developing Countries:** Non-dominant developing countries should receive greater freedom under WTO rules and should not face the same restrictions applied to dominant industrial economies.
3. **Maintain Limited Subsidy Restrictions:** Non-dominant developing countries should be exempt from most constraints under the **ASCM** and the **TRIMS**, while prohibited export subsidies should continue to remain restricted.
4. **Address Greater Trade Distortion Risks:** Industrially dominant countries should face stricter scrutiny. Their dominance should serve as initial evidence of their ability to distort trade, enabling provisional trade remedies.
5. **Strengthen Transparency Requirements:** Dominant countries should face stronger obligations to disclose subsidies. Hidden subsidies should trigger temporary protective measures until full disclosure is provided.
6. **Avoid Burdens on Developing Countries:** Strict compliance and reporting requirements should focus on dominant players so that developing countries and least-developed countries are not burdened by excessive obligations.

Conclusion

Industrial policy has become central to economic development and global competition. WTO reforms should therefore distinguish between dominant industrial powers and developing economies still undergoing structural transformation. A balanced framework must address genuinely trade-distorting practices while preserving the policy flexibility needed by countries like India to pursue industrialisation, employment generation, and long-term development goals.

Question for practice:

Discuss the need to secure industrial policy space for developing countries like India amid ongoing WTO reform debates and rising global protectionism.

Source: [Businessline](#)

India's patchy industrial climate strategy

Source: The post "India's patchy industrial climate strategy" has been created based on "India's patchy industrial climate strategy", published in "Indian Express" on 23rd June 2026.

UPSC Syllabus: GS-3-Environment

Context: India has committed to achieving net-zero emissions by 2070 and has identified industrial decarbonisation as a key component of its climate strategy. However, rapid industrial growth and rising energy demand have created significant challenges for reducing emissions from the industrial sector.

Challenges in Industrial Climate Mitigation

1. **High Contribution of Industry to Emissions:** The industrial sector contributes significantly to India's carbon footprint. Fuel combustion in manufacturing industries accounts for about 13% of total emissions, while industrial processes and product use contribute around 9% of total emissions.
2. **Rising Industrial Energy Demand:** Expanding manufacturing activities and increasing population-driven consumption are leading to a continuous rise in industrial energy demand and emissions.
3. **Limited Coverage of Existing Policies:** Existing mechanisms such as the Perform, Achieve and Trade (PAT) scheme and the Carbon Credit Trading Scheme (CCTS) mainly target selected energy-intensive industries and do not comprehensively cover all industrial emissions.
4. **Focus on Traditional Heavy Industries:** Current policies primarily address sectors such as cement, steel, fertilisers, refineries, and textiles, while several other industrial sources remain outside the direct mitigation framework.
5. **Large Share of 'Non-Specific Industries':** A substantial portion of industrial emissions is classified under the broad category of "non-specific industries," making it difficult to identify major emission sources and formulate targeted interventions.
6. **Lack of Detailed Industrial Classification:** The absence of clear sub-sectoral emission data creates challenges in measuring emissions accurately and designing sector-specific decarbonisation strategies.
7. **Administrative and Regulatory Gaps:** Industrial emissions management remains an administrative grey area because many emitting sectors are not explicitly covered by existing regulatory mechanisms.

Measures for Effective Industrial Decarbonisation

1. **Develop a Comprehensive Industrial Emissions Database:** India should establish detailed sector-wise and sub-sector-wise emissions inventories to accurately identify major emission sources.
2. **Improve Industrial Classification:** The broad category of "non-specific industries" should be disaggregated to enable targeted policy interventions and monitoring.
3. **Expand Policy Coverage:** Existing schemes such as PAT and CCTS should be expanded to cover a wider range of industrial sectors and emission sources.
4. **Strengthen Monitoring and Transparency:** Transparent climate reporting should be enhanced to provide policymakers with reliable information for evidence-based decision-making.
5. **Adopt Sector-Specific Decarbonisation Strategies:** Tailored mitigation plans should be developed for different industries based on their emission profiles and technological requirements.

6. **Promote Energy Efficiency and Clean Technologies:** Industries should be encouraged to adopt energy-efficient technologies, cleaner production methods, and low-carbon energy sources.
7. **Ensure Continuous Policy Evaluation:** Regular assessment of industrial decarbonisation measures should be undertaken to identify gaps and implement corrective actions.

Conclusion: Achieving India's net-zero target requires a transparent, comprehensive, and sector-specific industrial decarbonisation framework. Accurate identification of emission sources, expanded policy coverage, and improved climate governance will be essential for balancing industrial growth with environmental sustainability.

Question: India's industrial decarbonisation strategy remains fragmented despite ambitious net-zero targets. Examine the challenges in industrial climate mitigation and suggest measures for an effective industrial decarbonisation framework.

Source: [The Hindu](#)

India's next challenge — from invention to global scale

Source: The post "India's next challenge — from invention to global scale" has been created based on "India's next challenge — from invention to global scale", published in "Indian Express" on 23rd June 2026.

UPSC Syllabus: GS-3-Science & Technology

Context: India has a strong record of technological innovation, ranging from semiconductors and supercomputing to digital public infrastructure. However, technological success is not measured by invention alone but by the ability to scale innovations into globally competitive industries and enterprises.

Reasons for India's Failure to Scale Technological Innovations

1. **Lack of Manufacturing Ecosystems:** India pioneered semiconductor research through Semiconductor Complex Limited (SCL) in the 1970s. However, unlike Taiwan and South Korea, it failed to build a globally competitive manufacturing ecosystem.
2. **Inadequate Capital and Policy Support:** Although India possessed significant scientific capabilities, insufficient capital, inconsistent policy support, and limited long-term vision hindered the commercialization of innovations.
3. **Research-Oriented Rather than Market-Oriented Approach:** Electronics Corporation of India Limited (ECIL) focused primarily on strategic and scientific achievements. As a result, innovations remained within research institutions instead of developing into large-scale industries.
4. **Weak Supporting Ecosystem:** India failed to develop supporting ecosystems such as venture capital networks, software platforms, component supply chains, and consumer markets at the scale required for global competitiveness.
5. **Failure to Move Beyond Prototypes:** Projects such as the Simputer demonstrated remarkable technological foresight, but they remained prototypes instead of evolving into globally dominant commercial products.
6. **Absence of Scale-Based Ecosystems:** India often succeeded in creating innovative products, but it failed to create the ecosystems that generate jobs, industries, and sustained global leadership.

Measures Required to Transform Innovation into Global Scale

1. **Build Globally Competitive Technology Enterprises:** India should focus on commercialization alongside invention and actively promote the growth of globally competitive technology enterprises.

2. **Leverage Digital Public Infrastructure:** The success of Aadhaar and UPI demonstrates that technology can create large-scale ecosystems, and similar models should be replicated in emerging sectors.
3. **Promote AI Leadership:** India should develop scalable AI products and platforms. It should also build large AI models and make intelligence affordable, accessible, and widely available.
4. **Invest in Emerging Technologies:** India should strengthen its capabilities in quantum computing, semiconductor manufacturing, AI infrastructure, data centres, and communication networks.
5. **Create Strong Ecosystem Support:** The country should expand venture capital availability, strengthen supply chains, develop software platforms, and improve market access for technology firms.
6. **Adopt a Long-Term Industrial Strategy:** India should continue supporting promising technologies beyond the initial breakthrough stage and avoid abandoning them before they achieve global scale.
7. **Utilize Strengths in Software and Digital Infrastructure:** India should integrate its strengths in software engineering and digital public infrastructure with manufacturing and deep-tech development.

Conclusion: India stands at a crucial technological inflection point with opportunities in artificial intelligence, quantum computing, semiconductors, and space technology. The challenge is no longer merely to invent but to scale. Therefore, India must transform its technological ingenuity into globally competitive industries and enterprises by combining innovation with commercialization and ecosystem development.

Question: India has often been ahead in technological invention but has struggled to achieve global scale in commercialization.” Examine the reasons for this trend. Discuss the measures required for India to transform innovation into globally competitive technology enterprises.

Source: [The Hindu](#)

Reconnect Public Health with People's Needs

UPSC Syllabus: Gs Paper 2- Issues relating to development and management of Social Sector/Services relating to Health.

Introduction

Public health policies are crucial for improving population health and helping a country realise the benefits of its demographic dividend. In recent years, **Universal Health Coverage (UHC)** has become a key objective of health policy. However, growing emphasis on wellness and digital health initiatives has raised concerns about whether public health policies are improving access to healthcare. This debate has become more important as private healthcare costs rise and public healthcare services continue to face quality challenges.

Evolution of Public Health Policy in India

1. **Population Health as the Core Focus:** Public health traditionally focused on improving population health through preventive, promotive, curative and rehabilitative services. It also considered access to water, nutrition, emergency care, and maternal and child health services.
2. **Emergence of the Wellness Concept:** Wellness was initially used to indicate the absence of disease and was often treated as similar to health. Over time, it expanded to include mental, spiritual, social and environmental dimensions.

3. **Influence of Positive Well-being:** During the 1950s, the wellness movement promoted the idea that health extends beyond biological conditions. This influenced broader thinking about health and well-being.
4. **WHO's Broader Understanding of Health:** The WHO promoted the idea that health is more than the absence of disease. This encouraged greater attention to positive well-being.
5. **Shift Towards Health Promotion:** Public health later focused on health promotion, which recognised that social, economic and environmental conditions influence health behaviour and outcomes.

Key Government Initiatives Reflecting the Current Approach

1. **Ayushman Bharat Health and Wellness Centres:** Introduced in 2018, these centres were intended to strengthen health infrastructure and improve service delivery at the grassroots level.
2. **Renaming of Existing Institutions:** Health Sub-Centres (SCs), Primary Health Centres (PHCs), and Community Health Centres (CHCs) were given the common "Health and Wellness Centre" prefix. This changed the identity of institutions that had evolved distinct roles within the district health system.
3. **Ayushman Bharat Digital Health Mission (ABDHM):** The mission seeks to create a digital repository of health information through the **ABHA card**, a unique health identification system.
4. **Creation of Digital Registries:** ABDHM also maintains registries of health facilities, healthcare professionals, and health insurance-related information.
5. **Large Public Investment in Digital Health:** The mission receives an annual budget of around ₹300 crore, reflecting a strong policy emphasis on digital health systems.

Current Approach to Public Health

1. **Shift from Population Health to Individual Well-being:** Public health policy increasingly measures success through individual well-being rather than population health outcomes.
2. **Wellness as a Policy Objective:** The health and wellness framework promotes individual well-being as an important goal of healthcare delivery.
3. **Rise of Individual-Centred Health Practices:** Greater emphasis on individual well-being has encouraged health coaching and wellness messages that place responsibility for health largely on personal choices.
4. **Growing Importance of Digital Health:** Public health reforms increasingly rely on digital records, health IDs and information systems to improve healthcare management.

Major Concerns

1. **Ambiguity in Institutional Mandates:** Applying a common "Health and Wellness Centre" identity to SCs, PHCs and CHCs has created confusion regarding their distinct functions and responsibilities.

2. **Difficulty in Measuring Well-being:** There are no universally accepted measures of well-being at the population level. The concept remains highly subjective and individualistic.
3. **Neglect of Structural Determinants:** A wellness-based approach often overlooks social and structural factors that influence health outcomes.
4. **Inadequate Capture of Health Needs:** Excessive focus on well-being may fail to identify unmet needs related to preventive, promotive, curative and rehabilitative care.
5. **Challenges in Health System Evaluation:** Health systems become difficult to assess when outcomes are based on subjective well-being rather than measurable health indicators.
6. **Digital Information Does Not Ensure Access:** Digital health records and registries cannot by themselves solve problems of healthcare access.
7. **Limited Focus on Healthcare Provisioning:** ABDHM mainly generates information on individuals, facilities and professionals, but provides little guidance on actual healthcare delivery.
8. **Inadequate Access to Healthcare:** Access to healthcare remains limited because private healthcare is unaffordable for many people, while public healthcare facilities often suffer from poor quality and inadequate services.
9. **Fragmented Functioning of Health Systems:** Digital mapping of facilities and professionals does not automatically create an effective institutional mechanism for delivering care.
10. **Neglect of Healthcare Infrastructure:** Recent initiatives focus on wellness and digital systems, while strengthening public healthcare institutions receives limited attention.

Way Forward

1. **Strengthen Public Healthcare Institutions:** Greater attention should be given to strengthening the three-tier healthcare system comprising SCs, PHCs and CHCs.
2. **Focus on Measurable Health Outcomes:** Public health policies should prioritise outcomes that can be systematically measured and evaluated.
3. **Address Healthcare Affordability:** Improving access requires tackling the high cost of care in the private sector.
4. **Improve Quality of Public Services:** Public healthcare facilities need stronger capacity and better quality services to meet people's needs.
5. **Link Digital Systems with Service Delivery:** Digital health platforms should support healthcare provisioning rather than function mainly as information repositories.
6. **Recognise People's Felt Needs:** Policies should respond to people's immediate healthcare requirements, particularly access to curative care.

Conclusion

Public health policies should focus on improving healthcare access and addressing people's actual health needs. While wellness and digital health initiatives can support the health system, they cannot substitute strong public healthcare institutions. Achieving meaningful health outcomes requires greater attention to healthcare delivery, affordability, quality services, and the strengthening of India's three-tier healthcare system.

Question for practice:

Discuss the changing approach of public health policy in India and examine its implications for healthcare access and public health outcomes.

Source: [The Hindu](#)

Urban Fire Safety Crisis: Challenges and Solutions

UPSC Syllabus: Gs Paper 3- Disaster and disaster management.

Introduction

Recent fires in coaching institutes, hotels, residential buildings, and commercial establishments have highlighted serious weaknesses in urban fire safety systems. While incidents causing deaths receive public attention, many others remain unnoticed. The problem extends beyond individual accidents and reflects shortcomings in urban planning, building management, safety compliance, and emergency preparedness. Rapid urban growth, increasing pressure on infrastructure, and weak enforcement of safety norms have made fire safety a major urban governance challenge.

Nature and Magnitude of the Crisis

1. **Rising Urban Fire Incidents:** Fire accidents are being reported from coaching centres, hotels, residential buildings, and other establishments across urban areas. The scale of the problem is larger than commonly perceived because many incidents do not result in fatalities.
2. **Unsafe Change in Building Use:** Many buildings approved for residential purposes are being used for commercial activities without meeting the required fire-safety standards. Mixed-use development is permissible when safety norms are followed.
3. **Expansion into High-Risk Areas:** A large number of fire-prone establishments operate in urban villages, unauthorised colonies, and Tier-II and Tier-III cities where infrastructure remains inadequate.
4. **Electrical and LPG-Related Risks:** Electrical short circuits are among the most common causes of urban fires. LPG leaks caused by poor maintenance, defective equipment, and unsafe handling also contribute significantly to residential fire incidents.
5. **Growing Vulnerability of Smaller Buildings:** Fire-safety enforcement has become stricter in large public buildings after the Uphaar Cinema tragedy. Smaller buildings, however, continue to face major safety gaps and weak compliance.

Key Challenges in Ensuring Urban Fire Safety

9 PM Compilation June 2026

1. **Congested Settlements and Poor Accessibility:** Many urban areas have narrow roads, often less than six metres wide. Such conditions prevent fire tenders from reaching accident sites quickly.
2. **Lack of Fire-Safety Infrastructure:** Numerous buildings do not have smoke alarms, firefighting equipment, fire staircases, refuge areas, or emergency evacuation systems. Residents often receive no early warning when a fire breaks out.
3. **Weak Enforcement of Safety Norms:** Although detailed fire-safety provisions exist, monitoring and enforcement remain inadequate. Regular safety audits and emergency-response checks are often neglected.
4. **Low Public Awareness and Preparedness:** Owners, residents, visitors, and even officials frequently lack knowledge of basic fire-safety measures. Fire drills and emergency preparedness exercises are rarely conducted.
5. **Governance and Institutional Gaps:** Corruption in building-plan approvals, outdated regulations, political interference, and shortages of trained personnel and equipment weaken fire-safety management.
6. **Housing and Urban Planning Failures:** Rising property prices have pushed many people into unauthorised colonies and urban villages. Planning agencies have failed to ensure adequate infrastructure in these growing settlements.

Consequences of the Crisis

1. **Threat to Human Life:** Fire incidents can lead to deaths, injuries, and long-term trauma for affected individuals and families. The risk becomes higher where emergency preparedness is weak.
2. **Delayed Rescue and Firefighting:** Congested layouts and poor accessibility slow down rescue operations. Delays increase the likelihood of casualties and property damage.
3. **Greater Risk for Vulnerable Communities:** Middle-income, lower-middle-income, and poor households living in inadequately serviced areas face higher exposure to fire hazards.
4. **Economic and Property Losses:** Fires damage homes, workplaces, commercial establishments, and public assets. Lack of awareness regarding building insurance further increases financial losses.
5. **Continuation of Reactive Responses:** Authorities often respond through sealing drives, demolitions, or compensation after accidents. Greater attention is needed on prevention, preparedness, and correction of systemic weaknesses.

Existing Legal and Institutional Framework for Urban Fire Safety

1. **Constitutional Responsibility:** Fire services fall under the State List and the Twelfth Schedule. States and Urban Local Bodies are responsible for fire prevention, safety enforcement, and emergency response.

2. **National Building Code (NBC) 2016:** The NBC provides guidelines on fire prevention, building design, safe exits, smoke management, periodic audits, and firefighting systems. States are expected to incorporate these provisions into local regulations.
3. **Fire Prevention and Fire Safety Act, 2005:** This law provides a legal framework for improving fire prevention measures and ensuring safer building practices across states.
4. **State-Level Fire Safety Laws:** Fire-safety norms become legally enforceable only when adopted through state laws and local bye-laws. Effective implementation therefore depends largely on state governments and local bodies.
5. **Scheme for Expansion and Modernisation of Fire Services (2023–26):** The Central Government launched the scheme after the 15th Finance Commission recommended ₹5,000 crore for strengthening fire services. It focuses on modern equipment, infrastructure upgrades, training, and digital systems.
6. **NDMA Guidelines:** National disaster management guidelines provide safety measures for residential, educational, healthcare, and other public facilities to reduce fire risks.
7. **Fire Safety Week:** A pan-India Fire Safety Week is observed from **21–25 April** to spread awareness about fire prevention, emergency response, and safe practices.

Way Forward

1. **Strengthen Compliance and Safety Audits:** Regular inspections, fire-safety audits, and strict enforcement of building regulations should be ensured across all categories of buildings.
2. **Improve Public Awareness and Preparedness:** Awareness campaigns, training programmes, and periodic fire drills should be conducted for owners, residents, workers, and visitors.
3. **Ensure Safe Mixed-Use Development:** Buildings used for both residential and commercial purposes should comply with prescribed fire-safety standards and emergency-response requirements.
4. **Strengthen Urban Governance and Regulatory Oversight:** Authorities should ensure transparent approvals, regular monitoring, updated regulations, and effective enforcement of fire-safety norms.
5. **Integrate Fire Safety into Urban Planning:** Planning agencies should anticipate urban growth and provide adequate roads, emergency access routes, and supporting infrastructure for high-footfall activities.
6. **Improve Infrastructure in High-Risk Areas:** Urban villages and unauthorised colonies require better civic infrastructure and safer access rather than purely punitive actions.
7. **Modernise Fire Services and Promote Preventive Governance:** Better equipment, trained personnel, stronger response systems, and continuous risk reduction measures should replace a purely post-disaster approach.

Conclusion

Urban fire incidents reveal deeper gaps in planning, infrastructure, regulation, and public awareness. Addressing the crisis requires more than post-disaster actions such as compensation or demolition drives. Stronger compliance, safer buildings, improved infrastructure, regular preparedness measures, and modern fire services are essential to build a preventive and resilient urban fire-safety framework.

Question for practice:

Examine the key challenges contributing to the urban fire safety crisis in India and suggest measures to build safer and more resilient cities.

Source: [Indian Express](#)

Digital agriculture in India: Problems of inclusion

Source: The post “**Digital agriculture in India: Problems of inclusion**” has been created based on “**Digital agriculture in India: Problems of inclusion**”, published in “Business Line” on 25th June 2026.

UPSC Syllabus: GS-3-Economics

Context: Digital agriculture refers to the use of digital technologies such as artificial intelligence, sensors, drones, online platforms, and digital advisory services across the agricultural value chain. The Government of India has promoted digital agriculture through initiatives such as the Digital Agriculture Mission (2024) and Bharat-Vistaar (2026). However, the success of these initiatives depends on adequate digital infrastructure and digital literacy among farmers.

Challenges of Inclusion in Digital Agriculture

1. Inadequate Digital Infrastructure

- a. Although nearly 80 percent of rural households have internet access, only 8 percent of them have broadband connections.
- b. Most rural households depend on mobile internet, which is often unreliable and inadequate for advanced digital services.
- c. Significant regional disparities continue to exist in rural mobile connectivity across states.

2. Limited Access to Smartphones

- a. Only about 51 percent of rural adults own a smartphone and have access to the internet.
- b. A large section of the farming population is therefore unable to access digital agricultural services and government platforms.

3. Gender-Based Digital Divide

- a. Only 37 percent of rural adult women own smartphones and have internet access.
- b. This digital gap excludes many women farmers from benefiting from digital agricultural schemes and advisory services.

4. Social Inequalities in Digital Access

- a. Ownership of smartphones and internet access is lower among Scheduled Castes and Scheduled Tribes than among Other Castes.
- b. These inequalities increase the risk of exclusion of marginalized communities from the benefits of digital agriculture.

5. Low Levels of Digital Literacy

- a. Many rural households have access to digital devices, but they lack the skills required to use them effectively.
- b. Around 27 percent of rural households do not have a single member who can use the internet for informational purposes such as learning, digital payments, or accessing services.
- c. Nearly 39 percent of rural adults can be considered digitally illiterate.

6. Poor Digital Proficiency

- a. Only 55 percent of rural adults can send messages with attachments using smartphones.
- b. Only 40 percent of rural adults can perform online transactions.
- c. Very few rural adults possess the skills required to report cybercrime or use advanced digital services.

7. Exclusion from Government Schemes

- a. Increasing digitization of agricultural services may prevent digitally excluded farmers from accessing benefits and support.
- b. Farmers without smartphones, internet access, or digital skills may be left out of important agricultural programmes.

Government Initiatives

1. Digital Agriculture Mission

- a. The Government of India launched the Digital Agriculture Mission in 2024 to create a farmer-centric digital ecosystem.
- b. The mission was allocated ₹2,817 crore to promote digital transformation in agriculture.

2. Bharat-Vistaar

- a. Bharat-Vistaar was launched in 2026 as an AI-enabled agro-advisory platform.
- b. The initiative received an allocation of ₹150 crore in the Union Budget 2026–27.

3. Digital Bharat Nidhi

- a. The Digital Bharat Nidhi was established to support the expansion of digital and telecommunication infrastructure in rural and remote areas.
- b. However, a large portion of the collected funds remains unutilized.

4. Kerala Model

- a. Kerala recognized internet access as a basic right in 2019.
- b. The state achieved universal digital literacy in 2025.
- c. Kerala also invested heavily in the Kerala Fibre Optic Network (K-FON) to ensure equitable internet access.

Way Forward

1. Strengthen Digital Infrastructure

- a. The government should expand broadband and fibre-optic connectivity in rural and remote areas.
- b. Unutilized funds under the Digital Bharat Nidhi should be effectively deployed for this purpose.

2. Improve Digital Literacy

- a. The government should revive and strengthen programmes aimed at improving digital literacy in rural areas.

- b. Special emphasis should be placed on practical digital skills relevant to agriculture and service delivery.

3. Bridge the Gender Divide

- a. Targeted programmes should be implemented to improve smartphone ownership and digital literacy among women farmers.
- b. Women should be encouraged to actively participate in digital agricultural initiatives.

4. Promote Inclusion of Marginalized Groups

- a. Affordable access to smartphones and internet services should be provided to Scheduled Castes, Scheduled Tribes, and other disadvantaged groups.
- b. Digital platforms should be designed in local languages to improve accessibility.

5. Build Digital Skills

- a. Farmers should be trained in digital payments, online transactions, cyber safety, and the use of agricultural applications.
- b. Such training will enable them to fully utilize digital agricultural services.

6. Increase Public Investment

- a. The government should invest more in rural digital infrastructure, especially in areas where private investment is unlikely to be profitable.
- b. Public investment is essential to ensure universal and equitable access to digital services.

Conclusion: Digital agriculture has the potential to improve productivity, transparency, and sustainability in Indian agriculture. However, inadequate digital infrastructure, low digital literacy, gender disparities, and social inequalities continue to limit its reach. Therefore, the government must prioritize inclusive digital development to ensure that the benefits of digital agriculture reach all sections of rural India.

Question: Digital agriculture is being promoted as a transformative approach for Indian agriculture. However, issues of digital infrastructure and digital literacy create challenges of inclusion in rural India." Examine. Suggest measures to make digital agriculture more inclusive.

Source: [Business Line](#)

FCRA Rules 2025

Source: The post "FCRA Rules 2025" has been created based on "Why government has tightened FCRA rules, and put religious conversion in focus", published in "Indian Express" on 25th June 2026.

UPSC Syllabus: GS-3-Economics

Context: The Foreign Contribution Regulation Act (FCRA) regulates the receipt and utilization of foreign contributions by NGOs, associations, and other organizations in India. Recently, the Ministry of Home Affairs issued two notifications that have tightened the regulatory framework governing foreign funding. The amendments aim to improve transparency, accountability, and monitoring of foreign-funded activities.

Key Changes Introduced Under the New FCRA Notifications

1. Purpose-Specific Registration

- a. Every FCRA-registered organization must now specify the exact purposes for which foreign funds will be utilized.

- b. Organizations are required to select their activities from a government-prescribed list of 105 permissible purposes.
- c. Any expansion of activities beyond the approved purposes will require fresh government approval.

2. Geographical Restrictions

- a. Organizations must specify the States and Union Territories where they intend to undertake activities funded through foreign contributions.
- b. Foreign funds cannot be utilized outside the approved geographical areas without prior approval.
- c. This marks a shift from the earlier framework where geography was disclosed but not linked to registration.

3. Broader Definition of Key Functionary

- a. The new rules provide a detailed definition of "key functionary."
- b. Directors, trustees, partners, office bearers, governing body members, and other persons exercising management control are now covered under the definition.
- c. This expands accountability within organizations receiving foreign funds.

4. Restrictions on Foreign Nationals in Management

- a. Organizations having foreign nationals in key management positions will ordinarily not be granted registration or prior permission.
- b. The provision aims to reduce foreign influence in the governance of Indian organizations.

5. Enhanced Disclosure Requirements

- a. Organizations must provide detailed activity reports along with annual returns.
- b. They are required to disclose social media accounts and details of ultimate donors.
- c. The new provisions seek to improve transparency and traceability of foreign funds.

6. Minimum Utilization Requirement

- a. The government has introduced a minimum utilization threshold while considering renewal or cancellation of registration.
- b. The provision seeks to ensure that foreign contributions are actively used for approved purposes.

7. Exclusion of Proselytisation

- a. Religious activities funded through foreign contributions are permitted only if they do not involve proselytisation.
- b. Activities such as religious education, theological studies, preservation of traditions, and religious gatherings remain permissible.
- c. Conversion-oriented activities are explicitly excluded from approved purposes.

Why Has Proselytisation Been Specifically Excluded?

1. Constitutional Basis

- a. Article 25 guarantees the right to profess, practice, and propagate religion.
- b. However, the Supreme Court in the **Rev. Stanislaus v. State of Madhya Pradesh (1977)** case held that the right to propagate religion does not include the right to convert another person.
- c. The amendment reflects this judicial interpretation.

2. Government's Concerns

- a. The government has repeatedly expressed concerns regarding the alleged use of foreign funds for religious conversion activities.
- b. Several organizations have faced FCRA-related action on grounds of violations and alleged involvement in conversion activities.
- c. The amendment seeks to ensure that foreign contributions are not used for conversion-oriented work.

Significance of the Revised Penalty Framework

1. Stricter Penalties for Administrative Expense Violations

- a. Spending beyond the statutory 20 percent limit on administrative expenses will attract substantial monetary penalties.
- b. This encourages greater compliance with expenditure norms.

2. Penalties for Speculative Investments

- a. Investment of foreign contributions in speculative activities such as stock market investments will attract penalties.
- b. Any gains earned from such investments will also be recovered.

3. Penalties for Diversion of Funds

- a. Utilization of foreign contributions for purposes other than those approved will attract significant penalties.
- b. The provision seeks to prevent misuse of foreign funds.

4. Penalties for Unauthorized Geographical Use

- a. Organizations using funds outside approved States or Union Territories will face penalties.
- b. This reinforces geographical accountability.

5. Promotion of Compliance

- a. The revised framework increases the cost of non-compliance.
- b. At the same time, it provides a structured compounding mechanism to settle violations without criminal prosecution.

Reasons Behind the Amendments

1. The government seeks to strengthen oversight and monitoring of foreign-funded activities.
2. The amendments aim to address compliance gaps in the existing framework.
3. The government intends to ensure that foreign funds are utilized only for approved purposes and in approved geographical areas.
4. The reforms seek to improve transparency regarding donor networks and financial flows.
5. The amendments also facilitate better management of assets created using foreign contributions.

Concerns Regarding the Amendments

1. Increased Regulatory Burden

- a. Organizations may face greater administrative and compliance costs.
- b. Frequent approvals may delay project implementation.

2. Reduced Operational Flexibility

- a. Purpose-specific and geography-specific registrations may limit the ability of organizations to respond to emerging needs.

- b. NGOs may find it difficult to quickly expand activities during emergencies.

3. Impact on Civil Society

- a. Stricter regulations may discourage foreign-funded developmental and charitable activities.
- b. Smaller organizations may struggle to comply with complex reporting requirements.

4. Concerns Regarding Associational Freedom

- a. Critics argue that excessive regulation may affect the autonomy and functioning of civil society organizations.
- b. Balancing national security concerns with democratic freedoms remains important.

Way Forward

1. Ensure a Balanced Regulatory Framework

- a. The government should strike a balance between national security concerns and the legitimate functioning of civil society organizations.
- b. Regulations should promote accountability without creating excessive restrictions on genuine developmental activities.

2. Simplify Compliance Procedures

- a. The approval, reporting, and renewal processes should be made more transparent, predictable, and time-bound.
- b. Digital platforms should be strengthened to reduce procedural delays and compliance costs.

3. Adopt a Risk-Based Regulatory Approach

- a. Regulatory scrutiny should be proportionate to the scale of funding and the risk profile of organizations.
- b. Genuine organizations with a strong compliance record should be subjected to simplified monitoring mechanisms.

4. Strengthen Transparency and Accountability

- a. NGOs should maintain robust financial management systems and regularly disclose information regarding the utilization of foreign contributions.
- b. Greater transparency will enhance public trust and reduce concerns regarding misuse of funds.

5. Build Institutional Capacity

- a. The government should strengthen monitoring and audit mechanisms through technology-driven oversight systems.
- b. Capacity-building programmes should be conducted to help organizations understand and comply with FCRA requirements.

6. Promote Stakeholder Consultation

- a. Periodic consultations should be held between the government, civil society organizations, and experts before introducing major regulatory changes.
- b. Such engagement can improve policy design and reduce implementation challenges.

7. Encourage Development-Oriented Partnerships

- a. The regulatory framework should facilitate foreign contributions for education, healthcare, disaster relief, social welfare, and sustainable development activities.
- b. Genuine developmental initiatives should not be adversely affected by compliance-related hurdles.

Conclusion: The new FCRA framework represents a significant shift toward tighter regulation of foreign contributions in India. The amendments seek to improve transparency, accountability, and monitoring of foreign-funded activities while preventing misuse of funds. However, effective implementation should balance regulatory oversight with the need to preserve the legitimate functioning of civil society organizations in a democratic society.

Question: The recent amendments to the Foreign Contribution Regulation Act (FCRA) framework reflect the government's attempt to strengthen accountability and transparency in the utilization of foreign funds. Examine the key changes and discuss their implications for civil society organizations in India.

Source: [Indian Express](#)

Clearing the Road to Timely Trauma Care in India

UPSC Syllabus: Gs Paper 2- Issues relating to development and management of Social Sector/Services relating to Health,

Introduction

On 26 May 2026, the **Supreme Court of India** recognised the **Right to Trauma Care** as part of the **Right to Life under Article 21**. The judgment aims to build a uniform and enforceable trauma care system across the country. It shifts the focus from isolated hospital treatment to an integrated emergency response that begins at the accident site and continues until definitive medical care, making timely trauma care a constitutional responsibility of the State.

Need for a Robust Trauma Care System

1. **High burden of trauma deaths:** Around **4.67 lakh Indians** die every year due to road crashes, falls, burns, drowning, industrial accidents, fires and disasters. **Road crashes alone cause nearly 1.77 lakh deaths**, while trauma remains the leading cause of death among people aged **18–45 years**.
2. **Many deaths are preventable:** The **Law Commission (201st Report)** estimated that **half of road crash deaths** could be prevented through timely medical care. A **2021 NITI Aayog–AIIMS Emergency and Injury Care Report** found that **at least 30% of deaths** are linked to delays in emergency response.
3. **Existing policies lack effective implementation:** India already has several policies and guidelines on emergency care. However, the country still lacks a **uniform and enforceable trauma care framework** that ensures equal access across all States.
4. **Trauma care is a complete system:** Survival depends on the entire **chain of survival**, including bystanders, emergency calls, ambulances, trained personnel and hospitals. Failure at any stage can reduce the patient's chances of survival.

5. **Emergency care should not depend on chance:** Access to trauma care has often depended on location, ambulance availability and hospital capacity. The judgment makes timely trauma care a constitutional right instead of leaving survival to circumstances.
6. **Benefits extend beyond road accidents:** Trauma care is needed for injuries caused by falls, burns, industrial accidents, disasters and other emergencies. A stronger trauma system improves emergency care for all seriously injured patients.

Supreme Court Recognition of Right to Trauma Care

1. **Trauma care brought under Article 21:** The Supreme Court held that the **Right to Trauma Care** is an integral part of the **Right to Life**. The right extends from the site of injury until the patient receives definitive hospital treatment.
2. **Built upon earlier judgments:** The Court expanded the principles laid down in **Parmanand Katara (1989)**, which recognised the duty of doctors to provide emergency care, and **Paschim Banga Khet Mazdoor Samiti (1996)**, which linked emergency medical care with Article 21.
3. **Positive obligation on the State:** The judgment places a constitutional duty on governments to build and sustain an integrated trauma response system. It makes emergency care a responsibility of the State rather than only a hospital service.
4. **System approach to saving lives:** The Court recognised that even a well-equipped hospital cannot compensate for delayed transport or poor emergency response. Every link in the trauma care system must function together.

Major Directives of the Supreme Court

1. **Integrated emergency communication:** All emergency numbers, including **100, 101, 102, 108, 1033 and 1091**, along with State variants, must be integrated into **helpline 112** within three months. Governments must also create public awareness about the unified helpline.
2. **Protection for Good Samaritans:** Every State must establish physical and digital grievance redress systems for **Good Samaritans**. State and district-level nodal authorities will address complaints and protect citizens who assist accident victims.
3. **Strengthening pre-hospital care:** All public and private ambulances must follow the **National Ambulance Code (AIS-125)**. They should carry GPS linked to **112**, undergo regular audits, and States must adopt the notified **Emergency Medical Technician (EMT)** curriculum.
4. **Improving hospital preparedness:** States must grade and designate trauma care facilities so that their capabilities remain transparent. The **Ministry of Health and Family Welfare** will also notify a national medical rescue protocol and a common Trauma Registry format.
5. **Financial support for victims:** States have been directed to operationalise **PM RAHAT**, the Centre's cashless treatment scheme for road crash victims, within eight weeks. Failure to implement it will amount to a violation of the **Motor Vehicles Act**.

Role of Cooperative Federalism

9 PM Compilation June 2026

1. **Shared constitutional responsibility:** Public health, hospitals and ambulance services fall under the **State List**. Therefore, building a national trauma care system requires continuous cooperation between the Union and the States.
2. **Union as an enabling authority:** The Court accepted that the Union should act as an enabler while States lead implementation. Both levels of government must work together through sustained and coordinated efforts.
3. **Judicial support to existing initiatives:** The judgment strengthens existing programmes such as **PM RAHAT** (Prime Minister – Road Accident Victims' Hospitalisation and Assured Treatment), **Emergency Response Support System (112)**, the **National Ambulance Code**, the **EMT curriculum**, the **Good Samaritan Rules** and the Health Ministry's trauma care guidelines.
4. **Commitment from States and UTs:** Compliance affidavits submitted by **34 States and Union Territories** showed willingness to adopt national standards and improve trauma care services.

Global Best Practices in Trauma Care

1. **Integrated trauma networks save lives:** Countries such as the **United States** and the **United Kingdom** have developed organised trauma networks that connect ambulances with specialised trauma centres. This has improved survival and patient outcomes.
2. **Strong coordination improves emergency response:** **Australia** has integrated ambulance services, retrieval systems and trauma centres across large geographical areas. **Israel** combines trauma care with disaster preparedness and emergency management.
3. **Common features of successful systems:** Effective trauma systems share common principles such as rapid access to care, coordinated services, trained personnel, data-driven decision-making, accountability and continuous quality improvement. These practices provide useful lessons for India while allowing solutions suited to its own scale and diversity.

Challenges in Implementing Trauma Care Reforms

1. **Uneven capacity across States:** States differ widely in healthcare infrastructure and administrative capacity. This may affect uniform implementation of the Court's directions.
2. **Weak emergency response systems:** Ambulance networks remain uneven and emergency helpline integration has progressed slowly in several regions. These gaps delay timely medical care.
3. **Need for trained emergency workforce:** India requires more **Emergency Medical Technicians, paramedics, trauma nurses, emergency physicians, trauma surgeons, dispatch professionals, trauma coordinators and rehabilitation specialists**. A strong trauma system depends on trained personnel at every level.
4. **Effective monitoring remains essential:** The Court has directed Chief Secretaries to submit **Action Taken Reports**, while the **Attorney General of India** will monitor implementation. States must now demonstrate measurable progress before the Court.

Conclusion

The Supreme Court has transformed timely trauma care **from a policy objective into a constitutional guarantee under Article 21**. The priority now is **effective implementation of the Court's directions** through stronger coordination, accountable emergency response systems and continuous monitoring. Success will depend on ensuring that every injured **person receives timely, accessible and quality trauma care, regardless of where an emergency occurs**.

Question for practice:

Examine the significance of the Supreme Court's recognition of the Right to Trauma Care under Article 21 and discuss the measures needed for building an integrated trauma care system in India.

Source: [The Hindu](#)

Sustaining India's Low-Fertility Future

UPSC Syllabus: Gs Paper 1- population and associated issues

Introduction

India has entered a new demographic phase as its Total Fertility Rate (TFR) has declined to 1.9, below the replacement level of 2.1. The country has become a low-fertility nation, but not one demographic economy, as fertility levels vary widely across States and between rural and urban areas. This shift moves India's focus from population growth to ageing and will shape its labour market, economy, healthcare, migration and social security in the coming decades.

Understanding India's Fertility Transition

- Declining Fertility Levels:** India's TFR has fallen from 4.3 in 1985 to 1.9 in 2024. The decline has been steady, and current trends suggest it may fall below 1.6 by 2031.
- Below Replacement Fertility:** A TFR below replacement means births are no longer enough to replace the parent generation. In India, replacement fertility is estimated at about 2.15-2.2 because of a skewed sex ratio at birth and higher female mortality.
- Regional Differences:** Fertility levels differ widely across States. Delhi (1.2), Kerala, Tamil Nadu and West Bengal (1.3) have very low fertility, while Bihar (2.9), Uttar Pradesh (2.6), Madhya Pradesh (2.4) and Rajasthan (2.3) remain above or close to replacement levels.
- Rural-Urban Divide:** Rural TFR is around 2.1, while urban TFR has fallen to 1.5. As urbanisation expands, the national fertility rate is likely to decline further.
- Changing Family Aspirations:** Couples are increasingly choosing smaller families. The earlier preference for two children is gradually shifting towards one-child or no-child families, especially in urban areas.
- Reasons Behind the Decline:** Higher female education, delayed marriage, financial pressures, better access to contraception, urbanisation, and the decline of joint families have reduced fertility across the country.

Key Demographic Trends and Emerging Concerns

1. **Different Demographic Stages Across States:** India has entered low fertility as a country but not as a single demographic economy. Some States are ageing rapidly, while others will continue adding young workers over the next two decades.
2. **Population Momentum:** India's population will continue growing for some time because of a large working-age population and rising life expectancy. However, today's lower fertility will reduce the size of the future workforce.
3. **Growing Elderly Population:** India currently has about **150 million people aged 60 years and above**. This number is projected to reach **347 million by 2050**, nearly **one-fifth of the population**.
4. **Changing Dependency Pattern:** A smaller workforce and a larger elderly population will increase pressure on pensions, healthcare and public finances. The demographic burden will become more visible between **2045 and 2060**.
5. **Migration and Labour Mobility:** Ageing States will increasingly depend on workers from younger States. They should treat migrant workers as **citizens who sustain their economies rather than temporary labour**, while ensuring portable welfare benefits across States.
6. **Global Comparison:** Delhi's TFR is 1.2, while Kerala, Tamil Nadu and West Bengal are at 1.3. These levels are **lower than the United States (1.6), Finland (1.4) and Japan (1.3)**, showing that some Indian States have already entered very low-fertility levels.

Socio-Economic Challenges of a Low-Fertility India

1. **Weak Fiscal Capacity:** Unlike many developed countries, India is entering population ageing before building a strong tax base, formal workforce and welfare system.
2. **Large Informal Workforce:** Most workers are employed in the informal or semi-formal sector. Since their incomes are uncertain, they cannot regularly contribute to pension schemes meant for formal employment.
3. **Limited Social Security:** Existing pension support remains inadequate for old-age security. The **Atal Pension Yojana** depends on regular contributions, while the **National Social Assistance Programme** provides only **₹200 per month for people aged 60–79 and ₹500 for those above 80**.
4. **Growing Elderly Dependence:** NITI Aayog estimates that **70% of elderly people depend on others and 78% have no pension coverage**. This shows the need for a basic **inflation-indexed minimum pension floor** along with contributory pension systems.
5. **Changing Family Support:** Joint families, co-resident children and unpaid family care have long supported elderly people. Urbanisation, migration, nuclear families and women's educational and work aspirations are weakening this traditional support system, making stronger public care and welfare systems increasingly necessary.
6. **Healthcare Burden of Ageing:** Healthcare needs are shifting towards long-term management of **hypertension, diabetes, dementia, disability and palliative care**. Geriatric care must become part of nursing, primary healthcare and district health planning.

7. **Political and Regional Impact:** States with very low fertility may face **reduced parliamentary representation**, tighter labour supply and higher costs of supporting an ageing population, while younger States will continue adding workers.

Way Forward for a Sustainable Low-Fertility Future

1. **Strengthen Social Security:** Build an **inflation-indexed minimum pension floor** to provide basic income security for elderly people who remain outside formal pension systems.
2. **Expand Geriatric Healthcare:** Continue mission-mode public investment by integrating geriatric care into **primary healthcare, nursing practice and district health planning**.
3. **Invest in Younger States:** Improve **education, healthcare and skill development** so that young workers from high-fertility States can access better employment opportunities.
4. **Ensure Portable Welfare Benefits:** Welfare entitlements should move with migrant workers across State borders. A national labour market cannot depend on benefits linked only to domicile.
5. **Support Productive Employment:** Create productive jobs in younger States while preparing ageing States to absorb migrant workers as equal contributors to their economies.
6. **Encourage Evidence-Based Policy:** Updated demographic data should guide public debate and policymaking as India prepares for long-term demographic change.
7. **Strengthen Public Care Systems:** As family support declines, public welfare, elderly care and social protection systems should gradually take greater responsibility.

Conclusion

India's low-fertility future is now a reality rather than a distant possibility. The country must prepare for aging while using its remaining demographic dividend. Stronger social security, healthcare, skilled employment and portable welfare are essential. As traditional family support weakens, stronger public institutions must gradually take greater responsibility for ensuring a sustainable and inclusive demographic transition.

Question for practice:

Evaluate the implications of India's declining fertility rate for its economy, labour market, healthcare system, and social security, and suggest measures to ensure a sustainable low-fertility future.

Source: [The Hindu](#)

Passport and Citizenship Debate

Introduction:

India's Ministry of External Affairs (MEA) has recently clarified that an Indian passport is primarily a travel document to facilitate international movement and does not serve as conclusive, legal proof of citizenship. The statement, made during Passport Seva Divas, has sparked public confusion and debate, highlighting a long-standing legal framework regarding Indian identity documents.

What is the legal basis for citizenship in India?

- The legal basis for citizenship in India rests on a dual framework: The Constitution of India and the Citizenship Act of 1955.
- **Constitution of India:**
 - The Constitution outlines who was eligible for citizenship at the commencement of the Constitution on January 26, 1950.
 - It intentionally left the specifics of future citizenship laws to the Indian Parliament. Article 11 granted absolute power to the Parliament to enact laws regulating the acquisition and termination of citizenship.
- **Citizenship Act of 1955:** Acquisition of Indian citizenship is governed by the Citizenship Act of 1955 & the Rules made there under. The Citizenship Act, 1955 details exactly how an individual can acquire or lose Indian citizenship. There are five pathways to acquire it - by birth, descent, registration, Naturalization & Incorporation of Territory.

What is the debate over whether a passport can be considered proof of citizenship?

- The debate has arisen because neither the Constitution nor the Citizenship Act recognizes any single document as definitive proof of citizenship. Yet, under the Citizenship Rules, 2003, those seeking Indian citizenship under certain provisions are required to produce copies of their parents' passports as proof that their parents are Indian citizens.
- Passports are governed by the Passports Act, 1967, while citizenship is determined by the Citizenship Act, 1955. A passport is issued because the government is satisfied at that moment that you are a citizen. However, the passport itself does not create or permanently guarantee that status.
- Under Section 20 of the Passports Act, the Central Government holds the power to issue a passport to a non-citizen or stateless person under special humanitarian or public interest circumstances. Because non-citizens can legally hold a passport in rare cases, the document cannot be deemed an absolute, unassailable proof of citizenship.

What have been the Supreme Court's observations on this debate?

- **The SIR Hearings Observation:** A Supreme Court bench observed that passports and birth certificates carry greater evidentiary value than many other documents used for electoral roll verification. However, they are only part of a broader list of acceptable documents and cannot be treated as conclusive proof in every legal situation.
- **State of Andhra Pradesh v. Abdul Khader (1962):** The Supreme Court established that a passport functions as evidence of nationality, but it cannot be accepted blindly. To determine actual citizenship, the court must examine fundamental constitutional criteria, including birth, domicile, and migration history.
- **Sarbananda Sonowal v. Union of India (2005):** The Supreme Court emphasized that the burden of proof rests entirely on the individual claiming citizenship. Producing a single document like a passport does not automatically satisfy this burden if the underlying qualifications are challenged.
- **The Bombay High Court Ruling (2013):** The court refused to grant relief to individuals accused of being illegal immigrants, even though they produced passports, birth certificates, and Aadhaar cards.

What challenges arise in establishing citizenship through documents in India?

- India does not issue universal citizenship certificates like many other countries. Citizenship certificates are issued only for a limited category of people in India - those who acquire citizenship through registration or naturalization. But the majority of the Indians are citizens by birth.
- India's civil registration system evolved unevenly, and universal birth registration is a relatively recent phenomenon. Consequently, for millions of Indians, citizenship has traditionally been established through a combination of documents and records rather than a single definitive document.

What steps has the government taken to address the issue of documentary proof of citizenship in India?

1. **National Register of Citizens (NRC):** The closest India came to creating a document was through the National Register of Citizens (NRC). The 2003 amendment to the Citizenship Act created a legal mandate for a nationwide NRC. While a pan-India NRC has not been implemented, an NRC was updated for Assam and published in 2018.

2. **Clarifying the Status of Existing Documents:** The government and courts have repeatedly clarified that no single document is conclusive proof of citizenship in India:
 - a. **Aadhaar:** The Supreme Court has explicitly ruled that Aadhaar is proof of identity and residence, not citizenship.
 - b. **Passport:** The Ministry of External Affairs has clarified that a passport is primarily a travel document.
 - c. **Voter ID:** The Election Commission of India (ECI) maintains that a Voter ID proves enrollment in the electoral roll, but it is not automatically a standalone legal proof of citizenship.
3. **Documenting the Process for New Citizens:** For individuals born abroad to Indian parents, the government requires a formal online registration of birth to establish citizenship, including a declaration that the minor child holds no other country's passport.

Conclusion: The debate over whether a passport can be used as proof of citizenship ultimately underscores the need for a clear, simple, and universally accepted standard for establishing citizenship, which lies at the core of an individual's rights and obligations within the state.

Mains Question: "The absence of a universally accepted proof of citizenship creates uncertainty for both citizens and the State." Examine in light of the recent debate on passports as proof of citizenship.

Source: [Indian Express](#)

Revisiting India's Ultrasound Laws

UPSC Syllabus: Gs Paper 2- Issues relating to development and management of Social Sector/Services relating to Health.

Introduction

India's Pre-Conception and Pre-Natal Diagnostic Techniques (PCPNDT) Act, 1994 was enacted to prevent prenatal sex determination and protect the declining child sex ratio. However, advances in portable ultrasound and artificial intelligence (AI) have expanded the medical use of ultrasound beyond obstetrics, particularly for early diagnosis in rural areas. This has raised important questions about whether the existing regulatory framework continues to balance the objectives of gender justice and accessible healthcare.

PCPNDT Act: Background, Objectives and Key Provisions

1. **Historical Need for the Law:** The spread of amniocentesis and ultrasound during the 1970s–1990s enabled prenatal sex determination in a society with a strong preference for sons. This led to widespread sex-selective abortions.
2. **Objectives of the PCPNDT Act:** The Act was enacted in 1994 to prohibit prenatal sex determination and prevent the misuse of diagnostic technologies. It also sought to address gender discrimination and protect the declining child sex ratio while fulfilling India's commitments to gender equality.
3. **Regulation of Ultrasound Services:** The Act requires all genetic clinics, ultrasound centres and laboratories to be registered. It prohibits the disclosure of the foetus's sex and prescribes strict monitoring, record keeping and penalties for violations.
4. **Strict Control over Ultrasound Machines:** Ultrasound machines can only be purchased by registered centres after government approval. Manufacturers must verify buyers, maintain transaction records and ensure that machines remain at their registered locations.

5. **Protection of Gender Equality:** The law recognises that preventing sex selection is essential to protect the dignity and equal worth of girls before birth. At the same time, it is not intended to weaken safe abortion access or women's reproductive rights.

Achievements of the PCPNDT Act

1. **Established a Strong Regulatory Framework:** The Act created a nationwide legal system to regulate ultrasound technology, monitor diagnostic centres and prohibit prenatal sex determination. It made misuse of ultrasound for sex selection a punishable offence.
2. **Improvement in Sex Ratio at Birth:** India's sex ratio at birth has gradually improved after the introduction of the Act. However, available evidence does not conclusively establish that this improvement resulted only from the law, as education, urbanisation and changing social attitudes also played important roles.
3. **Expansion of Monitoring Mechanisms:** The number of registered diagnostic centres increased from 49,544 (March 2014) to 98,595 (June 2025). This reflects a significant expansion of the regulatory system governing ultrasound services.
4. **Reinforced Gender Equality:** The Act recognised that sex-selective abortion is rooted in gender discrimination rather than medical practice alone. It established an important legal safeguard against practices that deny equal value to girls before birth.

Limitations of the Existing Framework

1. **Limited Success in Eliminating Sex Selection:** Illegal prenatal sex determination continues despite decades of prohibition. Crackdowns, including an organised racket uncovered in Karnataka in October 2025, show that such activities continue through informal networks and portable devices.
2. **Enforcement Focuses More on Compliance than Outcomes:** Implementation is largely measured through registrations, inspections, machine seizures and legal cases instead of actual prevention of sex selection. Around 68% of reported violations were procedural, showing that paperwork often receives greater attention than criminal misuse.
3. **Fear among Genuine Healthcare Providers:** Strict penalties, complex documentation and the risk of machine seizure have created fear among doctors and hospitals. Even minor clerical mistakes can result in legal action, discouraging the wider use of ultrasound for legitimate medical care.
4. **Unintended Social Consequences:** Where son preference continues, families with a first-born girl often have more children in the hope of having a son. Studies associate this with a 25% higher child mortality among first-born girls, reduced investment in health and education, and greater pressure on poorer rural households.
5. **Law Alone Cannot Change Social Norms:** Evidence from India and the Indian diaspora in countries such as the United Kingdom and Australia shows that son preference can persist despite strict regulation. This highlights that legal restrictions alone cannot eliminate deep-rooted gender bias and must be supported by broader social change.

Technological Advances and the Need for Reform

- 1. Changing Nature of Ultrasound Technology:** The Act was framed when ultrasound was mainly used for obstetric imaging. Today, ultrasound is widely used in emergency medicine, trauma care, anaesthesia, cancer diagnosis and other clinical specialties, requiring a more differentiated regulatory approach.
- 2. Portable Ultrasound Can Improve Rural Healthcare:** Portable and handheld ultrasound devices now make it possible to provide diagnostic services closer to patients' homes. This can improve early detection of diseases such as breast cancer, especially in rural areas where nearly 70% of India's population lives.
- 3. Current Law Has Not Kept Pace with Technology:** The PCPNDT Act treats the movement of ultrasound machines outside registered centres as a serious offence. As a result, portable devices that can safely support community healthcare remain largely unavailable for legitimate medical use.
- 4. Same Rules for Different Medical Uses:** Modern high-frequency linear probes used for breast cancer and other superficial conditions cannot determine foetal sex. Yet they are regulated under the same provisions as obstetric ultrasound, limiting access to essential diagnostic services.
- 5. Growing Role of Artificial Intelligence (AI):** AI-enabled ultrasound systems can assist in image acquisition, interpretation and automated reporting. Such technologies can support purpose-specific diagnosis while reducing the possibility of misuse for prenatal sex determination.
- 6. AI Can Strengthen Early Cancer Detection:** A pilot study found that AI-assisted portable ultrasound accurately identified all confirmed breast cancer cases, even when scans were performed by people with limited training. This can help frontline health workers identify suspicious cases and refer patients for timely treatment.
- 7. Importance for Rural Cancer Care:** Unlike many Western countries that rely mainly on mammography, India can expand early diagnosis through community-based ultrasound because it requires fewer resources and can improve access in underserved areas.

The Way Forward

- 1. Separate Obstetric and Non-Obstetric Ultrasound:** The regulatory framework should distinguish ultrasound used for pregnancy from ultrasound used in emergency care, trauma, anaesthesia, cancer diagnosis and other medical conditions. This will reduce unnecessary restrictions on legitimate healthcare services.
- 2. Legalise Community-Based Diagnostic Services:** The Act should permit community-based ultrasound using high-frequency linear probes, as these cannot determine foetal sex. This can improve access to early diagnosis, particularly in rural and underserved areas.
- 3. Adopt Risk-Based Regulation:** Portable ultrasound devices should be regulated through training standards, device registration, digital records and random inspections instead of treating machine

mobility itself as the main risk. This can improve compliance while supporting wider healthcare access.

4. **Modernise Monitoring Systems:** Paper-based compliance should be replaced with secure digital systems such as encrypted image logs, machine-use records, geotagged scans and tamper-resistant data storage. These measures can improve monitoring without creating unnecessary administrative burdens.
5. **Evaluate the Law Using Better Evidence:** A national assessment should examine how much improvement in the sex ratio is due to the Act and how much results from education, urbanisation, fertility decline and changing social attitudes. Public reporting should focus on convictions, offence types and trial outcomes instead of only inspections and registrations.
6. **Update the Law for Emerging Technologies:** The Act should permit community-based ultrasound using high-frequency linear probes and include provisions for AI-enabled ultrasound systems that are designed to prevent foetal sex determination or disclosure.

Conclusion

The PCPNDT Act remains an essential safeguard against sex-selective practices, but its regulatory framework should evolve with changing medical technologies. India needs a balanced, risk-based approach that continues to prevent misuse while expanding access to safe, affordable and community-based diagnostic services. Such reforms can strengthen both gender justice and public healthcare.

Question for practice:

Evaluate the need to reform India's PCPNDT Act in light of advances in ultrasound technology and changing healthcare needs.

Source: [The Hindu](#)

MSMEs: Time to Step Up

UPSC Syllabus: Gs Paper 3- Indian economy

Introduction

Micro, Small and Medium Enterprises (MSMEs) are a major pillar of India's economy and play an important role in employment, manufacturing and exports. Despite their strong contribution, many enterprises remain small and struggle to grow into competitive medium-sized businesses. With **31.1% contribution to GDP, 35.4% to manufacturing output** and **48.58% to exports**, India's next phase of economic growth depends on helping MSMEs scale, innovate and become sustainable enterprises.

MSMEs as the Pillars of India's Economy

1. **Economic Contribution:** MSMEs play a major role in India's economy by contributing **31.1% of GDP, 35.4% of manufacturing output** and **48.58% of exports**. Their strong presence makes them an important driver of economic growth.

2. **Employment Generation:** The sector provides employment to **32.8 crore people** and is India's second-largest employer after agriculture. It creates livelihood opportunities across both rural and urban areas.
3. **Entrepreneurship and Inclusive Growth:** MSMEs encourage first-generation entrepreneurs, women entrepreneurs and youth-led enterprises. They also support artisans, rural enterprises, startups and innovative manufacturers.
4. **Regional Development:** The sector promotes balanced development by creating business opportunities in semi-urban and rural areas. It strengthens local economies through manufacturing, services and traditional industries.
5. **Formalisation and Transformation:** Digitalisation, formalisation and policy support are expanding the reach of MSMEs. These reforms are improving access to finance, technology, markets and government schemes.

Why India's MSMEs Need to Scale Up

1. **Limited Growth Beyond Micro Enterprises:** India has millions of micro enterprises, but only a small number grow into medium-sized businesses. This limits productivity, quality employment and export growth.
2. **Need for Business Support:** Many enterprises struggle during their early years and fail to reach their full potential. Better advisory services, mentoring, formalisation support and growth capital can improve their survival and expansion.
3. **Working Capital Constraints:** Timely liquidity is essential for meeting large orders and managing long payment cycles. Greater focus on seller financing can help enterprises scale in a sustainable manner.
4. **Focus on Long-Term Institutions:** The goal should not only be to increase the number of MSMEs. More enterprises should develop into stable and competitive institutions that can grow over time.
5. **Changing Global Opportunity:** As global supply chains diversify, India has an opportunity to become a stronger manufacturing and export hub. However, this requires MSMEs to become larger, more productive and globally competitive.

Government Initiatives Strengthening the MSME Ecosystem

1. **Improving Formalisation:** The MSME definition was revised from **1 April 2025** by increasing the **investment and annual turnover limits**. This gives enterprises more room to expand while continuing to receive policy support. Registrations under the **Udyam Registration Portal** and **Udyam Assist Platform** crossed **8.7 crore** by **June 2026**, improving access to finance, markets and government schemes.
2. **Expanding Access to Finance:** The **Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE)** strengthened collateral-free lending by increasing the guarantee limit from **₹5 crore to ₹10 crore**. The **Digital Credit Assessment Model**, enhanced support to the **Small Industries**

Development Bank of India (SIDBI) and the **Self-Reliant India (SRI) Fund** further improved access to institutional finance and equity support.

3. **Promoting Entrepreneurship and Self-Employment:** The **PM Vishwakarma Scheme** supports artisans in **18 traditional trades** through skill training, concessional credit, digital enablement and marketing support. The **Prime Minister's Employment Generation Programme (PMEGP)** promotes self-employment by supporting new micro-enterprises through credit-linked subsidies and has generated employment for **more than 97 lakh people**.
4. **Strengthening Rural Enterprises:** The **A Scheme for Promotion of Innovation, Rural Industry and Entrepreneurship (ASPIRE)** promotes rural entrepreneurship through skill development, incubation and micro-enterprise support.
5. **Improving Competitiveness:** The **MSME Champions Scheme** promotes innovation, design, intellectual property protection, quality manufacturing through **Zero Defect Zero Effect (ZED)** certification, and operational efficiency through **Lean Manufacturing (LEAN)** practices. These initiatives help MSMEs become more productive and globally competitive.
6. **Technology, Governance and Market Access:** **Technology, Governance and Market Access:** Technology Centres and Extension Centres support skill development and innovation. The **Samadhaan Portal, CHAMPIONS Portal, Online Dispute Resolution Portal** and **MSME Sambandh Portal** improve grievance redressal, address delayed payments and strengthen market access.
7. **Promoting Inclusive and Regional Growth:** The **National SC-ST Hub (NSSH)**, the **Promotion of MSMEs in North Eastern Region and Sikkim Scheme**, and the **RAMP Scheme** improve market access, infrastructure, capacity building and Centre-State cooperation. Together, these initiatives strengthen enterprise development across different regions and social groups.

Emerging Opportunities for MSMEs

1. **Digital Commerce and Credit:** India's digital public infrastructure has transformed identity and payments. The next step is to strengthen commerce and credit through platforms such as the **Trade Receivables Discounting System (TReDS)**, wider seller financing and specialised **business-to-business (B2B)** ecosystems that improve working capital, transparency and business efficiency.
2. **Artificial Intelligence for Productivity:** AI can improve inventory management, forecasting, customer engagement and compliance without large investments. These technologies should become affordable and available beyond metropolitan cities so that productivity gains reach more enterprises.
3. **Women-led Enterprises:** Women own **more than one-fifth of MSMEs** registered on the Udyam platform. Better access to finance, markets and business networks can increase their contribution to employment and strengthen local economies.
4. **Global Manufacturing and Export Potential:** India contributes only **2.9% of global manufacturing value added** and **1.8% of global merchandise exports**. This provides significant scope for MSMEs to deepen their participation in global value chains and strengthen India's manufacturing base.

5. **Global Cooperation:** India strengthened international cooperation by hosting the **First BRICS MSME Forum** and the **Third SME Working Group Meeting in June 2026**. The discussions focused on access to finance, technology adoption and sustainable MSME growth.

Way Forward

1. **Support Enterprise Scaling:** The focus should shift from creating more MSMEs to helping existing enterprises become sustainable and competitive medium-sized businesses.
2. **Expand Access to Finance:** Greater access to seller financing, working capital, equity support and timely credit can help enterprises manage cash flow and expand their operations.
3. **Strengthen Digital and Technology Adoption:** Digital infrastructure should make commerce easier by improving market linkages and access to capital. Affordable AI and technology should reach enterprises across the country.
4. **Promote Inclusive Growth:** Women entrepreneurs, rural enterprises, artisans and enterprises from the North East and SC/ST communities should receive stronger support to improve participation in markets and employment generation.
5. **Build Competitive MSMEs:** Continued reforms, innovation, skill development, technology support and stronger integration with global value chains can improve productivity and export competitiveness.

Conclusion

MSMEs have become a strong pillar of India's economy through their contribution to **employment, manufacturing, exports and entrepreneurship**. Continued reforms, easier access to finance, wider technology adoption and stronger market linkages can help more enterprises grow, compete globally and contribute to the vision of **Viksit Bharat 2047**, making the next decade a decade of **scale rather than survival**.

Question for practice:

Discuss the role of Micro, Small and Medium Enterprises (MSMEs) in India's economy and examine the measures needed to help them scale into competitive and sustainable enterprises.

Source: [Businessline](#)

Population Dynamics and Cooperative Federalism

Source: The post "**Population Dynamics and Cooperative Federalism**" has been created based on "**More children isn't the answer to delimitation, tax challenges**", published in "Indian Express" on 27th June 2026.
UPSC Syllabus: GS 2-Governance

Context: India's **Total Fertility Rate (TFR)** has declined to **1.9 (SRS 2024)**, indicating steady progress towards population stabilisation. However, wide demographic differences among states have raised concerns regarding **delimitation, political representation and tax devolution**.

Current Population Trends

1. **Population Peak:** India's population is projected to peak at around **170 crore by 2062** before declining.
2. **Slow Progress:** Population stabilisation is gradual, and demographic challenges still persist.
3. **Gender Imbalance:** The **sex ratio at birth is 918**, indicating a continuing "girl deficit".
4. **State Divergence:** Bihar (TFR 2.9) and Uttar Pradesh (2.6) remain well above the national average of 1.9.

Reasons for Demographic Divergence

1. **Education Gap:** Lower female education levels in Bihar and Uttar Pradesh delay fertility decline.
2. **Women Empowerment:** Limited empowerment reduces women's ability to make reproductive choices.
3. **Low Contraceptive Use:** Contraceptive use remains lower than the national average in high-fertility states.
4. **Healthcare Deficit:** Family welfare and reproductive health services require further strengthening.

Why Raising Fertility is Not the Solution

1. **No Population Shortage:** India is still far from population stabilisation and does not face a population deficit.
2. **Economic Reality:** Lack of population is not the factor restricting economic growth of states.
3. **Limited Impact:** International experience shows that one-time financial incentives rarely increase fertility sustainably.
4. **Resource Burden:** Higher fertility would increase pressure on employment, healthcare, education and public resources.

Implications for Cooperative Federalism

1. **Delimitation Concerns:** States with lower fertility fear losing political representation after delimitation.
2. **Fiscal Equity:** Population-based resource allocation may disadvantage states that successfully controlled population growth.
3. **Political Balance:** Population size should not become the sole determinant of political influence.
4. **Inter-State Trust:** Fair institutional arrangements are essential to maintain cooperative federalism.

Way Forward

1. **Women's Education:** Expand female education and empowerment programmes in high-fertility states.
2. **Family Planning:** Strengthen contraception access and reproductive healthcare services.
3. **Institutional Reforms:** Address delimitation concerns through constitutional and institutional mechanisms rather than population policy.
4. **Balanced Tax Devolution:** Continue using both **population** and **demographic performance** as criteria for Finance Commission devolution.
5. **Human Capital Focus:** Improve population quality through better health, nutrition and education.
6. **Reliable Data:** Conduct the Census at the earliest for evidence-based demographic planning.

Conclusion: India should not encourage higher fertility to address political or fiscal concerns. Instead, **cooperative federalism should be strengthened through institutional reforms**, while population policy should focus on **achieving demographic stability, gender equity and human capital development**.

Question: India's demographic divergence among states has important implications for cooperative federalism, delimitation and fiscal devolution. Discuss. Should population policy be used to address these challenges?

Source: [Indian Express](#)

India-New Zealand FTA, a modern trade partnership

Source: The post “**India-New Zealand FTA, a modern trade partnership**” has been created based on “**India-New Zealand FTA, a modern trade partnership**”, published in “The Hindu” on 27th June 2026.

UPSC Syllabus: GS Paper 3 – Indian Economy

Context: The recently proposed India–New Zealand FTA aims to deepen bilateral trade, investment and economic cooperation. The agreement focuses not only on tariff reduction but also on trade facilitation, regulatory cooperation and supply-chain integration.

Features of a Modern FTA

1. **Beyond Tariffs:** Emphasises regulatory predictability, customs efficiency and ease of doing business.
2. **Rules of Origin:** Product-specific origin rules ensure genuine preferential treatment and prevent transshipment.
3. **Compliance Focus:** Traceability and documentation have become essential for availing FTA benefits.
4. **Non-Tariff Measures:** Addresses technical barriers and regulatory bottlenecks alongside tariff concessions.

Significance of the India–New Zealand FTA

1. **Duty-Free Access:** New Zealand offers **100% tariff-line duty-free access** for Indian exports, enhancing export competitiveness.
2. **Labour-Intensive Boost:** Sectors such as textiles, apparel, leather and handicrafts will gain a pricing advantage.
3. **Services Expansion:** Improved market access will benefit IT, consulting, healthcare, engineering and education services.
4. **Investment Promotion:** The proposed **\$20 billion investment** over 15 years can strengthen bilateral economic ties.
5. **Trade Facilitation:** Faster customs clearance, digital certification and simplified procedures will reduce transaction costs.
6. **Regulatory Cooperation:** Streamlined approvals will benefit pharmaceuticals, food processing, chemicals and agriculture.
7. **Supply Chain Integration:** The FTA encourages greater integration into global and regional value chains.

Challenges in Implementation

1. **Compliance Burden:** Businesses must meet stringent Rules of Origin and documentation requirements.
2. **MSME Preparedness:** Smaller exporters may face difficulties in adapting to compliance standards.
3. **Sensitive Sectors:** India must continue protecting sectors such as dairy from import competition.
4. **Awareness Gap:** Many exporters underutilise FTAs due to limited knowledge of their provisions.

Way Forward

1. **Capacity Building:** Train exporters, especially MSMEs, on Rules of Origin and FTA compliance.

2. **Digital Ecosystem:** Strengthen digital customs and certification systems for seamless trade.
3. **Export Readiness:** Improve supply-chain documentation, HS classification and traceability mechanisms.
4. **Sectoral Strategy:** Promote exports in sectors with high comparative advantage.
5. **Regular Review:** Continuously monitor implementation and resolve emerging trade barriers.

Conclusion: The India–New Zealand FTA represents a shift from **tariff-centric** trade agreements to **facilitation-driven economic partnerships**. Its success will depend on effective implementation, regulatory cooperation and the ability of Indian businesses to leverage its opportunities through greater competitiveness and compliance.

Question. The India–New Zealand Free Trade Agreement (FTA) reflects the changing nature of modern trade agreements beyond tariff reduction. Discuss its significance and the challenges in its effective implementation.

Source: [The Hindu](#)

Supreme Court Sought Trauma Care System to Curb Road Deaths

UPSC Syllabus: Gs Paper 2- Issues relating to development and management of Social Sector/Services relating to Health,

Introduction

On **26 May 2026**, the Supreme Court recognised the **Right to Trauma Care** as part of the **Right to Life under Article 21** and directed States and Union Territories to build a uniform trauma care system. The judgment aims to reduce preventable deaths by strengthening emergency response during the **Golden Hour**, the first **60 minutes** after an accident, through better coordination, timely medical care and an integrated trauma response from the accident site to the hospital.

Need for a Robust Trauma Care System

1. **High burden of trauma deaths:** Around **4.67 lakh** people die every year due to road crashes, falls, burns, drowning, industrial accidents, fires and disasters. Road crashes alone account for nearly **1.77 lakh** deaths, while trauma is the leading cause of death among people aged **18–45 years**.
2. **Many deaths are preventable:** The **Law Commission (201st Report)** estimated that nearly half of road crash deaths can be prevented through timely treatment. A **2021 NITI Aayog–AIIMS Emergency and Injury Care Report** found that at least **30%** of trauma deaths are linked to delays in emergency response.
3. **Golden Hour is critical:** The first **60 minutes** after an accident are crucial for saving lives. Quick rescue, transport and treatment during this period can significantly improve survival.
4. **Trauma care is a complete system:** Trauma care begins at the accident site and continues until definitive hospital treatment. It depends on bystanders, emergency calls, ambulances, trained personnel and hospitals working together.
5. **Existing policies need stronger implementation:** India already has emergency care policies and guidelines, but they have not created a uniform and enforceable trauma care system across all States.

6. **Benefits extend beyond road accidents:** A strong trauma care system also improves emergency treatment for injuries caused by falls, burns, industrial accidents, disasters and other emergencies.

Supreme Court Recognition of the Right to Trauma Care

1. **Trauma care recognised under Article 21:** The Supreme Court held that the **Right to Trauma Care** forms an integral part of the **Right to Life**. The right extends from the place of injury until the patient receives definitive medical treatment.
2. **Based on earlier judicial decisions:** The judgment builds upon **Parmanand Katara (1989)** and **Paschim Banga Khet Mazdoor Samiti (1996)**, which recognised emergency medical care as part of Article 21.
3. **Constitutional duty of the State:** Governments now have a positive obligation to establish and maintain an integrated trauma response system. Emergency care is no longer viewed only as a hospital service.
4. **Shift to a systems approach:** The Court recognised that delayed transport or weak emergency response can reduce the effectiveness of even advanced hospitals. Every stage of trauma care must function together.
5. **Uniform and enforceable framework:** The judgment seeks to replace fragmented emergency care with a nationwide trauma care system that provides equal access across all States.

Major Directives of the Supreme Court

1. **Unified emergency communication:** All emergency helplines, including **100, 101, 102, 108, 1033 and 1091**, along with State variants, must be integrated into **112**. Governments must also spread public awareness about the common emergency number.
2. **Protection for Good Samaritans:** Every State must establish physical and digital grievance redress systems. State and district-level nodal authorities must protect citizens who assist accident victims.
3. **Stronger ambulance services:** Public and private ambulances must comply with the **National Ambulance Code (AIS-125)**. They should carry GPS linked to **112** and undergo regular audits.
4. **Training of emergency personnel:** States must adopt the notified **Emergency Medical Technician (EMT)** curriculum and strengthen paramedic training and accreditation.
5. **Better hospital preparedness:** States must grade trauma care facilities according to their capabilities. The Ministry of Health and Family Welfare will notify a national medical rescue protocol and a common **Trauma Registry** format.
6. **Financial support for victims:** States must operationalise **PM RAHAT**, the Centre's cashless treatment scheme for road crash victims, within the prescribed time. Failure to implement it will violate the **Motor Vehicles Act**.
7. **Administrative accountability:** The Supreme Court directed **Chief Secretaries** to ensure compliance with its directions across all concerned departments.

Implementation of the Supreme Court Directives

1. **Incomplete implementation:** Data submitted by **34 States and Union Territories** shows that **no State** has yet established a complete trauma care architecture as directed by the Supreme Court.
2. **Progress in 112 integration:** Only **Delhi, Kerala, Gujarat, Haryana and Lakshadweep** have reported complete integration with the **112 National Emergency Response System (NERS)**. Uttar Pradesh is close to full API integration, with only **102 emergency medical services** remaining.
3. **Integration of highway emergency services:** API-level integration of the **1033 highway helpline** with **112** has been completed in around **20 States**. This allows accident calls on national highways to be automatically shared with the highway management system.
4. **Improved system integration:** The migration to a software platform developed by **C-DAC**, which also runs the **112** emergency response system, is expected to speed up integration between different emergency services.
5. **State-level initiatives:** **West Bengal** has allocated **₹100 crore** for the Dial **112** helpline and plans to deploy one dedicated emergency vehicle in every police station for quicker response.
6. **Operational preparedness:** **Uttar Pradesh** has developed a Standard Operating Procedure (SOP) for **112** and established a command centre in Lucknow to improve emergency coordination.

Challenges in Building a National Trauma Care System

1. **Poor inter-departmental coordination:** Road accident response involves at least **six departments**—police, health, road agencies, district administration, insurance authorities and death registration offices. Weak coordination delays emergency response.
2. **Multiple emergency helplines:** Different emergency numbers such as **100, 101, 102, 108 and 1033** create confusion during emergencies. This affects timely access to emergency services.
3. **Need for effective command centres:** The **112** emergency system can function effectively only when district or State-level command centres can quickly deploy ambulances, police and other emergency resources.
4. **Uneven healthcare capacity:** States differ widely in healthcare infrastructure and administrative capacity. This makes uniform implementation of the Supreme Court's directions difficult.
5. **Shortage of trained emergency workforce:** India requires more Emergency Medical Technicians (EMTs), paramedics, trauma nurses, emergency physicians, trauma surgeons, dispatch professionals, trauma coordinators and rehabilitation specialists.
6. **Gaps in emergency preparedness:** Many States still need grievance redress systems for Good Samaritans, GPS-enabled ambulances, compliance with the **National Ambulance Code**, trained paramedics and graded trauma centres.

Way Forward

1. **Enact a Right to Trauma Care law:** A dedicated law can bring together all infrastructure and governance measures directed by the Supreme Court. It can also establish a **nodal authority** to ensure effective implementation.
2. **Strengthen cooperative federalism:** Public health, hospitals and ambulance services fall under the State List. The Union should support States while States lead implementation.
3. **Union as an enabling authority:** The Union should facilitate implementation through sustained coordination while respecting the States' primary role.
4. **Implement existing national initiatives:** Fully operationalise **PM RAHAT, Emergency Response Support System (112), the National Ambulance Code, the EMT curriculum, the Good Samaritan Rules** and Health Ministry trauma care guidelines.
5. **Complete nationwide 112 integration:** Integrate all emergency numbers with **112**, supported by district and State command centres and Standard Operating Procedures.
6. **Strengthen emergency infrastructure:** Expand GPS-enabled ambulances, trauma centres, EMT training, paramedic accreditation and hospital preparedness.
7. **Adopt integrated trauma networks:** Learn from countries such as the **United States** and the **United Kingdom**, where ambulances are linked with specialised trauma centres.
8. **Improve emergency coordination:** Draw lessons from **Australia's** integrated ambulance and retrieval systems and **Israel's** coordination of trauma care with disaster management.
9. **Promote data-driven governance:** Build trauma systems based on trained personnel, accountability, Trauma Registry data and continuous quality improvement.
10. **Ensure continuous monitoring:** Chief Secretaries, the Attorney General and other authorities should regularly review implementation and ensure measurable progress.

Conclusion

The Supreme Court has made timely trauma care a constitutional guarantee under **Article 21**. The priority now is effective implementation through coordinated institutions, stronger emergency infrastructure, trained personnel and sustained Union-State cooperation. A comprehensive trauma care system can reduce preventable deaths and ensure timely, accessible and quality emergency care for every injured person across the country.

Question for practice:

Evaluate the significance of the Supreme Court's recognition of the Right to Trauma Care under Article 21 in strengthening India's emergency trauma care system.

Source: [Indian Express](#)

The Iran-India Civilizational Relationship

UPSC Syllabus: Gs Paper 2- International Relations

Introduction

India and Iran share a **civilizational relationship spanning more than three millennia**, built on common ancestry, language, religion, trade, culture and political exchanges. These long-standing interactions shaped both societies through ancient, medieval and modern periods. Today, despite changing geopolitical realities, this relationship remains important because it combines a deep historical legacy with strategic interests, making India-Iran ties significant in both civilizational and contemporary foreign policy contexts.

Historical Foundations of India–Iran Relations

1. **Common Origins and Migration:** India and Iran emerged from a common Indo-Iranian cultural tradition. Around 2000–1500 BC, one branch settled in Iran while another entered the Indian subcontinent.
2. **Shared Linguistic and Geographical Heritage:** Sanskrit and Avestan belong to the same Indo-Iranian language family. Similar words, place names and rivers such as Sapta Sindhu–Hapta Hindu and Sarasvati–Haraxvaiti reflect their common roots.
3. **Common Religious Traditions:** The Rig Veda and the Avesta preserve many shared religious ideas. Fire rituals, sacred offerings, priests, and several early beliefs developed from a common Indo-Iranian tradition.
4. **Similar Social and Cultural Concepts:** Both societies followed comparable ideas of social organisation, sacred ceremonies, and moral order. The traditions of upanayana, yajna–yasna, and the concept of rita–asha reflect these similarities.
5. **Ancient Trade Networks:** Trade connected the Indus Valley Civilization with Iran and Mesopotamia through the Persian Gulf and the Arabian Sea. Harappans exchanged ivory while importing silver, copper, turquoise and lapis lazuli.
6. **Archaeological Evidence:** Similar pottery, seals, engraved stones and other archaeological remains found in Iran, Baluchistan and north-west India indicate sustained cultural interaction during ancient times.
7. **Shared Cultural Memory:** Indian and Iranian traditions preserve similar myths, festivals and historical memories. Nowruz, shared mythological figures and common symbolic practices reflect their long civilizational association.

Political and Cultural Exchanges Through History

1. **Achaemenid Contacts:** During the Achaemenid Empire (550–330 BCE), Gandhara and Sind formed part of the empire under Darius. Indian soldiers served in Persian armies while trade expanded across the region.
2. **Administrative Influence:** Persian administrative practices influenced north-west India. The use of satraps, inscriptions, and some political institutions reflected contacts between the two regions.
3. **Mauryan Connections:** Scholars associate Mauryan pillars, polished stone architecture, and monumental construction with Achaemenid influence. Political, artistic and commercial exchanges continued during this period.
4. **Expansion of Trade:** The introduction of coinage, wider trade routes and commercial exchanges strengthened economic links. India exported spices and imported precious metals, while agricultural products also moved across regions.

5. **Sassanian–Gupta Relations:** The Sassanian Empire and the Gupta Empire maintained diplomatic and commercial contacts. Embassies, merchants and physicians regularly travelled between the two regions.
6. **Spread of Knowledge:** Indian medicine, astronomy, literature and scientific ideas reached Persia through scholars and translations. Works like the Panchatantra and Charaka Samhita later spread further into West Asia.
7. **Religious and Intellectual Exchange:** Buddhism, Zoroastrianism and other traditions influenced each other across Central Asia. Religious ideas, artistic styles and philosophical concepts travelled in both directions.
8. **Medieval Integration:** The Delhi Sultanate and the Mughal Empire brought India into close contact with the Persianate world. This created stronger links in governance, diplomacy and intellectual life.
9. **Migration of Skilled People:** From the 16th century, thousands of Iranian scholars, poets, administrators, physicians, artists and merchants settled in India. They became an important part of the Mughal administration and cultural life.

Contributions of Iran to Indian Civilization

1. **Persian as the Language of Administration:** Persian became the language of governance, diplomacy and scholarship during medieval India. It was used by both Hindus and Muslims and became an important Indian language.
2. **Growth of Indo-Persian Literature:** Persian literary traditions blended with Indian ideas to create Indo-Persian literature, which became one of the major intellectual traditions of the early modern period.
3. **Architectural Heritage:** Iranian features such as the **arch, dome, aiwan, pishtaq** and **charbagh gardens** blended with Indian traditions. This fusion is visible in **Humayun's Tomb, Fatehpur Sikri, the gardens of Kashmir, Agra monuments and the Taj Mahal.**
4. **Contribution to Governance:** Iranian administrators and scholars strengthened the Mughal administrative system. Eminent figures such as Qazi Nurullah Shustari, Shah Fathullah Shirazi and Hakim Abul Fath Gilani played important roles.
5. **Development of Art and Painting:** Iranian painters contributed to the rise of the Mughal atelier and enriched Indian painting with new artistic techniques and styles.
6. **Expansion of Commercial Networks:** Iranian merchants connected India with trade routes stretching from Isfahan to the Mediterranean, strengthening India's commercial engagement with the wider world.
7. **Creation of a Cosmopolitan Society:** The Mughal Empire became a meeting place for Indians, Iranians, Central Asians, Arabs, Africans and Europeans. This interaction encouraged cultural exchange and intellectual growth.

8. **Lasting Civilizational Legacy:** Iran shaped Indian literature, administration, architecture, art and intellectual life over several centuries. These contributions became an integral part of India's historical and cultural development.

Contemporary India–Iran Relations

1. **Post-Independence Relations:** After Independence, India and Iran maintained generally cordial relations despite belonging to different geopolitical blocs. This reflected India's balanced foreign policy and the continuation of their historical ties.
2. **Energy Partnership:** Iran remained an important supplier of energy for India. Energy cooperation became one of the major pillars of bilateral relations.
3. **Gateway to Central Asia:** India considers Iran an important land and sea route for connecting with Afghanistan and Central Asia. This gives Iran significant strategic value.
4. **Importance of Chabahar Port:** The Chabahar Port project represents one of India's most important strategic partnerships in its neighbourhood. It reflects the shared interests of both countries in regional connectivity.
5. **Growing Geopolitical Challenges:** India's stronger engagement with Israel and Western partners, along with regional conflicts, has made balancing ties with Iran more difficult. At the same time, sanctions and China's growing presence in Iran have added new challenges.
6. **Need for Balanced Diplomacy:** India seeks to maintain relations with all major countries in West Asia. This approach helps preserve its long-standing policy of strategic autonomy.
7. **Enduring Civilizational Value:** Iran is not only a neighbouring country but also a civilization that has shaped India's language, literature, architecture, scholarship and trade for centuries. These historical links continue to influence bilateral relations.
8. **Present Relevance:** Recent political developments have led some observers to question the relationship. However, its significance continues because it rests on deep historical and cultural foundations rather than only current strategic interests.

Future Outlook

1. **Preserve Strategic Autonomy:** India should continue engaging with Iran, Israel and the Gulf countries while maintaining its independent foreign policy. This balanced approach has guided India's diplomacy for decades.
2. **Strengthen Chabahar Connectivity:** The long-term viability of Chabahar Port should be protected through suitable financial arrangements and practical mechanisms despite external restrictions.

3. **Strengthen Civilizational Partnership:** India should use its shared history, language and cultural ties with Iran to strengthen long-term cooperation. These civilizational links can also support diplomatic engagement during periods of regional tension.
4. **Manage Regional Conflicts Carefully:** Rising tensions involving Iran, Israel and the United States require India to protect its strategic interests while avoiding alignment with regional conflicts.
5. **Address Sanctions Challenges:** International sanctions affecting Iran's banking, shipping and oil sectors require practical solutions to maintain trade and economic cooperation.
6. **Respond to Regional Competition:** China's expanding infrastructure investments in Iran require India to strengthen its own long-term engagement and connectivity initiatives.
7. **Protect the Indian Diaspora:** India should work with regional governments to strengthen emergency communication and coordination systems for Indians living and working in West Asia.

Conclusion

India–Iran relations have evolved through **more than three thousand years** of shared history, cultural exchange, trade and political engagement. These enduring links have shaped important aspects of India's civilization and continue to influence bilateral relations today. While contemporary geopolitical realities present new challenges, the long-standing civilizational relationship provides a strong foundation for sustaining cooperation through balanced diplomacy and mutual understanding.

Question for practice:

Discuss the civilizational relationship between India and Iran, highlighting its historical foundations, major contributions, and present-day relevance.

Source: [Indian Express](#)

The new digital slavery needs constitutional guardrails

Source: The post “**The new digital slavery needs constitutional guardrails**” has been created based on “The new digital slavery needs constitutional guardrails”, published in “The Hindu” on 29th June 2026.

UPSC Syllabus: GS 2- Polity & Governance

Context: In recent times, Artificial Intelligence (AI) has transformed governance and society, but its unchecked growth threatens **human dignity, democracy, and digital autonomy**. AI governance should move beyond ethical guidelines and be anchored in **constitutional safeguards** to protect citizens' rights.

AI a threat to democracy and society

1. AI enables **ownership and misuse of citizens' personal data**, creating a new form of **digital slavery**.
2. AI development is much faster than law-making, resulting in a **regulatory gap**.
3. Legislations often become outdated before implementation because technology evolves rapidly.
4. AI-generated **deepfakes, synthetic media, and misinformation** make it difficult to distinguish truth from fabrication.
5. Fake audio and video of political leaders can reduce voter turnout, create false scandals, and weaken trust in democratic institutions.

6. Platform algorithms prioritise **outrage and sensational content** to maximise user engagement.
7. Echo chambers created by algorithms promote **radicalisation, hate speech, and social fragmentation**.
8. Big Tech companies exercise **unaccountable influence over the public sphere** while prioritising profits over social cohesion.
9. Foreign states and non-state actors exploit AI for **information warfare**, targeting religious, ethnic, and socio-economic divisions.
10. India's rapid digital adoption combined with relatively lower digital literacy increases vulnerability to AI-driven manipulation.

Need for constitutional safeguards

1. Ordinary regulation alone cannot keep pace with technological innovation.
2. AI governance should be based on **fundamental rights and constitutional values**.
3. Citizens should have **inalienable rights over their personal data** and digital autonomy.
4. Human accountability must remain central in AI-assisted decisions involving **employment, healthcare, education, loans, and credit**.
5. Constitutional safeguards ensure protection of **human dignity, liberty, equality, and democratic sovereignty**.

Measures to be adopted

1. Rights-based AI governance

- a. Protect digital autonomy and ownership of personal data.
- b. Ensure strict consent mechanisms.
- c. Prevent algorithmic discrimination in critical sectors.

2. Democratic accountability of platforms

- a. Remove blanket safe-harbour protection where necessary.
- b. Mandate transparency in recommendation algorithms.
- c. Allow independent audits of AI systems.
- d. Fix legal liability for algorithmic amplification of harmful content.

3. Protect freedom of speech

- a. Counter misinformation without enabling censorship.
- b. Focus regulation on platform architecture, bot networks, and fake accounts rather than policing individual opinions.

4. Build cognitive resilience

- a. Launch nationwide **media literacy and digital citizenship programmes**.
- b. Integrate digital literacy into schools, universities, and community centres.
- c. Train citizens to identify misinformation and emotional manipulation.

5. Strengthen national security

- a. Establish early-warning systems against coordinated misinformation campaigns.
- b. Promote collaboration among state agencies, independent fact-checkers, ethical hackers, and technology experts.

Conclusion: AI governance should not remain merely a technical or regulatory issue but become a **constitutional imperative**. India must adopt a rights-based AI framework that safeguards **human dignity**,

democratic institutions, freedom of expression, and national sovereignty, while ensuring that innovation remains accountable and citizen-centric.

Question: Unchecked Artificial Intelligence (AI) poses significant challenges to democracy, governance, and individual rights. Discuss the need for constitutional safeguards to regulate AI while balancing innovation and freedom of speech.

Source: [The Hindu](#)

How schools can tackle adolescent malnutrition

Source: The post "**How schools can tackle adolescent malnutrition**" has been created based on "How schools can tackle adolescent malnutrition", published in "The Hindu" on 29th June 2026.

UPSC Syllabus: GS 2- Polity & Governance

Context: Adolescent malnutrition has emerged as a major public health challenge in India. According to the **NFHS-6 (2023–24)**, obesity and high blood sugar levels are rising rapidly among both men and women. At the same time, undernutrition continues to persist. Since unhealthy dietary habits and lifestyle-related diseases often begin during adolescence, schools are the most important institutions for preventive interventions.

Reasons behind adolescent malnutrition being a serious concern

1. India is experiencing a **double burden of malnutrition**, where persistent undernutrition coexists with rising obesity and metabolic disorders.
2. According to **NFHS-6 (2023–24)**, obesity among women increased from **24% to 30.7%**, while obesity among men increased from **22.9% to 27.3%**.
3. The prevalence of high blood sugar also increased from **15.6% to 20.9%** among men and from **13.5% to 17.8%** among women.
4. Lifestyle changes such as **sedentary behaviour, consumption of processed foods, stress, and reduced physical activity** are no longer confined to urban areas and are increasingly affecting rural populations.
5. According to the **Comprehensive National Nutrition Survey (CNNS), 2019**, **27.4% of Indian adolescents are stunted**, while obesity is increasing, especially among urban youth.
6. India is also witnessing the "**thin-fat phenotype**," in which children appear lean but possess a high metabolic risk that increases their chances of developing diabetes and cardiovascular diseases later in life.

Ways in which schools can tackle adolescent malnutrition

1. Promoting healthy dietary habits

- a. Schools should improve the nutritional quality of **Mid-Day Meals** and ensure that balanced meals are provided to students.
- b. Schools should establish healthier canteens and organise food demonstrations to teach students how to prepare balanced meals.
- c. Schools should encourage students to follow the **Dietary Guidelines for Indians 2024**, which recommend that half of the plate should consist of fruits and vegetables.
- d. Schools should promote the regular consumption of milk, dairy products green leafy vegetables, fruits, and protein-rich foods.

2. Creating healthy food environments

- a. Schools should develop **school gardens**, organise fruit breaks, and encourage the use of locally available seasonal foods to normalise healthy eating habits.
- b. Schools should reduce students' dependence on cereal-heavy diets by promoting diversified and nutritious food choices.

3. Reducing sugar and Ultra-Processed Foods (UPFs)

- a. Schools should discourage the consumption of sugary beverages, High Fat, Sugar and Salt (HFSS) foods, and Ultra-Processed Foods (UPFs).
- b. Schools should display **sugar boards** that reveal the hidden sugar content of commonly consumed foods and beverages.
- c. Schools should establish **UPF-free school zones** and conduct continuous awareness programmes instead of one-time campaigns.

4. Encouraging physical activity

- a. Schools should make sports and structured physical activity an essential part of the curriculum rather than treating them as optional activities.
- b. Schools should reduce sedentary and screen-based lifestyles by ensuring regular physical exercise for all students.

5. Improving nutrition literacy

- a. Schools should teach students how to read food labels, understand portion sizes, identify misleading food advertisements, and develop basic cooking skills.
- b. Nutrition education should focus on developing lifelong healthy eating habits through practical learning.

Policy measures required

1. The **Let's Fix Our Food (LFOF)** initiative should be strengthened to promote healthier school food environments.
2. The government should regulate the advertising of HFSS foods targeted at children and adolescents.
3. Taxes should be imposed on unhealthy sugary beverages to discourage excessive consumption.
4. A comprehensive school nutrition curriculum should be introduced across educational institutions.
5. Nutrition literacy programmes should be strengthened through evidence-based public health policies and multi-stakeholder collaboration.

Conclusion: Schools should not function merely as centres of education but should also become **public health-promoting institutions**. By improving nutrition, encouraging physical activity, strengthening nutrition literacy, and creating healthier food environments, schools can significantly reduce adolescent malnutrition and prevent the future burden of non-communicable diseases in India.

Question: India is facing a double burden of malnutrition among adolescents. Discuss how schools can play a transformative role in addressing this challenge.

Source: [The Hindu](#)

Elder Care is Not a Silver Mine

UPSC Syllabus: Gs Paper 1- population and associated issues

Introduction

India is witnessing a rapid demographic transition as its elderly population continues to grow. This shift is creating new opportunities in senior housing, healthcare and other elder care services, giving rise to a growing silver economy. At the same time, it raises concerns about affordability, financing, quality of care and excessive commercialisation. Elder care should be developed as a social responsibility, supported by effective policies, responsible investment and strong regulatory safeguards.

India's Demographic Transition and Rising Elderly Population

1. **Growing Elderly Population:** India has a population of about **1.48 billion**, and senior citizens form nearly **12%** of the population. Their share is expected to increase to **15% by 2036** and **20.8% by 2050**, reaching about 350 million people by 2050.
2. **Declining Fertility Rate:** India's **Total Fertility Rate (TFR)** is falling rapidly. However, higher fertility in states like **Uttar Pradesh** and **Bihar** means the country's overall population will continue to grow for nearly another three decades.
3. **Regional Differences in Ageing:** Southern states are ageing much faster than northern states. By **2036**, the elderly population is projected to reach **23% in Kerala** and **21% in Tamil Nadu**, while it may remain around **12% in Uttar Pradesh** and **10% in Bihar**.
4. **New Policy Challenges:** Governments are becoming concerned about an ageing society before becoming fully prosperous. Rising dependency ratios, pension and welfare costs, inter-state fiscal transfers and delimitation are emerging policy issues.
5. **Different State Responses:** Some states have started adapting to demographic changes through elder-focused policies. At the same time, a few states are encouraging higher births to slow population ageing.
6. **Changing Family Structure:** The traditional joint family system is weakening as migration and smaller families become common. Many elderly people now live alone or receive limited family support.
7. **Increasing Care Burden:** Caregiving responsibilities mostly fall on women who also manage jobs and families. Many middle-aged adults now belong to the "**sandwich generation**", caring for both children and ageing parents.

Growth of the Elder Care Ecosystem

1. **Market-Led Expansion:** The private sector has responded quickly by developing senior housing, geriatric health care facilities and specialised hospitality services. Markets have recognised ageing as a long-term economic opportunity.

2. **Growing Demand for Senior Housing:** Estimates suggest that senior living infrastructure alone may require nearly **\$35 billion by 2036**. Much of this expansion is expected to come through private investment.
3. **Geographical Expansion:** Elder care services are concentrated in **Kerala, Chennai, Coimbatore, Bengaluru and Mysuru**, but are also expanding rapidly to cities like **Pune** and **Dehradun**.
4. **Kerala as India's Leading Model:** Kerala has transformed ageing into an economic opportunity through a dedicated elderly department, Japanese-style care initiatives and more than **750 senior homes**, attracting both residents and investment.
5. **Quality-Focused Infrastructure:** Well-planned senior living facilities provide elder-friendly buildings, medical support, trained caregivers and community activities. These services aim to improve both safety and quality of life.
6. **Beyond Real Estate:** Senior living is becoming more than a housing business. It also supports health care, hospitality, employment and other services, making it an important economic sector.

Challenges in Building a Sustainable Elder Care Sector

1. **Affordability Remains the Biggest Concern:** Most elderly people cannot afford expensive senior housing or long-term care. Rising healthcare and caregiving costs place heavy pressure on middle-class families.
2. **Limited Public Resources:** Government funding mainly supports weaker sections and cannot meet the growing demand for quality elder care across all income groups.
3. **Risks of Financialisation:** Private equity and institutional investors often seek quick profits, leading to cost-cutting, lower staffing, short investment cycles and even asset stripping. Such practices may compromise long-term care and resident welfare.
4. **Weak Financial Protection:** Existing health insurance products often contain exclusions and do not adequately cover long-term or home-based care. Better financial products are needed for an ageing population.
5. **Policy Gaps in Long-Term Care:** Public health programmes largely focus on hospitals, while home-based care, dementia support and continuous caregiving remain underdeveloped. Families therefore continue to carry much of the care burden.
6. **Growing Burden on Families:** Women continue to shoulder most caregiving responsibilities, and many working adults struggle to balance employment, childcare and elder care at the same time.

Policy and Regulatory Framework for Elder Care

1. **Dedicated Government Initiatives:** Kerala has announced a separate department for the elderly by bringing together different welfare programmes. It also plans to develop a Japanese-style elder care system.

2. **National Quality Standards:** The Ministry of Social Justice and Empowerment has issued standards that require geriatric care and promote "ageing with dignity" as a basic principle.
3. **Role of State Governments:** State governments and real estate regulatory authorities are introducing safeguards to improve the quality of senior living facilities.
4. **Need for Lifelong Care Commitment:** Senior living projects should function with a long-term social commitment rather than only as commercial ventures. Continuous quality care must remain the primary objective.
5. **Existing Legal Protection:** The **Maintenance and Welfare of Parents and Senior Citizens Act, 2007** allows parents to seek maintenance from their children. However, legal and social barriers often prevent its effective use.
6. **Health Policy Gaps:** The **National Programme for Health Care of the Elderly (NPHCE)** mainly focuses on hospital services and does not adequately cover long-term home-based care.
7. **Limited Policy Attention:** Elder care policies remain fragmented despite growing demographic changes. A private member's Bill introduced in **2019** has also remained pending.

Way Forward

1. **Adopt a Comprehensive National Eldercare Policy:** India needs an integrated policy covering healthcare, caregiving, financial security, infrastructure and healthy ageing.
2. **Professionalise Caregiving:** Paid caregivers should be trained and certified through institutions such as the **National Skill Development Council** to improve service quality and working conditions.
3. **Expand Financial Protection:** Long-term care insurance should include home-based care and assisted-living facilities without excessive exclusions.
4. **Promote Responsible Investment:** Public and private funding should expand elder care with strong regulatory safeguards so that commercial interests do not weaken care standards.
5. **Support Community-Based and Technology-Driven Care:** CSR initiatives can establish community care centres, while technology can improve safety, monitoring and independent living for senior citizens.
6. **Increase Awareness of Age-Related Diseases:** Better awareness and early care for conditions such as dementia can reduce suffering and improve the quality of life for elderly people and their families.

Conclusion

India's ageing population presents both an economic opportunity and a social responsibility. The silver economy should improve the quality of life of senior citizens without turning elder care into a profit-driven business. Strong regulation, responsible investment, better financing and integrated public policies can ensure affordable, dignified and lifelong care for every elderly person.

Question for practice:

Evaluate the opportunities and challenges arising from India's growing elderly population, and discuss the policy and regulatory measures needed to ensure affordable, dignified and sustainable elder care.

Source: [Financial Express](#)

Fixing Mis-selling of Market-linked Products

UPSC Syllabus: Gs Paper 3- Indian economy

Introduction

The popularity of **market-linked financial products** has grown rapidly after the Covid-19 pandemic, but financial literacy has not kept pace. This has increased the risk of mis-selling by **banks, Non-Banking Financial Companies (NBFCs)** and their agents through unsuitable products, poor disclosures and aggressive cross-selling. To strengthen ethical sales practices and customer protection, the **RBI** has issued a comprehensive framework governing the advertising, marketing and sale of financial products by regulated entities, effective from **1 January 2027**.

Why Was the New Framework Needed?

1. **Expansion of Financial Product Distribution:** Banks and NBFCs now sell insurance, mutual funds, pension products and other investment products along with their regular banking services. This has made financial product distribution more complex.
2. **Low Financial Literacy:** Many customers do not fully understand product risks, charges, lock-in periods or exit conditions. This makes them vulnerable to unsuitable financial products.
3. **Commission-driven Selling:** Financial institutions earn fee income by distributing third-party products. This creates an incentive to promote products that generate higher commissions rather than those suitable for customers.
4. **Rise in Mis-selling Practices:** Unsuitable products were sold through forced bundling, misleading information and aggressive cross-selling. Past concerns involved mis-selling of **Additional Tier-1 (AT-1) bonds**, currency derivatives and insurance products.
5. **Need for Better Consumer Protection:** Mere customer signatures or digital consent were often used to justify sales. The new framework shifts the focus from a sales-first approach to a **suitability-first approach**.

Key Features of RBI's New Ethical Conduct Framework

1. **Transparency in Sales:** Banks using external agents must display an updated list of authorised intermediaries on their websites. Agents selling third-party products must clearly disclose their identity.
2. **Explicit Customer Consent:** Every product requires separate and clear consent through signed declaration, OTP or digitally recorded confirmation. Sales calls should be limited to normal business hours, while digital platforms must keep the default consent option as **"No"**.

3. **Suitability Assessment:** Banks and NBFCs must assess whether a product matches the customer's age, income, financial knowledge, risk appetite and investment horizon before selling it.
4. **Restrictions on Unfair Selling:** Banks cannot bundle loans with any financial product or force customers to purchase insurance or other products while availing financial services. Third-party commissions to bank staff and loans to finance products sold by the same institution are also prohibited.
5. **Digital Protection and Complaint Redressal:** The framework prohibits dark patterns such as hidden consent and misleading app designs. Customers get a **30-day complaint window**, and proven cases of mis-selling require a full refund, including for third-party products.

Significance of the New Framework

1. **Customer-centric Selling:** Financial products must now suit the customer's needs instead of only generating commissions. This strengthens responsible financial advice.
2. **Greater Transparency:** Better disclosures, informed consent and clear explanations will help customers make better financial decisions and reduce confusion.
3. **Better Digital Practices:** Restrictions on dark patterns make digital journeys fairer and reduce manipulation during online financial transactions.
4. **Higher Institutional Accountability:** Banks and NBFCs must maintain proper consent records, customer feedback systems and stronger compliance processes. Sellers must prove that products were sold fairly.
5. **Improved Market Confidence:** Better quality sales can reduce complaints, improve customer trust and encourage long-term participation in financial markets.
6. **Ethical Sales Practices:** The framework regulates both the products being sold and the manner in which they are marketed, making the sales process more transparent and customer-focused.

Challenges and Remaining Concerns

1. **Limited Appeal Mechanism:** The framework does not clearly specify the remedy if banks or NBFCs fail to resolve customer complaints satisfactorily.
2. **Pressure on Ombudsman System:** The existing Banking Ombudsman already handles a large number of complaints related to core banking services. Additional cases may affect its effectiveness.
3. **Compliance Burden:** Institutions may have to redesign forms, digital platforms, sales processes and employee training systems to meet the new requirements.
4. **Impact on Fee-based Business:** Banks depending heavily on cross-selling may experience slower growth in commission and distribution income after the rules take effect.
5. **Need for Public Awareness:** Customers must know how to verify authorised agents and understand their rights under the new framework for the rules to work effectively.

Way Forward

1. **Strengthen Grievance Redressal:** A dedicated mechanism similar to **SEBI's SCORES** can provide quicker resolution of mis-selling complaints beyond the banking system.
2. **Ensure Strict Enforcement:** High penalties for violations can discourage unethical selling practices and improve compliance with RBI directions.
3. **Promote Financial Literacy:** Customers should receive better awareness about financial products, risks, charges and their rights before making investment decisions.
4. **Monitor Implementation:** RBI should closely supervise digital sales practices, third-party agents and customer complaint trends after implementation.
5. **Encourage Responsible Distribution:** Banks, NBFCs and insurers should focus on long-term customer trust through transparent, suitable and well-explained product sales instead of aggressive cross-selling.

Conclusion

The RBI's framework marks an important move towards **ethical, transparent and suitability-based** distribution of financial products. Its success will depend on **effective enforcement, stronger grievance redressal, strict penalties and greater financial awareness**. These measures can reduce mis-selling, improve customer confidence and promote a more responsible and accountable financial services ecosystem from **January 2027**.

Question for practice:

Examine the need for the RBI's new ethical conduct framework to curb the mis-selling of market-linked financial products. Discuss its key features, significance, challenges and the way forward.

Source: [Businessline](#)

Reforms 3.0 — Towards the Bharat Rate of Growth

UPSC Syllabus: Gs Paper 3- Indian economy and Infrastructure

Introduction

For nearly 45 years after Independence, India remained stuck at the 3% “Hindu rate of growth” until the 1991 economic reforms transformed its economic trajectory. Today, Artificial Intelligence (AI) presents a similar opportunity to drive the next phase of structural reforms. With its strong digital public infrastructure and growing technological capabilities, India has the potential to use AI to accelerate innovation, productivity and achieve a sustained “Bharat rate of growth” of 8% and beyond.

Why AI is India's Next Transformational Reform

1. **Lessons from the 1991 Reforms:** The balance-of-payments crisis forced India to liberalise its economy. The reforms sharply increased GDP growth and showed that major reforms can produce long-term economic gains.

2. **AI as the Next Growth Multiplier:** AI offers the same transformational potential that economic liberalisation provided in 1991. Investing in AI is becoming a necessity rather than a choice.
3. **India Has Proven Its Ability to Leapfrog:** India has repeatedly skipped older stages of development by adopting digital technologies at a large scale. This experience provides confidence for the next AI-led transformation.
4. **Aadhaar Built a Strong Digital Foundation:** Aadhaar enrolled **1.38 billion people**, creating the world's largest biometric identity system and enabling nationwide digital services.
5. **UPI Created a Global Digital Payment Platform:** UPI processes around **250 billion annual transactions worth \$3.4 trillion** and handles nearly **50% of the world's real-time digital payments**, showing India's ability to build digital systems at global scale.
6. **Jio Expanded Affordable Digital Access:** Reliance Jio added **100 million subscribers within five months of its 2016 launch** and made mobile data nearly free. This rapidly expanded internet access across the country.
7. **Digital Success Can Be Extended to AI:** The achievements of Aadhaar, UPI and Jio show that India can also build an AI ecosystem capable of serving people at a national scale.

Why India Needs to Invest in AI

1. **Low Spending on Research and Development:** India spends only **0.65% of GDP on R&D**, far below **China (2.4%), the United States (3.5%), South Korea (4.9%) and Israel (5.4%)**. This limits scientific research and technological progress.
2. **AI Investment Is Financially Affordable:** Providing AI tokens to the **top 100 universities and national R&D institutions** along with **5,000 high schools** would cost about **\$2 billion annually**, or only **0.06% of GDP**.
3. **Current Subsidies Are Much Larger:** India spends nearly **\$49 billion every year** on subsidies for calories, chemicals and carbon. The proposed AI investment is only a small share of this expenditure.
4. **Higher Returns with Limited Public Spending:** The AI investment would be about **one-fourteenth of the food subsidy, one-tenth of the fertiliser subsidy**, and lower than the compensation paid for **LPG under-recoveries in one quarter**. Such spending can generate long-term economic and knowledge gains.
5. **Investment Needs New Priorities, Not More Money:** India does not need additional financial resources for AI. It needs to change spending priorities and reallocate existing resources towards future productivity.
6. **AI Supports Scientists and Students:** Wider access to AI can strengthen research, innovation and learning by making AI a regular knowledge partner for researchers and students.
7. **AI Can Produce Long-Term Economic Benefits:** Unlike many welfare expenditures, investment in AI has the potential to generate continuous and compounding returns through higher productivity, innovation and economic growth.

Challenges and Strategic Requirements

1. **Dependence on Foreign AI Infrastructure:** India mainly consumes AI through foreign **Application Programming Interfaces (APIs)** instead of hosting large language models within the country. This limits technological sovereignty.
2. **Need for Sovereign AI Infrastructure:** Although **Sarvam** has shown that frontier AI models can be trained in India, the country still needs the capability to host and operate such models at a national scale.
3. **Balancing Sovereignty with Open Innovation:** India must reduce dependence on a single AI ecosystem while benefiting from open-source models and domestic AI capabilities.
4. **Operational Complexity of AI Infrastructure:** Hosting large language models requires expertise in **high availability, low latency, efficient computing, data residency, prompt injection defence and audit trails**. Building this capability is a major technical requirement.
5. **Vendor Lock-in Risks:** **NVIDIA controls more than 80% of AI training hardware**, creating financial and strategic dependence on a single company.
6. **High Cost of AI Compute Infrastructure:** Building national AI infrastructure only with NVIDIA hardware is financially difficult. India needs a more affordable computing ecosystem.
7. **Need for Cost-Effective and Resilient Compute Capacity:** India requires a diversified AI hardware ecosystem that supports lower costs, reliable operations and long-term technological resilience

Way Forward

1. **Launch a National AI Token Policy:** India should announce a **National AI Token Policy** and implement it over the next **24 months** to expand AI access in a phased manner.
2. **Provide Free AI Tokens for Research and Education:** The first step should provide free AI tokens to the **top 20 IITs, the IISc, the top 100 universities and national R&D institutions, and 5,000 high schools** so that AI becomes a regular tool for learning and research.
3. **Build Public-Private Partnerships:** India should partner with **AWS, Google and Microsoft** to create a **multi-vendor sovereign compute framework**. In return, it can offer data centre land, power support and data sovereignty assurances for free inference capacity.
4. **Use Smarter Financing Models:** AI access can be financed without reducing existing welfare benefits by **freezing subsidy growth for one year**. If needed, paid enterprise services can also cross-subsidise free access for schools and research institutions.
5. **Create the Right Market Conditions:** India should follow the approach used for affordable mobile data. Instead of directly funding AI services, it should create supportive regulations so that competition reduces AI costs, just as data prices fell from about **\$3 per GB to \$0.10 per GB**.

6. **Expand AI Access in Phases:** After the initial rollout, India should open an **API sandbox for 500 startups**, extend AI access to **100 universities**, and launch an **AI literacy programme in 500 high schools across 10 States**.
7. **Develop National AI Benchmarks:** The programme should publish India's first **sovereign Indic AI model benchmarks** to measure progress and strengthen domestic AI capability.
8. **Scale AI Across Priority Sectors:** Fine-tuned AI models should be deployed in **healthcare, agriculture, judiciary and education**. The programme should then expand to **5,000 high schools** and support **all 22 Indian languages**.
9. **Strengthen India's Global AI Position:** As AI adoption expands, India can become one of the **top five countries in AI token consumption**, build **10,000+ AI-native startups**, and make India-trained AI models competitive on international benchmarks.

Conclusion

Artificial Intelligence can become India's next major structural reform after the 1991 economic liberalisation. By strengthening sovereign AI infrastructure, expanding affordable AI access, promoting open models and diversifying compute hardware, India can boost research, innovation and productivity. With decisive leadership and timely implementation, AI can drive the Bharat rate of growth and establish India as a global AI leader.

Question for practice:

Examine how Artificial Intelligence (AI) can serve as India's next major structural reform and accelerate the transition towards the "Bharat rate of growth."

Source: [The Hindu](#)

Preparing India for China's Missile Challenge

UPSC Syllabus: Gs Paper 3- Security challenges and their management in border areas

Introduction

Modern warfare is increasingly shaped by conventional missiles that can damage critical infrastructure, weaken military operations and create political pressure without a full-scale war. **With China deploying more than 200 conventional missile launchers opposite India**, missile superiority has become a major challenge for India's security. Strengthening a credible conventional missile deterrent through organisational reforms, technological advancement and a dedicated Rocket Force is becoming essential to counter this evolving threat.

China's Missile Superiority

1. **Missiles as tools of coercion and war:** China treats conventional missiles as weapons for both **political coercion and military operations**. Even the threat of missile strikes can achieve strategic goals without escalating into a full-scale war.
2. **Large and advanced missile arsenal:** The missile bases at **Korla and Kunming** operate (Dong Feng-DF) **DF-15B, DF-16, DF-21C and DF-26** missiles. The first three mainly target military positions along the border, while the **DF-26** can strike high-value targets deep inside India.

3. **Hypersonic advantage:** China also fields **DF-100 and CJ-1000 hypersonic missiles**, which can strike distant targets with almost no launch warning. **India currently has no reliable defence** against such weapons.
4. **Reduced strategic depth for India:** China's missile capability reduces the protection offered by the Himalayas. Missiles launched from the Tibetan Plateau also shorten India's detection time and increase the risk of escalation because the **DF-26** has a dual role.

India's Existing Vulnerabilities

1. **Gaps in missile capability:** India's long-range missile systems, including **Agni, LR-LACM (Nirbhay), BrahMos and their variants**, are still being integrated. The country also faces limitations in missile range and diversity.
2. **Technology and operational limitations:** India lacks robust **real-time targeting capability**, has **limited missile stockpiles**, and is still developing hypersonic missile technology.
3. **Organisational weakness:** India does not yet have an operational Rocket Force. Policy and organisational issues have kept the proposal at the conceptual stage.
4. **Limited retaliatory capability:** Without a dedicated Rocket Force, India may have little choice but to absorb Chinese missile strikes. This could create a military stalemate even before the border conflict begins.

Need for a Dedicated Rocket Force

1. **Rocket Force:** A Rocket Force is a dedicated military command that controls and operates conventional long-range missiles under a **single command authority**. It allows faster decisions and coordinated strikes against strategic, operational and tactical targets.
2. **Creating mutual vulnerability:** A Rocket Force would enable India to inflict significant damage if China launches missile attacks. India does not need equal missile numbers but must produce **comparable military effects**.
3. **Holding Chinese military assets at risk:** The Rocket Force should be capable of threatening the **PLA's Western Theatre Command (WTC)** by targeting important military locations in **Tibet and Xinjiang**.
4. **Supporting operations across the battlefield:** It should degrade PLA roads, railways, airbases and logistics installations while also helping field commanders strike camps, gun positions and ammunition dumps during combat.

Key Reforms Required

1. **Counter-value strategy:** India should adopt **counter-value strikes** as part of its conventional missile strategy. This would require rethinking the scope and scale of its counter-force doctrine.

2. **Unified target planning:** India should prepare a **single unified target list** because service- or agency-specific target lists are unsuitable for time-sensitive missile warfare.
3. **Pre-delegated launch authority:** The Rocket Force should have authority to carry out **pre-designated precautionary strikes** during the opening phase of a conflict. Delayed launch approval could weaken India's response.
4. **Unified command structure:** The Rocket Force should function under the **Chief of Defence Staff (CDS)**. Keeping it under one service would reduce operational effectiveness.
5. **Expanding missile inventory:** India should increase its **Medium-Range Ballistic Missile (MRBM)** and **Intermediate-Range Ballistic Missile (IRBM)** inventory, including **Agni variants**, to hold **Korla and Kunming** at reciprocal risk.
6. **Developing hypersonic capability:** India should fast-track hypersonic missile development because **DF-100** is already part of the PLA Rocket Force's **ORBAT**.
7. **Strengthening indigenous missile industry:** Greater participation of the private sector should complement **DRDO**. Higher investment in **R&D** is needed to improve missile development.
8. **Reducing technology dependence:** India should strengthen domestic capabilities in advanced propulsion systems, semiconductors and high-grade materials to reduce dependence on foreign suppliers.

Immediate Priorities

1. **Protecting air power:** The **IAF** should disperse aircraft and strengthen airbases to reduce vulnerability. This would force China to use more missiles to achieve the same effect.
2. **Improving air defence:** Better deployment of air-defence systems can compel the PLA Rocket Force to attack these defences instead of India's critical infrastructure.
3. **Strengthening conventional strike capability:** India should improve long-range conventional strike systems capable of holding important targets in **Tibet and Xinjiang** at risk, thereby creating reciprocal vulnerability.
4. **Enhancing surveillance:** India should expand satellite surveillance to detect mobile missile launchers, particularly **DF-26 systems**, improving the chances of early neutralisation.

Conclusion

China's missile capability has made conventional missile warfare a major security challenge for India. A credible **Rocket Force**, stronger missile capabilities, better military organisation, and faster technological development are essential to create effective conventional deterrence. Along with immediate defensive measures, these reforms can improve India's preparedness and reduce its vulnerability in any future conflict.

Question for practice:

Discuss the challenges posed by China's conventional missile superiority and examine the measures needed to strengthen India's conventional missile deterrence.

Source: [The Hindu](#)

GST at nine: From building the system to strengthening it

Source: The post "GST at nine: From building the system to strengthening it" has been created based on "GST at nine: From building the system to strengthening it" published in "Financial Express" on 30th June 2026.

UPSC Syllabus: GS 3- Economy

Context: The Goods and Services Tax (GST) has completed **nine years** of implementation, marking a transition from the **system-building phase to the system-strengthening phase**. It is one of independent India's most significant **constitutional and fiscal reforms**, creating a unified indirect tax framework through cooperative federalism.

Achievements of GST in the Last Nine Years

1. Constitutional and Cooperative Federal Reform

- a. GST brought the Union and States under a common indirect tax framework through the GST Council.
- b. It created a **single national market** based on dialogue and consensus.

2. Streamlined Indirect Tax System

- a. GST eliminated cascading taxes through the input tax credit mechanism.
- b. It introduced a **unified tax structure** across the country.
- c. It improved transparency and enhanced the ease of doing business.
- d. It reduced compliance and transaction costs across supply chains.
- e. It ensured more competitive pricing and uniform tax treatment for consumers across states.

3. Creation of a Robust Digital Tax Ecosystem

- a. GST Network (GSTN), e-Way Bills, e-Invoicing, and the Invoice Management System (IMS) have created one of the world's largest digital tax ecosystems.
- b. Digital trails of transactions have strengthened compliance monitoring and transparency.

4. Digital Transformation of Businesses

- a. Businesses have adopted ERP systems, automated invoicing, and data-driven compliance.
- b. Technology-enabled compliance has become an integral part of corporate governance.

5. Rate Rationalisation

- a. GST reduced the effective tax burden compared to the pre-GST regime.
- b. The maximum tax incidence on mass consumption goods declined significantly.
- c. The move towards a simplified **5% and 18% slab structure** improved transparency and ease of compliance.
- d. Essential consumer goods in the 5% slab have improved affordability and accessibility.
- e. GST has benefited households while strengthening tax administration.

Challenges in GST After Nine Years

1. **Lack of Predictability:** Frequent disputes and ambiguities in GST interpretation create uncertainty and increase compliance costs for businesses.
2. **Inverted Duty Structure (Credit Inversion):** Many goods taxed at 5% accumulate input tax credit because services and capital goods continue to attract 18% GST.
3. **Higher Cost of Capital Investment:** Accumulated and blocked input tax credits increase the effective cost of capital investment for domestic manufacturers. This reduces the competitiveness of manufacturing in India.
4. **Impact on Investment:** Higher investment costs may encourage multinational companies to invest in other countries and import goods into India.
5. **Compliance-related Bottlenecks:** Delays in refunds, complex registration procedures, cumbersome audit processes, and criminal provisions increase the cost of doing business.

Way Forward

1. **Enhance Predictability**
 - a. Reduce disputes by providing greater clarity, consistency, and certainty in GST laws and their implementation.
2. **Rationalise Input Tax Credit (ITC)**
 - a. Address credit inversion by rationalising the ITC framework.
 - b. Explore annual refunds of accumulated input tax credits.
3. **Support Capital Investment**
 - a. Introduce staggered refunds of accumulated credits on capital expenditure under the inverted duty structure.
 - b. Gradually extend refunds to input services as well.
4. **Improve Ease of Doing Business**
 - a. Simplify refund mechanisms, registration processes, and audit procedures.
 - b. Continue the decriminalisation of minor GST offences.
5. **Strengthen Technology-driven Compliance**
 - a. Further improve the GSTN ecosystem, e-Invoicing, e-Way Bills, and IMS to ensure stable, seamless, and efficient compliance.
6. **Reduce Transaction Costs**
 - a. A simpler and technology-driven GST system can lower business costs, encourage investment, and make goods more affordable for consumers.

Conclusion: The first decade of GST focused on **building a unified indirect tax system**. The next phase should focus on **simplifying compliance, improving predictability, rationalising input tax credits, and strengthening technology-driven governance** to make India's GST regime more investment-friendly, efficient, and globally competitive.

Question. Nine years after the implementation of the Goods and Services Tax (GST), discuss its major achievements and examine the reforms required to make India's indirect tax system simpler, more predictable, and investment-friendly.

Source: [Financial Express](#)

Caught in the middle: On India and curbing drug abuse

Source: The post “Caught in the middle: On India and curbing drug abuse” has been created based on “Caught in the middle: On India and curbing drug abuse” published in “The Hindu” on 30th June 2026.

UPSC Syllabus: GS 3- International Relations

Context: India is located between the **Golden Crescent** and the **Golden Triangle**, two of the world's largest drug-producing regions. The increasing production and trafficking of heroin and synthetic drugs have made drug abuse a major **public health, social, and national security** challenge.

Challenges

1. India's geographical location facilitates drug trafficking.

- a. India shares borders with major drug-producing regions, making it highly vulnerable to cross-border smuggling.
- b. The rise of Myanmar as a leading producer of heroin and methamphetamine has increased drug inflows into India.

2. Drug production within India has become a growing concern.

- a. Some narcotic drugs are manufactured domestically using illegally diverted pharmaceutical ingredients.
- b. This has expanded the availability of drugs within the country.

3. Drug trafficking networks are using advanced technology.

- a. Drug smugglers are increasingly using drones to transport narcotics across international borders.
- b. Criminal networks are also using the dark web and cryptocurrencies to organise drug trade and evade law enforcement agencies.

4. The legal framework places a greater burden on users than traffickers.

- a. Individuals possessing small quantities of drugs can face imprisonment.
- b. At the same time, major drug traffickers often escape punishment because of weak enforcement and investigation.

5. Drug abuse has become a serious public health issue.

- a. Drug addiction causes severe physical and mental health problems.
- b. Forced detoxification and physical abuse continue to occur in several treatment facilities.

6. De-addiction and rehabilitation facilities remain inadequate.

- a. Punjab has developed an extensive network of treatment centres, but many other States have limited facilities.
- b. Most rehabilitation centres are located in urban areas, leaving rural and border regions underserved.

7. Access to treatment remains unequal.

- a. People living in villages and border districts often have limited access to addiction treatment and rehabilitation services.
- b. This delays recovery and increases the risk of relapse.

8. Social stigma and criminalisation hinder rehabilitation.

- a. Drug addiction is often viewed as a moral failure rather than a health condition.
- b. Criminal records for small-scale possession reduce employment opportunities and make social reintegration difficult.

9. Women face additional barriers in accessing treatment.

- a. Dedicated treatment centres for women are limited.
- b. Social stigma, caregiving responsibilities, and the lack of gender-sensitive services discourage women from seeking treatment.

Way Forward

1. India should adopt a public health-based approach to drug abuse.

- a. Drug addiction should be treated as a health and social issue rather than only as a criminal offence.
- b. Prevention, treatment, rehabilitation, and social reintegration should receive equal attention.

2. Border management should be strengthened.

- a. Surveillance and intelligence gathering along vulnerable borders should be enhanced.
- b. Modern technologies should be used to detect drones and disrupt cross-border drug trafficking.

3. Law enforcement should focus on organised drug networks.

- a. Stronger action should be taken against drug traffickers and organised criminal syndicates.
- b. Small-scale drug users should be encouraged to seek treatment instead of facing excessive criminal penalties.

4. De-addiction and rehabilitation infrastructure should be expanded.

- a. More treatment centres should be established across all States.
- b. Rehabilitation facilities should be extended to rural and border areas.

5. Access to treatment should be improved.

- a. Affordable and quality addiction treatment should be made available in underserved regions.
- b. Opioid substitution therapy and counselling services should be expanded.

6. Social reintegration of recovering addicts should be promoted.

- a. Measures should be taken to reduce the long-term impact of criminal records for minor drug possession.
- b. Education, skill development, and employment opportunities should be provided to help recovering addicts rebuild their lives.

7. Gender-sensitive treatment facilities should be developed.

- a. Dedicated rehabilitation centres for women should be established.
- b. Treatment programmes should address the specific social and healthcare needs of women.

8. Regulation of pharmaceutical supply chains should be strengthened.

- a. Strict monitoring should prevent the diversion of pharmaceutical ingredients for illegal drug manufacturing.
- b. Better coordination between health authorities and law enforcement agencies should be ensured.

Conclusion: India needs a balanced strategy that combines **strong action against organised drug trafficking** with a **compassionate public health approach** centred on prevention, treatment, rehabilitation, and social reintegration. This approach will help reduce drug abuse while strengthening both national security and public health.

Question: Drug abuse has emerged as a major public health and national security challenge in India. Discuss the challenges posed by drug abuse and suggest measures to address the issue.

Source: [The Hindu](#)