

9 PM Current Affairs Monthly Compilation

For UPSC CSE mains examination



सत्यमेव जयते

UPSC

August
2026

Features :

Arranged as per syllabus Topics
Most complete coverage of major
News Papers editorials

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Gen Z's voice must lead to a humane education system

Source: The post "Gen Z's voice must lead to a humane education system" has been created based on "Gen Z's voice must lead to a humane education system" published in "The Hindu" on 1st August 2026.

UPSC Syllabus: GS 2- Social Justice

Context: India's education system has produced exceptional talent, but excessive dependence on high-stakes examinations has created emotional stress, unhealthy competition and unequal opportunities. A shift towards a humane, competency-based and student-centric education system is essential to restore dignity, fairness and trust in the education process.

Need for a Humane Education System

1. The current examination system often reduces students to ranks and marks rather than assessing their overall abilities.
2. Students experience significant emotional pressure due to intense competition and uncertainty about future opportunities.
3. The system frequently overlooks individual interests, aptitude, creativity and practical skills.
4. Admissions have become associated with stress, coaching dependence and financial burden instead of genuine learning.
5. A fair education system should evaluate students based on their competence and suitability for their chosen field.

Reforming the Assessment System

1. Admissions should be based on **multi-dimensional assessment** rather than a single examination.
2. Assessment should include school performance, discipline-specific aptitude, analytical writing, structured interviews (where appropriate), practical or scenario-based tasks, verified portfolios, projects, internships, community work and co-curricular achievements.
3. Evaluation should assess communication, judgement, ethical orientation, creativity and suitability for the chosen discipline.
4. Universities should define transparent and profession-specific admission criteria instead of relying solely on entrance test scores.
5. Assessment should focus on application, interpretation and higher-order thinking rather than rote learning.

Role of Educational Institutions

1. Schools should design competency-based assessments aligned with higher education and industry requirements.
2. Universities and colleges should redesign admission frameworks according to discipline-specific competencies.
3. Industry should actively support education through internships, mentoring, career fairs, guest lectures and workplace exposure.
4. Early career guidance should help students explore multiple career pathways beyond conventional professions.

Role of Parents

1. Parents should avoid equating success only with traditional career choices.
2. They should engage in continuous dialogue with children to understand their interests, aspirations and abilities.
3. Parents should encourage informed decision-making instead of imposing career preferences.

Role of Elected Representatives and the State

1. The State must ensure equitable, transparent and accessible admission systems.
2. Legislatures should enact reforms that eliminate institutional discrimination and safeguard fairness.
3. Policymakers should address regional, linguistic and digital inequalities in access to quality education.
4. Public investment in counselling, mentoring and career guidance should be strengthened.

Reforming National-Level Examinations

1. National-level entrance examinations should remain academically rigorous but become fairer and more inclusive.
2. Universities should conduct structured consultations with experts, students and industry while designing admission criteria.
3. Students should be consulted through structured representation in selecting appropriate modes of assessment.
4. Online examinations should ensure secure infrastructure through encrypted digital transmission, multi-layer authentication, protected testing environments and strict identity verification.
5. Offline examinations should maintain secure logistics, standardized procedures and transparent evaluation to ensure credibility.
6. Admissions should recognise genuine competence and readiness for the chosen field rather than coaching-driven performance.
7. Entrance examinations should act as facilitators rather than barriers and motivate students to pursue careers aligned with their interests.

Way Forward

1. India should move from rank-based filtration to capacity-based recognition.
2. A holistic admission system should combine merit with aptitude, practical skills, creativity and ethical orientation.
3. The education system should reward curiosity, resilience and lifelong learning instead of rote memorisation.
4. Institutional reforms should include mental health support, counselling, coaching regulation, parental awareness and sustained industry participation.
5. Such reforms will create a more inclusive, equitable and student-centric education system while improving academic excellence and national productivity.

Conclusion: India needs an education system that values every student's potential rather than merely ranking performance. A humane, competency-based and transparent assessment framework will promote fairness, reduce stress, nurture diverse talents and prepare confident, capable citizens for the future.

Question: "India's examination-centric education system has undermined holistic learning and student well-being." In this context, examine the need for a more humane and competency-based education system. Suggest measures to reform the admission and assessment process.

Source: [The Hindu](#)

A healthy tax: on taxing foods high in fat, sugar and salt

Source: The post “A healthy tax: on taxing foods high in fat, sugar and salt” has been created based on “A healthy tax: on taxing foods high in fat, sugar and salt” published in “The Hindu” on 1st August 2026.

UPSC Syllabus: GS 2- Governance

Context: India is witnessing a nutritional transition, where the challenge of undernutrition coexists with rising overweight, obesity and diet-related non-communicable diseases (NCDs). The increasing consumption of foods high in fat, sugar and salt (HFSS) has necessitated stronger policy interventions to promote healthier dietary choices.

Need for a Health Tax on HFSS Foods

1. India is facing a growing burden of obesity despite continuing concerns over undernutrition and stunting.
2. The rising prevalence of diet-related metabolic disorders requires urgent public health intervention.
3. A health tax can discourage excessive consumption of unhealthy foods by increasing their prices.
4. Such a measure can encourage consumers to make healthier food choices and improve public health outcomes.
5. It can complement broader efforts to reduce the burden of obesity and diet-related NCDs.

Key Recommendations

1. Mandatory **front-of-pack nutrition labelling** should indicate whether packaged foods are high in fat, sugar or salt.
2. A **health tax** should be imposed on HFSS foods.
3. Stricter regulation of advertisements promoting unhealthy foods should be enforced.
4. Sugar content should be clearly disclosed in **baby foods** to address unhealthy dietary habits from an early age.
5. Schools should promote a healthier food environment by limiting the availability and promotion of unhealthy foods.

Role of Institutions

1. The Parliamentary Standing Committee on Consumer Affairs, Food and Public Distribution has recommended mandatory front-of-pack nutrition labelling and disclosure of sugar content in baby foods.
2. The **ICMR–National Institute of Nutrition (ICMR-NIN)**-led consortium *Let's Fix Our Food* has recommended:
 - Levying a health tax on HFSS foods.
 - Creating healthier school food environments.
 - Strengthening front-of-pack nutrition labelling.
 - Regulating the marketing of unhealthy foods.

Global Best Practices

1. According to the **World Health Organization (WHO)**, more than **133 countries** have introduced or increased health taxes since 2017.
2. Colombia introduced a "junk food law" in 2023, with taxes on packaged foods increasing from **10% to 20%** over three years.
3. Countries such as **Norway, Hungary, Denmark, Bermuda, Dominica, St. Vincent and the Grenadines**, and the **Navajo Nation (U.S.)** have also imposed taxes on sugar or sugar-added foods.

Concerns

1. India continues to face the dual burden of undernutrition and overnutrition, requiring balanced policy responses.
2. Taxation alone may not significantly change consumer behaviour without awareness and education.
3. Effective implementation requires strong monitoring of labelling standards and food advertising.

Way Forward

1. Introduce a health tax on HFSS foods as part of a comprehensive public health strategy.
2. Make front-of-pack nutrition labelling mandatory for all packaged foods.
3. Strengthen regulation of marketing and advertisements targeting children.
4. Promote healthier food environments in schools and public institutions.
5. Conduct sustained public awareness campaigns to encourage healthy eating habits.
6. Integrate taxation, regulation, nutrition education and consumer awareness into a coordinated national strategy.

Conclusion: A health tax on foods high in fat, sugar and salt, combined with clear nutrition labelling, stronger regulation and consumer awareness, can help curb obesity, reduce diet-related diseases and improve India's long-term public health outcomes.

Question: Discuss the need for imposing health taxes on foods high in fat, sugar and salt (HFSS) in India. What complementary measures are required to tackle obesity and diet-related non-communicable diseases?

Source: [The Hindu](#)

Western Ghats Conservation: Balancing Science and Dialogue

UPSC Syllabus: GS Paper III – Conservation, Environmental Pollution and Degradation, Environmental Impact Assessment.

Introduction

The Western Ghats are one of the world's richest biodiversity hotspots and a UNESCO World Heritage Site. Spread across six States, they support unique flora and fauna, regulate India's monsoon, and sustain millions of people through forests, rivers and ecosystem services. However, conserving this fragile ecosystem while protecting the livelihoods of local communities has emerged as a major policy challenge. The debate over declaring Ecologically Sensitive Areas (ESA) highlights the need to combine scientific evidence with dialogue and public participation.

Why is the Western Ghats Important?

The Western Ghats are ecologically significant because they:

- Harbour thousands of endemic plant and animal species.
- Give rise to major peninsular rivers such as the Godavari, Krishna and Cauvery.
- Help regulate rainfall, groundwater recharge and regional climate.
- Act as a major carbon sink and reduce the risks of floods, landslides and soil erosion.
- Support agriculture, plantations, tourism and the livelihoods of millions of people.

Given these ecological functions, protecting the Western Ghats is essential for India's environmental and economic security.

The Journey of the Ecologically Sensitive Area (ESA) Proposal

To strengthen conservation, the **Western Ghats Ecology Expert Panel (WGEEP)** headed by **Madhav Gadgil** recommended declaring large parts of the Western Ghats as Ecologically Sensitive Areas with different levels of protection.

However, concerns raised by States and local communities led to the **Kasturirangan Committee**, which adopted a more balanced approach by restricting only ecologically fragile natural landscapes while reducing the total area proposed under ESA.

Since then, several draft notifications have been issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC). However, differences between the Centre and States have delayed the final notification, making the Western Ghats one of India's longest-running environmental policy debates.

Why Has the ESA Proposal Faced Resistance?

The opposition is not against conservation itself but against its possible social and economic consequences.

Major concerns include:

- Fear of restrictions on agriculture, plantations, mining and infrastructure projects.
- Uncertainty regarding land rights and possible displacement.
- Concerns that satellite-based mapping may incorrectly classify plantations as forests.
- Lack of adequate consultation with Gram Sabhas and local communities.
- Misconceptions regarding buffer zones and possible eviction.

The experience of Karnataka illustrates these challenges. Many residents support regulating environmentally harmful activities such as illegal quarrying and unplanned tourism, but they also seek greater clarity on how conservation measures will affect their livelihoods.

Why Science Alone Cannot Ensure Conservation

Scientific studies are essential for identifying ecologically fragile areas, but successful conservation depends equally on public trust.

Satellite imagery, GIS mapping and biodiversity assessments provide valuable information, yet they should be complemented by field surveys and local knowledge. Communities living in the Western Ghats possess generations of ecological understanding that can improve conservation planning.

A purely top-down approach may create resistance, whereas a participatory approach can improve both environmental protection and policy acceptance.

Protecting Indigenous Communities

Indigenous and forest-dependent communities have long practised sustainable use of forests and natural resources. Their traditional knowledge contributes to biodiversity conservation and ecosystem management.

Therefore, conservation policies should:

- Protect the rights of indigenous communities under the Forest Rights Act.
- Recognise traditional conservation practices.
- Ensure that local communities become partners rather than victims of conservation.
- Promote livelihood opportunities through eco-tourism, sustainable agriculture and non-timber forest produce.

Protecting biodiversity and protecting communities should go hand in hand.

Way Forward

A balanced conservation framework should focus on:

- Finalising ESA boundaries through scientific mapping supported by ground verification.
- Building consensus through continuous dialogue between the Centre, States and local communities.
- Distinguishing environmentally harmful activities from sustainable farming and plantations.
- Ensuring transparent implementation with greater involvement of Gram Sabhas and Biodiversity Management Committees.
- Providing financial incentives and alternative livelihood support wherever restrictions are imposed.
- Strengthening community-led conservation and ecological restoration programmes.

Conclusion

The Western Ghats are a shared ecological heritage whose conservation cannot be delayed indefinitely. At the same time, long-term conservation will succeed only when scientific evidence is supported by dialogue, transparency and community participation. A people-centric and science-based approach can ensure that ecological protection and sustainable development reinforce each other rather than come into conflict.

Question for Practice- The conservation of the Western Ghats requires balancing ecological sustainability with the livelihood concerns of local communities. Discuss the challenges in implementing the Ecologically Sensitive Area (ESA) notification and suggest measures to build consensus through science and dialogue.

Source- [TH](#)

Shutting Down of Government Schools

Source: The post “Shutting Down of Government Schools” has been created based on “Shutting Down of Government Schools” published in “The Hindu” on 3rd August 2026.

UPSC Syllabus: GS 2-Governance

Context: A NITI Aayog report states that around **94,000 government schools** have been closed over the last decade, averaging **25 closures per day**. As a result, government school enrolment has declined by **2.26 crore students**, and the share of government schools in total enrolment has fallen from **71% in 2005** to **49.24% in 2024-25**.

Reason behind shutting down of government schools

1. Government schools are being closed mainly due to **school rationalisation** undertaken by States, as envisaged under the **National Education Policy (NEP) 2020**.
2. However, many closures are the result of **administrative decisions** rather than demographic decline or urban migration.
3. These closures have disproportionately affected **poor and rural children**, who have limited access to alternative schools.

Most affected States

1. **Uttar Pradesh, Madhya Pradesh and Jammu & Kashmir** have witnessed the highest number of school closures.
2. In **Madhya Pradesh**, **7.37 lakh children** have no school records, while **11.38 lakh children** are at risk of dropping out and **1.23 lakh** have already dropped out.
3. More than **3,500 government schools** in the State recorded no admissions, while another **6,500 schools** admitted fewer than ten students.
4. In **Jammu & Kashmir**, over **4,300 schools** have been closed or merged, forcing children to travel **4-6 km** to school, contrary to the **Right to Education (RTE) Act**.

Impact of school closures and associated challenges

1. Government schools primarily serve children from **Scheduled Castes, Scheduled Tribes, Other Backward Classes, Muslims and economically weaker sections**. Their closure reduces educational access for these vulnerable groups.
2. The increased distance to schools has raised the risk of **dropouts**, particularly in rural and remote areas.
3. **Girls are more likely to discontinue their education** when the nearest school is located far from their homes.
4. School consolidation has also resulted in **multi-grade teaching**, where a single teacher manages several classes, thereby reducing the quality of learning and violating **RTE norms**.

Responsibility lies on:

1. **Although education is a Concurrent List subject** and States are primarily responsible for school administration, the **Centre also has a constitutional responsibility**.

2. The **RTE Act**, enacted by the Centre, guarantees access to neighbourhood schools, while Central funding and education policies significantly influence State-level decisions.
3. Therefore, both the **Centre and the States** share responsibility for protecting access to school education.

Way Forward

1. School rationalisation should be carried out **without compromising the availability of neighbourhood schools**, particularly in rural and tribal areas.
2. The **Centre and States should strengthen the implementation of the RTE Act** and ensure that school closures do not violate children's right to education.
3. Vacant teaching posts should be filled promptly, and adequate infrastructure should be provided to improve learning outcomes.
4. **School Management Committees (SMCs)** should be made functional to enhance community participation and accountability.
5. Governments should identify and re-enrol **out-of-school children** through targeted outreach programmes and continuous monitoring.

Conclusion: Government schools remain the primary source of education for India's most disadvantaged children. Any rationalisation exercise must balance administrative efficiency with the constitutional goal of ensuring **equitable, accessible and inclusive education for every child**.

Question: Government school closures have serious implications for equity and access to education in India. Examine the reasons behind this trend, its impact on vulnerable sections, and suggest measures to address the issue.

Source: [The Hindu](#)

Next conservation challenge lies beyond protected areas

Source: The post "Next conservation challenge lies beyond protected areas" has been created based on "Next conservation challenge lies beyond protected areas" published in "Indian Express" on 3rd August 2026.

UPSC Syllabus: GS 3– Environment

Context: India has developed one of the world's largest **Protected Area (PA)** networks over the past five decades, which has significantly contributed to the conservation of important species and habitats. However, emerging challenges such as **climate change, habitat fragmentation and rapid infrastructure development** require a **landscape-based conservation approach** that extends beyond Protected Areas.

Importance of conservation beyond Protected Areas

1. Wildlife moves across landscapes for migration, breeding and dispersal, making **ecological connectivity beyond Protected Areas essential**.
2. Climate change is altering habitats and forcing species to shift their ranges beyond existing Protected Areas.
3. Rapid expansion of roads, railways, transmission lines and canals is fragmenting habitats and disrupting wildlife movement.

4. Rivers, wetlands, forests and agricultural landscapes function as interconnected ecosystems, and therefore cannot be conserved as isolated ecological units.
5. Protected Areas alone cannot sustain **genetic exchange, ecological resilience and long-term biodiversity conservation** if they remain disconnected.

Need for conservation beyond Protected Areas

1. **Other Effective Area-based Conservation Measures (OECMs)** provide a framework for recognising forests, wetlands and community-managed landscapes that contribute to biodiversity conservation outside the formal PA network.
2. India should develop a **National Conservation Estate** that integrates Protected Areas, OECMs and other biodiversity-rich landscapes, irrespective of ownership or legal status.
3. **Ecological corridors** should be protected because they facilitate wildlife movement, genetic exchange and ecosystem resilience.
4. Biodiversity conservation should be integrated into development planning so that ecological sustainability and economic growth can progress together.

Challenges

1. Expanding infrastructure projects are causing habitat fragmentation and reducing ecological connectivity.
2. Biodiversity-rich landscapes outside Protected Areas often lack formal recognition and conservation support.
3. Conservation efforts suffer from weak coordination among governments, local communities, corporations and civil society.
4. Conservation policies continue to focus mainly on legally notified Protected Areas rather than entire ecological landscapes.

Way Forward

1. India should establish a **National Conservation Estate** by integrating Protected Areas, OECMs and ecological corridors into a unified conservation network.
2. Ecological connectivity should be incorporated into infrastructure planning through **wildlife overpasses, underpasses and other mitigation measures**, as demonstrated in the **Delhi-Dehradun Economic Corridor** and the **Pench-Seoni landscape**.
3. The government should formally recognise and support **community-managed forests, wetlands and other biodiversity-rich landscapes** under the OECM framework.
4. Strong partnerships should be developed among **government agencies, local communities, corporations and civil society** to promote landscape-level conservation.
5. Conservation planning should shift from a **site-based approach to a landscape-based approach** to ensure long-term ecological sustainability.

Conclusion: India's next conservation milestone will depend not only on expanding Protected Areas but also on **recognising, connecting and conserving biodiversity-rich landscapes** through ecological corridors and inclusive conservation strategies. This approach will strengthen biodiversity conservation while supporting sustainable development.

Question: Protected Areas alone are insufficient to conserve biodiversity in the face of climate change and infrastructure expansion. Discuss.

Source: [Indian express](#)

Strong Health Systems for All with Better Public Spending

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

Introduction

Strong public health systems depend on **effective health financing**, not just higher spending. Many low- and middle-income countries (LMICs) face declining health aid, rising public debt, and growing health needs. At the same time, gaps in spending, weak implementation, and poor governance reduce the impact of available resources. Building resilient health systems requires **better financing, efficient spending, stronger institutions, and sustained investment** so that quality healthcare reaches everyone without causing financial hardship.

Why Public Health Financing Matters

1. **Health financing supports quality healthcare:** Health financing is the process of collecting, managing, and spending money on health services. It helps people access quality healthcare without facing **financial hardship** and strengthens health systems.
2. **Foundation for Universal Health Coverage (UHC):** Effective financing keeps hospitals and health centres functional, improves access to treatment, and supports countries in achieving **Universal Health Coverage (UHC)**.
3. **Investment in human capital and economic growth:** Better health improves people's productivity and well-being. It strengthens **human capital**, creates jobs, and supports economic growth and shared prosperity.
4. **Improves efficiency of health systems:** Better budget execution, redesigned benefit packages, and improved payment systems help available resources deliver better health services and greater value.
5. **Supports long-term system resilience:** Strong financing enables health systems to respond to future challenges such as pandemics, ageing populations, and climate-related health risks while maintaining essential services.
6. **Health systems are economic infrastructure:** Strong health systems improve workforce productivity, strengthen supply chains, build public trust, and create stable conditions for long-term economic development.

Emerging Challenges in Health Financing

1. **Large spending gap remains:** According to the **World Bank**, public spending on UHC in LMICs is only about **half of the minimum benchmark**. Although the gap in health spending as a share of GDP

has narrowed since 2000, the **per capita spending gap has increased more than three times**, showing that poorer countries are still far behind.

2. **Declining international health assistance:** Development Assistance for Health (DAH), which supported many LMICs, has fallen sharply after the COVID-19 pandemic. In **2025**, the **United States cut foreign assistance by 67%**, followed by the **United Kingdom (39%)**, **France (35%)**, and **Germany (12%)**. The **OECD** estimates that global health funding could decline by **up to 60%** from its 2022 peak.
3. **Limited fiscal space due to rising public debt:** Governments have less money available for health because public debt has increased rapidly. **Global public debt reached \$102 trillion in 2024**, with developing countries accounting for **\$31 trillion**, while they paid a record **\$921 billion** in net interest payments.
4. **Growing health needs increase financial pressure:** Health systems now face rising demand due to **population ageing, climate-related shocks, pandemics, and non-communicable diseases**, increasing the need for sustained investment.
5. **High financial burden on households:** More than **half of the world's population** still lacks full coverage of essential health services, and **one in four people** face financial hardship because of **out-of-pocket health expenditure**.
6. **Health spending has stagnated:** Public health spending has remained below the level needed to achieve **UHC** and has largely stagnated since **2018**, leaving many countries with insufficient resources to meet growing health demands.
7. **Global shortage of health workers:** The world is projected to face a shortage of around **11 million health workers by 2030**. Without enough trained workers, new medicines, technologies, and health innovations cannot effectively reach patients.
8. **Innovation without strong systems has limited impact:** Scientific advances alone cannot improve health outcomes. Weak health systems reduce public trust, limit access to care, and prevent innovations from reaching the people who need them most.

Key Gaps in Public Health Spending

1. **Low budget utilisation reduces impact:** Many countries do not fully use the money allocated for health. **Health budgets in LMICs are executed at only about 85%–90%**, which is lower than the execution rate for overall government and education budgets.
2. **Poor utilisation in India:** A parliamentary panel found that only **about two-thirds** of the allocation for India's flagship health infrastructure mission was spent in **2024–25**. Under the **National Health Mission (NHM)**, only **26%** of the funds meant for communicable and non-communicable disease programmes were utilised.
3. **Imbalance in spending priorities:** Salary and wage budgets are usually spent fully, but spending on medicines, equipment, and other goods and services remains low. This limits the ability of health workers to provide quality care.

4. **Limited focus on preventive healthcare:** Public spending is concentrated on secondary and tertiary curative care, while preventive and primary healthcare receive much less attention. India spends **less than one-fourth** of its public health expenditure on preventive care.
5. **Weak strategic allocation of resources:** Public funds should focus on infectious disease control, vaccination, sanitation, and other public health goods where market failures exist, instead of replacing affordable services already supplied by the private sector.
6. **Weak governance lowers outcomes:** Higher spending alone does not improve health outcomes when governance is weak. Corruption, poor bureaucracy, and weak accountability reduce the effectiveness of public health expenditure.

Strategies to Strengthen Public Health Systems

1. **Improve budget execution:** Governments should ensure that allocated health funds are fully utilised through better budget credibility, timely cash release, and efficient implementation.
2. **Prioritise preventive and primary healthcare:** Greater investment should be directed towards preventive care, primary healthcare, early disease detection, and risk reduction instead of relying mainly on curative services.
3. **Invest in essential public health functions:** Public spending should focus on **infectious disease control, immunisation, sanitation, and other public health goods** that generate wider social benefits.
4. **Strengthen governance and financial management:** Better public financial management, transparent procurement, stronger accountability, and greater involvement of healthcare providers in budgeting can improve value for money.
5. **Create flexible and resilient health systems:** Health budgets should remain flexible to respond quickly during emergencies, as shown during the COVID-19 pandemic, while maintaining essential health services.
6. **Expand fiscal space for health:** Countries should spend more on health wherever fiscal space exists, raise **taxes on unhealthy products**, undertake broader macro-fiscal reforms, and align remaining external assistance with national priorities.
7. **Invest in frontline health workers:** Long-term investment in training, mentoring, and supporting frontline workers strengthens service delivery, improves public trust, and expands access to healthcare.
8. **Promote partnerships and digital innovation:** Governments, civil society, and the private sector should jointly strengthen health systems. Digital tools can improve health worker training, last-mile service delivery, and access to quality healthcare.

Conclusion

Strong health systems require both **higher investment** and **better use of available resources**. Better budget execution, strategic spending, strong governance, investment in frontline workers, and greater cooperation

among governments, donors, civil society, and the private sector can improve health outcomes. Well-directed public spending remains essential for building resilient health systems and achieving **Universal Health Coverage (UHC)**.

Question for practice:

Discuss the importance of better public spending in building strong and resilient health systems for achieving Universal Health Coverage (UHC).

Source: [The Hindu](#)

Welfare of Sex Workers in Light of Supreme Court Judgment

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

Introduction

For decades, anti-trafficking measures often led to **forced rescue, detention, separation from families, and denial of choice** for sex workers. In **Prajwala vs. Union of India (2026 INSC 609)**, the Supreme Court adopted a rights-based approach by recognising **dignity, consent, autonomy, and constitutional protection** for victims of trafficking as well as adult voluntary sex workers. The judgment also issued nationwide guidelines to reform rescue, protection, and rehabilitation.

Background of the Issue

1. **Long-standing impact of anti-trafficking measures:** For more than **three decades**, sex workers have reported **forced rescues, indefinite detention in corrective homes, separation from children, and threats to life**. Their experiences were acknowledged only partially and not within a comprehensive rights-based framework.
2. **Confusion between trafficking and sex work:** Anti-trafficking laws and public discourse often treated **voluntary adult sex work and sex trafficking as the same**, leading to wrongful identification of consenting adults as trafficking victims.
3. **Institution-based rescue model:** Rescue operations mainly focused on removing women from sex work and placing them in institutions. This approach often ignored their wishes and personal circumstances.
4. **Social stigma and exclusion:** Moral judgment and social prejudice isolated adult voluntary sex workers. This made it difficult for them to access legal protection and public support.
5. **Need for constitutional protection:** The Court shifted the debate from moral judgment to constitutional rights, recognising that protection must be based on law rather than social prejudice.

Supreme Court's Landmark Observations

1. **Agency and vulnerability can coexist:** The Court held that a person may face social or economic vulnerability while still making voluntary choices. Vulnerability alone does not take away personal agency.

2. **Migration is not trafficking:** The Court rejected the assumption that migration should automatically be treated as trafficking. Trafficking must be determined on the basis of coercion and lack of consent.
3. **Trafficking is different from voluntary sex work:** The Court distinguished the Immoral Traffic (Prevention) Act, 1956 (ITPA) from the offence of trafficking under Section 143 of the Bharatiya Nyaya Sanhita (earlier Section 370 IPC). It clarified that trafficking requires force, coercion, fraud, inducement, or deception, while voluntary adult sex work cannot automatically be treated as trafficking.
4. **Equal constitutional protection:** The Court affirmed that constitutional rights under Article 21 apply equally to sex workers. Their dignity and legal protection cannot be denied because of social disapproval.
5. **Rights without recognising a right to sex work:** The Court clarified that constitutional rights of sex workers exist even without recognising a legal right to sex work.
6. **Building on the Budhadev Karmaskar judgment:** The Court reaffirmed the principles laid down in *Budhadev Karmaskar v. State of West Bengal (2022)* that **voluntary adult sex workers are entitled to dignity under Article 21**, should not be victimised during raids, and that rehabilitation must be voluntary rather than coercive.
7. **Binding constitutional directions:** By invoking Article 142, the Court gave nationwide legal force to its directions on rescue, protection, and rehabilitation.

Key Guidelines Issued by the Court

1. **Victim Protection Plan:** The Court directed the implementation of a Victim Protection Plan covering preventive, protective, rehabilitative, and repatriation measures under Articles 21 and 23.
2. **Consent inquiry by the Magistrate:** Before passing any order for long-term custody, the Magistrate must determine whether an adult is engaged in sex work voluntarily and whether she wants institutional protection.
3. **Voluntary rehabilitation:** Rehabilitation is a State obligation under Article 23, but it cannot be imposed. The victim's own wishes should determine how rehabilitation is provided.
4. **Standards during rescue operations:** Rescue teams must follow the principles of non-criminalisation, non-stigmatisation, and non-discrimination. They must avoid verbal abuse, physical violence, unnecessary force, and misconduct.
5. **Comprehensive rehabilitation support:** Rehabilitation should include shelter, medical care, psychological support, compensation, vocational training, and measures to reduce stigma so that victims can rebuild their lives.
6. **Protection from unnecessary custody:** Reaffirming *Budhadev Karmaskar (2022)*, the Court held that **voluntary adult sex workers should not be taken into custody merely because they are found during rescue operations**. They should not be treated as trafficking victims unless coercion or exploitation is established.

Significance for Welfare of Sex Workers

1. **Shift from morality to constitutional rights:** The judgment replaces a morality-based approach with a rights-based constitutional framework for addressing sex work and trafficking.
2. **Respect for personal choice:** The judgment recognises that individual choice and informed consent should guide every stage of rescue, protection, and rehabilitation.
3. **Protection from coercive institutionalisation:** It acknowledges that protective homes and forced institutional care can themselves restrict liberty, privacy, family life, and livelihood.
4. **Reduction of stigma and discrimination:** Equal constitutional recognition can help reduce social stigma, isolation, and discriminatory treatment faced by sex workers.
5. **Scope for legal reforms:** The Court advised the government to re-examine the conflation between trafficking and prostitution and noted that the existing legal framework has scope to protect the rights of voluntary adult sex workers.

Concerns and Limitations

1. **Dependence on existing institutions:** The judgment assumes that **police, magistrates, shelter homes, and legal aid systems** will apply the new standards fairly, despite their earlier failures.
2. **Caste and economic discrimination:** The Court recognised caste as a factor leading to sex work, but **implementation institutions themselves continue to be shaped by caste discrimination and economic marginalisation.**
3. **Limited scrutiny of the anti-trafficking system:** While recommending reforms in shelter homes, the judgment does not closely examine **the organisations, funding structures, and incentives that sustain coercive rescue practices.**
4. **Institutional detention remains a concern:** Protective homes often involve **restricted movement, loss of privacy, separation from families, and loss of livelihood**, making rehabilitation resemble long-term detention.
5. **Limited recognition of sex workers' collectives:** The judgment reflects arguments developed by sex workers over many years but **does not adequately recognise the role of their unions and collective organisations.**

Way Forward

1. **Place sex workers at the centre of implementation:** Sex workers and their unions should help **draft guidelines, monitor implementation, develop shelter standards, and train law enforcement agencies.**
2. **Ensure accountability of anti-trafficking organisations:** Organisations involved in rescue operations should face **greater public accountability**, including scrutiny of their funding and functioning.

3. **Improve access to existing welfare schemes:** India already has an extensive welfare system. The priority is to ensure that **sex workers can access these benefits as rights-bearing citizens**.
4. **Ensure rights-based implementation:** Institutions should consistently implement the Court's directions by respecting consent, dignity, and constitutional protections.
5. **Focus on rights-based implementation:** Lasting reform depends not only on new legal standards but also on **fair, unbiased, and consistent implementation by every institution involved**.

Conclusion

The Supreme Court's judgment marks a major shift from a **rescue-based approach to a rights-based framework**. It recognises **consent, dignity, autonomy, and constitutional protection** for sex workers while reforming rescue and rehabilitation practices. Its real impact will depend on **effective implementation, institutional accountability, and equal treatment of sex workers as rights-bearing citizens under the Constitution**.

Question for practice:

Evaluate the significance of the Supreme Court's judgment in advancing the welfare and constitutional rights of sex workers in India.

Source: [The Hindu](#)

Critical minerals, the foundation of strategic power

Source: The post "Critical minerals, the foundation of strategic power" has been created based on "Critical minerals, the foundation of strategic power" published in "The Hindu" on 4th July 2026.

UPSC Syllabus: GS 3 – Economy

Context: Critical minerals such as **lithium, cobalt, nickel, graphite, copper, and rare earth elements (REEs)** are essential for electric vehicles, renewable energy, semiconductors, defence, artificial intelligence, and advanced manufacturing. As decarbonisation and digitalisation accelerate, **critical mineral security has become as strategically important as oil security once was**.

Importance of Critical Minerals

1. Critical minerals form the backbone of clean energy technologies, battery storage systems, renewable power generation, and electronics manufacturing.
2. They are indispensable for the production of semiconductors, defence equipment, aerospace technologies, and advanced manufacturing.
3. They are essential for achieving India's clean energy transition, industrial development, and strategic autonomy.

Global Challenges in Critical Mineral Supply

1. Concentrated Global Supply Chains

- a. The global supply chain is highly concentrated, as the top three refining countries account for **86% of the refining capacity** of major critical minerals.
- b. China dominates the global value chain by refining **19 out of 20 strategic minerals** and holding an average market share of about **70%**.

2. Rising Demand and Supply Deficits

- a. The demand for critical minerals is increasing rapidly, while copper is projected to face a **30% supply shortfall by 2035**.
- b. Lithium is expected to witness supply deficits by the 2030s, while demand for rare earth elements will continue to rise with the expansion of wind energy and electronics.

3. Growing Geopolitical Risks

- a. China's rare earth export controls announced in **2025** have highlighted the geopolitical risks associated with concentrated supply chains.
- b. The European Union and the United States are diversifying their supply chains and strengthening domestic processing capacities to reduce dependence on a single country.

India's Position

1. Growing Demand

- a. India's demand for critical minerals is expected to increase significantly due to the expansion of clean energy, electric mobility, and advanced manufacturing.
- b. Under the Net Zero scenario, India's cumulative demand for critical energy transition minerals could reach **169 million tonnes by 2070**, which is about **51% higher** than the current policy pathway.

2. Domestic Resource Potential

- a. India possesses substantial reserves of **cobalt (44.9 million tonnes), copper (163.9 million tonnes), graphite (211.6 million tonnes), nickel (189 million tonnes)**, and monazite deposits containing rare earth oxides.
- b. Recycling has the potential to meet up to **one-fourth of India's copper and graphite demand** by the middle of the century.
- c. Despite having domestic reserves, India continues to depend heavily on imports for lithium, cobalt, and nickel.

Challenges Faced by India

1. **Import Dependence:** India remains heavily dependent on imports for several critical minerals, making its supply chains vulnerable to external disruptions.
2. **Limited Processing and Refining Capacity:** India has limited processing and refining capacity, particularly for high-purity critical mineral products, which restricts domestic value addition.
3. **China's Dominance:** China processes over **90% of rare earths and graphite**, nearly **75% of cobalt**, and around **70% of lithium chemicals**, exposing India to major supply chain risks.

4. **Inadequate Exploration:** Mineral exploration in India remains relatively shallow, limiting the identification and development of domestic mineral resources.
5. **Regulatory Bottlenecks:** Environmental and regulatory clearances are often time-consuming, resulting in delays in mining and processing projects.
6. **Limited Private Sector Participation:** Private investment remains constrained due to geological uncertainties, high investment risks, and challenging project economics in remote regions.
7. **Weak Recycling Ecosystem:** Recycling infrastructure remains underdeveloped because of inadequate feedstock, collection systems, and technological limitations.

Government Initiatives

1. The Government has identified **30 critical minerals** and strengthened the regulatory framework since 2023.
2. The **National Critical Mineral Mission** aims to undertake **1,200 domestic exploration projects**, produce at least **15 critical minerals**, and acquire **50 overseas mining assets** by 2030–31.
3. **Khanij Bidesh India Limited (KABIL)** has secured **15,703 hectares** in Argentina's Catamarca Province for lithium exploration.
4. The **Union Budget 2026–27** has proposed rare earth corridors in **Odisha, Kerala, Andhra Pradesh, and Tamil Nadu**.
5. The **India-US Critical Minerals and Rare Earths Framework (May 2026)** seeks to strengthen bilateral cooperation and diversify supply chains.

Way Forward

1. Strengthen Domestic Capabilities

- a. India should prioritise the development of domestic processing and refining capacity through targeted incentives and supporting infrastructure.
- b. The Government should strengthen geological exploration by improving the availability of reliable geological data and modern exploration technologies.

2. Improve Policy and Investment Environment

- a. Regulatory approvals should be made faster and more predictable to encourage timely investments.
- b. Greater private sector participation should be promoted through risk-sharing mechanisms and policy support.

3. Enhance Strategic Security

- a. India should establish strategic stockpiles of critical minerals to improve resilience against global supply disruptions.
- b. Investment in research and development should be enhanced to improve extraction, processing, and recycling technologies.
- c. India should diversify overseas mineral sourcing through trusted international partnerships and overseas mining acquisitions.
- d. Recycling should be integrated into long-term mineral supply planning with measurable implementation targets.

- e. A coordinated institutional framework with mineral-specific risk thresholds and clear milestones should be established to ensure long-term mineral security.

Conclusion: Critical mineral security will determine India's success in the clean energy transition, semiconductor manufacturing, defence production, and industrial growth. India must convert its mineral potential into strategic capability through sustained implementation, stronger processing capacity, diversified supply chains, and coordinated policy action to reduce long-term strategic vulnerabilities.

Question: Critical mineral security has become central to India's industrial growth, clean energy transition, and strategic autonomy. Discuss the challenges faced by India in securing critical minerals and suggest measures to strengthen mineral security.

Source: [The Hindu](#)

Public Health Financing: The Key to Universal Health Systems

Source: The post “Public Health Financing: The Key to Universal Health Systems” has been created based on “Public Health Financing: The Key to Universal Health Systems” published in “The Hindu” on 4th July 2026.

UPSC Syllabus: GS 2 – Governance

Context: Strong public health systems are essential for achieving **Universal Health Coverage (UHC)** and improving health outcomes. However, declining foreign aid, rising public debt, and fiscal constraints make it imperative for countries like India to **improve the efficiency and quality of public health spending rather than relying solely on increased expenditure.**

Need for Better Public Health Spending

1. Declining foreign health assistance

- a. Development Assistance for Health (DAH), which peaked during the COVID-19 pandemic, has declined sharply after the pandemic.
- b. The United States has reduced its foreign health assistance by **67%**, while the United Kingdom, France, and Germany have also significantly reduced their health aid.
- c. According to the OECD, global health funding could decline by **up to 60%** from its 2022 peak.

2. Fiscal constraints

- a. Rising public debt has reduced the fiscal space available for health spending.
- b. Global public debt reached **\$102 trillion in 2024**, with developing countries accounting for **\$31 trillion**.
- c. Developing countries paid **\$921 billion** in net interest payments in 2024, leaving fewer resources for sectors such as health.

Challenges in India's Public Health Spending

1. Poor budget utilisation

- a. India often fails to fully utilise the funds allocated for the health sector.
- b. Only about **two-thirds** of the allocation under the flagship Health Infrastructure Mission was spent during **2024–25**.
- c. Under the **National Health Mission (NHM)**, only **26%** of the funds allocated for communicable and non-communicable disease programmes were utilised.

2. Inadequate spending on essential services

- a. Public expenditure is concentrated on salaries, while spending on medicines, equipment, and other health services remains inadequate.
- b. This limits the ability of healthcare workers to provide quality healthcare.

3. Excessive focus on curative care

- a. A large share of public health expenditure is directed towards secondary and tertiary healthcare.
- b. India spends **less than one-fourth** of its public health expenditure on preventive healthcare.

4. Weak governance

- a. Corruption, poor administrative capacity, and inefficient public financial management reduce the effectiveness of health spending.
- b. Weak governance prevents higher public expenditure from translating into better health outcomes.

Measures to Improve Public Health Spending

1. Improve budget execution

- a. Governments should ensure timely utilisation of allocated funds and reduce implementation delays.
- b. Better budget execution will ensure that available financial resources translate into improved health services.

2. Prioritise preventive and primary healthcare

- a. Greater public investment should be directed towards preventive healthcare, vaccination, sanitation, disease surveillance, and primary healthcare.
- b. Early detection and management of chronic diseases should also receive greater policy attention.

3. Improve the quality of expenditure

- a. Adequate funds should be allocated for medicines, medical equipment, diagnostics, and healthcare infrastructure instead of focusing predominantly on salaries.
- b. Public spending should prioritise areas where market failures exist, such as infectious disease control and public health services.

4. Strengthen governance

- a. Transparency, accountability, and administrative efficiency should be improved to maximise the impact of public health expenditure.

- b. Good governance can significantly improve health outcomes, including reducing child mortality.

5. Strengthen Public Financial Management (PFM)

- a. Budget credibility and timely cash disbursement should be improved.
- b. Healthcare providers should be involved in the budgeting process to enhance accountability and motivation.
- c. Procurement systems should be strengthened to ensure better value for money.
- d. Health budgets should remain flexible to respond to emergencies such as pandemics.

6. Strengthen decentralised governance: Since healthcare delivery is increasingly decentralised, improving governance and financial management at the State and local levels is essential.

Conclusion: While increased public investment in health remains necessary, better utilisation of existing resources is equally important. India can build stronger and more resilient public health systems by improving budget execution, prioritising preventive healthcare, strengthening governance, and ensuring efficient public financial management, thereby advancing the goal of Universal Health Coverage.

Question: In the context of declining foreign health aid and fiscal constraints, discuss how better public spending can strengthen health systems in India. Suggest measures to improve the efficiency and effectiveness of public health expenditure.

Source: [The Hindu](#)

India Struggling to Retain Scientists

UPSC Syllabus: Gs Paper 3- Science and Technology Introduction

India has achieved significant progress in **space, biotechnology, engineering, vaccines, and supercomputing** through strong public scientific institutions. However, the recent resignation or voluntary retirement of **more than 100 scientists from ISRO**, along with similar departures from other government-funded research organisations, has raised concerns about India's ability to retain experienced researchers. The issue extends beyond salary and points to deeper institutional, administrative, and workplace challenges.

Recent Trend: Growing Exit of Scientists

1. **Growing resignations from ISRO:** More than **100 scientists have resigned or taken voluntary retirement** from ISRO in recent months. Many contributed to missions such as **Chandrayaan-3** and **Gaganyaan**, making their experience difficult to replace.
2. **Not limited to one institution:** Similar departures are also taking place in **CSIR laboratories, autonomous institutes, and other government-funded research organisations**. Individual resignations together show a wider national pattern.

3. **Government's immediate response:** The Department of Space has restricted resignations from flagship programmes. Scientists working on Gaganyaan now require departmental approval before leaving.

Why Are Scientists Leaving?

1. **Professional dignity over higher salary:** Better pay alone does not explain the resignations. Many experienced scientists seek **professional dignity, freedom of thought, and the ability to work on research topics of their choice.**
2. **Growing bureaucratic control:** Many researchers feel administrative power is becoming stronger than scientific judgement. They believe questioning authority has become more difficult within institutions.
3. **Rigid hierarchy limits innovation:** Many laboratories continue to function through strict hierarchies. Young scientists often feel that career growth depends more on understanding administrative boundaries than asking bold scientific questions.
4. **Respect linked to designation:** Professional respect is often tied to official position rather than scholarship or mentorship. Even simple acts of equality may be viewed as breaking institutional etiquette.
5. **Weak culture of open discussion:** Healthy research requires students and young investigators to challenge senior scientists without fear. Such open academic interaction remains limited in many institutions.
6. **Bureaucratic academic environment:** Scientific gatherings often reflect administrative hierarchy through VIP treatment and separate facilities for senior officials. Such practices reinforce status differences instead of promoting scientific exchange.
7. **Fear of speaking openly:** Scientists hesitate to discuss unhealthy workplace culture because the research ecosystem is small. The same people may later influence recruitment, promotions, funding, or career opportunities.
8. **Concerns over workplace practices:** Allegations of harassment, vindictive administrative actions, and attempts to discredit scientists have created damaging perceptions, even though individual cases require due process.
9. **Private sector offers better opportunities:** Companies such as **Skyroot Aerospace, Agnikul Cosmos, Pixxel, and Bellatrix Aerospace** provide higher salaries, stock options, faster career growth, leadership opportunities, and greater operational flexibility.
10. **Mission delays reduce motivation:** Delays in missions such as **Gaganyaan G1, SSLV-L1, GSLV-F17, and PSLV-N1**, along with two PSLV setbacks, have reduced the momentum that many scientists value.
11. **Centralised decision-making:** Officials have expressed concerns that increasing decision-making within the Chairman's Office has slowed approvals and reduced operational flexibility for research teams.

Impact on India's Scientific Ecosystem

1. **Loss of institutional knowledge and mentorship:** Many scientists leaving are in the later stages of their careers. Their departure reduces specialised expertise, institutional memory, and mentorship for younger researchers.
2. **Shift of talent away from public institutions:** Scientists are increasingly moving to **private research organisations, deep-tech companies, universities abroad, and international collaborations** that offer greater scientific autonomy. This reduces the talent available in public research institutions.
3. **Challenge for future strategic missions:** India needs skilled researchers for **space, semiconductors, quantum technology, artificial intelligence, and biotechnology**. Continued talent loss can affect these long-term missions.
4. **Long-term institutional loss:** Buildings and scientific equipment can be created with funding, but building a research culture that retains outstanding scientists takes decades.
5. **Growing competition for talent:** The private space ecosystem that ISRO helped create is now competing directly with it for experienced researchers. Without reforms, public institutions may find it harder to retain skilled scientists.

Way Forward: Building Institutions that Retain Talent

1. **Increase administrative transparency:** Decision-making should become more transparent so scientific judgement receives greater importance.
2. **Strengthen grievance redressal:** Institutions should establish effective systems to address workplace harassment and administrative complaints.
3. **Promote mentorship-based leadership:** Leadership should encourage mentoring and collaboration instead of command-based administration.
4. **Reduce bureaucratic culture:** Institutions should move away from rigid administrative practices that discourage scientific independence.
5. **Strengthen scientific autonomy:** Researchers should have greater freedom to question ideas and pursue innovative work.
6. **Promote equality in research culture:** Respect should come from scientific contribution rather than designation or ceremonial privileges.
7. **Create an open research environment:** Young scientists should be able to question senior researchers without fear of harming their careers.
8. **Consider flexible workforce models:** A hybrid model similar to **NASA** and the **European Space Agency** can combine permanent scientists with project-based professionals while preserving institutional knowledge.

Conclusion

India's future scientific progress depends not only on producing talented researchers but also on retaining them in public institutions. **Administrative transparency, scientific autonomy, healthy workplace culture, effective grievance redressal, and mentorship-based leadership** are essential for retaining talent. Without

such reforms, public research institutions may struggle to support India's long-term scientific and technological ambitions.

Question for practice:

Examine the reasons behind the growing challenge of retaining scientists in India's public research institutions and discuss its implications for the country's scientific ecosystem.

Source: [The Hindu](#)

AI and Cyber, the Double Helix of Today's Security Threats

UPSC Syllabus: Gs Paper 3- science and technology And Gs paper 3- cyber security

Introduction

The rapid spread of **Artificial Intelligence (AI)** and digital technologies is reshaping the global security landscape. AI is no longer only a tool for improving efficiency but has become a key part of digital infrastructure. At the same time, cyber threats are becoming more advanced, adaptive, and difficult to counter. The combination of AI and cyber capabilities is creating new security challenges that affect governments, businesses, defence systems, and global stability.

AI and Cyber Security: A New Security Paradigm

1. **Digital Interconnectedness Expands Risks:** The digital world has evolved into a highly interconnected ecosystem where almost every system is linked. This has increased cyber vulnerabilities and created more opportunities for attacks.
2. **AI Becomes Critical Infrastructure:** AI has moved beyond improving efficiency and is now becoming an essential part of modern infrastructure. As dependence on AI grows, failures in AI systems can have much wider security consequences.
3. **Cyber Threats Become More Adaptive:** Modern cyber attacks are becoming more sophisticated and harder to detect. **AI-powered malware** can change its behaviour according to its environment, making traditional antivirus software less effective.
4. **Pressure on Existing Security Models:** Malicious autonomous agents can weaken **"Zero Trust" security protocols** and increase insider threats. This shows that existing cyber security systems are struggling to deal with AI-driven attacks.
5. **Security Challenges Across Every Sector:** The rapid spread of digital technologies has expanded cyber risks beyond the technology sector. Cyber breaches and malicious activities now affect every level of national and organisational security.
6. **Governments Are Still Catching Up:** Many governments are building new security architectures by combining innovation, policy coordination, and strategic planning. However, they continue to lag behind sophisticated cyber adversaries.

AI-Driven Transformation of Cyber Threats

1. **Shift from Generative AI to Agentic AI: Large Language Models (LLMs)** are entering business systems without adequate preparation or training. The emergence of **Agentic AI**, which can perform tasks more independently, is making cyber security challenges even more complex.
2. **AI Can Discover Hidden Vulnerabilities:** Advanced AI systems such as **Anthropic's Mythos** can identify **zero-day vulnerabilities** across major operating systems. This shows that AI is beginning to challenge the limits of existing digital security systems.
3. **Automation of Sophisticated Cyber Attacks:** AI can perform complex cyber operations that once required skilled human experts. This enables attackers to launch faster and more advanced cyber attacks with less human effort.
4. **Existing Cyber Defences Face New Pressure:** The **World Economic Forum** warns that AI will strengthen cyber defence but will also support more sophisticated automated attacks. As a result, existing **"Zero Trust"** models may become less effective.
5. **Strategic Importance of Advanced AI:** Advanced AI systems are becoming critical cyber capabilities. Their ability to discover vulnerabilities and automate attacks makes technological leadership an important strategic advantage.

Strategic and Military Impact of AI

1. **Changing Nature of Warfare:** Recent conflicts such as the **Russia-Ukraine war** and the **U.S./Israel-Iran war** show that AI is reshaping modern warfare. New technologies are creating asymmetric advantages that challenge conventional military planning.
2. **AI Strengthens Intelligence Gathering:** AI-powered systems can analyse **photos, text, radio signals, and electromagnetic signals** to generate valuable intelligence. This helps armed forces detect threats quickly and deny tactical advantages to opponents.
3. **Improving Defence Capabilities:** AI systems can detect, track, and predict missile trajectories with high accuracy. These capabilities improve battlefield awareness and strengthen defensive operations.
4. **Rise of Autonomous Weapons:** Weapon systems such as **"Goalkeeper"** and **"Whiplash"** can independently identify and strike targets. Their growing role raises concerns about reducing meaningful human control over the use of force.
5. **AI Is Becoming a Strategic Source of Power:** As **Agentic AI** becomes more capable, AI is emerging as an important source of both **military and economic power**. However, global rules to govern this transformation are still at an early stage.

Emerging Risks of Advanced AI

1. **Greater Autonomy, Greater Threats:** **Agentic AI** can act with much less human intervention than Generative AI. As these systems become more capable, cyber threats are expected to become faster, more complex, and more difficult to control.

2. **Power in the Hands of Rogue Groups:** Advanced AI can give **rogue groups** capabilities that were once available only to nation states. This increases the possibility of highly sophisticated cyber attacks by non-state actors.
3. **Concentration of AI Power:** Companies developing the most advanced AI models could gain unprecedented influence over future technology. A single powerful AI system without effective rules could pose risks beyond one country and affect the wider global order.
4. **AI Hallucinations and Bias:** Even the most advanced AI models can produce **hallucinations**, misleading outputs, and subjective judgments. Bias in algorithms can also influence important security decisions and reduce the reliability of AI-based systems.
5. **Risk of Algorithmic Radicalisation:** AI platforms may gradually push opinion makers towards extreme views if they are not properly monitored. Preventing **algorithmic radicalisation** is therefore becoming an important part of AI safety.
6. **Intensifying AI Rivalry:** Competition over advanced AI is becoming sharper. The **U.S. allegation** that China's **Moonshot AI** used knowledge from Anthropic's **Fable** model, although rejected by China, reflects the growing strategic competition in AI development.
7. **Civilisational-Level Security Risk:** If advanced AI systems can identify and exploit security vulnerabilities better than almost all human experts, cyber attacks could threaten not only individual countries but also the wider digital ecosystem.

Need for Responsible AI Governance and Human Oversight

1. **Rewrite Existing Security Frameworks:** Existing cyber security rules may no longer be adequate as AI grows more powerful and autonomous. The world needs governance systems that can respond to rapidly changing AI capabilities.
2. **Keep Humans in Control:** As AI enters defence sensing and warning systems, final decisions should remain with humans. Human judgment is necessary before acting on AI-generated warnings.
3. **Balance AI Speed with Human Judgment:** AI can provide rapid warnings, but strategic decisions should rely on careful human assessment because AI systems may still produce biased or incorrect outputs.
4. **Adopt a Careful Approach:** The rapid growth of AI demands greater global reflection before wider deployment. A gradual approach that tests every step is safer than either blind acceptance or complete rejection of new technology.

Conclusion

The combination of **AI** and **cyber capabilities** is creating a new security environment with far-reaching military, economic, and strategic consequences. While AI offers significant opportunities, it also introduces powerful risks that current security systems are not fully prepared to handle. The future depends on **strong governance, human oversight, balanced judgment, and careful use of AI** so that technological progress strengthens global security instead of becoming a threat to it.

Source - [The Hindu](#)

NATO enters a new strategic era of transformation

Source: The post “NATO enters a new strategic era of transformation” has been created based on “NATO enters a new strategic era of transformation” published in “The Hindu” on 5th July 2026.

UPSC Syllabus: GS 2 - International Relations

Context: NATO is entering a new strategic phase as the United States expects Europe to assume greater responsibility for its own security while it increasingly focuses on the Indo-Pacific. This marks a shift from U.S.-led collective defence towards a more balanced transatlantic partnership.

Key Features of NATO's Strategic Transformation

1. Shift in the U.S. Security Strategy

- The U.S. National Security Strategy (2025) continues to recognise NATO as America's principal transatlantic alliance but expects prosperous European allies to shoulder greater responsibility for defending their own continent.
- The strategy envisages the United States as NATO's **strategic enabler, nuclear guarantor, and political convener**, rather than its sole military backbone.
- This strategic rebalancing is intended to enable the United States to devote greater diplomatic, military, and strategic attention to the Indo-Pacific.

2. Rebalancing of U.S. Military Presence in Europe

- The United States has gradually reduced its military footprint in Europe after the surge following Russia's invasion of Ukraine.
- During 2025–26, it withdrew around 5,000 troops from Germany, cancelled the planned deployment of 4,000 troops to Poland, and reduced Brigade Combat Teams from four to three.
- Consequently, the U.S. military presence in Europe has declined to approximately **75,000–80,000 troops**, close to pre-Ukraine war levels.

3. Greater European Responsibility for Collective Defence

- The **36th NATO Summit (Ankara, 2026)** reaffirmed the Alliance's commitment to **Article 5** while signalling Europe's growing leadership in conventional defence.
- NATO members pledged **€70 billion** in military assistance to Ukraine for 2026 and committed to sustaining comparable assistance in 2027.
- The members also endorsed European-led development of long-range precision strike capabilities and accelerated efforts to strengthen NATO's defence industrial base.

4. Evolution of NATO

- NATO 1.0 (1949–1991)** relied overwhelmingly on American military and nuclear power to deter Soviet aggression.

- b. **NATO 2.0 (1991–2022)** witnessed NATO's eastward expansion and military operations in the Balkans and Afghanistan, but Europe became increasingly dependent on the United States for advanced military capabilities.
- c. **NATO 3.0 (Post-2022)** represents a more balanced partnership in which Europe assumes primary responsibility for conventional defence, while the United States continues to provide strategic capabilities such as nuclear deterrence, intelligence, long-range precision strike systems, and global power projection.

5. Increased European Defence Spending

- a. **NATO members have committed to increasing core defence expenditure to at least 3.5% of GDP by 2035**, with progress to be reviewed in 2029.
- b. Germany has substantially increased defence spending and aims to achieve this target by 2029 while rebuilding its military capability to deter Russia.

6. Continuing Capability Gaps

- a. Europe continues to depend heavily on the United States for intelligence, surveillance, satellite support, command and control systems, strategic airlift, missile defence, long-range precision strike capabilities, and the nuclear umbrella.
- b. Therefore, Europe's principal challenge lies in developing an integrated military ecosystem rather than merely increasing defence expenditure.

Implications for India

1. Greater U.S. Focus on the Indo-Pacific

- a. A more self-reliant Europe will enable the United States to devote greater diplomatic attention, military resources, and strategic investments to the Indo-Pacific.
- b. This shift can strengthen the regional balance amid China's growing strategic assertiveness.

2. Enhanced Defence and Technology Cooperation: A stronger Europe can emerge as an important partner for India in defence manufacturing, advanced technologies, artificial intelligence, cybersecurity, semiconductors, and the space sector.

3. Expansion of Defence Industrial Partnerships: NATO's evolving strategic model offers India opportunities to expand defence industrial cooperation and accelerate technological modernisation.

4. Strategic Autonomy Remains Intact: India can strengthen cooperation with both the United States and Europe while continuing to uphold its long-standing commitment to strategic autonomy.

5. Greater Role in a Multipolar World: The changing transatlantic security architecture provides India with an opportunity to strengthen its position as a leading power in an increasingly multipolar international order.

Way Forward

1. Deepen Defence Cooperation with Europe: India should strengthen defence partnerships with European countries through joint manufacturing, research, technology transfer, and defence industrial collaboration.

2. Leverage the U.S. Focus on the Indo-Pacific: India should utilise the increased U.S. strategic focus on the Indo-Pacific to enhance cooperation in maritime security, regional stability, and **capacity building**.

3. Expand High-Technology Partnerships: India should deepen collaboration with both the United States and Europe in emerging sectors such as artificial intelligence, cybersecurity, semiconductors, and space technologies.

4. Preserve Strategic Autonomy: India should continue to engage constructively with both the United States and Europe while maintaining an independent foreign policy based on strategic autonomy.

5. Strengthen India's Global Role: India should leverage NATO's strategic rebalancing to diversify strategic partnerships and reinforce its role as a leading power in a stable, rules-based, and multipolar international order.

Conclusion: NATO's strategic transformation represents a redistribution of responsibilities rather than American disengagement from Europe. By prudently engaging with both the United States and Europe, India can strengthen its defence capabilities, expand technological partnerships, preserve strategic autonomy, and enhance its role in shaping the emerging multipolar world order.

Question: NATO is entering a new phase of strategic transformation, with Europe assuming greater responsibility for its own security. Examine the key features of this transformation and analyse its implications for India.

Source: [The Hindu](#)

Top spot: On the new phase of the Khelo India Scheme

Source: The post "Top spot: On the new phase of the Khelo India Scheme" has been created based on "Top spot: On the new phase of the Khelo India Scheme" published in "The Hindu" on 5th July 2026.

UPSC Syllabus: GS 2- Governance

Context: The Union Cabinet has approved **₹29,054 crore** for the new phase of the **Khelo India Scheme**, marking an eight-fold increase in funding. The scheme aims to strengthen grassroots sports, identify talent early, and prepare India for the **2036 Olympics** by creating a robust sports ecosystem.

Significance of the Revamped Khelo India Scheme

1. Strengthening Grassroots Sports

- a. **The scheme aims to identify** sporting talent at an early age through a comprehensive grassroots development programme.
- b. It seeks to increase the number of **Khelo India Centres, State and National Centres of Excellence, and accredited academies** from about one per district to two or three per district.

2. Expanding Sports Infrastructure

- a. The scheme focuses on upgrading sports infrastructure and expanding access to quality training facilities across the country.
- b. It also promotes greater participation by involving schools, sports clubs, and local institutions.

3. Improving Coaching Standards

- a. The scheme proposes to upgrade the skills of local coaches by overcoming language barriers in coaching material.
- b. It also envisages the establishment of a **National Coach Accreditation Board** to standardise coaching practices across the country.
- c. Better utilisation of physical education teachers is expected to improve foundational sports training.

4. Integrating Sports with Education: The **Khelo India Feeder Schools** and **Khelo India Utkrishta Vidyalaya** initiatives aim to integrate education with sports in line with the National Education Policy.

5. Expanding the Athlete Base: The existing **Khelo India Athletes Programme** and the newly introduced **Emerging Khelo India Athletes Initiative** aim to expand the talent pool from around **2,900 athletes** to nearly **28,000 athletes**.

6. Technology-Driven Sports Ecosystem

- a. The scheme proposes digitisation of the sports ecosystem to maintain comprehensive data on athletes.
- b. It also seeks to establish an effective bottom-to-top communication mechanism for talent identification and athlete development.

7. Strengthening Olympic Preparation

- a. The scheme complements the **Target Olympic Podium Scheme (TOPS)** by creating a larger pipeline of athletes capable of competing at the highest level.
- b. It aims to improve India's performance at the **2036 Olympics** and other international sporting events.

Challenges

1. Effective Implementation: The success of the scheme will depend on transparent, efficient, and accountable implementation across all levels.

2. Developing World-Class Athletes: India must ensure that talented athletes successfully progress from grassroots competitions to elite international performance.

3. Inadequate Sports Infrastructure: Despite increased funding, significant efforts are required to develop world-class sports infrastructure across the country.

4. Doping Concerns

- a. India's reputation as a doping hub remains a major obstacle to becoming a global sporting power.
- b. Strict anti-doping measures will be essential to ensure fair competition and protect India's sporting credibility.

5. Building a Sports Culture: A sustained sports culture needs to be promoted by maximising the reach of the **Fit India Movement** and encouraging wider participation in sports.

6. Immediate Performance Test: The **2030 Commonwealth Games in Ahmedabad** will serve as an important milestone in assessing the effectiveness of the scheme before the 2036 Olympics.

Way Forward

1. Ensure Transparent Implementation: The government should establish robust monitoring and accountability mechanisms to ensure effective utilisation of financial resources.

2. Upgrade Sports Infrastructure: Greater investment should be made in developing world-class training facilities, sports science support, and modern equipment across the country.

3. Strengthen Coaching Ecosystem: High-quality coach training, accreditation, and continuous skill development should be prioritised to improve athlete performance.

4. Promote Grassroots Participation: Schools, colleges, clubs, and local communities should play an active role in talent identification and sports promotion.

5. Strengthen Anti-Doping Measures: Strict enforcement of anti-doping regulations and greater awareness among athletes should be ensured to safeguard the integrity of Indian sports.

6. Focus on Long-Term Athlete Development: The government should ensure seamless progression of athletes from grassroots programmes to elite training under the Target Olympic Podium Scheme.

Conclusion: The revamped **Khelo India Scheme** provides India with a comprehensive framework for strengthening grassroots sports, improving coaching, expanding infrastructure, and nurturing future champions. Its success, however, will depend on effective implementation, transparent governance, strict anti-doping measures, and sustained investment in athlete development to realise India's aspiration of emerging as a leading sporting nation by the **2036 Olympics**.

Question: Discuss the significance of the revamped Khelo India Scheme in transforming India's sports ecosystem. What challenges must be addressed to realise India's Olympic ambitions?

Source: [The Hindu](#)

Strategic Transformation of NATO and Position of India

UPSC Syllabus: Gs Paper 2- International Relations

Introduction

The **2026 NATO Summit in Ankara** confirmed that NATO is entering a new phase of strategic transformation rather than decline. The Alliance is moving beyond its traditional security role to prepare for long-term geopolitical rivalry, technological competition and resilient defence industries. At the same time, the **United States (U.S.)** expects Europe to take greater responsibility for its own security, allowing Washington to focus more on the **Indo-Pacific**. This marks a major shift in NATO's evolution and its future role in global security.

Drivers of NATO's Strategic Transformation

1. **Changing Security Environment:** NATO is adapting to a rapidly changing strategic environment instead of maintaining its earlier security model. The focus has shifted from preserving the Alliance to making it capable of addressing future challenges.
2. **Russia as the Primary Security Challenge:** NATO considers **Russia** its main security concern even if the Ukraine war eventually ends. It has decided that long-term deterrence must remain a permanent part of its defence strategy.
3. **Lessons from the Ukraine War:** The war exposed serious weaknesses in ammunition production, missile manufacturing and defence supply chains. These gaps pushed NATO to strengthen its industrial and military preparedness.
4. **Technology as a Strategic Priority:** Modern security now depends on **artificial intelligence (AI), cybersecurity, quantum computing, autonomous systems and space capabilities**. NATO is giving these areas greater importance along with conventional military strength.
5. **Resilient Defence Industry:** Military power now depends not only on armed forces but also on factories, laboratories and skilled workers. NATO is therefore strengthening its **Defence Industrial Base (DIB)** to sustain future military operations.

America's Changing Security Priorities

1. **Shift in U.S. Security Expectations:** The **U.S. National Security Strategy (November 2025)** reaffirmed NATO's importance but stated that the period of America acting as Europe's primary security guarantor is ending. It expects prosperous European countries to take greater responsibility for defending their continent.
2. **Burden Sharing through Higher Defence Spending:** NATO members accepted **5% of GDP** as the new benchmark for defence spending. The objective is to distribute defence responsibilities more evenly across the Alliance.
3. **America's New Strategic Role:** The U.S. plans to remain NATO's **strategic enabler, nuclear guarantor and political convener** instead of serving as its only military backbone. This reflects a redistribution of responsibilities rather than withdrawal from the Alliance.
4. **Greater Focus on the Indo-Pacific:** A stronger and more self-reliant Europe would allow Washington to devote more military resources, diplomatic attention and strategic investments to the **Indo-Pacific**. This reflects the growing importance of that region in U.S. foreign policy.
5. **Dependence on American Military Support:** Europe still depends heavily on the U.S. for intelligence, satellite support, missile defence, strategic airlift and the nuclear umbrella. Washington's reduction in rapid-reaction assets and delayed deployment of Tomahawk missiles to Germany highlight this dependence.

6. **Continued Commitment to Collective Defence:** Even while reducing troop deployment, NATO reaffirmed **Article 5**, pledged **€70 billion** for Ukraine in **2026**, and committed to similar assistance in **2027**.

Evolution of NATO: From NATO 1.0 to NATO 3.0

NATO 1.0 (1949–1991):

Cold War Deterrence: During the Cold War, NATO relied mainly on **American military and nuclear power** to deter the Soviet Union and maintain transatlantic unity. The Alliance focused on collective defence against a common threat.

NATO 2.0 (1991–2022):

Expansion and New Missions: After the collapse of the Soviet Union, NATO expanded eastward by admitting former **Warsaw Pact** countries. It also carried out military operations in the **Balkans** and **Afghanistan**, giving the Alliance a broader security role.

Growing Dependence on the U.S.: During this period, many European countries reduced defence spending and became increasingly dependent on the U.S. for **intelligence, logistics, strategic mobility and advanced military capabilities**. This made burden sharing a major issue within NATO.

NATO 3.0 (Since 2022):

Shared Defence Responsibilities: Russia's invasion of Ukraine marked the beginning of NATO's third phase. Europe is expected to take primary responsibility for conventional defence, while the U.S. continues to provide **nuclear deterrence, intelligence, long-range precision strike capabilities and global power projection**.

A New Strategic Formula: NATO's original Cold War objective was described as keeping "**the Russians out, the Americans in, and the Germans down**." The Alliance has now moved towards a new approach of **detering Russia, keeping America engaged and ensuring Europe is prepared**.

Strategic Redistribution, Not Disengagement: NATO's transformation does not represent American withdrawal from Europe. It represents a more balanced transatlantic partnership where military responsibilities are shared according to changing global priorities.

Europe's Growing Responsibility for Collective Defence

1. **Strengthening Conventional Defence:** NATO members agreed to increase core defence spending to 3.5% of GDP by 2035, with progress to be reviewed in 2029. The objective is to improve Europe's conventional military capability.
2. **Germany's Expanding Military Role:** Germany has **doubled its defence expenditure since 2023** and aims to achieve the **3.5% target by 2029**. It is rebuilding its military capability to strengthen deterrence against Russia.

3. **European Leadership in Defence Capabilities:** NATO members supported **European-led development of long-range precision strike capabilities** and accelerated efforts to strengthen the Alliance's **Defence Industrial Base (DIB)**. This aims to improve Europe's ability to meet future security needs.
4. **Sustained Support for Ukraine:** NATO reaffirmed its commitment to **Article 5** while pledging **€70 billion** in military assistance to **Ukraine in 2026** and committing to maintain comparable support in **2027**. This reflects Europe's growing role in supporting regional security.

Challenges in Building European Strategic Autonomy

1. **Dependence on American Military Support:** Even as European armies become stronger, they continue to rely heavily on the U.S. for **intelligence, surveillance, satellite support, command and control systems, strategic airlift, missile defence, long-range precision strike capabilities and the nuclear umbrella**.
2. **Reduction of U.S. Rapid-Reaction Assets:** Washington has reduced the deployment of **bombers, fighter aircraft, air-refuelling tankers, warships, aircraft carriers and attack submarines**, while also delaying the deployment of **Tomahawk cruise missiles to Germany**. These steps underline Europe's continued dependence on American capabilities.
3. **Need for Integrated Military Capabilities:** Europe's main challenge is not only expanding the size of its armed forces but also developing the integrated systems that have long supported NATO's military effectiveness.
4. **Defence Industrial Gaps:** The Ukraine war exposed shortages in ammunition, missiles and artillery rockets. Although many NATO members have capable defence industries, weak coordination limits alliance-wide production.
5. **Rising Dependence on U.S. Defence Supplies:** Without major industrial expansion, higher defence spending could further increase reliance on American equipment. **Half of Europe's defence spending during 2022–2024 went to the U.S., compared with 28% during 2019–2021**, while **U.S. Foreign Military Sales notifications for European customers reached \$76 billion in 2024**, nearly four times the **2008** level.
6. **A Practical Military Goal:** Europe does not need to equal American military power. Its immediate objective is to become strong enough to effectively deter Russia.

Implications for Global Security, the Indo-Pacific and India

1. **Defence and Technology Partnerships:** Europe's growing defence investment creates opportunities for India in defence manufacturing, AI, cybersecurity, semiconductors, space and diversified supply chains.

2. **Maritime and Security Cooperation:** NATO's changing priorities create opportunities for India to deepen cooperation with European countries in **maritime security, cyber resilience, critical technologies and defence innovation**.
3. **Balancing Strategic Partnerships:** India must carefully manage its relations with **Russia**, a major defence and energy partner, while expanding strategic cooperation with the **U.S. and Europe**. Maintaining this balance will become more challenging as NATO's confrontation with Russia continues.
4. **Strategic Autonomy as the Guiding Principle:** India should view NATO's transformation as a strategic opportunity rather than through alliance politics alone. Stronger cooperation with Europe and the U.S. can complement India's long-standing commitment to **strategic autonomy**.
5. **Need for Defence Self-Reliance:** Rising defence demand in Europe is turning the global arms market from a buyer's market into a seller's market. As India increasingly depends on **drones, AI, cyber and electronic warfare, and resilient networks**, strengthening domestic capabilities will become essential.

Conclusion

NATO's transformation reflects a shift towards **shared responsibility, stronger European defence and long-term strategic competition** instead of institutional decline. The Alliance is increasingly integrating military capability, advanced technology and defence industries to address evolving security challenges. For India, this changing environment creates opportunities to expand defence and technology partnerships while strengthening its own defence capabilities.

Question for practice:

Examine the major strategic changes driving NATO's transformation and discuss their implications for Europe, the Indo-Pacific, and India.

Source: [The Hindu](#)

Curbing 'Paper Leaks' and Ensuring Institutional Accountability

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

Introduction

High-stakes public examinations such as **NEET** and **UGC-NET** determine educational and career opportunities for millions of candidates. Repeated controversies in **NEET-2024, UGC-NET 2024 and NEET-2026**, despite investigations reportedly finding no prosecutable evidence of a conventional paper leak in some cases, exposed wider weaknesses in examination security. The focus has therefore shifted from merely identifying printed paper leaks to safeguarding the integrity of the entire examination process through stronger institutional accountability and preventive mechanisms.

Why Examination Integrity Has Become a National Concern

1. **High-Stakes Nature of Examinations:** NEET and other national entrance, scholarship and recruitment examinations decide educational and career opportunities. Their high value creates intense competition and increases the risk of organised malpractice.
2. **Repeated Examination Disruptions:** UGC-NET 2024 was cancelled and conducted again, while NEET-2026 was re-conducted after the NTA cited specific external or intelligence inputs.
3. **Investigations and Public Trust:** The CBI investigated NEET-2024 and UGC-NET 2024 but reportedly found no prosecutable evidence of a conventional paper leak under the BNS, 2023 and the Public Examinations Act, 2024. However, public confidence remained affected because examinations were cancelled or re-held.
4. **Need to Redefine the Problem:** The repeated crises raised a larger question. If no printed paper leak is established, the real issue becomes identifying what constitutes an examination compromise and who is responsible for preventing it.

Understanding the Concept of a 'Paper Leak'

1. **Traditional Definition:** A paper leak usually means the unauthorised disclosure of a printed question paper before the examination. Investigations therefore focus mainly on tracing printed papers and physical evidence.
2. **Vulnerabilities Before Printing:** Questions pass through **question setting, moderation, translation, digitisation and final compilation** before printing. Confidential information can be compromised at any of these stages without leaking the printed paper.
3. **Broader Forms of Confidential Disclosure:** Examination compromise may involve **selected questions, question banks, recurring themes, high-probability question pools, examiner identities, confidential instructions, digital data or administrative information**. Such disclosures can spread through insider access, cyber intrusions or coaching networks.
4. **Need for a Wider Definition:** Limiting the meaning of a paper leak to printed papers ignores major risks. Protecting only transportation and logistics cannot secure examination integrity if confidential information is already compromised at earlier stages.

Sources and Forms of Examination Compromise

1. **Operational Irregularities:** NEET-2024 witnessed issues such as incorrect question papers, delayed OMR handling, grace marks, tie-breaking disputes, clustering of high scores and unusually high scores from some centres. These exposed weaknesses in examination administration.
2. **Cyber and Data Security Risks:** Examination integrity can also be affected by cybersecurity failures, manipulation of candidate or examination data, disclosure of confidential information and unauthorised access to digital systems.
3. **Centre-Level and Organised Malpractice:** Compromised examination centres, impersonation, organised unfair means and coaching-network access to confidential information create unfair advantages for selected candidates.

4. **Lifecycle Vulnerabilities:** Examination breaches can occur at any stage, from question development to result processing. Focusing only on printed question papers overlooks vulnerabilities before and after the examination.
5. **Insider and Institutional Risks:** Repeated expert engagement, conflicts of interest and links with coaching ecosystems can expose confidential examination information. These vulnerabilities extend beyond printed question papers and may affect examination fairness.

Institutional Gaps and Accountability Issues

1. **Primary Responsibility of Examination Authorities:** Prevention cannot depend only on the CBI, police or courts, which act after a crisis. The examination authority has the primary responsibility for ensuring secure examinations.
2. **Gap Between Official Findings and Ground Reality:** Investigations reportedly found no prosecutable evidence of a conventional paper leak in some cases, yet examinations were cancelled or re-conducted. This mismatch raised questions about the effectiveness of existing institutional safeguards.
3. **Unanswered Questions:** In **NEET-2026**, official action reportedly followed a whistleblower's FIR rather than detection through the examination's own security systems. This raised questions about why institutional safeguards failed despite intelligence inputs.

Existing Legal Framework and Proposed Reforms

1. **Strengthening the Public Examinations Act:** The Centre proposes major amendments to the **Public Examinations (Prevention of Unfair Means) Act, 2024** while retaining its core offences. The objective is to strengthen enforcement against examination fraud.
2. **Higher Punishments and Financial Penalties:** The minimum prison term for individuals would increase from **3 to 5 years**, while the maximum punishment would rise to **10 years**. The maximum fine would increase from **₹10 lakh to ₹50 lakh**.
3. **Greater Accountability of Service Providers:** Agencies managing examination centres, technology or logistics could face fines up to **₹5 crore**, recovery of examination costs and **8-year debarment**, compared with **₹1 crore** and **4-year debarment** earlier.
4. **Liability of Senior Management:** Directors and senior executives involved in examination fraud could face **5 to 10 years** of imprisonment and fines up to **₹5 crore**, strengthening accountability at the highest level.
5. **Stronger Action Against Organised Crime:** Organised examination fraud would attract a minimum imprisonment of **7 years** and a minimum fine of **₹10 crore**, while the maximum punishment would remain **10 years**.
6. **Faster Investigation and Trial:** The amendments propose **Special Fast-Track Courts**, completion of investigations within **2 months**, trials within **3 months** after filing the chargesheet wherever possible, **Special Task Forces**, **Special Public Prosecutors**, and disposal of appeals by High Courts within **3 months**, as far as possible.

Beyond Punitive Measures: Need for Institutional Reforms

Comprehensive White Paper: The committee headed by **Nandan Nilekani** should prepare a White Paper covering **NEET-2024, UGC-NET 2024 and NEET-2026**. It should document operational failures, cybersecurity incidents, investigations, judicial outcomes and lessons learned.

Public Examination Integrity Framework (PEIF): The White Paper should support a common framework for all major examination bodies. It should establish standard procedures for the complete examination lifecycle.

Strengthening Institutional Safeguards: Accountability should cover question setters, translators, examination centres, digital systems, evaluation and result processing. It should include antecedent verification, conflict-of-interest checks, expert rotation, cybersecurity audits, intelligence-based monitoring and clear audit trails.

Uniform End-to-End SOPs: Standardised procedures should cover **conflict-of-interest management, expert selection, cybersecurity, examination administration, audit systems and institutional accountability**.

Focus on Institutional Prevention: The priority should shift from post-crisis response to institutional prevention by detecting and addressing risks before examinations are compromised.

Conclusion

Restoring public confidence requires more than tougher laws, stronger logistics or post-facto investigations. Examination integrity depends on protecting the entire examination lifecycle through stronger institutional accountability, transparent processes, timely detection of risks and effective preventive safeguards. A secure examination system should prevent breaches before they occur while ensuring fairness, credibility and accountability at every stage.

Question for practice:

Discuss the need to redefine "paper leaks" and strengthen institutional accountability to ensure the integrity of public examinations in India.

Source: [The Hindu](#)

Quantum shift: On private industry and national research spending

Source: The post "Quantum shift: On private industry and national research spending" has been created based on "Quantum shift: On private industry and national research spending" published in "The Hindu" on 6th August 2026.

UPSC Syllabus: GS- 3- Science and Technology

Context: The Department of Science and Technology's latest data show that private industry accounted for **51.8% of India's research and development (R&D) expenditure in 2023-24**, surpassing the combined contribution of all levels of government for the first time. The development marks a significant shift in India's research landscape and has the potential to strengthen innovation and manufacturing.

Significance of Higher Private Sector Participation

1. Private industry has become the largest contributor to national R&D spending, indicating a greater role of businesses in driving innovation.
2. Industry now employs more core researchers than government institutions, reflecting an expansion of research activities within the private sector.
3. The transport sector has emerged as the largest corporate investor in R&D, followed by pharmaceuticals, biotechnology, and information technology.
4. Higher private investment can improve India's competitiveness in emerging technologies and promote innovation-led industrial growth.
5. Increased research spending can help develop specialised human resources and strengthen India's manufacturing capabilities.
6. Greater investment in research can reduce the economy's dependence on low-cost services and support the transition towards high-value manufacturing.

Concerns

1. The sharp rise in private R&D expenditure between 2020-21 and 2021-22 may partly reflect improved reporting rather than a substantial increase in actual research investment.
2. Mandatory sustainability disclosures and stricter RBI reporting norms may have brought previously unreported R&D expenditure into official statistics.
3. A part of the reported increase relates to investments in foreign subsidiaries and captive research centres of multinational companies.
4. Investments in artificial intelligence, chip design, and semiconductor fabrication are still largely focused on infrastructure creation and may not fully qualify as research expenditure.
5. India's overall R&D expenditure remains low at **0.84% of GDP**, compared with **2.58% in China, 3.45% in the United States, and 4.94% in South Korea**.
6. India has only **354 researchers per million people**, which is significantly lower than countries such as South Korea and Israel.
7. Private companies continue to spend more on advertising than on research, indicating that innovation has not yet become a dominant corporate priority.

Way Forward

1. Private R&D investment should be channelled towards strengthening advanced manufacturing and technological innovation.
2. Greater emphasis should be placed on expanding the pool of skilled researchers through investments in higher education and research institutions.
3. The **Anusandhan National Research Foundation** should be effectively implemented to mobilise its proposed ₹50,000-crore corpus and strengthen India's research ecosystem.
4. Policy efforts should focus on translating higher research expenditure into innovation, skilled human resources, and globally competitive industries.

Conclusion: The growing role of private industry in India's R&D ecosystem is a positive development, but its long-term impact will depend on the quality of research, availability of skilled researchers, and the effective utilisation of research investments to build a competitive manufacturing economy.

Question: The private sector has emerged as the largest contributor to India's research and development (R&D) expenditure. Discuss its significance, associated concerns, and the measures required to strengthen India's research ecosystem.

Source: [The Hindu](#)

Service charge on UPI transactions makes sense

Source: The post "Service charge on UPI transactions makes sense" has been created based on "Service charge on UPI transactions makes sense" published in "The Hindu" on 6th August 2026.

UPSC Syllabus: GS-3-Economy

Context: The Finance Ministry has proposed an amendment to the **Payment and Settlement Systems Act, 2007** to empower the government to levy the **Merchant Discount Rate (MDR)** on one or more electronic payment modes, including UPI. The proposal aims to create a sustainable digital payment ecosystem while safeguarding financial inclusion.

Arguments in favour of levying MDR

- 1. It will ensure the financial sustainability of the UPI ecosystem:** The current zero-MDR regime places a financial burden on banks and payment service providers, reducing their ability to invest in payment infrastructure.
- 2. It will help meet the rising operational costs:** UPI processes more than **21.7 billion transactions every month** worth over **₹28.33 lakh crore**, requiring continuous investment in servers, cybersecurity, and fraud prevention systems.
- 3. Government incentives are insufficient:** The government incentives cover only **around 11% of the industry's operational costs** and compensate for only **14% of the MDR revenue forgone**, leaving a significant funding gap.
- 4. It will support future technological expansion:** A sustainable revenue model will help finance future developments such as **5G integration, cross-border UPI services, and infrastructure upgrades**.
- 5. It will follow the existing payment system model:** Electronic payment systems such as **NEFT and RTGS** already recover charges from users, and these charges have not discouraged the adoption of digital payments.
- 6. Large commercial users can bear a nominal charge:** Large merchants derive direct business benefits from UPI's speed and reliability and can reasonably contribute towards maintaining the infrastructure.

Concerns

- 1. It may discourage small merchants from accepting digital payments:** Even a small service charge may encourage small vendors to shift back to cash transactions.

2. It may affect financial inclusion: Since India's **Financial Inclusion Index is around 67%**, imposing charges on all transactions could slow the growth of digital payments.

Way Forward

1. Small-value transactions should remain exempt from MDR: Exempting low-value transactions will protect small merchants and preserve digital payment adoption.

2. A tiered MDR system should be introduced: The government should levy a nominal MDR only on **high-value commercial transactions** while keeping low-value transactions free.

3. The burden should be shared between the government and industry: Government incentives should continue for financial inclusion, while large commercial users should contribute towards maintaining the payment ecosystem.

4. The policy should balance inclusion with sustainability: The MDR framework should ensure that UPI remains affordable for small users while providing adequate revenue for long-term infrastructure development.

Conclusion: UPI has emerged as a critical digital public infrastructure for India's economy. However, its long-term growth requires a sustainable funding model. A **tiered MDR structure**, which exempts small-value transactions and imposes a nominal charge on high-value commercial payments, can balance financial inclusion with the financial sustainability of the digital payment ecosystem.

Question: Should Merchant Discount Rate (MDR) be levied on Unified Payments Interface (UPI) transactions? Discuss the need for a sustainable revenue model while ensuring financial inclusion.

Source: [The Hindu](#)

Fiscal Federalism, Efficiency versus Equity Concerns

UPSC Syllabus: Gs Paper 2 - Issues and challenges pertaining to the federal structure.

Introduction

The **16th Finance Commission (2026–31)** keeps the States' share in central taxes at **41%** but changes the structure of fiscal transfers, especially **grants-in-aid**. It gives greater importance to **efficiency, fiscal discipline and performance**, while reducing several equalisation grants. This has raised concerns that the Commission may be moving away from its constitutional role of reducing fiscal inequalities and protecting the interests of States.

Constitutional Vision of Fiscal Federalism

- 1. Purpose of the Finance Commission:** The Finance Commission was created to correct **vertical and horizontal fiscal imbalances**, protect State interests and strengthen India's fiscal federal compact.
- 2. Correcting Vertical Imbalance:** It was designed to address the imbalance between a fiscally dominant Union and States with greater expenditure responsibilities but limited revenue-raising powers.

3. **Reducing Horizontal Inequalities:** It aims to reduce fiscal disparities arising from differences in **history, geography, institutional capacity and development levels** among States.
4. **Constitutional Logic of Grants-in-Aid:** **Article 275** provides grants-in-aid because formula-based tax devolution alone cannot meet the diverse financial needs of every State.
5. **Need for State-Specific Support:** States such as **Kerala, Punjab, hill States, North-Eastern States and fiscally stressed States** face unique responsibilities and structural constraints that require targeted financial assistance.
6. **Equalisation through Grants: Revenue Deficit Grants (RDGs), sector-specific grants and State-specific grants** were created to support States where tax devolution alone could not remove fiscal gaps.
7. **Role of Earlier Finance Commissions:** The **14th and 15th Finance Commissions** retained these grants to continue the constitutional objective of fiscal equalisation.

Major Recommendations of the 16th Finance Commission

1. **Tax Devolution Retained:** The Commission retains the States' share in the divisible pool at **41%**, despite **18 States** demanding an increase to **50%**.
2. **Reduction in Grants-in-Aid:** Grants-in-aid decline from **₹10.1 lakh crore** under the **15th Finance Commission** to **₹9.47 lakh crore**, reducing their share in total Finance Commission transfers from **19.4% to 8.3%**.
3. **Removal of Equalisation Grants:** The Commission discontinues **Revenue Deficit Grants, sector-specific grants and State-specific grants**, limiting grants mainly to **local bodies and disaster management**.
4. **Assumption of Greater Fiscal Capacity:** It assumes that improved fiscal discipline will enable States to manage their finances without additional gap-filling transfers.
5. **Shift towards Performance:** Fiscal transfers increasingly emphasise **efficiency, accountability and performance** instead of unconditional financial support.
6. **Changed Architecture of Fiscal Transfers:** The recommendations fundamentally redesign the grant structure while retaining the existing level of tax devolution.
7. **Beginning of a New Fiscal Approach:** The report marks a significant shift in fiscal federalism by giving greater priority to **performance-based transfers** than earlier Finance Commissions.

Why Were These Changes Introduced?

1. **Promoting Fiscal Discipline:** The Commission believes States should strengthen their own finances and reduce dependence on recurring gap-filling support from the Centre.
2. **Addressing Moral Hazard:** It argues that **Revenue Deficit Grants (RDGs)** may discourage revenue mobilisation and encourage higher expenditure in expectation of future central assistance.

3. **Reliance on Aggregate Fiscal Position:** The Commission concludes that additional revenue support is unnecessary because the combined fiscal position of all States does not indicate severe financial stress.
4. **Assumption of Self-Equalisation:** It assumes that **41% tax devolution**, together with better fiscal management, can largely meet the financial requirements of States without separate equalisation grants.
5. **Improving Accountability:** Greater use of performance-linked transfers aims to encourage efficient financial management and responsible use of public resources.

Efficiency versus Equity: Key Concerns

1. **Questioning the Assumption of Uniform Fiscal Capacity:** Fiscal capacity differs widely across States because of historical, geographical and institutional factors. Therefore, tax devolution alone cannot fully address the financial needs of every State.
2. **Need for Equalisation Remains:** Some States continue to face fiscal stress despite making major contributions to national development. A fiscal surplus in one State cannot compensate for the deficit faced by another State.
3. **Weakening the Equalisation Role:** The removal of Revenue Deficit Grants, sector-specific grants and State-specific grants reduces the Finance Commission's traditional role of providing targeted support to States with special needs.
4. **Efficiency Given Greater Priority than Equity:** The new framework gives more importance to fiscal discipline and performance. This risks reducing the emphasis on constitutional fairness and equalisation among States.
5. **From Need-Based Support to Compliance-Based Incentives:** The Commission allocates nearly ₹7.2 lakh crore to local governments. However, the release of funds depends on conditions such as water and sanitation targets, revenue mobilisation and audited accounts, making grants more compliance-oriented.
6. **Fiscal Discipline Cannot Replace Fiscal Justice:** Accountability and better financial management are important. However, they cannot substitute the constitutional objective of supporting States that face structural disadvantages.

Federalism Concerns: Has the Union's Fiscal Primacy Increased?

1. **Different Approach towards RDGs and Cesses:** The Commission removes Revenue Deficit Grants in the name of fiscal discipline. However, it does not recommend any binding reduction in non-shareable cesses and surcharges, despite demands from many States.
2. **The "Grand Bargain" Proposal:** The Commission suggests that the Centre may gradually merge cesses into the divisible pool if States agree to a lower share in tax devolution. This proposal links one reform with another instead of recommending an immediate correction.

3. **Unequal Fiscal Adjustment:** States are expected to accept tighter financial discipline through the withdrawal of grants. At the same time, the Union retains greater flexibility over revenues collected through cesses and surcharges.
4. **Risk of Reinforcing Vertical Imbalance:** This different treatment may strengthen the fiscal position of the Union while limiting financial support available to States. It raises concerns that vertical fiscal imbalance may increase instead of being corrected.
5. **Shift from Equalisation to Fiscal Primacy:** The overall framework appears to protect the Union's fiscal space while placing a larger adjustment burden on the States. This raises doubts about whether the Finance Commission is moving away from its traditional equalising role.

Impact on States

1. **Reduced Transfers to Several States: Eight States**, including most **North-Eastern States** and **West Bengal**, are expected to receive lower shares in both tax devolution and grants, while **six other States** face a decline in grant allocations.
2. **Lower Weight for Income Distance:** Reducing the weight of **income distance from 45% to 42.5%** and assigning **10% weight to GDP contribution** changes the balance between equity and economic performance.
3. **Double Fiscal Burden:** The combined effect of lower devolution and the removal of **RDGs**, which formed about **20% of Finance Commission grants in 2024-25**, reduces financial support for disadvantaged States.
4. **Risk of Wider Regional Disparities:** Greater emphasis on efficiency over equalisation may widen fiscal and developmental gaps among structurally disadvantaged States.
5. **Need-Based Support Replaced by Performance Incentives:** The shift from equalisation grants to conditional transfers reduces support based on fiscal need and increases dependence on compliance with performance targets.

Way Forward

1. **Restore the Equalisation Function:** Future Finance Commissions should continue targeted fiscal support for States facing structural and regional disadvantages.
2. **Balance Efficiency with Equity:** Fiscal discipline and performance incentives should complement, not replace, the constitutional goal of fiscal fairness.
3. **Recognise Diverse State Needs:** Fiscal transfers should continue reflecting differences in geography, fiscal capacity, development levels and social commitments among States.
4. **Reward Performance without Ignoring Need:** High-performing States should receive incentives while fiscally stressed States continue receiving support for genuine structural constraints.
5. **Preserve Cooperative Fiscal Federalism:** A balanced fiscal framework should protect both the Union's fiscal strength and the financial autonomy of States.

Conclusion

The **16th Finance Commission** gives greater importance to **efficiency, fiscal discipline and performance**, but raises concerns about its reduced focus on **equity and equalisation**. Fiscal federalism can remain strong only when it balances **performance with fairness**, protects States facing structural disadvantages, and continues to uphold the constitutional spirit of cooperative federalism.

Question for practice:

Examine the implications of the 16th Finance Commission's recommendations for fiscal federalism, particularly in balancing efficiency with equity in Centre–State fiscal relations.

Source: [The Hindu](#)

The Road Ahead for the Asiatic Lion

UPSC Syllabus: Gs Paper 3- Environment

Introduction

India's conservation of the **Asiatic lion** is one of its greatest wildlife achievements. The species has recovered from the brink of extinction and expanded beyond the **Gir National Park and Sanctuary** into surrounding landscapes. However, this success now faces new ecological and governance challenges. Protecting only Gir is no longer enough because lions depend on a wider network of habitats, movement corridors and satellite populations for their long-term survival.

Conservation Status and Recovery

1. **Gir remains the last natural stronghold:** The only free-ranging population of the Asiatic lions survives in and around Gir National Park and Sanctuary, making it the species' only natural home.
2. **Population recovery over six decades:** The lion population has increased from about 100–150 individuals to more than 1,000, making it one of India's major wildlife conservation successes.
3. **Expansion beyond protected areas:** Nearly half of the lion population now lives outside protected forests, showing that the species has naturally expanded into surrounding landscapes.
4. **Wide ecological distribution:** Lions now occupy diverse habitats, including Girnar, Mitiyala, Savarkundla-Liliya and the coastal belt towards Bhavnagar, demonstrating their ecological adaptability.
5. **Natural dispersal across the landscape:** Lions move through agricultural fields, grasslands, riverbeds and hilly terrain to establish new territories far from their original population.
6. **Global conservation significance:** The IUCN Red List has reclassified the Asiatic lion from Critically Endangered to Endangered. It is also the only stable northern lion sub-population exceeding 250 individuals, giving it immense global conservation significance.

Drivers of Conservation Success

1. **Landscape-level conservation approach:** Conservation expanded from protecting only Gir to managing the wider landscape that supports lion movement and long-term survival.
2. **Strong governance and institutional support:** Sustained political will, capable administration and continuous funding created a stable foundation for conservation over several decades.
3. **Community participation and coexistence:** Local communities accepted dispersing lions and played a key role in supporting peaceful coexistence across human-dominated landscapes.
4. **Healthy ecological conditions:** A suitable habitat and a rich prey base enabled lions to recover, expand and maintain a healthy population.
5. **Corridor-based landscape planning:** The Gir Management Plan recognised Babarkot as a key movement corridor, while the 2025 Gujarat Forest Department identified Jafrabad Taluka as Satellite IV, strengthening landscape connectivity for dispersing lions.

Emerging Ecological and Governance Challenges

1. **Mining threatens critical lion habitat:** The proposed diversion of about 75 hectares of reserved forest for limestone mining could damage legally protected habitats and movement corridors.
2. **Ecological impacts of habitat diversion:** Mining may require the felling of nearly 5,000 mature trees, fragment habitats, disconnect coastal lions and increase human-lion conflict.
3. **Conservation versus development:** The proposal raises concerns over sacrificing the habitat of a nationally important species for private mining despite local opposition.
4. **Disease exposes population vulnerability:** The 2018 Canine Distemper Virus (CDV) outbreak, which killed more than 20 lions, showed the danger of keeping the entire population concentrated within one landscape.
5. **Recent health concerns remain worrying:** Reports of lion deaths linked to babesiosis in May 2026, along with suggestions of possible CDV involvement, highlight continuing disease-related risks.
6. **Questions over conservation governance:** Habitat diversion and repeated disease concerns raise doubts about whether the long-standing conservation framework is being implemented with the same commitment that enabled earlier success.

Why Conservation Success Remains Incomplete

1. **Single landscape remains the biggest risk:** Despite remarkable population recovery, the entire free-ranging lion population still remains confined to one forested landscape, making the species vulnerable to a single catastrophic event.

2. **Scientific basis for a second population:** Studies by the Wildlife Institute of India since the 1980s have consistently supported establishing a geographically separate free-ranging population to reduce extinction risk from disease and natural disasters.
3. **Supreme Court recognised the conservation need:** The Supreme Court (2013) directed the translocation of Asiatic lions to Kuno National Park, stating that conservation should be guided by ecological principles and not regional interests.
4. **Implementation remains stalled:** Although Kuno National Park was prepared through habitat restoration and village relocation, lion translocation has remained delayed because of continued policy differences.
5. **Nearby alternatives do not remove the core risk:** Proposals such as developing Barda Wildlife Sanctuary may expand habitat within Gujarat, but geographically nearby sites cannot fully reduce the risk of disease or disaster affecting both populations.
6. **Recovery does not mean complete restoration:** The IUCN Red List has improved the Asiatic lion's status from Critically Endangered to Endangered, yet the Green Status assessment shows the species remains far from fully restored across its historical range.

The Road Ahead for the Asiatic Lion

1. **Protect habitats and movement corridors:** Future conservation should secure Gir, satellite habitats and important corridors such as Babarkot to maintain landscape connectivity.
2. **Follow science-based conservation:** Future decisions should remain guided by ecological principles instead of short-term land-use or regional considerations.
3. **Strengthen disease preparedness:** Continuous health monitoring and timely disease management are necessary to reduce risks from outbreaks such as Canine Distemper Virus (CDV) and babesiosis.
4. **Maintain landscape-level conservation:** Future conservation should continue the successful approach that combines protected areas, surrounding habitats and human-dominated landscapes into one connected ecological system.
5. **Retain strong conservation governance:** Political commitment, capable administration, sustained funding and effective implementation should continue to guide all decisions affecting lion habitats.
6. **Build long-term population security:** Establishing a second geographically separate free-ranging population remains necessary to improve the species' resilience against future ecological threats.

Conclusion

India has brought the **Asiatic lion** back from the edge of extinction through sustained conservation and public support. The next challenge is to protect these gains by securing habitats, conserving movement corridors and reducing risks from a single concentrated population. Conservation success will remain secure only when ecological recovery is matched by long-term resilience and effective landscape-level management.

Question for practice:

Discuss the major achievements, emerging challenges and future priorities for ensuring the long-term conservation of the Asiatic lion in India.

Source: [The Hindu](#)

Natural farming impetus

Source: The post “Natural farming impetus” has been created based on “Natural farming impetus” published in “Business Line” on 7th July 2026.

UPSC Syllabus: GS Paper 3– Economy

Context: Natural farming has become a resilience imperative because India's agriculture remains heavily dependent on imported fertilizers, fossil fuels, groundwater extraction, and other external inputs. Global shocks, such as conflicts affecting fertilizer and energy markets and climate change-induced risks like El Niño, have increased the need for a more resilient agricultural system.

Reason behind Natural Farming Becoming a Resilience Imperative

1. Natural farming reduces India's dependence on imported fertilizers and fossil fuel-based agricultural inputs, thereby improving national resilience.
2. It helps agriculture withstand climate-related shocks by promoting sustainable and resource-efficient farming practices.
3. It encourages the conservation of natural resources through recycling and reduced dependence on external inputs.
4. It strengthens the long-term sustainability of India's food systems by making agriculture less vulnerable to global supply disruptions.

Government Initiatives

1. The Central Government has launched the **National Mission on Natural Farming** to promote the adoption of natural farming practices.
2. The **PM-PRANAM** scheme has been introduced to encourage States to reduce their dependence on chemical fertilizers.
3. Several States, including Himachal Pradesh, Gujarat, Kerala, and the North-Eastern States, have announced policies to promote natural farming, agroecology, and organic farming.
4. Andhra Pradesh's natural farming programme has demonstrated the potential of natural farming and has received international recognition through the **Food Planet Prize 2026**.

Institutional Ecosystem Required for Scaling Up Natural Farming

1. States should implement natural farming through mission-mode programmes with dedicated staff, adequate funding, and long-term institutional support.
2. Every State should identify contiguous clusters of villages and develop them as "living landscapes" for demonstrating natural farming.
3. These clusters should be supported by trained field facilitators who can provide continuous guidance and handholding to farmers.

4. Bio-input resource centres should be established to ensure the local availability of natural farming inputs.
5. Farmer Producer Organisations (FPOs) should be strengthened to improve aggregation, processing, and marketing of natural farming produce.
6. Soil health monitoring systems and demonstration plots should be created to build farmers' confidence in the transition process.
7. Transition finance and effective market linkages should be provided to reduce the financial risks faced by farmers.
8. Institutions such as **ICAR, State Agricultural Universities (SAUs), and Krishi Vigyan Kendras (KVKs)** should undertake scientific research and extension activities on natural farming.
9. States should adopt the **FAO's agroecology framework**, which promotes diversity, recycling, resilience, local knowledge, farmer participation, circular economies, and supportive institutions.

Challenges

1. Policy announcements have progressed faster than the creation of institutional support systems for natural farming.
2. Unlike the Green Revolution, natural farming does not yet have a comprehensive ecosystem consisting of research, extension services, credit, procurement, and market support.
3. Farmers may hesitate to adopt natural farming if markets continue to favour input-intensive agricultural practices.
4. The experience of Sri Lanka shows that an abrupt transition without proper planning and institutional support can adversely affect agricultural production.

Way Forward

1. India should build a comprehensive institutional ecosystem for natural farming similar to the one created during the Green Revolution.
2. States should adopt a phased and cluster-based approach to expand natural farming across different agroecological regions.
3. Continuous research, extension services, farmer training, transition finance, and market support should be provided to ensure successful adoption.
4. The expansion of natural farming should follow the gradual institution-building approach that enabled India's Self-Help Group movement to become a successful national programme.

Conclusion: Natural farming should be promoted as a strategy for enhancing the resilience and sustainability of Indian agriculture rather than as an ideological alternative. A carefully planned transition supported by strong institutions, scientific research, and market incentives will be essential for scaling up natural farming while ensuring food security and farmer welfare.

Question: Natural farming has emerged as a resilience imperative rather than merely an ideological proposition. Discuss. Also examine the institutional ecosystem required for scaling up natural farming in India.

Source: [Business Line](#)

Access paradox: On medical education in India

Source: The post “Access paradox: On medical education in India” has been created based on “Access paradox: On medical education in India” published in “The Hindu” on 7th July 2026.

UPSC Syllabus: GS Paper 2– Governance

Context: India has nearly tripled its MBBS seats in the last 12 years to address the shortage of healthcare professionals and improve access to medical education. However, the rapid expansion has been driven largely by the private sector, creating a paradox between increased access and reduced affordability.

Benefits of Expansion in Medical Education

1. The increase in MBBS seats has reduced the gap between demand and the limited availability of medical education.
2. It has helped expand the domestic capacity for training doctors and reduced the need for students to pursue medical education abroad.
3. It supports the government's objective of strengthening the healthcare workforce and improving healthcare access.
4. The establishment of new government medical colleges attached to district hospitals has also strengthened public health infrastructure.

Challenges Associated with Private Medical Education

1. High Cost and Affordability

- a. The cost of an MBBS degree in a private medical college can be nearly ten times higher than that in a government institution.
- b. High tuition fees make medical education inaccessible for many deserving students from economically weaker sections.
- c. The continued prevalence of capitation fees increases the financial burden on students and their families.

2. Regional Imbalance

- a. Most private medical colleges are concentrated in Tier-I and Tier-II cities and economically developed States.
- b. This leads to a concentration of healthcare professionals in urban areas, while rural regions continue to face an acute shortage of doctors.

3. Quality Concerns

- a. Rapid expansion increases the risk of institutions meeting only the minimum standards required for accreditation.
- b. Some institutions may prioritize regulatory compliance over maintaining high academic and clinical standards.

4. Impact on Healthcare Delivery

- a. Graduates burdened with high educational costs may prefer private practice or employment abroad to recover their investment.
- b. Rural healthcare continues to suffer because doctors are reluctant to work in areas that lack adequate infrastructure, housing, schools, and career opportunities.

Measures Required

1. The government should continue expanding affordable medical education by establishing more government medical colleges and AIIMS-like institutions.
2. The National Medical Commission (NMC) should strictly enforce the rule that **50% of seats in private medical colleges are charged at government fee levels.**
3. The NMC should strengthen quality assurance through surprise inspections and independent verification of institutional records.
4. The government should eliminate capitation fees through stricter regulation and effective enforcement.
5. Rural service should be encouraged through attractive financial incentives, better housing, quality schools, and assured career progression instead of relying only on compulsory service.
6. Public investment in rural healthcare infrastructure should be increased to improve the working conditions of healthcare professionals.

Conclusion: The expansion of private medical education has improved access to medical seats but has also raised concerns regarding affordability, quality, and equitable healthcare distribution. A balanced approach that combines increased public investment, effective regulation of private institutions, and incentives for rural service is essential to achieve equitable and affordable healthcare in India.

Question: The rapid expansion of private medical education has increased access to MBBS seats but has also created concerns regarding affordability, quality, and equitable distribution of healthcare professionals. Discuss.

Source: [The Hindu](#)

Handloom — Weaving India's Heritage into Global Growth

UPSC Syllabus: Gs Paper 3- Indian economy and Infrastructure

Introduction

India's handloom sector combines **centuries-old weaving traditions** with **livelihood generation, women-led development, rural entrepreneurship and cultural identity**. As India moves towards **Viksit Bharat 2047**, handloom is emerging as a strategic sector supported by policy reforms, innovation, digital platforms and global market access. National Handloom Day highlights its growing role in building a **self-reliant, sustainable and globally competitive textile ecosystem**.

Evolution and Significance of India's Handloom Tradition

1. **Civilisational Heritage:** India's handloom tradition dates back to the Indus Valley Civilisation, while the Rigveda, Ramayana, Mahabharata and Kautilya also recorded the excellence of Indian cotton and silk weaving.

2. **Regional Knowledge Systems:** Handloom traditions evolved through different regional weaving practices, with techniques and skills passing continuously from one generation to another across diverse parts of India.
3. **Swadeshi and National Recognition:** National Handloom Day, observed every 7 August, commemorates the 1905 Swadeshi Movement and honours the cultural, economic and social contribution of handloom workers.
4. **Identity of Handloom Products:** Every handloom product reflects manual craftsmanship, household production, regional identity and traditional knowledge, making each textile distinct from machine-made products.
5. **Global Reputation of Indian Weaves:** Indian textiles such as Bengal Muslin, Banarasi Silk, Kanchipuram and Pochampally Ikat earned worldwide recognition and established India as a leading textile producer.
6. **Relevance in the Modern Economy:** Rising demand for authentic, sustainable and handcrafted products has created fresh opportunities for Indian handlooms in both domestic and international markets.

Current Profile of the Handloom Sector

1. **Large Livelihood Base:** The Fourth All India Handloom Census (2019–20) recorded 31.45 lakh handloom households and 35.22 lakh weavers and allied workers, showing the sector's importance for employment.
2. **Strong Rural Presence:** India has 28.20 lakh looms, of which 25.30 lakh are located in rural areas, making handloom one of the country's largest rural household industries.
3. **Women-led Workforce:** Women account for 25.46 lakh workers, or more than 72% of the total workforce, making handloom one of India's largest women-led livelihood sectors.
4. **Support to Diverse Communities:** The sector provides livelihoods to Scheduled Castes, Scheduled Tribes and Other Backward Classes, reflecting its role in promoting inclusive rural development.
5. **Complete Production Ecosystem:** Around 8.48 lakh allied workers support weaving through activities such as winding, warping, dyeing and calendaring, strengthening the entire production chain.
6. **Regular Sector Mapping:** India has conducted four Handloom Censuses between 1987–88 and 2019–20, generally at intervals of 8–12 years, ensuring updated information for policy planning.
7. **Digital Identity for Workers:** Pehchan and e-Pehchan Cards help identify registered workers, while the e-Pehchan Portal (2025) enabled nearly 84,000 additional workers to register by July 2026.

Government Policies and Institutional Support

A. Institutional and Production Support

1. **National Handloom Development Programme (NHDP):** NHDP adopts a need-based approach for the integrated development of the handloom sector through government handloom organisations, cooperatives, Handloom Producer Companies (HPCs) and other implementing agencies.
2. **Handloom Producer Companies (HPCs):** Organise weavers into professionally managed, member-owned enterprises. 200 Producer Companies were formed between 2020–21 and 2026–27 to improve production and collective marketing.
3. **Small Cluster Development Programme (SCDP):** Provides assistance of up to ₹2 crore for better looms, worksheds, lighting, design, product development and marketing. 357 clusters were sanctioned between 2021–22 and June 2026, while ₹94 crore supported key interventions during 2025–26.
4. **Mega Cluster Development Programme:** Supports clusters covering at least 10,000 handlooms with assistance up to ₹30 crore over five years. Eight clusters are operational and four are under implementation.
5. **Need Based Special Infrastructure Projects:** Provides assistance of up to ₹12 crore for productivity, quality improvement, value addition and marketing. Six Craft Handloom Villages are operational, while three are under implementation.

B. Raw Material and Financial Support

1. **Raw Material Supply Scheme (RMSS):** Provides freight reimbursement on all yarn types and a 15% subsidy on specified yarns, improving timely and affordable access to raw materials.
2. **Concessional Credit (Weaver MUDRA Scheme):** Offers loans at 6% interest for three years with government interest subvention up to 7%, along with margin money and credit guarantee support.

C. Marketing and Brand Promotion

1. **Handloom Marketing Assistance (HMA):** Supports domestic and export marketing through expos, craft melas, Urban Haats and marketing incentives. More than 960 events were organised between 2021–22 and June 2026.
2. **National Recognition:** The Sant Kabir Handloom Award and National Handloom Award recognise excellence in weaving, craftsmanship and innovation. Twenty-four awardees were honoured in the latest completed award cycle.

D. Social Security and Welfare

1. **Insurance Protection:** The Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) provides life insurance, while the Pradhan Mantri Suraksha Bima Yojana (PMSBY) provides accident insurance for eligible handloom weavers and workers.

2. **Educational Support:** Scholarships of up to ₹2 lakh annually support two children of each eligible handloom worker pursuing recognised textile education. **531 applications** had been sanctioned by **June 2026**.

E. Policy Reforms and Future Support

1. **Goods and Services Tax (GST) Rationalisation:** GST on 36 handicraft items, cotton handloom rugs, handwoven carpets and sewing machines was reduced from 12% to 5%, lowering production costs.
2. **Union Budget 2026–27 Initiatives:** The National Fibre Scheme, Textile Expansion and Employment Scheme, National Handloom and Handicraft Programme and Mahatma Gandhi Gram Swaraj Initiative aim to strengthen raw materials, technology, clusters, branding, skilling and global market linkages.

Innovation, Branding and Market Expansion

A. Innovation

1. **Contemporary Design:** Traditional handloom textiles are being presented through modern designs and international influences, helping regional weaves remain relevant while preserving their authenticity.
2. **Creative Showcases:** The Development Commissioner (Handlooms) and the National Institute of Fashion Technology (NIFT) showcased Indian handlooms through Vishwa Sutra, Bharat Tex 2025 and the International Film Festival of India (IFFI) 2025, expanding their visibility across fashion, cinema and cultural platforms.
3. **Collaborative Innovation:** Weave The Future 4.0 promoted circular design and sustainable production, while Handloom Hackathon 2026 encouraged students, weavers, researchers and startups to develop solutions in design, digital technology, branding, sustainability and entrepreneurship.

B. Branding and Authenticity

1. **Handloom Mark:** Launched in 2006, the Handloom Mark certifies genuine handwoven products, with 29,402 registrations and 815 retail outlets selling certified products by June 2026.
2. **India Handloom Brand:** Introduced on the first National Handloom Day in 2015, the India Handloom Brand certifies high-quality, eco-friendly and traditionally designed handloom products, with 2,305 registrations across 184 categories by June 2026.
3. **Geographical Indication (GI) Protection:** The Geographical Indications of Goods (Registration and Protection) Act, 1999 safeguards regional weaving traditions.
4. **Legal Protection:** The Handlooms (Reservation of Articles for Production) Act, 1985 reserves 11 textile articles exclusively for handloom production and prevents their manufacture by powerlooms and textile mills.

C. Market Expansion

1. **Export Growth:** Strong demand for authentic and sustainable textiles helped handloom exports reach about ₹1,330.96 crore in 2025–26, with the UAE, United States, France, United Kingdom and Spain as major markets.
2. **Digital Market Access:** Around 1.50 lakh weavers and handloom entities joined Government e-Marketplace (GeM), while Indiahandmade onboarded 4,186 verified weavers and artisans between 2023–24 and June 2026, enabling direct consumer access.

Future Prospects and Emerging Opportunities

1. **Strategic Sector for Viksit Bharat:** Handloom supports the goals of prosperity, self-reliance, inclusiveness and cultural confidence, making it an important contributor to Viksit Bharat 2047.
2. **Technology Supporting Artisans:** Innovations such as improved loom designs, digital tools and artificial intelligence aim to increase productivity while ensuring that technology supports rather than replaces artisans.
3. **Higher Value Products:** Greater focus on natural fibres, premium silk, sustainable fibres and innovative blends can create value-added products and strengthen India's position in global textile markets.
4. **Stronger Branding and Direct Markets:** Better branding, value addition and direct connections with domestic and international buyers can improve market access and increase weavers' incomes.
5. **Cluster-led Sector Expansion:** The proposed National Handloom and Handicraft Programme aims to strengthen 1,800 clusters across more than 500 districts while benefiting 65 lakh weavers and artisans.
6. **Youth and Entrepreneurship:** The sector offers opportunities for young entrepreneurs to combine heritage, technology, creativity and enterprise, creating new products and expanding India's creative economy.
7. **Global Identity for Indian Handlooms:** Strengthening Handmade in India as a trusted global brand can promote Indian craftsmanship, authenticity and sustainable production in international markets.

Conclusion

India's handloom sector combines **heritage, livelihoods, women-led development, innovation and sustainability** into a single growth story. Continued policy support, stronger branding, digital market access, technological improvements and protection of authentic regional weaves can help transform handloom into a globally competitive sector while preserving India's rich cultural identity and expanding opportunities for millions of weavers.

Question for practice:

Discuss the significance of India's handloom sector in preserving cultural heritage, promoting rural livelihoods, and strengthening global competitiveness.

Source: [The Hindu](#)

Mining Around Ramsar Wetland Sites in light of SC Verdict

UPSC Syllabus: Gs Paper 3- Environment

Introduction

The **Supreme Court** has expanded judicial safeguards for **Wetland Conservation Reserves** across India. It clarified that its **February 2024** directions are not limited to the **Asan Wetland Conservation Reserve** in Uttarakhand. The ruling requires greater scrutiny of mining activities near such wetlands. It also strengthens the role of expert authorities in deciding where the **10 km** mining safeguard will apply.

Importance of Ramsar Wetlands

1. **Internationally Recognised Wetlands:** Ramsar Sites are wetlands identified under the Ramsar Convention, 1971 for their international ecological importance and wise use.
2. **India's Global Commitment:** India became a Contracting Party in 1982 and is committed to maintaining the ecological character of these wetlands through domestic environmental laws.
3. **Leading Position in Asia:** India currently has 101 Ramsar Sites, the highest among Asian countries, with Glaw Lake (Arunachal Pradesh) becoming the 101st site on 3 August 2026.
4. **Ecological Significance:** Ramsar wetlands support aquatic biodiversity, protect fragile ecosystems and provide important habitats for migratory birds and other wildlife.
5. **Recognition, Not Separate Legal Protection:** A Ramsar designation recognises international ecological importance but does not create an independent statutory protection regime under Indian law.

Conservation and Regulatory Framework

1. **No Statutory Mining Buffer:** Neither the Ramsar Convention nor the Wetlands (Conservation and Management) Rules, 2017 prescribe a statutory buffer zone or prohibit mining within a fixed distance.
2. **Protection under the 2010 Rules:** The Wetlands Rules, 2010 prohibited activities such as reclamation, new industries and waste dumping while requiring approvals and environmental impact assessments for specified activities.
3. **Shift under the 2017 Rules:** The 2017 Rules introduced a decentralised system through State Wetland Authorities and transferred much of the responsibility for identifying and regulating wetlands to the States.

4. **Reduced Explicit Restrictions:** Unlike the 2010 Rules, the 2017 Rules removed the detailed list of prohibited activities within wetlands and their zones of influence.
5. **Judicial Review of the Framework:** The constitutional validity of the 2017 Rules is presently under challenge before the Supreme Court.
6. **Concerns Raised by Petitioners:** Petitioners argue that the 2017 Rules exclude several artificial wetlands recognised under the Ramsar Convention and weaken safeguards available under the earlier framework.

Background of the Asan Wetland Case

1. **Ecological Importance of Asan Wetland:** The Asan Wetland Conservation Reserve, located at the confluence of the Asan and Yamuna Rivers in Uttarakhand, became a Ramsar Site in 2020 and supports rich biodiversity.
2. **Origin of Mining Restrictions:** In 2015, the Uttarakhand High Court imposed an absolute restriction on mining within 10 km of the Asan Wetland Conservation Reserve.
3. **Modification by the Supreme Court:** On 14 February 2024, the **Supreme Court** modified the **Uttarakhand High Court's** order by permitting mining within **10 km** only after prior approval from the **Standing Committee of the National Board for Wildlife (NBWL)** and/or the **Ministry of Environment, Forest and Climate Change (MoEFCC)**.
4. **Reason for Enhanced Scrutiny:** The Court held that the ecological importance of a Ramsar Site requires stricter examination of activities that may affect its ecological character.
5. **Judicial Safeguard Beyond Existing Law:** The Court required prior approval from the **Standing Committee of the National Board for Wildlife (NBWL)** and/or the **Ministry of Environment, Forest and Climate Change (MoEFCC)** before mining within **10 km**, although the **Wetlands (Conservation and Management) Rules, 2017** contain no such requirement.

Supreme Court's Directions and Recent Clarification

1. **Reason for Fresh Clarification:** The Himachal Pradesh Government sought clarification because the Asan Wetland Conservation Reserve lies in Uttarakhand and wetland reserves have no statutory buffer zone.
2. **Extension of the Principle:** The Court clarified that the February 2024 directions apply, for the sake of parity, to Wetland Conservation Reserves across India and are not confined to Uttarakhand.
3. **Uniform Ecological Approach:** The Court observed that administrative boundaries cannot justify different environmental standards where adjoining States share the same ecological conditions.
4. **Role of Expert Authorities:** The NBWL Standing Committee or the MoEFCC was directed to determine whether any Wetland Conservation Reserve exists or extends into Himachal Pradesh.

5. **Conditional Application in Himachal Pradesh:** If a Wetland Conservation Reserve is found in Himachal Pradesh, the February 2024 directions will apply there with necessary modifications.
6. **Decision in Absence of Wetland Reserve:** If no Wetland Conservation Reserve exists in Himachal Pradesh, mining proposals will be decided under the existing legal procedure.
7. **Time-bound Determination:** The Court directed the competent authority to complete this factual determination and take an appropriate decision within one month.
8. **Nationwide Applicability:** The Court clarified that the February 2024 mining directions will apply to all similarly notified Wetland Conservation Reserves across India, ensuring a uniform approach to ecologically similar areas.

Comparison with the Legal Regime for Other Protected Areas

1. **Mining Around National Parks and Sanctuaries:** Mining is prohibited inside National Parks and Wildlife Sanctuaries under the Wildlife (Protection) Act, 1972.
2. **Eco-Sensitive Zone Protection:** The Supreme Court has held that mining is not permitted within 1 km of every National Park and Wildlife Sanctuary, unless a larger notified Eco-Sensitive Zone (ESZ) already exists, in which case the larger buffer applies.
3. **Wildlife Clearance Requirement:** Projects located inside protected areas or likely to affect wildlife habitats require prior scrutiny by the Standing Committee of the National Board for Wildlife (NBWL).
4. **Forest Land Diversion:** Diversion of forest land for mining requires prior approval of the Union Government under the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980.
5. **Environmental Clearance:** Mining projects generally require environmental clearance under the Environment Impact Assessment (EIA) Notification, 2006 before commencement.
6. **Difference from Wetland Reserves:** Unlike National Parks and Sanctuaries, Wetland Conservation Reserves do not have a statutory buffer zone, making judicial safeguards more significant.

Challenges Ahead

1. **Absence of Statutory Buffer Zones:** Existing laws do not prescribe a fixed protection zone around Ramsar Sites or Wetland Conservation Reserves, creating regulatory uncertainty.
2. **Pending Legal Challenge:** The constitutional validity of the Wetlands (Conservation and Management) Rules, 2017 remains under consideration before the Supreme Court.
3. **Changing Regulatory Framework:** The replacement of the 2010 Rules with the 2017 Rules reduced explicit prohibitions, leading to concerns over weaker wetland protection.
4. **Coverage of Artificial Wetlands:** Petitioners contend that several artificial wetlands recognised under the Ramsar Convention are excluded from the present regulatory framework.

5. **Need for Scientific Identification:** Effective implementation depends on timely identification of Wetland Conservation Reserves by expert authorities before mining decisions are taken.
6. **Consistent Implementation Across States:** Uniform application of judicial directions requires coordination among States, the NBWL, and the MoEFCC while respecting ecological realities.

Conclusion

The judgment strengthens judicial protection for **Wetland Conservation Reserves** through a uniform approach to mining regulation. It reinforces the role of expert authorities in deciding the applicability of the **10 km** mining safeguard. At the same time, it allows mining proposals to follow the existing legal procedure where no **Wetland Conservation Reserve** exists.

Question for practice:

Examine the significance of the Supreme Court's recent directions on regulating mining activities around Ramsar Wetland Sites and Wetland Conservation Reserves in India.

Source: [The Hindu](#)

Bankers' Books Evidence Bill - August 8th

Source: The post "**Bankers' Books Evidence Bill**" has been created based on "**What is the Bankers' Books Evidence Bill and why has it raised data concerns?**" published in "**Indian Express**" on 7th July 2026.

UPSC Syllabus: GS Paper 2- Governance

Context: Recently, the Lok Sabha cleared the Bankers' Books Evidence Bill, 2026, which seeks to replace the colonial-era Bankers' Books Evidence Act, 1891 and align the law governing banking evidence with the realities of digital banking.

Key provisions and significance:

1. **Wider definition of bankers' books:** It recognises records maintained in electronic or digital form, including records stored onsite, offsite, virtually or on cloud platforms.
2. **Standardised certification:** It introduces specific certificate formats and conditions to establish the genuineness of digital bank records, similar to safeguards for electronic evidence under the Bharatiya Sakshya Adhiniyam.
3. **Clarity on "special cause":** It defines circumstances such as doubts regarding record accuracy, interruption in record-keeping and non-compliance with inspection orders.
4. **Reduced burden on banks:** Bank officials need not ordinarily produce original records or appear as witnesses when the bank is not a party, potentially speeding up commercial litigation such as cheque-bounce cases.
5. **Police access:** The Bill retains the existing provision allowing an officer not below the rank of Superintendent of Police to seek bank records for investigations.

Concerns and missed safeguards:

1. **Data privacy:** Digital records can be copied and shared much more easily than physical records, increasing risks of leaks and unauthorised disclosure.
2. **Cybersecurity:** Experts argue that the Bill does not adequately address data leaks, manipulation and integrity of digital evidence.
3. **Absence of hash-value safeguards:** Hash values could have provided a digital fingerprint to establish whether electronic records were altered.
4. **Certification burden:** Requiring branch heads to certify network and device security may be impractical because they may not control the bank's data centres, cloud providers or cybersecurity systems.
5. **Fintech coverage:** The government's power to extend the law to financial entities through notification may give loosely regulated fintech platforms a presumption of reliability comparable to banks.
6. **Pending litigation:** Replacing the 1891 Act may create interpretation issues regarding its application to ongoing cases and could generate additional litigation.

Way Forward

1. **Strengthen data protection safeguards:** The Bill should incorporate clear safeguards against unauthorised access, disclosure, copying and sharing of sensitive banking records.
2. **Use hash values:** Digital records should carry hash values or similar digital fingerprints to establish their integrity and detect any subsequent tampering.
3. **Introduce technical certification:** System-integrity and cybersecurity certificates should be issued by designated technical or cybersecurity officers rather than placing the entire burden on branch heads.
4. **Ensure judicial oversight:** Access to sensitive bank records during investigations should have appropriate judicial safeguards, particularly given the ease with which digital records can be copied and transmitted.
5. **Regulate fintech entities carefully:** Financial entities brought within the Bill's scope through government notification should meet appropriate standards of reliability, cybersecurity and data protection.
6. **Clarify transitional provisions:** The government should clearly specify how the new law will apply to pending proceedings to minimise interpretational disputes and avoid multiplicity of litigation.
7. **Balance efficiency with privacy:** Modernisation should ensure that faster admission of electronic evidence does not come at the cost of **privacy, cybersecurity and evidentiary integrity**.

Conclusion: The Bill is an important technological update, but **digital admissibility must be accompanied by digital safeguards**. Stronger data-protection mechanisms, technical certification by designated cybersecurity officials and safeguards against unauthorised access can make the framework more secure and effective.

Question: The Bankers' Books Evidence Bill, 2026 seeks to modernise the legal framework for admitting banking records as evidence in courts. Discuss its key provisions and examine the concerns regarding data privacy, cybersecurity and procedural safeguards.

Source: [Indian Express](#)

India's Care Economy: Challenges and Opportunities for Caregiving Workforce

Source: The post “India's Care Economy: Challenges and Opportunities for Caregiving Workforce” has been created based on “NITI Aayog Launches Report on “Reimagining Care: Strategies for Empowering Caregivers in Viksit Bharat@2047”” published in “Indian Express” on 7th July 2026.

UPSC Syllabus: GS Paper 2- Governance

Context: NITI Aayog's report *Reimagining Care: Strategies for Empowering Caregivers in Viksit Bharat@2047* presents a roadmap for developing an **organised, professional, accessible and future-ready caregiving ecosystem**. It recognises caregiving as a skilled, dignified and valued profession and seeks to meet India's growing domestic as well as global demand for caregivers.

Significance

1. **Addresses growing care needs:** India requires a larger trained workforce to meet the present and future demand for caregiving services.
2. **Harnesses demographic dividend:** A professional caregiving sector can create quality employment and utilise India's large workforce.
3. **Promotes social inclusion:** Accessible care can support vulnerable groups, families and communities and strengthen social participation.
4. **Professionalises care work:** Recognition of caregiving as a skilled profession can improve dignity, training, career opportunities and quality of services.
5. **Creates global opportunities:** Growing international demand for caregivers provides India an opportunity to become a **global hub for skilled caregiving services**.
6. **Strengthens soft power:** India's traditions of *Seva* and *Samvedana* can complement professional caregiving and enhance India's cultural and knowledge-based soft power.
7. **Supports Viksit Bharat@2047:** A strong care economy can contribute to inclusive and sustainable development through employment and social welfare.

Challenges

1. **Informal nature of caregiving:** Much caregiving is undertaken within families without formal recognition, wages or social security.
2. **Lack of standardisation:** Training, certification, professional standards and career progression remain inadequate.
3. **Shortage of skilled caregivers:** The growing demand for care requires substantial expansion of trained human resources.
4. **Limited institutional convergence:** Multiple ministries and stakeholders may result in fragmented implementation.
5. **Affordability and accessibility:** Professional care services may remain difficult to access for poor and rural households.
6. **Weak social security:** Caregivers may lack adequate welfare, employment and social-security protections.
7. **Gender inequality:** Care responsibilities can disproportionately fall on women and restrict their participation in education and employment.
8. **Global employment challenges:** Overseas opportunities require internationally recognised skills, certification and adequate protection of migrant caregivers.

Key Recommendations and Way Forward

1. **National Policy on Caregiving:** Establish a comprehensive policy covering professional, family and community-based care.
2. **National Caregiver Council:** Create an institutional mechanism for coordination among ministries, training institutions and other stakeholders.
3. **Skill development and certification:** Develop standardised training, certification, quality standards and clear career pathways.
4. **Strengthen social security:** Provide appropriate welfare, insurance and employment protections to caregivers.
5. **Promote affordable care:** Expand accessible care services, particularly for vulnerable and underserved communities.
6. **Support families and communities:** Complement professional services with family- and community-based caregiving systems.
7. **Leverage global demand:** Align caregiver training with international standards and facilitate safe and dignified overseas employment.
8. **Ensure gender-sensitive policies:** Reduce the disproportionate burden of unpaid care on women.
9. **Strengthen convergence:** Coordinate healthcare, social justice, disability, skilling and external-affairs institutions for an integrated care ecosystem.

Conclusion: India must move from treating caregiving as an **informal and undervalued responsibility to recognising it as a skilled, dignified and socially protected profession**. By combining India's traditional ethos of *Seva* and *Samvedana* with modern skills, institutional support and social security, the caregiving sector can become a significant driver of **employment, social inclusion and inclusive growth under Viksit Bharat@2047**.

Question: "A robust caregiving ecosystem can become an important pillar of inclusive development and India's demographic dividend." In this context, discuss the significance, challenges and key recommendations of NITI Aayog's report *Reimagining Care: Strategies for Empowering Caregivers in Viksit Bharat@2047*.

Source: [PIB](#)

The Changing Logic of the India-U.S. Partnership

UPSC Syllabus: Gs Paper 2- Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

Introduction

The India-U.S. partnership is entering a new phase as Washington shifts from China-driven strategic convergence towards a more interest-based approach centred on reciprocity, national interest and strategic value. This change does not end the partnership, but it changes the basis on which India's importance will be judged. India must therefore balance deeper cooperation with the United States against differences in national interests, while preserving strategic autonomy, diversifying partnerships and building capabilities that strengthen its independent strategic position.

Why Is the United States Changing Its Foreign Policy?

1. **Flexible realism:** The Trump administration places **national interest** at the centre of foreign policy and treats trade, technology, industry and security as connected tools of statecraft.
2. **Reciprocity over historical goodwill:** Washington increasingly judges partnerships by **tangible economic and strategic returns**, rather than shared values or historical goodwill alone.
3. **Burden-sharing and technology controls:** Growing demands for greater burden-sharing, tighter technology restrictions and reciprocal trade reflect stronger expectations from partners and competitors.
4. **Tariffs as strategic signals:** Tariffs on trading partners, including India, affect trade negotiations immediately but also signal a broader change in American statecraft.
5. **Recalibration, not withdrawal:** The new approach does not necessarily mean retreat from global engagement; it changes how the United States pursues interests in a competitive international environment.
6. **National interest over strategic convergence:** Washington is increasingly willing to judge partners through its own interests, making strategic convergence alone insufficient for sustaining long-term partnerships.

How Is the Changing U.S. Approach Reshaping the India-U.S. Partnership?

1. **China-driven partnership is changing:** China's rise earlier drove India-U.S. strategic convergence, but Washington's new approach makes this factor **important rather than sufficient** for the relationship.
2. **India faces greater expectations:** The United States increasingly expects India to provide **economic benefits, technological capabilities and strategic contributions**, rather than relying mainly on shared concerns about China.
3. **Strategic convergence to strategic complementarity:** The partnership is shifting from responding to a **common strategic challenge** towards combining capabilities that strengthen both countries.
4. **Economic and technological value gaining importance:** Defence cooperation, critical technologies, resilient supply chains and advanced manufacturing now matter because they can strengthen **the competitiveness and resilience of both economies**.
5. **India's relevance is becoming contribution-based:** Intensifying U.S.-China competition can no longer automatically increase India's strategic importance; its relevance will increasingly depend on **what it contributes to the partnership**.
6. **Greater scope for strategic agency:** A U.S. preference for stronger and more capable partners creates greater space for India to pursue its **own strategic interests**.

India's Strategic Dilemma: Partnership with the U.S. vs Strategic Autonomy

1. **Benefits with limits:** India can gain from deeper economic and technological cooperation with the United States, but American and Indian interests do not always coincide.

2. **Beyond China-centred thinking:** India cannot assume that intensifying U.S.-China competition will automatically increase its strategic relevance or determine its approach towards China.
3. **Pakistan factor:** The United States views Pakistan through its own regional interests, so India cannot expect Washington to assess subcontinental stability solely through Indian strategic priorities.
4. **West Asian consequences:** India's positions on Israel, Iran and the United States can carry wider economic and geopolitical consequences for India.
5. **Global context matters:** Indian foreign policy cannot rely only on narrow bilateral gains or short-term tactics because wider international developments can directly affect India's material interests.
6. **Risk of dependence:** Excessive reliance on American power can weaken independent choices, especially when sections of India's policy establishment begin linking India's rise too closely with Washington.
7. **Formal autonomy versus deeper dependence:** India may retain formal strategic autonomy while policy thinking increasingly assumes that its rise must remain tied to American power.

Way Forward

1. **Recast strategic autonomy:** India should preserve the freedom to make **independent choices based on its own interests**, rather than maintaining equal distance from major powers.
2. **Engage the U.S. on converging interests:** India should deepen economic, technological and defence cooperation with Washington while recognising that **automatic alignment cannot be assumed**.
3. **Pursue an independent China policy:** India should manage competition and cooperation with China according to its **own long-term strategic calculations**, rather than the trajectory of U.S.-China relations.
4. **Diversify strategic partnerships:** India should deepen strategic, economic and technological ties with the **European Union, Japan and Global South** to widen its strategic options.
5. **Strengthen economic capability:** Greater economic competitiveness can improve India's bargaining position and make it a **more valuable strategic partner**.
6. **Build technological and defence capabilities:** Stronger technological and military capabilities can increase India's strategic contribution while reducing dependence on external powers.
7. **Develop advanced manufacturing:** Advanced manufacturing can strengthen **resilient supply chains** and provide a stronger economic base for India-U.S. strategic complementarity.
8. **Build strategic indispensability:** India should develop economic, technological, military and diplomatic capabilities so that its relevance comes from **its own strength**, rather than mainly from China's rise.

Conclusion

The India-U.S. partnership is shifting from China-driven strategic convergence towards a relationship based more on reciprocity, capability and mutual strategic value. India should deepen cooperation with the United States where interests converge, while preserving strategic autonomy through multi-alignment and stronger economic, technological, defence and diplomatic capabilities. This can make the partnership more balanced and resilient over time.

Question for practice:

Examine how the changing U.S. foreign policy is reshaping the India-U.S. partnership and India's strategic choices.

Source: [The Hindu](#)

Small levy on UPI transactions, not a bad idea

UPSC Syllabus: Gs Paper 3- Indian economy and Infrastructure
Introduction

Unified Payments Interface (UPI) has become a core part of India's digital payments system, but rapid growth has raised costs for banks, processors and Payments Corporation of India (NPCI). The proposed legal change allowing Merchant Discount Rate (MDR) raises a basic question: how can UPI remain affordable while creating a sustainable revenue model? A carefully designed levy can meet funding needs without hurting small-value transactions, financial inclusion, or UPI's continued adoption across India over the long term as digital payment adoption continues to expand nationally.

UPI's Rapid Growth and the Rising Cost of Its Ecosystem

1. **Global scale:** Since 2016, UPI has become the **world's largest real-time payments platform**, accounting for nearly half of global real-time payments.
2. **Rapid transaction growth:** By early 2026, monthly transactions crossed **21.7 billion** and transaction value exceeded **₹28.33 lakh crore**, increasing ecosystem costs.
3. **Rising operating costs:** Banks and payment providers bear growing expenses for **servers, security, fraud prevention and system maintenance** as UPI expands.
4. **Large funding gap:** Industry estimates put annual operational costs near **₹20,000 crore**, while government incentives cover only around **11% of actual costs**.
5. **Limited government support:** Allocations have fluctuated from **₹2,485 crore in FY24 to ₹1,146 crore in FY25**, before rising to **₹2,200 crore in FY26 and ₹2,000 crore in FY27**.
6. **Need for cost sharing:** The funding gap shows that continued dependence on government support alone may not adequately sustain UPI's infrastructure and future investment needs.

Why UPI Needs a Sustainable Revenue Model

1. **UPI ecosystem needs revenue:** The National Payments Corporation of India operates and maintains UPI, while payment processors and third-party application providers need revenue to sustain the growing payment ecosystem.
2. **Large funding gap:** UPI's annual operational costs are estimated at nearly ₹20,000 crore, while government incentives cover only around 11% of actual costs and about 14% of MDR revenue forgone.
3. **Government support has limits:** The Centre spent ₹2,196 crore in FY26 and budgeted ₹2,000 crore for FY27, but such support cannot fully meet the ecosystem's operational and investment needs.
4. **Zero-MDR puts pressure on public finances:** The Parliamentary Standing Committee linked the zero-MDR regime with pressure on government finances and limited capacity for long-term infrastructure investment.
5. **Cost recovery has a precedent:** National Electronic Funds Transfer (NEFT) and Real-Time Gross Settlement (RTGS) recover charges through transaction-value bands, while debit and credit cards already carry Merchant Discount Rate (MDR).
6. **Other digital modes already carry MDR:** RuPay Credit Card on UPI and Prepaid Payment Instrument (PPI) wallet transactions can also attract MDR, showing that zero charges need not apply to every digital payment mode.

Protecting Small-Value Transactions and Financial Inclusion

1. **Small payments dominate:** Transactions below ₹500 account for 86% of UPI volume, while payments between ₹500 and ₹2,000 contribute another 10%.
2. **Broad exemption is possible:** Applying MDR only above ₹2,000 would exempt 96% of Person-to-Merchant (P2M) transactions, protecting most everyday users from additional charges.
3. **Small merchants need protection:** Small kirana stores and low-ticket purchases account for over 80% of transaction volume, making them more vulnerable to even small additional charges.
4. **Even a small fee may affect adoption:** A 0.1% fee could push some small vendors towards cash, potentially reversing progress in formalising the economy.
5. **Financial inclusion supports exemption:** With India's Financial Inclusion Index at 67%, low-value transactions should remain free to avoid adding costs for less affluent users.
6. **Higher-value transactions can be treated differently:** Large commercial users processing thousands of transactions daily can bear a nominal MDR without facing the same affordability concerns as small merchants and users

Way Forward

1. **Adopt value-based MDR:** Charges should be banded by transaction value, with low-value payments exempt and higher-value commercial transactions carrying a nominal levy.

2. **Keep ₹2,000 as a threshold:** Making transactions above ₹2,000 liable can preserve free access for **96% of Person-to-Merchant (P2M) transaction volume**.
3. **Target organised commercial users:** MDR should focus on larger merchants rather than small kirana stores and routine low-ticket purchases, which remain sensitive to added costs.
4. **Delay implementation until scale deepens:** UPI's user base could double from **50 crore**, while transaction growth has slowed from its early pace.
5. **Consider adoption maturity:** MDR should begin after UPI reaches irreversible scale, because user growth and transactions per user still have room to expand.
6. **Use existing payment models:** The design can follow NEFT and RTGS by linking charges to transaction value rather than imposing a uniform fee.
7. **Reduce permanent subsidy dependence:** A viable revenue mechanism can lessen pressure on the government exchequer while helping the ecosystem fund its own upkeep.
8. **Balance sustainability with inclusion:** The final design should recover costs from users who can bear them while keeping everyday small-value payments free.

Conclusion

A small, targeted UPI levy can improve ecosystem sustainability without weakening financial inclusion. The best approach is to exempt low-value payments and impose nominal, value-based MDR on higher-value commercial transactions. This can reduce pressure on public finances, support future infrastructure, and give NPCI and payment processors a viable revenue base while keeping digital payments accessible to users.

Question for practice:

Evaluate whether a targeted Merchant Discount Rate (MDR) on high-value UPI transactions can ensure financial sustainability without harming financial inclusion.

Source: [Businessline](#)

Indian Arctic Narrative - Importance and Way Forward

Source: The post "**Indian Arctic Narrative - Importance and Way Forward**" has been created based on "Expert Explains | Why India needs a clear 'Arctic narrative'" published in "Indian Express" on 10th August 2026.

UPSC Syllabus: GS-3-Environment

Context: The Arctic is no longer merely a region of scientific exploration. It is increasingly becoming a zone where **climate change, geopolitics, maritime access, energy security and critical mineral supply chains** converge. India, which released its **Arctic Policy in 2022**, has important interests in the region but faces a gap between its ambitions and capabilities.

India's importance and presence in the Arctic

1. India has historical links with the Arctic. As part of the British Dominion, it was among the **original 14 signatories of the 1920 Svalbard Treaty**.
2. The treaty allows Indians to visit **Svalbard without a visa** and engage in commercial activities there.
3. India has maintained a permanent scientific presence through the **Himadri research station at Ny-Ålesund, Svalbard**.
4. India is one of only **two developing countries with a permanent scientific presence in the Arctic**.

Why the Arctic matters to India

1. Climate security

- a. India is highly dependent on the **southwest monsoon**, with nearly **70% of annual rainfall** coming from it.
- b. Agriculture contributes around **18% of GDP** and supports more than half of India's population.
- c. Scientific studies increasingly indicate a connection between **Arctic changes and the Indian monsoon**.
- d. Rapid Arctic warming and declining sea ice can affect atmospheric circulation and consequently influence **rainfall, agriculture, food security and economic growth** in India.

2. Sea-level rise

- a. Arctic changes contribute significantly to **global sea-level rise**.
- b. Low-lying island states such as the **Maldives** face serious existential threats.
- c. Parts of **Bangladesh and India's coastline** could face repeated flooding and displacement.
- d. More than **250 million people in vulnerable coastal regions of South Asia** could potentially be affected by mid-century.
- e. Therefore, Arctic climate change is also an issue of **India's national security**, as climate-induced migration could create humanitarian, social and security challenges.

3. Geopolitical importance

- a. Two of India's important strategic partners, the **US and Russia**, are Arctic states.
- b. **China**, despite being an extra-regional country, has invested heavily in Arctic infrastructure, research and shipping.
- c. The Arctic is becoming increasingly important for **maritime access, energy security and critical mineral supply chains**.
- d. India also has friendly relations with the other Arctic countries.
- e. The **India-Nordic Summit** has strengthened cooperation with Norway, Sweden, Finland, Denmark and Iceland, while relations with Canada have also improved.

Major gaps in India's Arctic engagement

1. Lack of a clear Arctic narrative

- a. India's Arctic engagement has traditionally focused mainly on scientific research.
- b. However, its interests now extend to **climate security, geopolitics, maritime access, energy and resources**. India needs a coherent whole-of-government Arctic approach.

2. Fragmented institutional structure

- a. Arctic affairs are divided among different divisions of the **Ministry of External Affairs**.
- b. The eight Arctic states and Arctic Council-related matters are handled by **four different territorial and functional divisions**.
- c. This makes coordinated and consistent Arctic diplomacy difficult.

3. Absence of a Polar Ambassador

- a. India does not have a dedicated senior official for Arctic affairs.
- b. All Arctic states have dedicated Arctic ambassadors, while several observer states also have similar arrangements.
- c. A **Polar Ambassador** could coordinate inter-ministerial efforts, engage Arctic governments and institutions, and develop a consistent Indian position on Arctic governance.

4. Lack of a dedicated Polar Research Vessel

- a. India's Arctic scientific presence remains largely concentrated around **Svalbard**.
- b. Without an ice-class research vessel, access to the wider Arctic Ocean depends on foreign partners and chartered vessels.
- c. Chartering creates problems related to vessel availability, research priorities and continuity of long-term observations.
- d. Although a **Polar Research Vessel was sanctioned by the Union Cabinet in 2014**, it remains on the drawing board.
- e. The current plan envisages an indigenous vessel only towards the **end of this decade**.

5. Limited funding

- a. India spent only **Rs 17.53 crore on Arctic activities in 2024-25**.
- b. This was less than one-tenth of its expenditure on Antarctica.
- c. Such limited funding does not match the Arctic's growing importance for India's **climate, coastline and geopolitical interests**.

Way forward

1. **Appoint a dedicated Polar Ambassador** to ensure coordinated and sustained Arctic diplomacy.
2. **Develop a whole-of-government Arctic strategy** linking science with climate security, diplomacy, maritime interests, energy security and critical minerals.
3. **Accelerate the Polar Research Vessel project** to enable India to undertake meaningful pan-Arctic research independently.
4. As an interim measure, India could consider acquiring or chartering an existing ice-capable vessel, similar to **China's acquisition of the Ukrainian icebreaker that became Xuelong (Snow Dragon)**.
5. **Increase funding for Arctic research and activities** to bring investment in line with India's strategic interests.
6. Use India's **good relations with the Arctic nations** to deepen cooperation in science, climate, technology and Arctic governance.

Conclusion: The **Arctic Policy of 2022** provided India with a policy framework, while the Parliamentary Standing Committee has highlighted the major institutional, financial and capability gaps. India must now move from **policy to capability**. A coherent Arctic narrative, dedicated institutional leadership, adequate funding

and independent research capabilities will help India protect its climate, economic and strategic interests in a rapidly changing Arctic region.

Question: India's engagement with the Arctic needs to move beyond scientific exploration towards a comprehensive strategic approach. Discuss the major challenges and suggest measures to strengthen India's Arctic narrative.

Source: Indian Express

India's Digital Governance Revolution: Redefining Ease of Doing Business

Source: The post "India's Digital Governance Revolution: Redefining Ease of Doing Business" has been created based on "India's Digital Governance Revolution: Redefining Ease of Doing Business" published in "DD News" on 10th August 2026.

UPSC Syllabus: GS-2- Governance

Context: India has undertaken a major **digital governance transformation** over the last decade. By integrating technology with governance, digital public infrastructure has reduced paperwork, simplified compliance and created a more **transparent, faster and predictable business environment**.

Digital Governance has Simplified Business Operations

1. Simplification of approvals

- a. The **National Single Window System** provides a common digital platform for regulatory approvals.
- b. It reduces the need for investors to approach multiple government departments separately.

2. Digital corporate compliance

- a. The **MCA21 portal** has digitised company registration, filings and corporate compliance.
- b. This has reduced procedural delays and improved transparency.

3. Creation of interoperable digital infrastructure

Platforms such as **GSTN, UPI, GeM and Udyam** complement each other and create an integrated digital ecosystem.

- a. **GSTN** has supported digital taxation and compliance.
- b. **UPI** has transformed digital payments and transactions.
- c. **GeM** has improved access to government procurement.
- d. **Udyam Portal** has simplified MSME registration.

4. Benefits to MSMEs

- a. Digital registration and simplified compliance have lowered entry barriers.
- b. Government procurement platforms have improved **market access**.
- c. Better digital systems can also improve access to finance.

- d. This has helped promote entrepreneurship among **first-generation entrepreneurs** in both rural and urban areas.

5. Improved investment climate

- a. Predictable approvals and digitised compliance reduce **transaction costs**.
- b. Transparent regulatory systems improve investor confidence.
- c. Efficient digital governance has become an important factor in attracting **manufacturing investments and global supply chains**.

Challenges

1. Cybersecurity risks: Greater dependence on digital platforms increases vulnerability to **cyberattacks and technical disruptions**.

2. Data privacy: Large-scale digital governance requires strong safeguards for **data protection and privacy**.

3. Digital divide: Small enterprises in remote areas may lack adequate **digital infrastructure and digital literacy**, limiting their participation.

4. Interoperability: Different digital platforms need greater integration to ensure seamless functioning across departments and levels of government.

5. Institutional capacity: Technology alone cannot ensure effective governance. Strong institutions and effective implementation are necessary for digital reforms to deliver results.

Way Forward

- 1. **Deepen integration** between existing digital platforms instead of merely creating new platforms.
- 2. Introduce **AI-driven compliance systems** to reduce the regulatory burden on businesses.
- 3. Develop **predictive regulatory frameworks** to make government processes more responsive and predictable.
- 4. Promote **paperless cross-border trade documentation** to facilitate international business.
- 5. Strengthen **Centre-State coordination** for seamless implementation of digital governance.
- 6. Improve **cybersecurity, data privacy and digital infrastructure resilience**.
- 7. Expand digital infrastructure and **digital literacy**, especially for small enterprises in remote regions.
- 8. Continue **stakeholder consultations with industry and startups** so that reforms remain responsive to changing business needs.

Broader Significance

- 1. India's digital public infrastructure model is attracting attention across the **Global South**.
- 2. Developing countries are examining India's experience of creating **low-cost, high-volume and inclusive digital systems**.
- 3. India demonstrates that digital transformation is not limited to advanced economies and can emerge through **political commitment and institutional innovation**.

Conclusion: India's digital governance reforms have moved ease of doing business beyond merely reducing paperwork or improving rankings. They aim to create an ecosystem where **entrepreneurship flourishes**,

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investment flows with confidence, compliance becomes simpler and governance becomes citizen-centric. For the vision of **Viksit Bharat 2047**, India must sustain this transformation through continuous innovation, robust cybersecurity, digital inclusion and institutional accountability.

Question: India's digital public infrastructure has emerged as a major driver of ease of doing business. Discuss its key achievements, challenges and the way forward.

Source: DD News

A new security triangle emerges with the Makkah Pact

UPSC Syllabus: Gs Paper 2- Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

Introduction.

The **Makkah Joint Defence Agreement (MJDA)**, signed on 7 August 2026 by Saudi Arabia, Türkiye and Pakistan, creates a new security triangle linking the Gulf, eastern Mediterranean and South Asia **in the region**. Its collective-defence clause treats an armed attack on one member as an attack on all. However, unclear commitments and different interests make it too early to call it a "Muslim NATO".

Makkah Pact and the Emerging Security Architecture

1. **Collective-defence commitment:** The MJDA treats an armed attack on any one member as an attack on all, creating its strongest common security obligation.
2. **Institutional framework:** The pact provides **regular meetings, a ministerial committee and a permanent Saudi secretariat**, making it more organised than a symbolic declaration.
3. **Limits of the agreement:** Its public terms do not specify **command arrangements, force commitments, consultation procedures or responses to non-state attacks**, leaving its deterrent value uncertain.
4. **Existing defence links:** The pact builds on existing Saudi-Pakistan defence ties and expanding Saudi-Türkiye defence cooperation rather than creating an alliance from nothing.
5. **Wider strategic connection:** By linking **Gulf, eastern Mediterranean and South Asian security**, the pact reduces the strategic distance between regions that were earlier viewed separately.
6. **Potential expansion:** The agreement may leave the door open to additional members, but no wider membership framework has yet been established.
7. **Regional institutional gap:** The pact has no clear link with the **Arab League, Organisation of Islamic Cooperation or Gulf Cooperation Council**, limiting wider integration.

Drivers Behind Saudi Arabia's Search for New Security Partnerships

1. **Complex security threats:** Saudi Arabia faces attacks on oil and civilian infrastructure, risks around the **Strait of Hormuz and Bab al-Mandeb**, and possible internal unrest.

2. **Limits of external protection:** The effectiveness of the large U.S. security presence has not removed Saudi vulnerabilities, encouraging Riyadh to seek additional security options.
3. **Diversification of partnerships:** The MJDA follows Saudi Arabia's **Strategic Mutual Defence Agreement with Pakistan and Multinational Maritime Defence Alliance**, showing wider security diversification.
4. **Uncertainty about U.S. reliability:** Saudi concerns about dependence on Washington have encouraged greater regional self-reliance instead of relying on one external security guarantor.
5. **Economic protection:** Protecting energy infrastructure and Saudi Arabia's economic transformation has become closely linked with its broader security needs.
6. **Internal security sensitivity:** Saudi Arabia is unlikely to rely heavily on foreign forces for internal security because this could create poor domestic optics.

Strategic Interests and Complementarity of the Three Signatories

1. **Saudi Arabia's role:** Riyadh provides major financial strength and strategic geography while seeking stronger deterrence against threats to its territory, infrastructure and economic transformation.
2. **Türkiye's military contribution:** Türkiye brings **NATO experience, defence technology and a growing military-industrial complex**, including major defence exports and opportunities for joint production.
3. **Pakistan's military contribution:** Pakistan brings **6,60,000 armed forces, operational experience and nuclear status**, while gaining wider diplomatic relevance and potential investment.
4. **Defence-industrial cooperation:** Military exercises, weapon-system interoperability and joint production can strengthen practical cooperation and improve their shared defence capabilities.
5. **Political and economic gains:** Türkiye and Pakistan can gain greater political influence, defence markets and economic opportunities in Saudi Arabia through deeper engagement.
6. **Strategic insurance:** The pact gives all three members an additional security option without formally replacing their existing relationships with Washington.

Constraints on the Emergence of a "Muslim NATO"

1. **Different strategic interests:** The three states do not share identical priorities, especially regarding Iran, Israel, regional politics and the use of military force.
2. **Saudi-Türkiye mistrust:** Ottoman rule, Türkiye's earlier support for the Muslim Brotherhood and Hamas, and the Khashoggi dispute have created political differences.
3. **Pakistan-Iran constraints:** Pakistan shares a **900-kilometre border with Iran**, has a large Shia minority and internal security challenges, limiting its freedom to confront Tehran.

4. **Past military frictions:** Earlier Pakistani deployments in Saudi Arabia faced chain-of-command disputes and reluctance to confront Iran or Yemen, raising questions about future commitments.
5. **No clear bloc alignment:** Saudi Arabia denies a military axis, sectarian bloc, nuclear arrangement or arms race, while the pact lacks links with existing security structures.
6. **U.S. and regional dependence:** All three remain connected to Washington, while Türkiye and Pakistan also have strong reasons to avoid direct confrontation with neighbouring Iran.
7. **Arab-Muslim divisions:** The Arab-Muslim world has remained divided over Israel for decades, making a unified security bloc against Iran difficult to build.

Implications for Major Powers and Regional Security

1. **United States:** The pact can improve **regional burden-sharing**, but stronger coordination among the three members may reduce Washington's control over regional security decisions.
2. **China:** Pakistan's close defence relationship with China means **Chinese weapons, technology and infrastructure** may indirectly strengthen the capabilities linked to the pact.
3. **Iran:** The pact may increase Iran's security concerns because **Pakistan and Türkiye border Iran**, while Saudi Arabia faces threats from Iran and its proxies.
4. **Regional Polarisation:** A stronger Saudi-Türkiye-Pakistan grouping could increase concerns among **Iran, Israel and other regional actors**, encouraging counter-polarisation.
5. **Nuclear Security:** Pakistan's nuclear status may affect regional threat perceptions, although **no nuclear umbrella or shared nuclear command** has been announced.
6. **Maritime Security:** The pact combines **Saudi Arabia's Gulf position, Türkiye's defence capabilities and Pakistan's military strength**, creating scope for greater regional maritime coordination.

Implications for India and India's Strategic Approach

1. **Expanded Pakistani network:** Pakistan now has a formal security framework with Saudi Arabia and Türkiye, adding resources, technology and diplomatic influence to its strategic network.
2. **Crisis uncertainty:** During a future India-Pakistan crisis, uncertainty over what constitutes an "attack" could complicate India's calculations even if Riyadh and Ankara remain uninvolved.
3. **Saudi-India interdependence:** India is the **world's third-largest crude oil importer**, while Saudi Arabia is its third-largest market and second-largest trading partner, supporting stable ties.
4. **Avoiding overreaction:** India should not assume that the MJDA targets New Delhi because Saudi Arabia has strong energy, investment and political interests in India.
5. **Saudi restraint:** Riyadh is unlikely to support Pakistani adventurism because its Gulf interests favour stable economic and strategic relations with India.

6. **Watch strategic technology:** India should monitor whether Turkish and Saudi technologies combine with Chinese-origin systems in Pakistan's drones, missiles and air-defence capabilities.
7. **Monitor wider cooperation:** India should track intelligence, maritime cooperation, nuclear signalling and possible diplomatic support for Pakistan during a crisis.
8. **Strengthen regional partnerships:** India can deepen maritime and defence cooperation, strengthen Saudi dialogue and use its **IORA chairmanship** to support open regional security.

Conclusion

The MJDA is not yet a Muslim NATO or a replacement for the United States, but it marks movement towards regional security self-reliance. Its importance will depend on implementation, military cooperation and clear consultation rules. For India, the best response is vigilance without overreaction, stronger Saudi engagement, deeper maritime partnerships and an open Indian Ocean security framework.

Question for practice:

Evaluate the strategic significance of the Makkah Joint Defence Agreement and its implications for regional security and India.

Source: [The Hindu](#)

Delimitation Debate in India

UPSC Syllabus: Gs Paper 3- Indian economy and Infrastructure

Introduction

Delimitation has become a major constitutional and federal debate ahead of the **2027 Census**. The proposed exercise could change Lok Sabha seat distribution, constituency boundaries and women's reservation. While population-based representation supports equal value of votes, it may reduce the relative political weight of States that stabilised population growth. The key challenge is to balance **democratic equality with federal fairness**.

What is Delimitation? What is its Constitutional Status?

1. **Meaning of delimitation:** Delimitation means redrawing electoral constituency boundaries to reflect population changes and ensure **fairer political representation**.
2. **Constitutional basis: Articles 81 and 82** provide the basis for Lok Sabha seat allocation and constituency delimitation after the first Census conducted after 2026.
3. **State Assembly provision: Article 170** provides the constitutional basis for delimitation of constituencies in State Legislative Assemblies across India.
4. **Role of Delimitation Commission:** The statutory Delimitation Commission determines constituency boundaries and is appointed by the **President** under the Delimitation Commission Act.

5. **2027 Census trigger:** Fresh delimitation will begin after the **2027 Census data** is published under **Articles 81 and 82**. It will include **reallocation of seats among States and redrawing of constituencies**, without a Constitutional amendment unless the existing rules are changed..
6. **Women's reservation:** The **Constitution (106th Amendment) Act, 2023** provides **one-third reservation for women** in the Lok Sabha and State Assemblies. Under **Article 334A**, this reservation will take effect after delimitation based on the relevant Census figures.
7. **Previous exercise:** The **2002-08 Commission** redrew constituencies within States, while State-wise Lok Sabha seat allocation last changed in 1973 using the 1971 Census.
8. **Constitutional ceiling:** The Constitution currently permits a maximum of **550 Lok Sabha seats**, so any larger expansion would require changing existing provisions.

What is the Significance of Delimitation Exercise?

1. **Equal political representation:** Delimitation seeks to reduce population-based representation gaps so that constituencies contain broadly comparable numbers of voters.
2. **One vote, one value:** By aligning representation with population, delimitation supports the democratic principle that every voter should have broadly equal political value.
3. **Reduced malapportionment:** Redrawing constituencies can correct outdated boundaries and significantly improve the **voter-to-MP ratio** across different regions.
4. **Social representation:** Delimitation can reshape reserved constituencies for **Scheduled Castes and Scheduled Tribes**, affecting representation of marginalised communities.
5. **Women's representation:** The exercise creates the constitutional mechanism for implementing **one-third reservation** of Lok Sabha seats for women.
6. **Federal accommodation:** Delimitation balances population-based representation with the need to protect States whose populations have stabilised over time.

How Could the Next Delimitation Change Lok Sabha Representation?

1. **1971 population benchmark:** The present distribution of **543 Lok Sabha seats** among States is based on population figures from the 1971 Census.
2. **Fresh State-wise allocation:** The first Census after 2026 will replace the existing population benchmark and could change seat distribution among States.
3. **Likely regional shift:** Southern States may lose their relative share, while Hindi-speaking States, especially **Uttar Pradesh, Bihar and Rajasthan**, are likely to gain seats.
4. **Possible House expansion:** Earlier proposals placed before Parliament suggested increasing Lok Sabha strength to a **maximum of 850 seats**.

5. **Three-step sequence:** After the 2027 Census, Lok Sabha seats will first be reallocated among States based on the new population figures. This will be followed by redrawing of constituencies within States and implementation of one-third reservation for women.
6. **2029 election timeline:** The exercise may or may not finish before 2029, as the previous delimitation took several years from setup to implementation.
7. **Digital Census possibility:** Complete digitalisation of **2027 Census data** could theoretically make the next delimitation faster than earlier exercises.

What are the Concerns Associated with the Delimitation Exercise?

A. Federalism and Regional Representation

1. **Population versus development:** Population-based allocation may penalise States that achieved successful family planning; **Tamil Nadu's fertility rate is 1.6 compared with Bihar's 3.0.**
2. **North-South imbalance:** Higher population growth in States such as **Uttar Pradesh and Bihar** could increase their political weight while reducing the relative share of southern States.
3. **Unequal voter representation:** An MP represents about **14 lakh electors in Kerala**, compared with around **19 lakh in Uttar Pradesh and Bihar**, creating a difficult balance between equal votes and federal interests.
4. **Economic contribution:** Southern States argue that **revenue generation and per-capita income** should also receive some consideration in determining political representation.

B. Population Stabilisation and Governance

1. **Disincentive to population control:** States that successfully reduced population growth may lose relative representation, creating concerns about incentives for continued **family planning and population stabilisation.**
2. **Governance versus population:** The debate raises the question of whether representation should depend only on population or also recognise **governance and development achievements.**

C. Electoral and Representation Concerns

1. **Gerrymandering:** Equal population in constituencies does not ensure equal vote value because boundaries can be manipulated through **packing and cracking.**
2. **Cracking:** A group's voters are **spread across several constituencies**, preventing them from becoming a majority and reducing their chances of winning seats.
3. **Packing:** A group's voters are **concentrated in a few constituencies**, allowing them to win those seats by large margins while their remaining votes have less electoral impact.
4. **Reservation changes:** New boundaries may change **SC/ST reserved constituencies** and create new constituencies reserved for women under the one-third reservation framework.

5. **Political manipulation:** Concerns over politically influenced boundary changes can affect the fairness and credibility of the delimitation process.

D. Institutional and Parliamentary Challenges

1. **Legislative efficiency:** A much larger Lok Sabha could reduce the **speaking time available to individual MPs** and affect parliamentary efficiency.
2. **Political resistance:** States and political parties expecting seat losses may oppose the exercise, creating resistance during the delimitation process.
3. **Implementation delays:** The previous delimitation took several years, so the next exercise may not be completed before the **2029 Lok Sabha elections**.

Way Forward

1. **Balanced federal approach:** Delimitation should balance **population-based democratic representation** with federal concerns arising from different population growth patterns.
2. **Expert recommendations:** The **Sarkaria Commission (1983)** stressed the need to balance **federal interests with national unity** while dealing with Centre–State issues. The **Punchhi Commission (2010)** suggested giving weight to **both population and governance needs** to maintain a better federal balance.
3. **Independent oversight:** A transparent and independent delimitation process can reduce concerns over political influence in constituency boundary decisions.
4. **Weighted representation:** A possible formula could give population the main weight while also considering **development and sustained fertility control**.
5. **Uniform expansion:** Pro-rata expansion of Lok Sabha seats could increase representation without sharply changing the relative political weight of southern States.
6. **Constitutional reform:** Articles **81 and 82** could be amended if Parliament chooses to redesign existing rules for more balanced regional representation.
7. **Electoral design:** Proportional representation models used in **Germany and Canada** could be examined while considering India's constitutional and federal structure.

Conclusion

The delimitation debate is not only about drawing constituency boundaries. It is about deciding how India balances **population-based democratic equality** with **federal fairness**. The 2027 Census could change State-wise representation and reshape political power. A credible exercise must therefore protect **equal voting value, fair State representation, social representation and electoral integrity** while adapting Parliament to demographic change.

Question for practice:

Discuss the key issues, concerns and possible solutions related to the delimitation of Lok Sabha constituencies in India.

Source: The Hindu

Handloom Sector - A key part of India's economy

Source: The post "Handloom Sector - A key part of India's economy" has been created based on "Handloom Sector - A key part of India's economy" published in "The Hindu" on 11th July 2026.

UPSC Syllabus: GS-3- Economy

Context: The Indian handloom sector has deep economic, cultural and historical significance, having played an important role in India's manufacturing and global trade even before the Industrial Revolution. **National Handloom Day, observed on August 7**, commemorates the launch of the Swadeshi Movement in 1905 and recognises the contribution of Indian weavers.

Economic and Social Importance of Handloom

1. The sector provides livelihoods to **more than 35 lakh weavers and allied workers across over 31 lakh households**.
2. **Women constitute nearly 70% of the handloom workforce**, making the sector important for women's economic participation and empowerment.
3. Handloom remains one of the **largest sources of non-farm employment in rural India**.
4. The sector produces nearly **15% of India's cloth despite relying largely on manual technology**.
5. Handloom generates substantial employment with **relatively modest capital investment**, making it important for inclusive and rural economic development.
6. Indian handlooms also preserve **centuries of accumulated knowledge, traditional skills, unique designs and cultural identity**.
7. Traditional weaves can contribute to India's **soft power and global brand**, particularly because of growing global demand for authenticity, sustainability and handcrafted luxury.

Major Challenges

1. **Declining returns** are discouraging younger generations from continuing the weaving profession.
2. **Fragmented markets** limit the ability of weavers and artisan clusters to reach wider consumer markets.
3. Many **lesser-known weaving traditions are facing gradual extinction**.
4. Traditional skills are increasingly **not being transferred within families**, threatening the continuity of several weaving traditions.
5. The sector remains **inadequately measured**, with insufficient reliable data on its contribution to GDP, exports, tax revenues, employment and household incomes.
6. Greater exports require **consistent quality standards, stronger branding and better protection of GI-tagged products**.
7. The sector also faces the challenge of protecting traditional designs from **cultural misappropriation**.

Government and Institutional Measures

1. The **National Handloom Development Programme** focuses on Skill development, Design innovation, Technology adoption, Branding and Improved market access.
2. Greater integration with **e-commerce platforms** has helped artisan clusters reach consumers who were previously inaccessible.
3. Expanding **export opportunities** can provide wider markets for Indian handloom products.
4. The **Office of the Development Commissioner for Handlooms**, in collaboration with UNESCO, has initiated the identification and documentation of **endangered and languishing weaves**.
5. The revival of **Tangaliya weaving in Gujarat**, the transformation of **Badturang village in Odisha's Sambalpur district**, and the popularity of **Siddipet Gollabhama sarees** show that traditional crafts can succeed when design, market access and institutional support come together.

Way Forward

1. Handloom policy should move from **mere preservation to making handloom aspirational**, particularly among younger consumers and Gen Z.
2. Celebrity ambassadors, designer collaborations, limited-edition collections, digital storytelling and influencer partnerships can make Indian weaves **contemporary and fashionable**.
3. Handloom should be promoted for its **craftsmanship, sustainability and exclusivity**, rather than only because of its traditional character.
4. India should expand **international exports** by improving quality standards, branding, GI protection and market access.
5. A national platform can be created for **States, producer organisations and cooperatives to share successful practices** and accelerate innovation.
6. Better data collection is necessary to accurately measure the sector's **economic and social contribution** and improve policymaking.
7. Efforts should focus on ensuring that more **looms remain active, profitable and capable of attracting the next generation of weavers**.

Conclusion: Handloom is **not merely a relic of India's past but a strategic economic and cultural asset for the future**. It simultaneously promotes **rural employment, women's empowerment, cultural preservation, sustainability and India's global image**. Therefore, as India pursues the vision of **Viksit Bharat**, handloom should be treated as a serious economic sector with greater emphasis on profitability, innovation, market access and intergenerational continuity.

Question: Why does the handloom sector remain an important part of India's economy? Discuss the challenges faced by the sector and suggest measures to make handloom more sustainable and aspirational.

Source: The Hindu

India's MSME opportunity lies in clusters

Source: The post "**India's MSME opportunity lies in clusters**" has been created based on "**India's MSME opportunity lies in clusters**" published in "**Indian Express**" on **11th July 2026**.

UPSC Syllabus: GS-3- Economy

Context: India has around **63 million MSMEs**, employing more than **320 million people** and contributing about **31% of GDP, 35% of manufacturing output and 49% of exports**. However, the sector remains largely

informal, fragmented and concentrated in low-value activities. Therefore, India needs to move from supporting individual firms to building **strong MSME clusters and ecosystems.**

Why MSME Clusters Matter

1. **Knowledge spillovers:** Technical knowledge spreads rapidly through worker mobility, informal interaction and shared service providers.
2. **Access to skilled workers:** A cluster of firms creates a larger labour market, helping MSMEs attract and retain specialised talent.
3. **Shared infrastructure:** Firms can jointly use expensive facilities such as **testing laboratories, effluent-treatment plants, cold storage, design centres and logistics hubs.**
4. **Lower costs:** Shared facilities reduce the fixed costs that individual small firms may not be able to afford.
5. **Stronger supplier networks:** Clusters bring suppliers, manufacturers, workers, research institutions and capital closer together, enabling faster production and innovation.
6. **Improved competitiveness:** Close interaction between firms can support better productivity, innovation and export performance.

Lessons from Other Countries

1. **United States:** Universities have played an important role in anchoring industrial clusters. The **Research Triangle in North Carolina**, involving Duke, UNC-Chapel Hill and NC State, helped develop biotechnology and pharmaceutical ecosystems.
2. **China: Guangdong and Shenzhen** demonstrate how infrastructure, land and tax incentives can create dense supplier networks and enable rapid design, fabrication and prototyping.
3. **China's Little Giant Programme:** It supports technically capable small firms in specialised areas through **finance, tax support and R&D assistance.**

Challenges for Indian MSMEs

1. **Limited access to affordable credit** remains a major constraint.
2. MSMEs face compliance burdens related to **GST, labour, environmental and tax regulations.**
3. Many firms remain **informal and fragmented.**
4. A large number of MSMEs operate in **low-value activities.**
5. Existing cluster initiatives sometimes function mainly as **infrastructure grants rather than complete business ecosystems.**
6. Universities and research institutions often remain **disconnected from nearby industries.**

Existing Indian Initiatives

1. The **MSME Cluster Development Programme** promotes cluster-based development.
2. **PM MITRA textile parks** provide infrastructure for the textile sector.
3. The **Tiruppur textile cluster** provides a useful example of how cluster-based financing and industrial networks can support MSMEs.

Way Forward

1. **Develop specialised clusters:** Move from generic industrial estates to sector-specific clusters, such as **auto components in Pune, pharmaceuticals in Hyderabad and electronics in Sriperumbudur.**
2. **Support high-performing MSMEs:** Create an Indian version of the “**Little Giant**” programme to identify specialised firms with high growth potential.
3. **Provide targeted support:** Such firms can receive dedicated credit, faster patent processing, R&D assistance and priority procurement.
4. **Promote cluster-based lending:** Banks should consider shared collateral, buyer-supplier relationships and collective cluster performance instead of assessing firms only individually.
5. **Strengthen cluster financing:** Institutions such as **SIDBI and cluster-focused NBFCs** can play a greater role.
6. **Connect universities with industry:** Universities should provide **skilled talent, applied research, laboratory infrastructure and innovation support** to nearby MSME clusters.
7. **Build complete ecosystems:** Cluster policies should combine **finance, infrastructure, skills, technology, research and market access**, rather than focusing only on physical infrastructure.

Conclusion: India’s MSME strategy needs to shift from **isolated firm-level support to ecosystem-based cluster development**. Strong clusters, better access to finance and closer **university-industry collaboration** can transform MSMEs into stronger engines of **employment, productivity, innovation and exports**.

Question: India’s MSME sector has significant potential to generate employment, improve productivity and boost exports. Discuss how cluster-based development can help realise this potential.

Source: [Indian Express](#)

Do not write the obituary of international law yet

UPSC Syllabus: Gs Paper 2- International Relations

Introduction

International law is facing a serious credibility crisis as wars, civilian suffering and weak international institutions expose the gap between legal rules and their enforcement. Yet, states continue to invoke international law, use it to settle disputes and rely on it for cooperation. The central issue, therefore, is not whether international law has disappeared, but whether **political power, selective application and weak enforcement** are undermining its effectiveness.

Current Crisis of International Law

1. **Wars Expose the Gap Between Rules and Reality:** Conflicts in Ukraine and Gaza, instability in West Asia and violence against civilians have raised serious doubts about international law’s effectiveness. These conflicts have exposed the difficulty of protecting civilians and enforcing legal rules during war.
2. **Weakening of Multilateral Institutions:** International institutions are losing their ability to respond effectively to major global crises. The US withdrawal from several international organisations and agreements has further weakened the multilateral system.
3. **Security Council Deadlock:** The UN Security Council has remained deadlocked on major international issues. The veto power of its permanent members often prevents effective collective action.

4. **Gap Between Law and Enforcement:** International courts can issue judgments, but they have limited power to enforce them against states. The Gaza conflict has highlighted this gap between legal decisions and action on the ground.
5. **Unequal Power and Selective Justice:** Powerful states can resist international rules more easily than weaker states. This creates concerns about unequal application and weakens confidence in the international legal order.
6. **Crisis Has Deeper Roots:** The present problems did not begin with recent conflicts or one particular leader. Questions about the relevance, fairness and effectiveness of international law have existed since its emergence.

Growing Violations and Selective Application of International Law

1. **Conflicts Exposing Legal Weakness:** Wars in Ukraine and Gaza have exposed the difficulty of preventing aggression and protecting civilians through existing international rules.
2. **States still defend actions through legal claims:** Even when accused of violations, states usually argue that their conduct follows the UN Charter, sovereignty, territorial integrity or self-defence. Instead, Russia, Hamas and Israeli officials have used legal arguments to justify or defend their actions.
3. **Selective Application of Rules:** International law loses credibility when similar principles are applied differently in different conflicts. The debate over Ukraine and Gaza has strengthened concerns about such selective application.
4. **International Law as a Weak Constraint on Powerful States:** The system allows states to challenge or resist international decisions when their political and military power is strong. This creates a gap between the formal equality of states and their actual ability to follow or ignore international rules.
5. **Security Council limitations remain visible:** Recent conflicts have reinforced concerns about structural weaknesses within the UN Security Council and the wider international legal order.
6. **The Risk of Normalising Violations:** Repeated violations without consequences can weaken respect for international norms. Over time, this may make actions that were once clearly unacceptable appear politically possible.

Why International Law Still Matters

1. **States Still Accept Its Authority:** International law continues to shape how states present and defend their actions. Even states accused of violations usually claim that their conduct is consistent with the UN Charter, sovereignty, territorial integrity or self-defence.
2. **A Framework for Judging State Conduct:** International law provides common standards to assess the behaviour of states. It also provides a framework for addressing disputes and maintaining cooperation.

3. **Its Everyday Role Often Goes Unnoticed:** International law enables activities such as international aviation, maritime transport, trade, communication and diplomacy. These routine successes receive little attention because compliance normally does not make headlines.
4. **It Protects Individuals Across Borders:** International legal rules affect people through passports, consular assistance, international travel and refugee protection. Millions depend on these rules even though they may not notice them in their daily lives.
5. **It Supports International Cooperation:** States continue to negotiate and implement multilateral agreements despite ongoing conflicts. The High Seas Treaty, pandemic preparedness efforts and UN Convention against Cybercrime show that international law remains a tool for cooperation.
6. **It Helps Build Peace:** Peace agreements, ceasefires and negotiated settlements create legal commitments between states and other parties. Even adversaries recognise the need for rules that define future expectations and obligations.
7. **Important for the Global South:** Developing countries cannot address climate change, pandemics, cyber-attacks and economic instability alone. A rules-based order allows them to pursue their interests through negotiation rather than relying only on political or military power.

International Law: Failure of Law or Failure of Politics?

1. **Law Exists, but Enforcement Is Weak:** International law continues to provide rules for relations between states. The main problem is that states, especially powerful ones, can resist or ignore these rules.
2. **International Politics Limits Legal Action:** Political power can weaken the effect of international courts and institutions. The Gaza conflict shows that even judicial orders cannot by themselves stop military action.
3. **Selective Application Weakens Trust:** International law loses credibility when similar rules are applied differently in different conflicts. The contrasting responses to Ukraine and Gaza have strengthened concerns about such selectivity.
4. **The Core Problem Is Political Will:** The existence of violations does not prove that international law is irrelevant. Its effectiveness ultimately depends on state cooperation, good faith and willingness to apply the rules consistently.

The Future: Reform, Renewal and a Changing Global Order

1. **Reform Global Institutions:** Existing international institutions need to be re-engineered and reconfigured to address their structural weaknesses. Their present form is increasingly inadequate for dealing with major global crises.
2. **Ensure Consistent Application:** International law must be applied consistently across countries and conflicts. Selective application weakens trust in the rules-based order and creates perceptions of double standards.

3. **Strengthen Enforcement:** Legal decisions need stronger political support and implementation. Courts can issue judgments, but states must provide the cooperation needed to make them effective.
4. **Preserve Multilateral Cooperation:** States should continue relying on treaties and international institutions to address problems that cannot be solved individually. Climate change, pandemics and cyber-attacks require such collective action.
5. **Manage the Changing Global Order:** The declining role of the US and growing involvement of China may reshape international law. China's greater emphasis on sovereignty and territorial integrity could influence the future balance between state sovereignty and human-rights concerns.
6. **Use Crises for Renewal:** Major global crises can create pressure for stronger international cooperation and new legal arrangements. Climate change could become an important catalyst for such renewal.
7. **Adapt International Law:** International law must evolve with changes in the global system and emerging challenges. Its future will depend on how well it adapts to the changing world it seeks to govern.

Conclusion

International law is under pressure because wars, civilian suffering, institutional weaknesses and unequal power expose serious limits in enforcement. Yet, its continued use in diplomacy, trade, travel, peace arrangements and new global agreements shows that it remains indispensable. The priority is therefore **reform and renewal, not abandonment**, so that agreed rules can better constrain power and support cooperation.

Question for practice:

Evaluate whether the current crisis of international law reflects the failure of international law itself or the failure of international politics and enforcement mechanisms.

Source: [The Hindu](#)

UPI and the Cost of Policy Reversal

UPSC Syllabus: Gs Paper 3- Indian economy and Infrastructure

Introduction

Unified Payments Interface (UPI) transformed India's shift from cash to digital payments, with zero Merchant Discount Rate (MDR) helping drive widespread merchant acceptance and financial inclusion. The **Taxation and Other Laws (Amendment) Bill, 2026** now creates legal space for charges on specified electronic payment modes, reopening the debate over who should bear the cost of payment infrastructure. The policy shift raises concerns about **UPI adoption, financial inclusion, market sustainability and investment in payment infrastructure**.

Why Zero MDR Was Introduced and How It Transformed UPI

1. **Shift towards a less-cash economy:** Demonetisation in 2016 and UPI's launch supported the government's push towards greater use of electronic payments.
2. **Zero-MDR mandate:** In 2019, the government amended the Payment and Settlement Systems Act, making MDR zero from 1 January 2020.
3. **Policy purpose:** Zero MDR was a subsidy to move merchants and consumers away from cash and accelerate electronic payments.
4. **Wider merchant acceptance:** Free UPI payments encouraged merchants, including those avoiding cards because of fees, to accept QR-code-based payments.
5. **Global scale:** Since 2016, UPI has become the **world's largest real-time payments platform**, accounting for nearly **half of global real-time payments**.
6. **Rapid transaction growth:** By early 2026, monthly UPI transactions crossed 21.7 billion, while transaction value exceeded ₹28.33 lakh crore, showing the massive scale of the ecosystem.
7. **Financial inclusion:** UPI brought informal payments into recorded digital trails, supporting formalisation, compliance and potential credit based on payment histories.

Who Should Bear the Cost?

1. **Merchant as a cost bearer:** In card payments, merchants traditionally pay MDR because accepting digital payments expands their customer base and can prevent lost sales.
2. **Government as an alternative:** The government can underwrite payment costs when digitalisation and economic formalisation are important policy goals.
3. **Two-sided market problem:** The party formally charged with MDR may differ from the party actually bearing it because banks and fintechs compete for merchants.
4. **Pricing in competitive markets:** Banks and fintechs cannot freely raise UPI prices because merchants can shift towards rival providers offering cheaper acceptance.
5. **Cost absorption by intermediaries:** Banks and payment service providers may absorb charges to retain merchants, leaving less room for investment and innovation.

The Hidden Costs of the Zero-MDR Model

1. **Burden on banks:** Government incentives covered only a fraction of UPI's actual cost and were decided budget by budget, leaving banks with loss-making transactions and uncertain compensation.
2. **Underinvestment in safeguards:** Weak transaction economics reduced incentives to invest in fraud monitoring, dispute resolution, reliability and expansion into underserved segments.

3. **Concentration among payment apps:** Deep-pocketed Third-Party App Providers could absorb operational losses, helping two major players dominate the customer-facing market.
4. **Network concentration:** Zero MDR reduced the scope for competing payment networks, strengthening NPCI's effective monopoly over payment infrastructure.
5. **Systemic risk:** Zero MDR delivered financial inclusion but also coincided with rising systemic fraud and severe market concentration.

The 2026 Policy Reversal: Restoring Economic Reality

1. **Legal change:** The **Taxation and Other Laws (Amendment) Bill, 2026** amends Section 10A of the Payment and Settlement Systems Act, 2007, allowing charges on specified electronic payment modes.
2. **Proposed MDR:** The government proposes **0.25–0.5% MDR on UPI transactions above ₹2,000**, covering about **5% of transactions by volume but nearly 65% by value**.
3. **End of statutory zero-MDR protection:** The amendment reverses the legal framework that had kept MDR at zero for UPI and RuPay debit card transactions from **1 January 2020**.
4. **Pricing framework:** The government can notify fee-bearing payment channels, while pricing decisions for notified modes move towards the **NPCI steering committee**.

Impact of the 2026 Policy Reversal

1. **Burden of MDR:** The charge may ultimately be borne by merchants, consumers, banks or payment service providers, depending on competition and their ability to pass on the cost.
2. **UPI adoption:** Even a small charge could change payment choices and reduce UPI usage, particularly when alternative payment systems are available.
3. **Financial inclusion:** Higher payment costs could weaken the digital transaction trail that supports formalisation, tax compliance and potential access to credit.
4. **Payment ecosystem:** If intermediaries absorb the cost, lower margins could reduce investment in **reliability, fraud prevention and dispute resolution**, while sustainable pricing could help address these weaknesses.
5. **Market structure:** The zero-MDR model contributed to concentration among major payment apps and strengthened NPCI's position in payment infrastructure, creating concerns about competition and systemic dependence.

Way Forward

1. **Price payment infrastructure realistically:** Digital transactions require funding for routing, settlement, fraud prevention, disputes and reliable service, so their costs cannot remain invisible.

2. **Protect digital adoption:** Any pricing model should avoid discouraging UPI use, especially among merchants and consumers who shifted from cash because payments were free.
3. **Fund public policy goals transparently:** If free transactions are retained for inclusion, the government should fully fund the underlying infrastructure instead of imposing uncertain support.
4. **Preserve competition and innovation:** Payment pricing should support sustainable investment by banks, payment providers and networks rather than encourage concentration.
5. **Maintain policy consistency:** A stable payments policy should avoid repeatedly changing incentives after users and merchants have adapted their behaviour.
6. **Balance revenue with network effects:** The government should avoid weakening UPI's expanding digital ecosystem merely to raise revenue from electronic transactions.

Conclusion

The reversal of zero-MDR protection addresses the economic cost of maintaining UPI, but pricing must not weaken the digital payment ecosystem that the policy helped create. The focus should therefore be on **sustainable payment infrastructure, continued UPI adoption, financial inclusion, competition and innovation**. Any pricing framework should balance the real cost of payments with the wider economic benefits of digitalisation.

Question for practice:

Examine the need for reversing the zero-MDR policy for UPI and its potential impact on digital payments, financial inclusion and payment infrastructure.

Source: [The Hindu](#)

Demographic shift will fuel consumer and energy demand

Source: The post "Demographic shift will fuel consumer and energy demand" has been created based on "Demographic shift will fuel consumer and energy demand" published in "Business Line" on 12th August 2026.

UPSC Syllabus: GS 2- Governance

Context: India is undergoing a rapid demographic transition, with the Total Fertility Rate (TFR) declining from around 3.3 in the 2000s to **1.9**, below the replacement level of 2.1. This is accompanied by a shift towards smaller and nuclear households.

Impact on Consumption and Energy Demand

1. **Household fragmentation:** Smaller families reduce economies of scale and increase the number of independent households, thereby raising per-capita consumption.

2. **Housing demand:** More nuclear households increase demand for individual housing units, thereby stimulating consumption of **cement, steel and glass**.
3. **Consumer durables:** Separate households require individual **refrigerators, washing machines, air conditioners and kitchen appliances**, increasing demand for consumer goods and electricity.
4. **Higher electricity demand:** Greater appliance ownership can increase **base-load electricity demand**, particularly in urban areas.
5. **Personal mobility:** Smaller households may rely less on shared transport and increasingly use **personal vehicles and multi-wheelers**, raising transport fuel consumption.
6. **Rise of convenience foods:** Nuclear and dual-income households increasingly prefer **ready-to-eat food, meal deliveries and dining out** because of time constraints.
7. **Higher embedded energy:** Commercial food systems require **cold chains, refrigeration, processing, industrial heating, packaging and last-mile delivery**, making them more energy-intensive than traditional home cooking.
8. **Urbanisation and rurbanisation:** Rapid urbanisation and the emergence of rurban areas are accelerating consumerism and demand for goods and services.
9. **International experience:** Similar patterns were observed in **South Korea and Japan**, where shrinking household sizes accompanied growth in convenience retail, processed food and residential electricity consumption.

Way Forward

1. **Promote energy efficiency:** Energy-efficient appliances, buildings and industrial processes should be encouraged through standards, labelling and incentives.
2. **Expand renewable energy:** Rising electricity demand should increasingly be met through **solar, wind and other clean energy sources** to reduce dependence on fossil fuels.
3. **Strengthen public transport:** Affordable and efficient public transport can reduce the rise in personal vehicle ownership and transport fuel consumption.
4. **Develop sustainable housing:** Compact, energy-efficient and climate-resilient housing should be promoted to meet the growing demand from nuclear households.
5. **Build efficient food systems:** Cold-chain infrastructure, local food processing and better supply-chain management can reduce energy consumption and food wastage.
6. **Promote sustainable consumption:** Consumers should be encouraged to adopt energy-efficient appliances, reduce single-use packaging and minimise food wastage.
7. **Plan for demographic change:** Urban planning and energy infrastructure must anticipate the changing household structure rather than focus only on overall population growth.

Conclusion: India's demographic transition may reduce population growth in the long run but can **increase consumption and energy demand in the medium term**. Smaller households, urbanisation and changing lifestyles are likely to make consumer goods, real estate, prepared foods and energy important growth sectors.

Question: Demographic transition in India is likely to have a significant impact on consumption patterns and energy demand. Discuss.

Source: [Business line](#)

FCNR(B) deposit scheme: Significance, challenges and Way Forward

Source: The post “FCNR(B) deposit scheme: Significance, challenges and Way Forward” has been created based on “FCNR(B) deposit scheme: Significance, challenges and Way Forward” published in “Business Line” on 12th August 2026.

UPSC Syllabus: GS 3- Economy

Context: The **Foreign Currency Non-Resident (Bank) [FCNR(B)] Deposit Scheme 2026** is an RBI initiative to attract foreign currency deposits from NRIs amid global uncertainty and pressure on capital flows and the rupee. By the end of July 2026, the scheme had mobilised around **\$36 billion**.

Significance of the Scheme

1. **Strengthens forex liquidity:** The scheme brings foreign currency into the banking system and supports India's external sector position.
2. **Supports the rupee:** Higher foreign currency inflows can improve market confidence and reduce pressure on the rupee.
3. **Enhances reserves:** It can contribute to strengthening India's external buffers, although the impact on headline reserves may be limited.
4. **Benefits banks:** Banks receive stable foreign currency liabilities and enjoy **CRR and SLR exemptions** on eligible deposits.
5. **Benefits NRIs:** Depositors earn competitive foreign currency returns while remaining protected from rupee depreciation.
6. **Supports financial stability:** It provides an additional source of foreign currency funding during periods of global capital-flow volatility.

Comparison with 2013

1. In **2013**, the scheme was introduced during the taper tantrum and generated substantial foreign currency inflows.
2. The rupee appreciated by nearly **10–12 per cent**, reflecting improved market confidence.
3. In 2026, despite mobilisation of \$36 billion, the rupee has remained broadly range-bound around **₹95–96 per US dollar**.
4. Global geopolitical tensions, uncertainty over US trade policy, foreign investment flows and risk aversion have limited its impact.
5. The increase in forex reserves may also remain modest because the RBI has accumulated nearly **\$100 billion in forward forex sales**, requiring part of incoming foreign currency to meet these obligations.

Key Concerns

1. **Limited currency impact:** Unlike 2013, the scheme has not produced significant rupee appreciation.
2. **Limited reserve accumulation:** Foreign currency inflows may not translate proportionately into higher headline reserves.
3. **Cost to banks:** Although attractive, FCNR(B) deposits may be more expensive than alternative sources of foreign currency.

4. **Opportunity cost:** A sovereign foreign-currency bond could potentially have been issued at around **100 basis points lower cost** and could establish a sovereign dollar yield curve.
5. **External liability concerns:** Sovereign foreign-currency borrowing could expose the government balance sheet to exchange-rate and global financing risks.

Way Forward

1. India should continue using **FCNR(B) deposits as a temporary and flexible external financing instrument** during periods of global volatility.
2. The RBI should maintain adequate **foreign exchange buffers and prudent forward-position management** to absorb external shocks.
3. Banks should ensure that foreign currency liabilities mobilised through FCNR(B) deposits are deployed prudently and matched with suitable foreign currency assets.
4. India should deepen **international debt markets and external commercial borrowing frameworks** while maintaining safeguards against excessive foreign currency exposure.
5. Policymakers should continue prioritising **macroeconomic stability, export competitiveness and diversified capital inflows** rather than relying excessively on short-term foreign currency mobilisation.

Conclusion: The FCNR(B) scheme is a **prudent middle path**: it mobilises foreign currency without creating direct sovereign foreign-currency debt. Although its impact on the rupee and reserves may be weaker than in 2013, it remains valuable for strengthening external-sector resilience amid uncertain global capital flows.

Question: What is the significance of the FCNR(B) Deposit Scheme 2026 for India's external sector? Discuss its effectiveness in comparison with the 2013 experience and suggest a way forward.

Source: [Business Line](#)

India's LPG dependence on U.S.

UPSC Syllabus: Gs Paper 3- Indian economy and Infrastructure

Introduction

India, the world's second-largest LPG importer, is rapidly increasing its dependence on U.S. supplies as disruptions in the Strait of Hormuz affect traditional Gulf sources. About 60% of India's LPG requirement is imported, making supply security a major concern. The shift to U.S. cargoes has helped manage the immediate crisis, but it also raises concerns about freight costs, geopolitical dependence, currency risks and the need for a more diversified and resilient LPG supply system across the country.

India's Growing Dependence on U.S. LPG

1. **U.S. share rises sharply during 2026:** U.S. LPG supplied **73% of India's LPG imports in July 2026**, compared with 12% in January, showing a rapid sourcing shift.
2. **Long-term U.S. LPG agreement strengthens the shift:** State-owned refiners signed a **2.2 million-tonne one-year contract for 2026**, providing a structured alternative to disrupted Gulf supplies.

3. **Gulf suppliers lose their earlier dominance:** UAE, Saudi Arabia, Qatar and Kuwait supplied **5.3 million tonnes during January-July**, but their monthly supplies fell sharply, with Saudi Arabia sending no LPG in July.
4. **UAE and other Gulf shares decline sharply:** UAE's share fell from **37% in January to 8.2% in July**, while Kuwait supplied 33,000 tonnes and Qatar only 19,000 tonnes in July.
5. **India widens its supplier basket:** India also imported LPG from **Iran, Oman, Iraq, Argentina and Algeria** in July, reducing reliance on its traditional Gulf suppliers.

Why India Turned to the U.S.

1. **Gulf supply disruption creates an urgent import gap:** India's LPG imports from West Asia fell almost **85% between February and June 2026**, requiring faster procurement from alternative suppliers.
2. **Cooking gas availability takes priority over cost:** LPG shortages can have social and political consequences, making **uninterrupted supply** more important than short-term cost optimisation during the crisis.
3. **Gulf LPG prices rise sharply during the disruption:** Saudi Aramco's LPG benchmark increased from about **\$543 per tonne in February to \$790 in June**, making alternative supplies more attractive.
4. **U.S. cargoes provide an alternative supply route:** American LPG allows India to reduce dependence on Gulf supply routes and maintain availability when traditional sources face disruptions.
5. **U.S. LPG becomes competitive during the crisis:** Higher Gulf prices, freight disruptions and risk premia made U.S. cargoes attractive despite their **longer shipping distance and higher transport costs**.
6. **The shift supports both immediate and long-term energy security:** U.S. supplies help manage the present shortage while giving India another source against future **geopolitical and maritime disruptions**.

Risks and Economics of India's U.S. LPG Dependence

1. **Longer shipping raises U.S. LPG's landed cost:** U.S. LPG shipments take **25-35 days**, compared with 5-10 days from the Gulf, making freight a major disadvantage despite potentially lower production prices.
2. **U.S. LPG can lose its proximity pricing advantage:** Gulf LPG is usually cheaper at India's ports because shorter shipping distances reduce transport costs, although geopolitical disruption can temporarily reverse this advantage.
3. **U.S. dependence may create trade-related strategic risks:** Greater reliance on American energy could give the U.S. additional bargaining leverage in bilateral trade negotiations when energy becomes part of wider economic discussions.
4. **U.S. sanctions can affect India's wider energy transactions:** Financial sanctions and export controls may influence third-country transactions, creating risks when India's energy trade involves countries facing U.S. restrictions.

5. **Dollar strength can increase the rupee cost of LPG:** Higher U.S. interest rates can strengthen the dollar, making every imported LPG cargo more expensive for Indian buyers.
6. **OMC under-recoveries can rise during price shocks:** If domestic LPG prices remain controlled during global price increases and rupee depreciation, **Oil Marketing Companies (OMCs)** can face larger under-recoveries and fiscal pressure.

Way Forward

1. **Strengthen domestic LPG production:** India should increase domestic LPG output because consumption is growing faster than domestic production, keeping import dependence high.
2. **Retain higher production capacity permanently:** The increase in Oil Marketing Companies' daily LPG production from **34,000 MT to 55,000 MT** during the crisis should become sustained capacity rather than a temporary response.
3. **Diversify international suppliers:** India should expand sourcing beyond the Gulf and U.S. to reduce dependence on any single supplier or region.
4. **Explore Australia as an alternative supplier:** Australia lies outside the Strait of Hormuz and has a shorter route to India than the U.S., though its export volumes are smaller.
5. **Strengthen shipping capacity:** India should increase control over LPG carriers to support longer-distance imports and reduce dependence on chartered vessels.
6. **Build strategic LPG reserves:** India should maintain stronger reserves to absorb temporary import disruptions and ensure uninterrupted LPG availability during geopolitical crises.
7. **Develop multiple supply routes:** India should strengthen alternative routes and logistics networks so that disruption in one geographical region does not threaten national LPG security.

Conclusion

India's shift to U.S. LPG is both a crisis response and a strategic hedge against Gulf disruptions. However, replacing one major supplier with another cannot ensure lasting energy security. India needs higher domestic production, diversified suppliers, alternative routes, stronger shipping capacity and strategic reserves so that no single country or chokepoint can disrupt LPG availability or impose excessive economic costs.

Question for practice:

Examine India's growing dependence on U.S. LPG and the measures needed to strengthen its energy security.

Source: [The Hindu](#)

The missing 'reuse' principle in India's EV journey

UPSC Syllabus: Gs Paper 3- Infrastructure

Introduction

India's electric mobility transition is gaining momentum, but genuine circularity requires more than expanding electric vehicle adoption and recycling. The circular economy follows a hierarchy: **reduce resource use, reuse existing assets, and recycle materials only after useful life ends**. India has strengthened vehicle recycling, yet reuse remains less developed. The key issue is whether structurally sound older vehicles should be scrapped or instead extended through certified electric retrofitment.

India's Progress in Vehicle Recycling and Scrappage

1. **Strengthened regulatory framework:** The **Motor Vehicles (Registration and Functions of Vehicle Scrapping Facility) Rules, 2021** and Environment Protection (End-of-Life Vehicles) Rules, 2025 strengthen responsible vehicle recycling and material recovery.
2. **Expansion of formal facilities:** By January 2026, **129 Registered Vehicle Scrapping Facilities** were operating across **21 States and Union Territories**.
3. **Vehicles processed:** These facilities had processed **4.3 lakh vehicles** by January 2026, showing progress towards organised vehicle recycling and resource recovery.
4. **Role of scrappage:** Scrappage remains necessary for vehicles that have genuinely reached the end of their useful lives and require material recovery.
5. **Limit of recycling:** Recycling recovers materials after vehicles become waste, while circularity also requires preserving useful assets before disposal.

Why Reuse Matters in India's EV Transition

1. **Large existing vehicle base:** India's huge vehicle population makes existing vehicles an important resource during the country's transition towards electric mobility.
2. **Age does not mean uselessness:** An ageing vehicle may still have a strong chassis, intact body and considerable remaining service life.
3. **Risk of premature scrappage:** Treating every old vehicle as disposable can destroy useful material and functional value that remains within structurally sound vehicles.
4. **Electrification beyond new sales:** India's transition should consider integrating suitable existing vehicles into electrification rather than focusing only on selling new electric vehicles.
5. **Need for resource efficiency:** Extending existing vehicle life can support electrification while reducing unnecessary replacement and preserving resources already invested in those vehicles.

Missing Reuse Principle: Retrofitment and Vehicle Hierarchy

1. **Retrofitment as reuse:** Retrofitment replaces the internal-combustion engine and related components with an electric powertrain while retaining the vehicle's core structure and useful value.
2. **Why retrofitment matters:** A structurally sound vehicle with a polluting or inefficient powertrain can continue serving after certified conversion, instead of being prematurely scrapped.
3. **Environmental cost of scrappage:** A single two-wheeler generates about **90 kg of recyclable material** and **18 kg of landfill waste** when scrapped, showing the waste burden of disposal.
4. **Fleet-level waste burden:** Across approximately **30 crore vehicles**, a scrap-first approach could generate **2.7 crore tonnes of recyclable material** and **0.54 crore tonnes of landfill waste**.

5. **Condition-based vehicle hierarchy:** Policy should assess vehicles by their **safety, structural condition and remaining utility**, rather than treating age alone as the basis for disposal.
6. **Three appropriate pathways:** **Safe and efficient vehicles** should continue operating; **structurally sound but polluting vehicles** should be retrofitted; and **unsafe or severely damaged vehicles** should be scrapped and recycled.

Broader Benefits of a Reuse-Oriented EV Policy

1. **Lower material consumption:** Retrofitment can reduce demand for new materials by retaining structurally sound vehicle components instead of replacing complete vehicles.
2. **Reduced waste generation:** Extending vehicle life can prevent recyclable material and landfill waste from being generated through premature scrappage.
3. **Lower fossil-fuel dependence:** Converting suitable vehicles to electric powertrains can reduce emissions and fossil-fuel dependence while supporting transport electrification.
4. **Supports Sustainable Development Goal 12:** Retrofitment supports **Sustainable Development Goal 12** by promoting responsible consumption, resource efficiency and reduced waste.
5. **Better balance with recycling:** Reuse and recycling should work together, with retrofitment preserving useful assets and scrappage handling vehicles that have exhausted their value.
6. **More acceptable scrappage policy:** Condition-based assessment can make scrappage more acceptable because older vehicles would not be discarded indiscriminately.
7. **Authentic circularity:** Giving reuse a stronger policy role would ensure that recycling occurs only after a vehicle has genuinely reached the end of useful life.

Conclusion

India's EV transition should move beyond a **scrap-and-recycle approach** towards a condition-based circular model. Structurally sound vehicles should be given scope for certified retrofitment, while genuinely unsafe or exhausted vehicles should enter recycling. Giving reuse a stronger policy role can preserve embedded value, reduce waste and resource demand, support electrification, and make India's mobility transition more genuinely circular and sustainable.

Question for practice:

Discuss the importance of the 'reuse' principle in India's electric vehicle transition, with special reference to vehicle retrofitment and a condition-based vehicle hierarchy.

Source: [The Hindu](#)

Promise of gender equality must be upheld

Source: The post "Promise of gender equality must be upheld" has been created based on "Promise of gender equality must be upheld" published in "The Hindu" on 13th August 2026.

UPSC Syllabus: GS 2- Governance

Context: India's Independence was founded on the principle of **equality for all citizens**, irrespective of caste, creed, class, political allegiance or gender. The Constitution and the democratic system sought to transform this promise of equality into a lived reality for both women and men.

India's early commitment to gender equality

1. Despite the challenges of Partition, poverty, displacement and the integration of princely states, India adopted **universal adult franchise** from the beginning of its democratic journey.
2. In the first elections of 1952, every Indian woman and man above the age of 21 was eligible to vote.
3. The Election Commission faced the major challenge of registering nearly **80 million eligible women**, many of whom identified themselves as the daughter or wife of a male family member rather than by their own names.
4. The Election Commission persisted in registering women as **individual citizens in their own right**, reflecting the substantive commitment to electoral equality.
5. However, about **2.8 million women were eventually struck off the electoral rolls in 1952** because they could not be registered under their own names.
6. India has since made considerable progress, with the **gender gap in voting closing in 2019**, demonstrating greater political participation by women.

Emerging challenges to gender equality

1. The principle of women's independent identity is increasingly being challenged through **online abuse and doxxing**.
2. Several women who participated in the Jantar Mantar protests were reportedly doxxed, with their names, phone numbers, addresses and other personal details being circulated online.
3. They were subjected to **vile online abuse and threats of rape and murder**, demonstrating how women's public participation can expose them to gendered intimidation.
4. The response to women protesters also highlighted **gendered expectations**. Women who used abusive language were specifically criticised, while similar behaviour by male protesters received comparatively less attention.
5. Referring to women protesters as "**misguided daughters**" can be seen as a paternalistic approach that treats adult women as individuals requiring guidance rather than as equal political citizens.
6. Such responses risk shifting the focus from **democratic accountability and citizens' right to protest** towards the personal conduct of protesters.
7. The growing use of personal information against women in public life shows that the ownership of one's own identity, once central to achieving electoral equality, can itself become a tool of intimidation.

Way forward

1. The promise of gender equality must be upheld not merely in law but also in **political participation and public discourse**.
2. Women must be able to participate in protests, elections and public life without facing gender-specific abuse, threats or intimidation.
3. Democratic institutions and political leadership should promote **equal standards of accountability for men and women**.

4. Stronger protection of personal data and effective action against doxxing and online threats are necessary to protect women's participation in the digital age.
5. India must preserve the **hope of equality** that was central to the nation-building project at Independence.

Conclusion: India's journey from registering women as independent voters in 1952 to achieving near gender parity in voter participation reflects substantial progress. However, the emergence of gendered political expectations and online intimidation shows that **formal equality must continually be converted into substantive equality**. Protecting women's dignity, identity and freedom of political expression is essential to uphold the original promise of Independence.

Question: "The promise of gender equality made at the time of Independence is facing new challenges in the digital and political sphere." Discuss.

Source: [The Hindu](#)

Indian higher education's three challenges

Source: The post "Indian higher education's three challenges" has been created based on "Indian higher education's three challenges" published in "Indian Express" on 13th August 2026.

UPSC Syllabus: GS 2- Governance

Context: Despite the availability of considerable talent in science, technology, medicine, entrepreneurship and research, Indian higher education institutions have limited representation among the world's top universities. The challenges of higher education go beyond **funding, infrastructure and regulation** and can be understood through three dimensions: **intention, concept and execution**.

Challenge of Intention

1. Institutions must consistently prioritise **merit, integrity, fairness and long-term institutional interests**.
2. Appointments, promotions and admissions are sometimes influenced by considerations other than merit, which can weaken institutional credibility.
3. **Favouritism and dishonesty** can negatively influence students because they learn not only from classroom teaching but also from institutional practices.
4. Therefore, transparent and merit-based decision-making is essential for building academic excellence.

Challenge of Concept

1. Universities are **neither government departments nor corporate offices** and therefore require governance models suited to academic institutions.

2. Policies designed without understanding the distinctive nature of universities can become counterproductive.
3. For example, **one-year probation for faculty members** may be inadequate to properly assess their suitability.
4. Universities cannot develop responsible adults if students are treated merely as children; similarly, institutions cannot be expected to deliver excellence without adequate **autonomy and trust**.
5. Excessive control can discourage academic excellence, while autonomy must be accompanied by **accountability and responsibility**.
6. A uniform approach to faculty recruitment and promotion is unsuitable because institutions and disciplines differ significantly.
7. Policies should distinguish between **teaching-focused and research-focused institutions**, large and small institutions, and institutions operating in favourable and difficult geographical environments.
8. Faculty assessment should also recognise **disciplinary differences**, as the criteria suitable for sciences may not be equally applicable to liberal arts or performing arts.

Challenge of Execution

1. Even well-designed policies and good intentions can fail without **effective implementation**.
2. Building excellent institutions requires capable leadership, robust processes, continuous learning and the willingness to learn from mistakes.
3. A **culture driven by fear of failure discourages initiative**, whereas learning from failure encourages innovation and experimentation.
4. Academic leaders need systematic **coaching and mentoring** to develop the knowledge, skills and confidence required for effective implementation.
5. Good ideas do not automatically translate into results; leaders require institutional support to convert ideas into effective practices.

Other Systemic Issues

1. Higher education cannot improve through isolated **"islands of excellence"** while weaker institutions continue to struggle.
2. Policies designed primarily to address the weakest institutions should not necessarily be imposed uniformly across the entire higher education system.
3. The movement of faculty, non-teaching staff and students across institutions means that weaknesses in **one part** of the system can affect stronger institutions as well.

Way Forward

1. Higher education institutions should establish **transparent, merit-based and ethical governance systems**.
2. Universities should receive greater **institutional and academic autonomy**, along with clear accountability for outcomes.
3. Recruitment, promotion and evaluation systems should be **context- and discipline-specific** rather than uniformly applied.
4. Institutions should develop capable academic leaders through **systematic mentoring, coaching and professional development**.
5. Universities should promote a culture where **experimentation, innovation and learning from failure** are encouraged.

6. Government support through funding, infrastructure and regulation should be complemented by reforms in **institutional governance and leadership**.

Conclusion: India's higher education challenge is not merely a shortage of talent or resources. It is equally a challenge of **how institutions are governed, how problems are conceptualised and how solutions are executed**. Addressing **intention, concept and execution** together can help Indian universities move from isolated excellence towards a stronger and globally competitive higher education system.

Question: Indian higher education faces deeper institutional challenges beyond inadequate funding and infrastructure. Discuss the challenges of "intention, concept and execution" and suggest measures to improve the quality of higher education.

Source: [Indian Express](#)

How sustainable is India's E20 push?

UPSC Syllabus: Gs Paper 3-Indian economy and infrastructure

Introduction

India's E20 push seeks to reduce crude oil imports, save foreign exchange, support farmers and lower emissions through domestically produced ethanol. However, its sustainability depends on more than replacing petrol with ethanol. It must also address **water stress, feedstock availability, vehicle compatibility, fuel efficiency and consumer concerns** without shifting the environmental burden from imported oil to India's land and groundwater resources.

Evolution and Current Status of India's Ethanol Programme

1. **Two-decade policy journey:** India began its ethanol blending journey with a pilot programme in **2001**, followed by E5 in 2006. The **National Policy on Biofuels, 2018** widened the feedstock base beyond sugarcane, while the 2021 NITI Aayog roadmap supported higher blending.
2. **Steady rise in blending:** Ethanol blending increased from about **8.1% in 2020-21** to 10% in 2021-22, 12.1% in 2022-23, 14.6% in 2023-24 and 19.2% in 2024-25. It reached **20% during November 2025-June 2026**.
3. **Higher production capacity:** India now has around **500 distilleries** capable of producing about **18-20 billion litres** of ethanol. Oil companies have contracted to procure around **10.5 billion litres** during the current ethanol year.
4. **Diversified feedstock base:** For petrol blending, about **45%** of ethanol will come from maize, 22% from FCI rice, 16% from sugarcane juice, 10% from B-heavy molasses, 4.5% from damaged foodgrains and 1.1% from C-heavy molasses.
5. **Growing maize supply:** India's maize production increased by **45% in three years to 55 million tonnes in 2025-26**, with more than 20% being used for ethanol. There is currently no evidence of a surge in maize imports.

6. **Food and sugar availability:** Sugar diversion towards ethanol has not reduced sugar stocks, which were around **5 million tonnes in September 2025** and are expected to remain similar. However, crop losses, monsoon failure or foodgrain shortages could create pressure on ethanol feedstocks and increase the possibility of maize imports.

Benefits of the E20 Push

1. **Lower crude oil imports:** Ethanol blending has substituted around **32 million tonnes of crude oil imports** and saved nearly **₹2 lakh crore in foreign exchange**. Replacing 10 billion litres of petrol with ethanol would be equal to avoiding roughly one month of crude imports.
2. **Greater energy security:** Nearly **one-fifth of petrol** is now supplied through domestically produced ethanol. This reduces India's exposure to global crude prices, wars and international shipping disruptions.
3. **Support to farmers and industry:** Higher ethanol demand has encouraged investment in distilleries, storage and logistics while creating an additional market for agricultural feedstocks. It also supports the income of farmers linked to ethanol-producing crops.
4. **Lower carbon emissions:** E20 can reduce lifecycle carbon emissions by nearly **40%** and can also lower particulate emissions. Its higher octane value improves anti-knock performance and supports better combustion in suitable engines.
5. **Fuel-price stability:** During the West Asia war, crude oil prices increased by around **70%**, while petrol prices increased by only **7-8%**, according to the government. However, different tax and cost structures make it difficult to establish how much of this stability came directly from ethanol blending.
6. **Global acceptance:** Ethanol blending is already used in countries such as the **United States, Brazil, Japan, Canada and Thailand**. This shows that ethanol can form an important part of transport-fuel strategies when supported by suitable infrastructure and vehicle technology.

Concerns and Sustainability of the E20 Push

1. **Water sustainability:** Sugarcane-based ethanol has a water footprint of about **3,000 litres per litre of ethanol**, with most water used for cultivation rather than processing. Since sugarcane, maize and rice are water-intensive crops, expanding ethanol production in water-stressed regions can increase pressure on groundwater.
2. **Food security and feedstock availability:** Diversion of rice, sugarcane products and other food-related feedstocks towards ethanol could create pressure during **monsoon failure, crop losses or foodgrain shortages**. A sustainable policy therefore needs to balance fuel demand with food availability.
3. **Vehicle compatibility:** Vehicles built after **April 2023** were engineered for E20, but nearly **240 million older vehicles** were designed for E5 or E10. Concerns remain about the long-term effect of ethanol on older fuel-system components.

4. **Fuel efficiency:** Government and manufacturer studies suggest a **2-6% efficiency penalty** in some E10-designed vehicles, while some users report higher mileage losses. However, driving conditions, maintenance and driving habits also influence mileage.
5. **Evidence on vehicle damage:** Evidence on E20-related vehicle damage is mixed. Government and manufacturer data found no E20-linked engine damage in large numbers of serviced vehicles, while some independent mechanics and automotive communities report fuel-pump and injector problems.
6. **Consumer choice:** Consumers cannot easily choose between E10 and E20 at petrol pumps because maintaining separate fuel networks across the country would increase costs and complicate distribution. This makes clear information and transition support important.
7. **Cost to consumers:** E20 does not automatically mean cheaper petrol because ethanol and petrol have different cost and tax structures. Although ethanol is domestically produced and reduces exposure to crude-price shocks, its final price also includes transport, storage and taxes.

Lessons from Brazil: A Gradual and Integrated Transition

1. **Long-term policy support:** Brazil launched **Proálcool in 1975** after the oil crisis and used subsidies, financing and incentives to develop ethanol production. Its experience shows that a large ethanol system needs sustained policy support.
2. **Vehicle adaptation:** Brazil gradually developed ethanol-powered vehicles and introduced **flex-fuel vehicles in 2003**. These vehicles allow consumers to use petrol, ethanol or different mixtures according to availability and price.
3. **Stable blending system:** Brazil maintained ethanol demand through mandatory blending, moving from **22% in 1993 to 25% in 2007 and 27% in 2015**. RenovaBio, introduced in 2018, further created a long-term framework for biofuels and emission reduction.
4. **Consumer flexibility:** More than **85% of Brazilian vehicles are flex-fuel**, giving consumers greater choice. This differs from India, where the transition to E20 has happened faster and older vehicles remain a major part of the fleet.
5. **Lesson for India:** India can learn from Brazil by combining gradual blending, vehicle adaptation, stable policy, consumer information and long-term planning. A more transparent transition can improve public confidence while reducing adjustment problems.

Way Forward

1. **Improve water and farm efficiency:** Water-intensive crops should be managed carefully in water-stressed regions through **drip irrigation, better cultivation practices and higher crop productivity**. Ethanol production should increase through productivity gains rather than horizontal expansion of sugarcane cultivation.
2. **Strengthen industrial water management:** Sugar mills and distilleries should increase **water recycling, water-retention infrastructure and rainwater harvesting** to reduce pressure on local water resources.

3. **Diversify and secure feedstocks:** Ethanol production should use a balanced mix of maize, rice, sugarcane products and other permitted feedstocks. This can reduce dependence on a single crop while limiting pressure on food availability during supply shocks.
4. **Protect legacy vehicle owners:** Clear technical guidance and regular monitoring should continue for older E5/E10 vehicles. Concerns related to **mileage, fuel-system components and maintenance costs** should be addressed through evidence-based testing and manufacturer support.
5. **Provide greater consumer choice:** Consumers, especially owners of older E5/E10 vehicles, should have suitable fuel options, including **100% petrol where feasible**. The government should balance consumer needs with the cost of maintaining separate fuel options.
6. **Improve transparency and information:** Automobile manufacturers and fuel companies should provide clear information on **vehicle compatibility, expected mileage changes and maintenance requirements**. Better communication can reduce confusion and improve public confidence in E20.

Conclusion

E20 can reduce India's crude dependence, save foreign exchange, support farmers and lower emissions, making it an important energy-security measure. Yet its sustainability depends on managing pressure on **water, agricultural resources and consumers**. India should therefore combine ethanol expansion with water-efficient farming, diversified feedstocks, industrial recycling, consumer choice and transparent implementation to ensure a balanced and sustainable fuel transition.

Question for practice:

Evaluate the sustainability of India's E20 push in terms of energy security, environmental concerns and consumer interests.

Source: [The Hindu](#)

A Timely Reset for the Food Security Act

UPSC Syllabus: Gs Paper 3-Food security

Introduction

India's food-security debate is entering a new phase as the proposed **2026 National Food Security Act amendment** seeks to change the Antyodaya Anna Yojana (AAY) entitlement from **35 kg per household to 7 kg per person, capped at 35 kg**. While the proposal aims to reduce differences in per-person entitlements, it could reduce support for smaller and highly vulnerable households. The reform therefore needs to balance **equity, protection from hunger, adequate food access and the growing need for nutrition security**.

Antyodaya Anna Yojana: Protecting the Poorest

1. **Launch and purpose:** Antyodaya Anna Yojana (AAY) was launched in **2000** to provide special food support to the **poorest of the poor**. Its entitlement began at 25 kg per household per month and was later increased to **35 kg**.

2. **Special protection for vulnerable groups:** AAY was designed for households facing extreme economic insecurity. It covers groups such as **particularly vulnerable tribal groups (PVTGs), elderly couples, widows with small children and persons with disabilities without support.**
3. **Household-based entitlement:** The National Food Security Act (NFSA) moved Priority Households to per-person entitlements but retained the **35 kg household-based entitlement for AAY.** This helped protect small households that could have lost substantial support under a per-capita system.
4. **Food as economic security:** AAY grain is not only meant for direct consumption. Surplus grain can be exchanged or converted into other goods, making the entitlement an important **economic resource for poor households.**

What Does the 2026 Proposal Seek to Change?

1. **Shift to per-person entitlement:** The draft National Food Security (Amendment) Bill, 2026 proposes **7 kg of foodgrains per person per month** for AAY households. This would replace the existing fixed entitlement of 35 kg per household.
2. **Household ceiling:** The proposed entitlement would be **capped at 35 kg per household.** Therefore, households with five or more members would receive the same quantity as under the present system.
3. **Reduction for smaller households:** Households with fewer than five members would receive less than 35 kg. Their monthly reduction would range from **20% for four-member households to 80% for one-member households.**
4. **Reason for the change:** The proposal seeks to reduce differences in per-person entitlements among AAY households. However, the formula would not provide additional grain to any AAY household.
5. **No-loss issue:** Since retaining 35 kg as both the minimum and maximum would remove the practical effect of the per-person formula, support beyond 35 kg for larger or highly dependent households would need separate consideration.

Impact of the Proposed Amendment

1. **One-member households:** A one-member AAY household would receive **7 kg instead of 35 kg,** resulting in an **80% reduction** in its entitlement.
2. **Two- to four-member households:** Two-member households would receive 14 kg, three-member households 21 kg and four-member households 28 kg. Their losses would therefore be **60%, 40% and 20%,** respectively.
3. **Large share of small households:** Household Consumption Expenditure Survey (HCES) 2023-24 shows that **53% of AAY households have fewer than five members.** Hence, a large share of AAY households could face lower entitlements.
4. **Tamil Nadu example:** Tamil Nadu reports that **15.75 lakh of its 18.64 lakh AAY households,** or 84.5%, have fewer than five members. Its monthly AAY allocation could fall from **65,261 tonnes to 42,040 tonnes,** a reduction of about **35.6%.**

5. **Women living alone:** Nearly **one million women living alone** are in the AAY category. About **85% are widows and 74% are illiterate**, making them especially vulnerable to the proposed reduction.
6. **Potential foodgrain savings:** AAY allocation was 10 million tonnes in 2023-24, while offtake was 8.8 million tonnes. Based on household size, the proposed system could require about **7.6 million tonnes**, implying potential savings of around **2 million tonnes a year**.

Concerns and Challenges

1. **Vulnerability of small households:** Many small AAY households include **widows, elderly persons, persons with disabilities and people without an earning member**. Reducing their entitlement could weaken the special protection AAY was designed to provide.
2. **Reduced scope for dietary diversification:** Surplus grain can be **sold or exchanged for protein-rich foods**. Lower entitlements may reduce this scope for improving dietary diversity and nutrition.
3. **Equity versus vulnerability:** A uniform per-person entitlement may appear more equitable, but AAY was created to provide **special protection to highly vulnerable households**. Equalising quantities may therefore weaken its original purpose.
4. **Outdated beneficiary coverage:** The NFSA ceiling of **81.35 crore beneficiaries** is still based on Census 2011. Against the estimated 2025 population of **146.4 crore**, this covers only about **55.6%** of the population.
5. **AAY targeting errors:** AAY lists are old and may contain both inclusion and exclusion errors. Better-off households could be moved to the Priority category without cancelling ration cards, creating space for genuinely destitute households.
6. **Persistent nutrition gaps:** The share of children under five facing stunting fell from **35.5% to 29.3%**, but wasting and underweight changed little. Only about **15% of children aged 6-23 months** receive a minimally adequate diet.
7. **Double burden of malnutrition:** India faces undernutrition alongside rising non-communicable diseases. The INDIAB study estimated **101 million people with diabetes and 136 million with prediabetes in 2021**.
8. **Cereal-heavy diets:** The concern is not that foodgrains directly cause diabetes, but that a cereal-heavy food basket may reinforce diets already high in carbohydrates and low in protein-rich foods. A 2025 ICMR-INDIAB study found that carbohydrates supplied **62.3% of daily energy**, while protein supplied only **12%**.

Way Forward

1. **Protect existing entitlements:** The proposed formula should include an explicit **no-loss safeguard** so that no AAY household receives less than the existing 35 kg entitlement.
2. **Review larger household needs:** Support beyond 35 kg for larger or highly dependent households should be examined separately using household consumption, nutritional requirements and transparent fiscal costing.

3. **Update NFSA coverage:** The beneficiary ceiling should be recalculated when **Census 2027** figures become available. Updated population estimates and deprivation criteria can support a transparent review in the meantime.
4. **Expand genuine AAY coverage:** AAY lists should be regularly reviewed to identify excluded destitute households. Expanding the AAY quota can help ensure that vulnerable households are not left outside the programme.
5. **Diversify the food basket:** Cereal entitlements should be protected while States are supported to provide **pulses, local rice, wheat, millets and, where feasible, healthy edible oils**. Local production and consumption should guide procurement and supply.
6. **Improve dietary balance:** ICMR-NIN's 2024 guidelines recommend that cereals and millets provide **at most 45% of energy**, with greater contributions from pulses, beans, milk, nuts, vegetables, fruits and other protein sources.
7. **Integrate food and health systems:** The PDS should work with **Anganwadi services and PM POSHAN**, including eggs, milk or suitable alternatives where locally feasible. Fair price shops can provide simple nutrition information and referrals to health services.
8. **Protect access and test reforms:** Digital systems should retain offline and assisted options, and authentication failure should not deny ration access. New dietary measures should first be tested through State pilots covering diet diversity, anaemia, glycaemic risk, spending, wastage, exclusion and supply feasibility.

Conclusion:

India's food-security reform should **protect the poorest from hunger without reducing their existing entitlements**. A **no-loss AAY safeguard, updated beneficiary coverage, better targeting and separately funded dietary diversification** can strengthen the National Food Security Act. The ultimate goal should be to move beyond cereal security towards **broader food and nutrition security**, while ensuring vulnerable households receive adequate support with dignity.

Question for practice:

Examine the need to reform India's food security framework while protecting vulnerable households and promoting nutrition security.

Source: [The Hindu](#)

The constitutional limits on arrest

Source: The post "The constitutional limits on arrest" has been created based on "The constitutional limits on arrest" published in "The Hindu" on 14th August 2026.

UPSC Syllabus: GS 2- Governance

Context: Arrest and detention involve the exercise of coercive State power and directly affect the personal liberty of an individual. Articles 21 and 22 of the Constitution, along with judicial guidelines, seek to prevent arbitrary exercise of this power and ensure procedural fairness.

Constitutional and Legal Safeguards

1. **Article 21 protects personal liberty:** Any deprivation of personal liberty must follow a constitutionally valid and fair procedure. Arbitrary arrest can therefore violate the protection of personal liberty.
2. **Article 22(1) requires communication of grounds of arrest:** An arrested person must be properly and meaningfully informed of the grounds of arrest so that he can understand why his liberty has been curtailed.
3. **Direct communication is necessary:** Merely informing the relatives of the arrested person or maintaining ambiguous records does not satisfy the constitutional requirement. The grounds must be communicated directly to the arrested person.
4. **Right to legal assistance:** Article 22 provides an arrested person the right to consult and be defended by a legal practitioner as soon as possible.
5. **Production before a magistrate:** Under Article 22(2), an arrested person must be produced before the nearest magistrate within 24 hours of arrest, excluding the time necessary for the journey.
6. **Arrest memo and time of arrest:** The arrest memo must contain the time of arrest. This requirement strengthens accountability and helps ensure compliance with the 24-hour rule.
7. **Safeguards under criminal procedure law:** The provisions relating to arrest under the CrPC and the corresponding provisions of the BNSS, 2023, provide a legal framework to regulate police powers of arrest.

Judicial Safeguards

1. **Vihaan Kumar v. State of Haryana (2025):** The Supreme Court held that every arrested person must be properly and meaningfully informed of the grounds of arrest. Failure to do so amounts to a violation of Article 22(1).
2. **Effect of unconstitutional arrest:** The Court held that where the initial arrest itself is unconstitutional, subsequent remand orders would also be rendered illegal.
3. **Protection of dignity in custody:** The Supreme Court has condemned degrading treatment of persons in custody and reaffirmed the protection of dignity under Article 21.
4. **Arnesh Kumar v. State of Bihar (2014):** The Supreme Court issued guidelines to prevent unnecessary arrests and the misuse of criminal law. Arrest should not become a tool for harassment.
5. **Arrest is not automatic:** In offences punishable with imprisonment of less than seven years, the police must examine whether arrest is actually necessary. The mere existence of the power to arrest does not justify routine arrest.
6. **Protection against abuse of legal process:** Frivolous or false criminal proceedings and unnecessary arrests can damage a person's reputation and liberty and may amount to an abuse of the legal process.

Arrest and Detention

1. **Arrest** refers to formal police custody in connection with an alleged offence, while **detention** refers to holding a person for a specific purpose and may include preventive detention.
2. **Cognisable offences** such as murder and rape generally permit arrest without a warrant, whereas in **non-cognisable offences**, a warrant is generally required.

3. Article 22 provides safeguards against ordinary arrest and detention, while **preventive detention** is treated separately under the Constitution and is subject to a different set of safeguards.

Constitutional Philosophy

1. The protection of personal liberty under Article 21 is closely connected with **Articles 14 and 19**, forming the constitutional **Golden Triangle** explained in *Maneka Gandhi v. Union of India (1978)*.
2. **Article 14** acts as a safeguard against arbitrariness, while Article 19 contributes to the protection of procedural freedom.
3. Therefore, arbitrary arrest or detention can undermine the constitutional commitment to **natural justice, personal liberty and democratic governance**.

Conclusion: The power of arrest is necessary for maintaining law and order, but it must not become an instrument of harassment or arbitrary State action. Articles 21 and 22, statutory safeguards and judicial decisions such as *Armesh Kumar* and *Vihaan Kumar* seek to ensure that the State's authority is exercised with **necessity, accountability, dignity and procedural fairness**, thereby maintaining the constitutional balance between State power and individual liberty.

Question: "The Constitution seeks to maintain a delicate balance between the authority of the State and the personal liberty of citizens in matters of arrest and detention." Discuss the constitutional and judicial safeguards against arbitrary arrest in India.

Source: [The Hindu](#)

Europe's AI Rules May Become India's Opportunity

UPSC Syllabus: Gs Paper 2- Effect of policies and politics of developed and developing countries on India's interests

Introduction

India is considering standalone AI legislation as the European Union's AI Act shapes global AI regulation. The Act follows a risk-based approach and can affect Indian firms whose AI systems enter the European market or whose outputs are used there. It creates new compliance challenges, especially when high-risk systems are modified after approval. At the same time, these requirements can create opportunities for India in AI assurance, professional services, conformity assessment and technology-enabled regulatory support.

EU AI Act: From AI Innovation to Risk-Based Regulation

1. **Risk-Based Regulation:** It does not ban AI as a whole. It classifies AI uses by risk and applies different obligations to prohibited, high-risk, limited-risk and general-purpose AI systems.
2. **Prohibited AI Uses:** Social scoring, emotion recognition in workplaces or classrooms, and untargeted facial-image scraping are prohibited. These prohibitions have applied since **February 2, 2025**.
3. **General-Purpose AI Rules:** Providers of General-Purpose AI (GPAI) models must provide training-data summaries, follow EU copyright rules and share technical documentation with downstream

developers. Models with systemic risks face evaluations, red-teaming and cybersecurity requirements.

4. **Phased Enforcement:** GPAI obligations have applied since **August 2, 2025**. High-risk systems in areas such as education and employment are scheduled for **December 2, 2027**, while high-risk AI embedded in regulated products is scheduled for **August 2, 2028**.
5. **Strong Penalties:** Penalties can reach **7% of global turnover for prohibited uses, 3% for failures in high-risk compliance and 1% for misleading information** supplied to regulators. This makes AI compliance a direct business cost.

Why the EU Framework Matters for Indian Technology Companies

1. **Extra-Territorial Reach:** The EU AI Act can apply when an AI system is placed on the EU market or when its output is used in the EU. Indian firms serving European clients therefore need to consider these requirements.
2. **Supply-Chain Responsibility:** Compliance duties extend across developers, importers, distributors and deployers. Requirements such as **record-keeping and human oversight** can therefore affect different participants in the AI supply chain.
3. **High-Risk Conformity Assessment:** High-risk AI systems used for sensitive decisions such as **hiring and education** must undergo conformity assessment. Most providers can assess themselves, while a narrow group of systems, mainly certain biometric tools, requires independent assessment.
4. **Substantial Modification:** A fresh conformity assessment is required when an AI system is substantially modified in an unanticipated way that affects compliance or changes its intended purpose. A change already considered during the original assessment does not normally trigger a fresh assessment.
5. **Post-Approval Challenge:** This can create difficulties for Indian technology firms because their services often involve **continuous and client-specific changes**. Bespoke AI solutions may find it harder to show that future changes remain within the original assessment.
6. **Liability for Modification:** A firm that substantially modifies another company's high-risk AI system may be treated as its provider. It can then become responsible for the regulatory obligations attached to that system.
7. **Impact on Business Models:** Standardised AI products can plan future upgrades during the initial assessment, while firms offering highly customised services may face greater compliance uncertainty.

Turning EU AI Compliance into India's Strategic Opportunity

1. **Growing Compliance Demand:** High-risk AI compliance requires governance measures, technical documentation and testing regimes at scale. This can create sustained demand for specialised compliance services.

2. **Professional Services Opportunity:** Indian professional-services firms already have experience in data protection, financial regulation and technical assurance. They can extend this capability to AI governance and compliance.
3. **AI Testing and Assurance:** The need for testing, documentation and conformity assessment can create a market for Indian firms providing AI auditing, technical assurance and regulatory support.
4. **Regulatory Expertise as an Export:** Indian firms can provide legal and technical expertise to companies seeking compliance with EU AI rules. This can turn Europe's regulatory requirements into a new services-export opportunity.
5. **Third-Country Recognition:** The EU framework allows conformity-assessment bodies in third countries to be recognised when an appropriate agreement exists and they meet the required conditions. This creates a possibility for qualified Indian bodies to enter the EU conformity-assessment ecosystem.
6. **India-EU FTA as a Gateway:** The **India-EU Free Trade Agreement**, concluded in January 2026, includes regulatory cooperation provisions. India can use this framework to seek institutional arrangements for greater participation in the EU's AI compliance ecosystem.
7. **Beyond IT Services:** With suitable recognition, India could move beyond providing technology and compliance support to performing recognised conformity-assessment functions. This would deepen India's role in the global AI regulatory ecosystem.
8. **Strategic Advantage:** India has the technology, legal and professional capacity to convert Europe's compliance requirements into an export opportunity. The challenge is to build the institutional arrangements needed to capture this opportunity.

Lessons for India's Own AI Governance Framework

1. **Regulate AI Uses by Risk:** India should regulate AI according to the risks created by particular uses rather than treating every AI technology in the same way. This can protect users without unnecessarily restricting innovation.
2. **Government AI Inventories:** Government and regulated sectors should maintain public inventories of AI systems they use. This would make important AI deployments easier to monitor.
3. **High-Risk Conformity Checks:** Finance, healthcare, mobility and welfare should have risk-based conformity assessments before high-risk AI systems are deployed. Sensitive systems should meet clear requirements before affecting people.
4. **Audit Trails and Explainability:** AI systems deciding eligibility, pricing or policing should maintain audit trails and provide appropriate explanations. This can make automated decisions easier to review.
5. **Sectoral AI Duty of Care:** The Reserve Bank of India (RBI), Insurance Regulatory and Development Authority of India (IRDAI), Securities and Exchange Board of India (SEBI), and Telecom Regulatory Authority of India (TRAI) should include an AI duty of care in their licensing and regulatory conditions. Fundamental-rights impact assessments should also apply to high-risk AI deployments.

Way Forward

1. **National AI Governance Mechanism:** India needs a coordinated institutional mechanism that brings regulators, industry and civil society together. A national AI office could coordinate this framework.
2. **Common Risk Taxonomy:** India should develop clear risk categories and update them as AI systems evolve. This would improve consistency.
3. **Regulatory Sandboxes:** Controlled sandboxes can allow firms to test AI systems under regulatory supervision before wider deployment. They can support innovation while retaining safeguards.
4. **Global Regulatory Alignment:** India should learn from the EU framework while adapting it to Indian conditions. Aligned standards can reduce compliance differences and help Indian companies serve international markets.
5. **Strategic Regulatory Capacity:** India should treat AI governance as an economic capability, not only a compliance requirement. Expertise in testing, documentation, auditing and conformity assessment can strengthen India's global AI services position.

Conclusion

The EU AI Act creates both regulatory pressure and economic opportunity for India. Indian firms may face higher compliance requirements, particularly when AI systems are continuously modified. However, India can use its technology and professional-services capabilities to provide AI compliance services and pursue greater participation in the EU conformity ecosystem. A risk-based domestic framework can protect users while supporting innovation and global competitiveness.

Question for practice:

Examine how Europe's AI rules can create both challenges and opportunities for India's technology sector.

Source: [The Hindu](#)

Nuclear energy's import dilemma

Source: The post "Nuclear energy's import dilemma" has been created based on "Nuclear energy's import dilemma" published in "Business Line" on 17th July 2026.

UPSC Syllabus: GS-2- Governance

Context: India has around **8.8 GW of installed nuclear capacity**, supplying about 3% of its electricity. The government aims to increase nuclear capacity to **100 GW by 2047** to reduce dependence on coal and support the net-zero target of 2070.

Challenges of Uranium Dependence

1. Achieving 100 GW of nuclear capacity would require around **18,000–20,000 tonnes of uranium annually**.

2. Global uranium production was about **62,000 tonnes in 2025**, meaning India could consume nearly one-third of current global production at the 100 GW level.
3. Although India has about **4.42 lakh tonnes of uranium reserves**, most deposits are low-grade and expensive to extract and refine compared with imports.
4. Past uranium shortages reduced the **Plant Load Factor (PLF)** of Indian nuclear plants, which fell below 60% and reached around 34–40% in early 2009.
5. India's uranium imports are relatively concentrated, particularly from **Kazakhstan, Uzbekistan and Canada**, creating supply and geopolitical risks.
6. Kazakhstan produces over **40% of global uranium output** and holds around 14% of global uranium resources, making excessive dependence on it a strategic vulnerability.
7. Thus, uranium dependence could replace dependence on imported fossil fuels with dependence on imported nuclear fuel.

Thorium as a Long-Term Solution

1. India possesses around **25% of the world's thorium reserves**, making thorium important for long-term energy self-reliance.
2. Thorium is not naturally fissile and must be converted into **U-233** through a reactor-based fuel cycle.
3. India's **three-stage nuclear programme** aims to exploit this potential through fast breeder reactors.
4. The **500 MW Prototype Fast Breeder Reactor (PFBR) at Kalpakkam achieved first criticality in April 2026**, marking an important milestone.
5. However, large-scale thorium utilisation remains constrained by the pace of building fast breeder reactors and achieving commercial maturity.

Way Forward

1. India should create a **strategic uranium reserve** to protect nuclear power generation from supply disruptions.
2. It should secure **binding long-term uranium supply agreements** with multiple countries to diversify sources.
3. India should acquire **equity stakes in overseas uranium mines** to gain greater control over supplies.
4. Funding for the **fast-breeder and thorium programmes** should be protected so that short-term nuclear expansion does not undermine long-term fuel independence.
5. India should strengthen R&D for **cheaper alternatives to lithium-ion batteries** and economical cellulosic ethanol to diversify its clean-energy options.
6. Nuclear energy should be integrated with solar, wind, hydro and other clean sources to create a diversified energy mix.

Conclusion: Nuclear power can play a crucial role in India's **energy security, clean-energy transition and Viksit Bharat 2047** goals. However, until the thorium-based fuel cycle becomes commercially viable, **uranium security must receive strategic importance comparable to crude-oil security**. A carefully sequenced transition can reduce both fossil-fuel dependence and long-term nuclear-fuel vulnerability.

Question: India's expansion of nuclear power is essential for achieving its energy security and net-zero goals, but it may also create dependence on imported uranium. Discuss the challenges and suggest a way forward.

Source: [Business Line](#)

India's quiet container transformation

Source: The post "India's quiet container transformation" has been created based on "India's quiet container transformation" published in "Business Line" on 17th July 2026.

UPSC Syllabus: GS-2- Governance

Context: India's first internationally compliant containers manufactured domestically, followed by a repeat order of nearly 1,000 containers from Maersk, marks an important step towards reducing dependence on imports and strengthening India's logistics ecosystem.

Significance of Container Manufacturing

1. Standardised containers have **reduced logistics costs, cargo losses and handling time** and enabled seamless movement across ships, railways and trucks.
2. Containers are essential for **global value chains (GVCs)** and India's growing trade through FTAs and improved multimodal connectivity.
3. The COVID-19 pandemic exposed the strategic importance of containers when shortages caused **higher freight rates and supply-chain disruptions**.
4. China produces **over 90% of global containers**, creating risks from excessive geographical concentration.
5. Domestic production can develop an ecosystem covering **Corten steel, fittings, flooring, coatings, locking systems, testing and certification**.

Challenges

1. Indian containers currently have a **cost disadvantage** compared with Chinese containers due to differences in scale, automation, supplier networks and financing.
2. Manufacturing alone is insufficient without **leasing, financing, insurance, repair, maintenance, refurbishment and recycling** facilities.
3. India needs greater demand from **shipping lines, exporters, railways, ICDs, CFSs and logistics parks** to achieve economies of scale.
4. Specialised containers such as **reefers, tank containers, high-cube, collapsible and smart containers** also need to be developed.

Way Forward: Creating a 'Container Economy'

1. India should increase **merchandise exports, containerised imports and transshipment volumes** to generate sustained container demand.
2. Dedicated manufacturing clusters should be developed near **ports, dry ports, industrial corridors and Dedicated Freight Corridors**, integrating component suppliers and testing facilities.
3. A competitive **container finance ecosystem** should be developed through leasing companies, insurance providers, maritime banks and investment funds.
4. **GIFT City** can become a hub for container leasing, structured finance and maritime insurance.
5. India should establish a complete **container lifecycle ecosystem** covering repair, refurbishment, remanufacturing, recycling and digital asset management.
6. Major ports such as **Vizhinjam, Mundra and JNPT**, along with the proposed **Nicobar transshipment hub**, can support container inspection, maintenance and repositioning.

7. India should promote **smart containers, reefers, tank containers and IoT-enabled tracking** to compete through technology and specialisation.
8. FTAs, the **China-plus-one strategy and trusted geopolitical partnerships** should be used to integrate Indian containers into global shipping and leasing networks.

Conclusion: India's first domestically manufactured container is only the beginning. The real opportunity lies in creating a **globally competitive container economy** that can manufacture, finance, lease, track, repair, reuse and export containers, thereby strengthening **trade competitiveness, maritime resilience and the Vision 2047 goal of becoming a global logistics and manufacturing hub.**

Question: India's entry into international-standard container manufacturing can strengthen its logistics and trade competitiveness. Discuss the opportunities and challenges in developing a complete 'container economy' in India.

Source: [Business Line](#)

AI in Healthcare

UPSC Syllabus: Gs Paper 3- Science and technology

Introduction

Modern healthcare has vast medical knowledge, but shortages of clinicians, uneven specialist distribution and rising disease burdens limit its reach. **Artificial Intelligence (AI)** can extend medical expertise through faster analysis, better decision-making and automated tasks. Its growing use is shifting healthcare towards routine adoption across **diagnosis, treatment and hospital operations**, while raising concerns about **reliability, accountability, privacy and equitable access.**

Growing Role of AI in Healthcare

1. **Shift from experimentation to routine use:** AI is moving from innovation teams into **consultations, diagnostics and hospital operations**, making dependable everyday use an important priority.
2. **Expansion of AI-enabled medical devices:** In **January 2025**, the **U.S. Food and Drug Administration (FDA)** reported more than **1,000 authorised AI-enabled medical devices**, including tools for radiology and cardiology.
3. **Growing adoption among healthcare professionals:** An American Medical Association survey released in 2025 found that 66% of physicians used AI in their practice in 2024, up from 38% in 2023.
4. **Rise of advanced AI technologies:** Healthcare has moved from rule-based expert systems towards **Machine Learning, Deep Learning, Natural Language Processing and Generative AI** for increasingly complex tasks.
5. **Rapid market growth:** The global healthcare AI market was valued at **\$11 billion in 2021** and is projected to approach **\$187 billion by 2030**, indicating accelerating adoption.

Applications of AI in Healthcare

1. **AI in diagnosis and medical imaging:** AI can rapidly analyse **X-rays, magnetic resonance imaging and other scans**, supporting the detection of cancers, heart conditions and other diseases.
2. **Rare-disease detection:** Facial-analysis tools can flag possible **genetic disorders** that may otherwise remain undiagnosed for years because clinicians rarely encounter such conditions.
3. **Predictive and preventive healthcare:** AI analyses medical histories and current health information to identify potential risks, allowing healthcare teams to act before serious complications develop.
4. **Personalised and precision medicine:** Machine Learning identifies patient-specific patterns and can support treatment choices, helping doctors move towards **more individualised care**.
5. **Natural Language Processing in healthcare:** NLP can extract diagnoses, treatments and other useful information from **unstructured clinical notes**, improving the handling of complex medical records.
6. **Clinical decision support:** Rule-based and algorithmic systems can assist clinicians with diagnosis and treatment decisions, extending the use of AI beyond simple data analysis.
7. **Drug discovery and clinical research:** AI can examine large biological datasets and identify promising compounds, helping researchers narrow potential drug candidates more quickly than traditional approaches.
8. **Administrative automation:** AI can automate **data entry, appointment scheduling, claims processing and documentation**, reducing routine manual work within healthcare organisations.

Economic and Healthcare Benefits

1. **Better utilisation of existing capacity:** AI can prioritise radiology scans, identify deteriorating patients and support complex cases, allowing existing clinical resources to manage rising workloads.
2. **Reduction in healthcare costs:** A **January 2026 McKinsey analysis** estimated that AI could reduce healthcare revenue-cycle **cost-to-collect by 30% to 60%**.
3. **Reduced clinician workload:** Automating documentation and repetitive activities can reduce **staff fatigue** and allow healthcare professionals to devote more time to patient-related responsibilities.
4. **Creation of scalable healthcare services:** Remote monitoring, virtual specialist support and community-level diagnostics can make services available at a scale that was previously difficult to achieve.
5. **Continuous management of chronic diseases:** AI-supported monitoring can extend care beyond hospital discharge and support patients managing **diabetes, cardiac disease and cancer** over longer periods.
6. **Reduced preventable deterioration:** Remote monitoring and risk-based programmes can help care teams identify patients requiring attention, potentially reducing avoidable complications and hospitalisation.

AI and Healthcare Transformation in India

1. **Addressing specialist concentration:** Specialist care remains concentrated in larger cities, creating an opportunity for AI to extend medical expertise towards **smaller hospitals and communities**.
2. **Managing rising healthcare demand:** Indian hospitals are handling increasing patient volumes while clinical capacity cannot always expand at the same pace, strengthening the need for efficient technology.
3. **Expansion of digital health infrastructure:** By **May 2026, more than 100 crore health records** had been linked to **Ayushman Bharat Health Accounts**, twice the February 2025 figure.
4. **Improving hospital processes:** **Ayushman Bharat Digital Mission (ABDM) Scan and Share** reduced outpatient registration waits at participating hospitals from about **one hour to two-to-five minutes**.
5. **AI-based screening and diagnostics:** Telangana is piloting AI-based screening for **oral, breast and cervical cancers**, partly to address radiologist shortages and improve early detection.
6. **Strengthening human capital:** Better health, longevity and productivity can strengthen India's human capital, making healthcare an important part of **long-term economic development**.

Emerging Frontiers of AI in Healthcare and Medical Science

1. **From chatbots to agentic AI:** AI is progressing from basic chatbots towards **agentic systems** capable of performing tasks and managing increasingly complex activities with greater autonomy.
2. **Advanced medical reasoning:** More capable AI systems can analyse complex diagnostic problems rapidly, showing potential to support tasks traditionally dependent on highly specialised medical expertise.
3. **AI-led drug design:** Emerging systems can generate molecules and explore vast molecular spaces, expanding the possibilities available to researchers during drug development.
4. **AI in synthetic biology and scientific discovery:** AI is helping design **gene circuits, predict biological properties and model complex systems**, allowing researchers to investigate problems beyond conventional approaches.
5. **Embodied intelligence and human-AI collaboration:** Robots, multisensory systems and human-AI teams are extending healthcare AI into physical and interactive settings, while combining machine capabilities with human judgement.

Challenges of AI in Healthcare

1. **Clinical reliability and real-world validation:** Strong performance at launch does not guarantee continued accuracy, making **continuous real-world evaluation** necessary for safe clinical use.
2. **Bias and lack of representative data:** Differences across populations, diseases and healthcare settings can affect AI performance and create risks of **biased or unequal outcomes**.

3. **Privacy and data governance:** Growing use of digital medical information requires strong safeguards for **privacy, security and responsible management of health data**.
4. **Integration with existing healthcare systems:** Standalone AI tools can be difficult to connect with **Electronic Health Records (EHRs)** and established clinical workflows.
5. **Patient and clinician trust:** Patients and doctors may remain cautious about AI-assisted care, while **transparency and clear explanations** can improve acceptance.
6. **Liability and accountability:** Greater AI involvement in clinical decisions raises questions about responsibility when an AI-supported recommendation causes harm to a patient.
7. **Regulatory and adoption barriers:** Healthcare organisations must address regulation, staff training, clinician acceptance, financial viability and real-world validation before AI can be adopted widely.

Way Forward

1. **Use AI selectively:** Healthcare should adopt AI where it can reduce delays, improve decisions or expand appropriate care rather than using technology everywhere.
2. **Maintain human oversight:** Doctors and healthcare teams should retain appropriate control over important clinical decisions, particularly where **AI errors can directly affect patient safety**.
3. **Strengthen clinical validation:** AI systems should undergo rigorous testing in real-world settings because initial performance alone cannot establish long-term reliability.
4. **Improve data quality:** Representative and reliable datasets are essential to reduce bias and ensure that AI performs across different populations and healthcare settings.
5. **Build interoperable systems:** AI should integrate with existing digital health platforms and EHRs instead of remaining isolated within individual applications.
6. **Create clear accountability:** Regulations should clearly address privacy, transparency, liability, bias and responsibility while allowing useful healthcare innovation to develop.
7. **Ensure inclusive adoption:** India should extend AI-supported healthcare towards rural and underserved communities so technological progress does not remain concentrated in larger health systems.

Conclusion

AI can extend medical expertise, improve healthcare efficiency and support earlier intervention, but technology alone cannot solve healthcare gaps. **India needs responsible, evidence-based and inclusive AI** that works with human expertise. Its success should be judged by **better patient outcomes, wider access, improved health, longevity and human well-being**, rather than by the number of AI systems deployed.

Question for practice:

Examine the role of Artificial Intelligence in transforming healthcare, particularly in improving accessibility, efficiency and patient outcomes.

Source: [The Hindu](#)

The Federal Dilemma of Delimitation

UPSC Syllabus: Gs Paper 2- issues and challenges pertaining to the federal structure.

Introduction

Delimitation is not merely a process of redrawing constituencies; it can reshape India's democratic representation and federal balance. The central challenge is to reconcile fair representation based on population with the political interests of States that controlled population growth. The debate also concerns the size of the Lok Sabha, women's reservation, the role of the Rajya Sabha, and the need for a durable constitutional framework that protects both democratic equality and cooperative federalism.

Understanding Delimitation and the Constitutional Framework

1. **Meaning and purpose:** Delimitation fixes the number of seats and boundaries of territorial constituencies for the Lok Sabha and State Assemblies through a Delimitation Commission created by Parliament.
2. **Principle of equal representation:** Article 81(2) seeks a broadly similar population-to-seat ratio across States, reflecting the democratic principle of **one person, one vote, one value**.
3. **1971 population basis:** The Lok Sabha's 543 seats (maximum of 550 seats) were fixed using the 1971 Census, when India's population was **54.8 crore**, giving roughly **10.1 lakh people per constituency**.
4. **Population-control incentive:** The seat freeze was intended to ensure that States pursuing population control did not lose parliamentary representation because their populations grew more slowly.
5. **Constitutional freeze:** The **42nd Constitutional Amendment** froze State-wise seat allocation, while the **84th Amendment** extended the freeze until the first Census after 2026.
6. **Women's reservation:** The **106th Constitutional Amendment, 2023** provided one-third reservation for women in the Lok Sabha and State Assemblies, linked to delimitation based on the Census after 2026.

Why Has Delimitation Become a Federal Dilemma?

1. **Uneven population growth:** Uttar Pradesh, Bihar, Madhya Pradesh and Rajasthan experienced greater population growth, while Kerala, Tamil Nadu, Karnataka and Andhra Pradesh recorded comparatively slower growth.
2. **Representation gap:** Existing seat distribution no longer fully reflects projected population differences, creating a democratic concern because citizens in populous States may have fewer MPs relative to their population.
3. **Federal disadvantage:** Reallocation based mainly on present population could increase the political weight of large northern States while relatively disadvantaging southern, smaller northern and northeastern States.
4. **Cost of policy success:** States that achieved better population control may lose political significance despite following a national policy encouraged by the Union for decades.

5. **Trust between Union and States:** The debate is therefore about more than regional rivalry; it concerns whether States can trust national policies without fearing a later loss of political influence.

Democratic Equality vs Federal Fairness

1. **Democratic claim:** Fast-growing States have a legitimate demand for representation that reflects their larger populations, making periodic adjustment difficult to avoid permanently.
2. **Federal claim:** India is also a Union of States, so political representation must protect the meaningful participation and voice of constituent States. This is important because parliamentary strength influences national decision-making beyond constituency-level representation.
3. **Basic Structure:** Federalism is part of the Constitution's **Basic Structure**, making the federal balance an important constitutional consideration during delimitation.
4. **Population is not the only factor:** The central question is whether population alone should determine political power when States have different demographic histories and policy outcomes.
5. **Relative political weight:** Seat share affects government formation, legislative priorities, coalition arithmetic and political attention, making relative representation more important than simply increasing absolute seats.
6. **Cooperative federalism:** States must trust that achieving national objectives will not later become a reason for losing their political voice within the Union.

Arguments in Favour of Increasing Lok Sabha Seats

1. **Accommodating population growth:** Increasing the House can provide additional representation to growing populations without removing the existing seats of other States.
2. **Pro-rata expansion:** Increasing seats proportionately can preserve existing State shares while giving growing populations additional representation without directly taking seats away from other States.
3. **Women's reservation:** An enlarged House could make one-third women's reservation easier, with about **272 additional seats for women** in a House of around **816 members**.
4. **2026 legislative proposal:** The Constitution (131st Amendment) Bill, 2026, proposed raising the Lok Sabha's constitutional maximum from **550 to 850**, but it was **negatived by the Lok Sabha**, so the proposed expansion did not take effect.
5. **Political accommodation:** Expansion can offer a numerical compromise by giving growing populations more representation while avoiding an immediate reduction in other States' existing seats.
6. **Avoiding direct displacement:** Adding seats rather than reallocating existing ones can reduce immediate political resistance because current State-wise representation would not be directly taken away.

Concerns and Challenges of a Larger Lok Sabha

1. **Rajya Sabha imbalance:** Increasing Lok Sabha seats by 50% without changing the Rajya Sabha could shift the present **2.2:1 ratio to about 3.3:1**, weakening the balance between the two Houses.
2. **Weaker federal check:** A stronger numerical advantage for the Lok Sabha could reduce the Rajya Sabha's effectiveness as a check on legislation and federal interests.
3. **Joint sitting risk:** Joint sittings have been used only **three times since Independence**, but a larger Lok Sabha could increase their political importance during disagreements between the Houses.
4. **Less deliberation:** With Parliament sitting for only around **60 days a year**, a much larger House could leave MPs with less meaningful time to raise issues and debate legislation.
5. **Higher public cost:** More MPs would increase expenditure on parliamentary functioning and schemes such as the **Members of Parliament Local Area Development Scheme (MPLADS)**.
6. **Share remains central:** Proportional expansion may preserve current percentages initially, but it does not resolve future disputes if population remains the sole basis for representation.
7. **Permanent imbalance risk:** Repeated population-based exercises could gradually create winners and losers, making a larger House only a temporary accommodation.

Lessons from Other Federations

1. **United States model:** The United States combines a population-based House of Representatives with a Senate giving every State equal representation, creating a direct federal counterweight.
2. **German model:** Germany's Bundesrat gives State governments a direct role in federal legislation, strengthening the participation of constituent units.
3. **Other federal safeguards:** Australia, Canada and Switzerland also use institutional arrangements that balance democratic representation with protection of federal interests.
4. **India's structural gap:** India's Rajya Sabha is the Council of States, but its representation is also broadly population-linked, so no chamber gives every State equal standing.
5. **Need for balance:** The comparison shows that democratic equality can coexist with federal fairness when institutions provide safeguards against excessive concentration of political power.

Way Forward

1. **Tamil Nadu proposal:** Tamil Nadu seeks to retain **543 Lok Sabha seats**, preserve the existing State-wise distribution, maintain the **2.2:1 Lok Sabha-Rajya Sabha ratio**, and implement women's reservation from 2029 without linking it to future delimitation.
2. **State-level adjustment:** The democratic representation gap can instead be addressed by increasing the number of MLAs in States according to their current populations.
3. **Balanced representation formula:** India can examine a model that considers both population and successful implementation of national population-control policies.

4. **Representation safeguard:** A constitutional guarantee could ensure that no State's relative parliamentary share falls below an agreed minimum level.
5. **Stronger federal role:** The Rajya Sabha can be given a stronger role in protecting State interests during major changes in parliamentary representation.
6. **National consultation:** The Union should consult State governments, Parliament, constitutional experts, former judges, the Election Commission, the Delimitation Commission and civil society. Such consultation can help convert competing regional concerns into a broadly accepted constitutional framework.
7. **Durable consensus:** The final framework should protect citizens' demand for fair representation while preserving States' confidence in India's cooperative federal system.

Conclusion

India cannot resolve delimitation through population arithmetic alone. Democratic equality requires fair representation for growing populations, while federal fairness protects States that pursued population stabilisation. A durable solution should combine population-based representation with federal safeguards, effective parliamentary functioning and broad consultation. This will strengthen democratic accountability while preserving the constitutional balance between citizens, States and the Union.

Question for practice:

Evaluate the challenges of delimitation in balancing democratic representation with the federal interests of States in India.

Source: [The Hindu](#)

India produces too many engineers

Source: The post "India produces too many engineers" has been created based on "India produces too many engineers" published in "Indian express" on 18th August 2026.

UPSC Syllabus: GS-2- Governance

Context: India's engineering education expanded rapidly after 2000 due to the Y2K-driven demand for software professionals and the growth of the IT sector. While access to engineering education has increased substantially, the major challenge now is to ensure **quality, employability, and meaningful learning**.

Key Challenges

1. **Expansion without adequate quality:** Engineering capacity has expanded faster than the ability of many institutions to provide quality teaching, faculty, infrastructure, and industry exposure.
2. **Uneven institutional outcomes:** Premier IITs, NITs, IIITs, and some other institutions maintain strong academic and industry linkages, while many other institutions struggle with quality and student demand.
3. **Uneven demand across disciplines:** Students increasingly prefer computer science, AI, and data science, while traditional engineering branches face declining demand and vacant seats.

4. **Compliance over learning:** Regulatory requirements under bodies such as AICTE, NBA, and NAAC can become focused on documentation rather than demonstrating what students have actually learned.
5. **Rote learning:** Conventional lectures, examination-oriented teaching, and curriculum additions have often failed to develop practical problem-solving and application-based skills.
6. **Weak industry engagement:** Laboratories, projects, and industry interactions sometimes become procedural rather than providing students with meaningful practical experience.
7. **Faculty incentive issues:** Research publications and other measurable indicators may receive greater importance than teaching innovation, mentoring, and student engagement.
8. **Challenge of Generative AI:** AI can provide explanations, write and debug code, generate assignments, and support projects and research. Therefore, traditional assignments and examinations may no longer accurately measure students' individual understanding.
9. **Outdated pedagogy:** Technology has changed rapidly, but teaching methods have not changed at the same pace, creating a gap between technological advancement and classroom learning.

What Engineering Education Should Focus On

1. Education should shift from **information delivery to capability development**.
2. Assessment should focus on **reasoning, design, experimentation, problem-solving, and application of fundamentals** rather than mere recall.
3. Projects should require students to frame problems, make engineering choices, test alternatives, and defend their solutions instead of simply submitting AI-generated work.
4. Teachers should increasingly act as **mentors, problem-framers, and learning facilitators** rather than only information providers.
5. Students should develop skills that AI cannot easily replace, such as **sound judgement, originality, experimentation, validation, and responsibility for solutions**.

Way Forward

1. India should focus on **demonstrated learning rather than merely increasing seats, degrees, documentation, or accreditation scores**.
2. Continuous faculty development should be strengthened, with greater incentives for teaching and mentoring.
3. Industry should become a genuine partner through **live projects, internships, and curriculum inputs**.
4. AI should be integrated into education where it adds value while simultaneously strengthening reasoning, design, experimentation, and validation skills.
5. Institutions should be evaluated primarily on **student learning and outcomes**.

Conclusion: India has largely addressed the issue of **access to engineering education**; the next priority is to improve the **quality of learning**. The goal should be “**less compliance, more learning; fewer credentials, stronger engineers**”, especially as Generative AI transforms the skills required by the engineering profession.

Question: India has expanded engineering education significantly, but the quality of learning and employability of graduates remain major concerns. Discuss the key challenges facing engineering education in India in the era of Generative AI and suggest the way forward.

Source: [Indian Express](#)

Match AI Models to Workloads, Not Leaderboards

UPSC Syllabus: Gs Paper 3- Science and Technology

Introduction

AI adoption is moving beyond the race for the highest-ranked model. An AI model is a trained system used to process information and perform tasks. Enterprises now have deployment choices, and the right option depends on workload, data sensitivity, cost, governance, security and operational capacity. Open-weight models have widened these choices, while managed inference offers a middle path between closed APIs (Application Programming Interface) and self-hosted systems. Data contamination also raises questions about leaderboard scores.

Understanding the AI Model and Deployment Landscape

1. **What is an AI model:** An AI model is a trained system that uses learned weights to process information and perform specific tasks.
2. **From rankings to workload fit:** Model rankings remain useful for comparison, but the highest score alone no longer determines the best enterprise choice.
3. **Three deployment choices:** Enterprises can increasingly choose between **closed APIs, self-hosted open-weight models and managed open-weight inference platforms.**
4. **Closed model approach:** Closed models are delivered remotely through managed APIs, allowing enterprises to use powerful models without operating underlying infrastructure.
5. **Expanded decision factors:** Cost, governance, data residency, intellectual property protection and operational complexity now matter alongside model capability.
6. **Different organisational needs:** A bank, marketing team, manufacturer and cybersecurity team can have very different requirements from their AI systems.

Choosing the Right AI Deployment for Different Workloads

1. **Frontier reasoning tasks:** Customer-facing applications requiring strong reasoning often remain suitable for **closed AI APIs** from frontier model providers.
2. **Regulated workloads:** Workloads with strict data-residency requirements can benefit from **managed open-weight platforms hosted within the required country.**
3. **Security-sensitive workloads:** Security forensics and malware analysis often require **self-hosted models** because sensitive investigation data must remain within organisational infrastructure.
4. **IP-sensitive applications:** Self-hosted deployment can support fine-tuning on proprietary knowledge without routinely sending that information to an external provider.
5. **Workload classification:** Enterprises should classify workloads according to control requirements as carefully as performance requirements before selecting models.

Open-Weight Models: Benefits and Opportunities

1. **Direct model control:** Open-weight models allow organisations to run trained model weights themselves, subject to applicable licence conditions.
2. **Data residency:** Sensitive information can remain inside approved organisational environments instead of routinely moving to external model providers.
3. **Proprietary fine-tuning:** Enterprises can fine-tune open-weight models using proprietary knowledge while keeping that knowledge within controlled environments.
4. **Greater portability and lower vendor dependence:** Open-weight deployment can reduce dependence on a single vendor's roadmap and pricing while giving enterprises greater portability.
5. **Lower token costs:** Open-weight models can provide substantially lower per-token costs, although actual savings depend strongly on utilisation and scale.
6. **Strategic control:** Greater control can be valuable for large organisations with strong engineering capacity and workloads requiring specialised AI operations.

Challenges of Open-Weight AI Deployment

1. **Infrastructure requirement:** Running open-weight models reliably at enterprise scale requires **GPU infrastructure and inference-serving capabilities**.
2. **Operational burden:** Organisations must manage monitoring, security, governance, upgrades and other production requirements after deploying the model.
3. **Licensing remains an organisational responsibility:** Open-weight deployment does not remove licensing obligations, which remain part of the organisation's responsibilities.
4. **Total cost uncertainty:** Lower per-token costs do not automatically mean lower overall costs because ownership expenses depend heavily on utilisation and scale.
5. **Capability gap:** Large organisations with deep engineering teams may manage these requirements, while smaller enterprises can find them considerably harder.
6. **Control versus responsibility:** Open weights provide greater control, but that control also transfers more technical and operational responsibility to the enterprise.

Emerging Solution: Managed Open-Weight Inference

1. **Middle-path model:** Managed inference platforms combine open-weight model flexibility with the convenience of externally managed production infrastructure.
2. **Reduced infrastructure burden:** Enterprises can use open-weight models without building and operating their own GPU clusters and inference stacks.

3. **Production reliability:** Managed platforms address practical requirements such as **concurrency, latency, security and continuous model updates** at scale.
4. **Bridges the capability gap:** Managed inference can help companies wanting open-weight models but unable to justify specialised AI operations teams or self-hosting infrastructure.
5. **Data residency and token sovereignty:** India-hosted inference can give enterprises greater control over AI processing location while supporting Indian data-residency requirements.
6. **Indian example: Sarvam Inference** provides an India-hosted service using domestic infrastructure and serving Sarvam's 105-billion-parameter model alongside GLM 5.2 and Gemma 4.
7. **New vendor dependence:** Managed open-weight platforms reduce model-level dependence but can create dependence on provider infrastructure, pricing and service.

The Problem with AI Leaderboards: Data Contamination

1. **Contaminated benchmarks:** A model can achieve an unusually high benchmark score when evaluation data has already influenced its training.
2. **Memorisation versus generalisation:** A contaminated score may reflect recognition of familiar information rather than the ability to solve genuinely new problems.
3. **Real-world performance gap:** A model scoring **95% on a contaminated benchmark** may not perform equally well on unseen real-world tasks.
4. **Why contamination occurs:** Internet-scale training can unintentionally include benchmark material when papers, datasets or related content are publicly available.
5. **Intentional benchmark training:** Developers may deliberately train on benchmarks during final tuning because such training can improve practical performance.
6. **Perplexity analysis:** Unusually low perplexity shows benchmark text is highly predictable to the model and can indicate similar material appeared during training.
7. **Need for transparency:** Benchmark exposure is not automatically wrong, but developers should disclose it so users can interpret evaluation results correctly.

Way Forward

1. **Adopt workload-based selection:** Enterprises should choose models according to each workload's balance of **capability, control, cost and governance**, rather than corporate defaults.
2. **Maintain sensitive capabilities:** Organisations handling security forensics or malware analysis should have capable, vetted open-weight models already running on controlled infrastructure.
3. **Use transparent benchmarks:** Developers should disclose benchmark training or exposure so high scores are not interpreted as pure evidence of generalisation.

4. **Evaluate managed platforms:** Enterprises using managed open-weight inference should examine **portability, security, pricing and exit options** before committing.
5. **Treat deployment strategically:** AI deployment should be treated as a **core architectural decision**, because the right approach differs across workloads.

Conclusion

The future of enterprise AI is not about finding one universally “best” model. It is about selecting the best-fit combination of model and deployment for each workload. Closed APIs, managed open-weight platforms and self-hosted models each have distinct strengths. Enterprises should combine workload-based deployment with transparent evaluation while balancing capability, control, cost and governance across enterprise needs.

Question for practice:

Discuss why enterprises should match AI models and deployment approaches to specific workloads rather than relying solely on AI model leaderboards.

Solution: [The Hindu](#)

The road to E20 is not without bumps

UPSC Syllabus: Gs Paper 3- Indian economy and Infrastructure Introduction

India's shift to E20 petrol, containing up to 20% ethanol, aims to reduce crude oil imports, save foreign exchange and cut carbon emissions. However, its rollout across the country has raised concerns over legacy vehicle compatibility, mileage, fuel-system damage, contamination risks and reduced consumer choice. The key challenge is balancing national energy goals with vehicle safety, fuel quality and consumer protection during this transition for owners of two-wheelers and passenger cars across India.

E20 Transition and India's Vehicle Fleet

1. **E20 mandate:** The February 17, 2026 notification requires all States and Union Territories to sell petrol blended with up to 20% ethanol from April 1.
2. **Higher octane standard:** The new mandate requires E20 petrol to have a **minimum Research Octane Number (RON) of 95**, while increasing the permitted ethanol blending level from **10% to up to 20%**.
3. **Post-2023 compatibility:** Vehicles meeting Bharat Stage 6 Phase 2 Real Driving Emissions norms from April 2023 received ethanol-resistant components and recalibrated powertrain controls for higher blends.
4. **Legacy fleet limitation:** Vehicles manufactured before April 2023 were generally calibrated for E5 or E10 and used Nitrile Butadiene Rubber with conventional metal fuel components lacking higher-ethanol protection.

5. **Large compatibility gap:** India has roughly **310 million active petrol vehicles**; about **70 million** are certified for E20, leaving nearly **240 million legacy vehicles**, mostly two-wheelers.

Engineering Challenges for Legacy Vehicles

1. **Rust and residue removal:** Ethanol acts as a solvent and detergent, dislodging rust, oxidised scale and varnish from older steel tanks and carrying residues into fuel systems.
2. **Fuel-system blockage:** Released sludge can clog fuel filters and pump strainers, while abrasive particles may damage injector nozzles, causing irregular spray patterns and engine misfires.
3. **Moisture and phase separation:** Ethanol absorbs atmospheric moisture; when saturation occurs, the water-ethanol mixture separates and settles at the tank bottom, creating a corrosive layer against steel.
4. **Rubber component damage:** Pre-2023 **Nitrile Butadiene Rubber (NBR)** hoses, O-rings and pump diaphragms can absorb ethanol, causing swelling, hardening and embrittlement that may eventually result in fuel leaks.
5. **Mileage and efficiency loss:** Ethanol has about **30–35% less energy per unit volume** than petrol, so older engines may face lower efficiency, mileage penalties and soot deposits.

Fuel Quality and Supply-Chain Risks

1. **Underground tank exposure:** Retail outlets commonly use Underground Steel Tanks, where monsoon flooding, runoff and ageing manhole gaskets can allow water to enter storage systems during rainfall.
2. **Critical moisture threshold:** When water entering an E20 storage tank exceeds roughly **0.5%**, phase separation can occur across thousands of litres, damaging fuel quality and performance.
3. **Corrosive separated layer:** The separated water-ethanol layer becomes low-octane and highly corrosive, potentially reaching suction pumps and causing engine stalling and immediate fuel-system failure in vehicles.
4. **Chemical contamination:** Agrochemical residues and distillery reagents can introduce trace chlorides, which may form hydrochloric acid during combustion and corrode injectors and cylinder walls severely.
5. **Water during production and transit:** Faults in molecular-sieve dehydration units or poor tanker sealing can introduce excess water before ethanol reaches retail fuel stations, weakening fuel quality.

Impact on Consumers

1. **Reported mileage loss:** Consumer surveys found over **66% of pre-2023 vehicle owners** reporting mileage losses above 10%, showing significant dissatisfaction among legacy-vehicle users nationwide.

2. **Higher maintenance burden:** About **55%** of surveyed pre-2023 owners reported increased maintenance frequency and component wear, adding costs beyond the initial fuel transition for many users.
3. **Two-wheeler exposure:** Most of the estimated **240 million legacy vehicles are two-wheelers**, making older E5/E10-dependent fuel systems a major concern for everyday consumers and commuters.
4. **Loss of fuel choice:** Nationwide E20 sales reduce access to unblended E0 petrol, limiting the ability of legacy-vehicle owners to choose lower-ethanol fuel for older systems safely.
5. **Compatibility assessment gap:** The Ministry of Heavy Industries had not formally assessed what share of India's vehicle fleet is genuinely E20-compatible, leaving overall exposure uncertain.

The Scientific Debate over E20

1. **IIT Kanpur finding:** The Engine Research Laboratory at IIT Kanpur reported no notable damage from E20 and efficiency declines below 5%, linking mileage changes to conditions.
2. **Independent technical concerns:** Automotive experts, consumer communities and mechanics questioned complete E20 safety for E10-calibrated vehicles, especially because peripheral fuel components may fail before engine blocks.
3. **Fuel sample evidence:** Reuters-reviewed industry data covered more than **250 fuel samples across 21 States**, raising concerns about chemical contaminants found in some E20 supplies.
4. **Chloride and water readings:** Chloride reached **570 ppm in Rajasthan, 420 ppm in Delhi**; water reached **12,500 ppm in Uttar Pradesh, 13,000 ppm in Andhra Pradesh**.
5. **Industry and government responses:** The **Society of Indian Automobile Manufacturers (SIAM)** termed the leaked data preliminary and unvalidated, while the Petroleum Ministry called contamination reports localised anomalies.

Way Forward

1. **Consumer choice and labelling:** Retail outlets should provide **E0/E10 alongside E20** and clearly display ethanol content on dispensers, enabling legacy-vehicle owners to make informed fuel choices.
2. **Publish batch quality data:** Oil marketing companies should disclose regular batch-level moisture and chloride measurements to improve transparency and identify contamination before it reaches consumers or vehicles.
3. **Support affordable retrofits:** Regulators should encourage certified retrofit kits, including ethanol-resistant fuel lines and reinforced seals, particularly for older two-wheelers and other legacy vehicles needing protection.
4. **Issue maintenance guidance:** Standardised service guidelines should help owners reduce risks from phase separation and corrosion, while subsidised retrofit support can lower adaptation costs for users.

5. **Independent real-world testing:** A **transparent, multi-year study** should track pre-2023 vehicles across different regions and climates to assess mileage, component wear and E20 compatibility.
6. **Learning from Brazil:** India can learn from **Brazil's gradual blending, vehicle adaptation, stable policy and consumer flexibility** to make the E20 transition more transparent and manageable.

Conclusion

E20 can support India's energy and environmental goals, but its transition needs stronger safeguards for older vehicles and fuel quality. A consumer-centric approach should combine informed fuel choice, transparent quality monitoring, affordable retrofits and independent evidence. This can address genuine risks, reduce uncertainty and build public trust without weakening the broader objective of reducing petroleum dependence overall.

Question for practice:

Examine the challenges associated with India's transition to E20 fuel and suggest measures to ensure a safe and consumer-friendly transition.

Source: [The Hindu](#)

School Closures: Misfortune or a Step Towards Holistic Development?

Source: The post "School Closures: Misfortune or a Step Towards Holistic Development?" has been created based on "School Closures: Misfortune or a Step Towards Holistic Development?" published in "The Hindu" on 18th August 2026.

UPSC Syllabus: GS-2- Governance

Context: India's school education policy has traditionally aimed to ensure that every child has access to a neighbourhood school. However, declining enrolment, demographic changes and the large number of single-teacher schools have created a debate over whether schools should be consolidated or retained.

Importance of neighbourhood schools

1. Neighbourhood schools ensure easy access to education, particularly for poor, rural, tribal and disadvantaged children.
2. They reduce the distance children have to travel and improve their safety and participation in the local community.
3. They also facilitate welfare measures such as the Mid-Day Meal Scheme.

Problems with very small schools

1. Single-teacher schools often require one teacher to manage multiple classes, subjects and administrative responsibilities.
2. Such schools may struggle to provide subject-specific teaching, laboratories, sports, libraries and co-curricular activities.
3. Very low enrolment also limits opportunities for peer learning, group discussions and social interaction.

4. Therefore, the presence of a school nearby does not always guarantee a complete and holistic educational environment.

Changing school education landscape

1. The total number of schools in India declined from 15.16 lakh in 2014-15 to 14.71 lakh in 2024-25.
2. Government schools declined from 11.07 lakh to 10.13 lakh during the same period.
3. Total student enrolment declined from 26.95 crore to 24.69 crore.
4. Government-school enrolment declined from 13.62 crore in 2022-23 to 12.16 crore in 2024-25, while private-school enrolment increased from 8.42 crore to 9.59 crore.
5. Government schools with fewer than 10 or zero students increased from about 52,300 in 2022-23 to more than 65,000 in 2024-25.

Reasons for declining enrolment

1. India's declining fertility rate has reduced the number of school-age children entering the education system.
2. India's Total Fertility Rate has declined from more than three in the early 1990s to around two, which is below the replacement level of 2.1.
3. Rising female literacy, improved healthcare, wider access to family planning and delayed marriage have contributed to this demographic transition.
4. Urbanisation, migration and changing parental preferences have also changed the distribution of students across schools.
5. Therefore, declining enrolment does not necessarily indicate increasing dropout and is partly a consequence of demographic change.

Ways in which school consolidation can improve education

1. Consolidation can bring students from under-enrolled schools to better-equipped schools with more teachers and stronger infrastructure.
2. Larger schools can provide better opportunities for peer learning and social interaction.
3. Consolidated schools can make better use of teachers and resources by providing access to subject specialists, laboratories, libraries, sports and co-curricular activities.
4. The NEP 2020 promotes school complexes and clusters through which neighbouring schools can share teachers, laboratories, libraries, sports facilities and other resources.
5. The idea of the Gurukul also highlights that education should promote intellectual, social, physical, emotional and character development rather than only classroom learning.

Concerns associated with school closure

1. School closure can increase the distance children have to travel and may reduce access to education in remote areas.
2. Longer travel distances can particularly affect young children, girls, children with disabilities and children from tribal communities.
3. Closure may also weaken community participation in education.
4. Therefore, efficiency in the use of resources should not come at the cost of equity and accessibility.

Way Forward

1. School consolidation should be based on enrolment, geography, distance, local conditions and the availability of viable alternatives.
2. Governments should not close schools merely for administrative convenience or cost reduction.
3. Neighbourhood schools should be retained where they are essential for providing access to disadvantaged and remote communities.
4. Where consolidation is justified, governments should ensure adequate teachers, infrastructure and quality learning facilities in the receiving schools.
5. Children who have to travel beyond a reasonable walking distance should be provided with safe transport or travel assistance.
6. School complexes and clusters should be effectively used to share teachers and educational resources without unnecessarily closing schools.
7. The success of consolidation should be measured through learning outcomes, school retention, safety, inclusion and the overall quality of education, rather than simply by the number of schools closed.

Conclusion: India must balance access, equity and quality rather than choosing between neighbourhood schools and school consolidation. Demographic changes may make some rationalisation necessary, but it must be implemented carefully and sensitively. The ultimate objective should not be to have more schools or fewer schools, but better schools that provide every child with safe, inclusive and holistic education.

Source: [The Hindu](#)

On minerals and mines, strike a new federal balance

Source: The post “On minerals and mines, strike a new federal balance” has been created based on “On minerals and mines, strike a new federal balance” published in “Indian Express” on 19th August 2026.

UPSC Syllabus: GS-3- Economy

Context: The mining sector is vital for India’s economic growth and infrastructure development. The Mines and Minerals (Development and Regulation) Amendment Bill, 2026 seeks to restrict states’ powers to impose levies on mineral rights and mineral-bearing lands, with the objective of creating greater certainty and encouraging investment.

Key provisions and rationale

1. **Greater predictability:** The amendments aim to provide a more uniform and predictable taxation framework for the mining sector.
2. **Rationalisation of levies:** States currently impose several taxes, charges, fees and levies, including royalty and auction premiums, with rates varying across states. Rationalisation could reduce uncertainty for investors.
3. **Reducing the tax burden:** According to the FIMI-EY report, India’s effective tax rate is above 50 per cent of revenues, compared with around 35–40 per cent in other countries. Rationalisation could therefore improve India’s investment attractiveness.
4. **Controlling infrastructure costs:** The Centre argues that excessive mineral levies can increase the cost of minerals and consequently raise infrastructure costs.
5. **Supporting critical minerals:** A predictable regulatory framework can support the objectives of the Union government’s Critical Mineral Mission and strengthen domestic mineral security.

Concerns and challenges

1. **Impact on state revenues:** Mineral-rich states such as Odisha, Jharkhand and Chhattisgarh depend significantly on mining-related revenue as a source of non-tax revenue.
2. **Fiscal federalism:** The amendments have raised concerns about the erosion of states' taxation powers and the balance between Centre and states.
3. **Supreme Court ruling:** The amendments follow the Supreme Court's recognition of states' power to impose taxes on mineral rights and mineral-bearing lands, along with permission to recover arrears dating back to April 1, 2005.
4. **Revenue mobilisation by states:** Following the judgment, some states sought additional revenues through mineral-bearing land taxes. For example, Jharkhand imposed a tax on iron ore, while Tamil Nadu introduced a tax on limestone.
5. **Centre-state friction:** Although the government maintains that states will continue to receive the overwhelming share of mining revenue, concerns regarding reduced fiscal autonomy need to be addressed.

Way Forward

1. The Centre and states should develop a **consultative and transparent framework** for rationalising mining taxes and royalties.
2. The framework should balance **investment competitiveness with the legitimate revenue needs of mineral-rich states**.
3. Greater uniformity in taxation should be accompanied by **clear revenue-sharing mechanisms** to protect fiscal federalism.
4. Predictable taxation, regulatory stability and efficient mining governance should be pursued together to attract investment.

Conclusion: The rationalisation of mining taxes and royalties can make India's mining sector more competitive and investment-friendly. However, its success will depend on maintaining a **careful balance between economic efficiency and cooperative fiscal federalism**, ensuring that greater predictability for investors does not come at the cost of legitimate state revenues and autonomy.

Question: The Mines and Minerals (Development and Regulation) Amendment Bill, 2026 seeks to rationalise mining taxation and create a more predictable investment environment. Discuss its implications for investment, state revenues and fiscal federalism.

Source: Indian Express

Paradigm shift in oil exploration

Source: The post "Paradigm shift in oil exploration" has been created based on "Paradigm shift in oil exploration" published in "Business Line" on 19th August 2026.

UPSC Syllabus: GS-3- Economy

Context: India's dependence on imported oil and gas, along with the stagnation of deepwater exploration, has pushed the government towards a new approach. The **₹84,084 crore Samudra Manthan or National**

Offshore Exploration Scheme, approved for implementation up to FY 2030-31, seeks to accelerate offshore exploration through direct public investment, risk-sharing and common infrastructure.

Samudra Manthan marks a paradigm shift

1. **From regulator to risk-sharer:** Unlike earlier reforms that mainly provided fiscal and regulatory incentives, the government will directly co-fund **50 per cent of the cost of high-risk exploratory wells**.
2. **Public investment in infrastructure:** The government will finance common subsea production and evacuation infrastructure, including shared offshore pipeline networks.
3. **Mission-mode exploration:** The scheme adopts an integrated approach covering seismic surveys, deepwater drilling, frontier-basin exploration, infrastructure, technology and capacity building.
4. **Sharing geological risks:** Earlier regimes such as NELP, HELP and OALP largely left the financial and geological risks of deepwater exploration with private companies. Samudra Manthan seeks to share these risks with the private sector.

Potential benefits

1. **Strengthening energy security:** Greater domestic exploration and production can reduce India's dependence on imported oil and gas, particularly amid geopolitical uncertainties.
2. **Unlocking offshore resources:** India has significant unexplored offshore potential, especially in deepwater and ultra-deepwater basins.
3. **Reserve accretion:** The scheme aims to catalyse the addition of **over 600 MMTOE** of reserves.
4. **Higher domestic production:** Accelerated exploration could help reverse the decline in domestic hydrocarbon production over time.
5. **Technology development:** The scheme can promote advanced seismic technologies, deep-sea drilling capabilities and domestic expertise in offshore operations.
6. **Manufacturing and employment:** Development of an integrated oil and gas manufacturing and services ecosystem can support **Make in India and Atmanirbhar Bharat**, while generating employment.
7. **Common infrastructure:** Shared offshore pipelines and evacuation infrastructure can reduce duplication of investment and make marginal or difficult fields more commercially viable.

Key challenges

1. **High geological risk:** Deepwater exploration has a high failure rate, with around **three out of four wells potentially failing to yield commercial discoveries**. Public co-financing could therefore expose taxpayers to substantial losses.
2. **High technological requirements:** Deepwater operations require specialised equipment, sophisticated drillships and complex subsea systems. India currently lacks a sufficiently strong domestic ecosystem for such technologies.
3. **Dependence on global service providers:** Indian hydrocarbon exploration continues to rely significantly on international oilfield-service companies, creating challenges for technological self-reliance.
4. **Long gestation period:** Deepwater projects can take **5-10 years** from initial exploration to the first commercial production. Therefore, the scheme cannot provide an immediate solution to India's current import dependence.

5. **Coordination challenges:** Common infrastructure involving competitors such as ONGC, Oil India and Reliance Industries will require transparent tariff-setting, volume allocation and strong legal mechanisms.
6. **Fiscal scrutiny:** Since public funds will bear part of the exploration risk, unsuccessful wells could invite political and public scrutiny regarding the use of taxpayer money.
7. **Implementation risks:** The success of the scheme will depend on efficient coordination among government agencies, public sector companies, private firms and technology providers.

Way Forward

1. The government should establish **transparent criteria for selecting wells and projects** eligible for public risk-sharing.
2. Strong **monitoring and accountability mechanisms** should ensure that public funds are not inefficiently deployed.
3. India should simultaneously develop domestic capabilities in **subsea engineering, drilling equipment and offshore technology**.
4. Common infrastructure should operate through **transparent tariffs, independent regulation and clear access rules**.
5. Public investment should complement, rather than crowd out, private investment and technological expertise.
6. The scheme should be aligned with India's broader transition towards **cleaner and renewable sources of energy**, while recognising the continuing role of hydrocarbons in the medium term.

Conclusion: Samudra Manthan represents a **structural shift from incentive-based regulation to active public-private risk sharing** in offshore exploration. Its success will depend on whether the government can convert public investment into commercially viable discoveries while managing geological, technological and bureaucratic risks. If implemented transparently and efficiently, it can strengthen India's long-term energy security and build domestic offshore capabilities.

Question: Discuss the rationale, potential benefits and key challenges associated with the Samudra Manthan (National Offshore Exploration Scheme) . How can it contribute to India's long-term energy security while remaining aligned with the country's energy transition?

Source: [Business Line](#)

What Drives Corporate Investment?

UPSC Syllabus: Gs Paper 3- Indian economy

Introduction

Corporate investment in India has remained weak for several years, raising questions about what determines firms' investment decisions. Investment depends on **expected profitability, confidence about future profits and the cost of credit**, but these factors affect firms differently according to their size and access to own capital. The prolonged decline after demonetisation, despite later low interest rates and a corporate tax cut, suggests that reducing investment costs alone may not be enough to revive corporate investment in India.

Key Drivers of Corporate Investment

1. **Expected profitability:** Firms invest when expected returns from producing and selling goods justify the cost of establishing additional productive capacity.
2. **Economies of scale:** Larger equipment, factories and workspaces generally provide higher profit rates, making expected profitability rise with investment size.
3. **Market limit:** A firm cannot profitably expand its factory beyond the sales possible within its share of the total market.
4. **Business confidence:** Confidence about future profits shifts the profitability curve outward, while pessimism reduces expected returns and discourages investment.
5. **Effect of shocks:** Demonetisation reduced immediate profitability and weakened confidence in future policy, shifting profitability expectations inward across firms.
6. **Opportunity cost of interest:** Firms compare expected investment profitability with the market interest rate before choosing long-term productive investment projects with uncertain future returns over time.
7. **Borrowing cost:** Investment requires expected profitability to exceed market interest rates, while borrowing makes credit costs increasingly important as debt rises.
8. **Increasing risk:** Michal Kalecki's principle of increasing risk shows that borrowing costs rise with greater dependence on external funds.

Role of Firm Size and Access to Credit

1. **Small firms are credit-constrained:** Firms with little own capital face rising credit costs earlier, so their investment depends more heavily on external finance.
2. **Large firms are market-constrained:** Firms with greater own capital face less financial pressure, so their investment is more likely limited by market demand rather than credit availability.
3. **Profitability rises with firm size:** Larger firms benefit from economies of scale, with median profit rates rising from about **10.6% for small firms to 12.6% for medium and 12.9% for large firms.**
4. **Smaller firms face higher interest costs:** Median interest costs are about 9.8% for small firms, 9.3% for medium firms and 7.6% for large firms, reflecting the greater financing burden on smaller firms.
5. **Capital availability differs sharply:** Median capital stock rises from ₹14.5 crore for small firms to ₹156.8 crore for medium and ₹1,745.9 crore for large firms, showing the major difference in own-capital capacity.

Evidence from Indian Manufacturing

1. **Investment surged before the Global Financial Crisis:** Corporate investment rose from **4.9% of GDP in 2000-01 to 17.3% in 2007-08**, showing a sharp expansion in the investment share during this period.

2. **Investment fell during the Global Financial Crisis:** The investment share declined to **11.3% in 2008-09**, reflecting the impact of the external economic shock.
3. **Investment recovered before demonetisation:** After the Global Financial Crisis, corporate investment began a steady revival but was disrupted when demonetisation hit the economy in **2016**.
4. **Post-demonetisation decline persisted:** Corporate investment continued to decline after 2016 and reached only **10.3% of GDP in 2024-25**, remaining below its 2008-09 level.
5. **The later shock was different:** Unlike the Global Financial Crisis, which was an external shock, demonetisation was a domestic policy shock; Covid-19 came later, after investment had already begun declining.

Limitations of Interest Rate and Tax-Based Measures

1. **Lower interest rates:** A fall in interest rates may not revive small-firm investment when their main problem is limited access to credit rather than the market rate itself.
2. **Limited effect on large firms:** Large firms that are already less constrained by credit may not respond strongly to cheaper borrowing because their main constraint is market demand.
3. **Corporate tax cut:** The corporate tax rate was reduced from **30% to 22% in 2018**, but corporate investment did not respond with a sustained revival.
4. **Low-interest regime:** The low-interest-rate regime followed by the RBI also failed to generate a strong investment response, suggesting that lower financing costs alone are insufficient.
5. **Core limitation:** Cost-side policies may have limited impact when firms lack confidence in future profitability or face weak demand for additional production.

Government Spending and Demand Creation

1. **Profitability stimulus:** Stronger demand can increase firms' expected profits and encourage them to expand production and invest in new capacity.
2. **Role of government spending:** Government expenditure can create additional demand, improving firms' expectations about future profits and encouraging investment.
3. **Shared investment effect:** Higher expected profitability can encourage investment by both small and large firms, unlike policies that mainly reduce borrowing costs.
4. **Employment connection:** Demand creation can support higher investment while also addressing the need for gainful employment.
5. **Fiscal choice:** Using government expenditure as a stronger stimulus would require moving away from a strongly restrictive fiscal approach and giving greater importance to demand support.

Conclusion

Corporate investment is driven by **expected profitability, business confidence, market demand and financing conditions**, with different constraints across firm sizes. Indian evidence shows that smaller firms face higher financing costs, while larger firms have greater capital access. Since lower interest rates and tax cuts alone have not revived investment, stronger government spending and demand creation can improve profitability expectations and support broader investment.

Question for practice:

Examine the key factors driving corporate investment in India and the role of government spending in reviving it.

Source: [The Hindu](#)

Decentralised Education, Create Jobs

UPSC Syllabus: Gs Paper 3 - Issues relating to development and management of Social Sector/Services relating to Education, Human Resources.

Introduction

India's large young population is increasingly educated, but many young adults still face unemployment and weak employment prospects. The core problem is not only access to education but also its **quality, relevance and connection with jobs**. Decentralised education offers one supporting response by making learning more flexible and closer to changing skill needs. The wider goal is to improve education and create enough decent work to convert India's demographic potential into growth.

Expansion of Education and the Rise of India's Educated Youth

1. **Growing Graduate Population:** Between 1983 and 2023, graduate-level education among 20–29-year-olds rose from **4% to 28%**, increasing from **5 million to 63 million**.
2. **Wider Social Access:** Caste and gender gaps in tertiary education and graduate employment have reduced, widening educational opportunities across previously disadvantaged groups.
3. **Occupational Mobility:** Education has helped Scheduled Tribes move away from traditional occupations such as **leather work and waste collection**.
4. **IT Sector Growth:** The substantial graduate pool has supported India's information technology boom, with current exports of about **\$250 billion**.
5. **Global Capability Centres:** Around **2,100 Global Capability Centres** now employ over **2 million people**, showing the economic value of India's educated workforce.
6. **Remittance Contribution:** Around **\$140 billion in inward remittances** is substantially linked to the growth of tertiary- and high-school-educated Indians working abroad.
7. **Youth Population:** About **367 million people below 30** form a major part of the generations relevant to India's long-term growth.

Key Concerns in Education and Employment

1. **High Youth Unemployment:** Unemployment remains nearly **40% among 15–25-year-olds** and **20% among 25–29-year-olds**, despite the expansion of higher education.
2. **Weak Transition to Jobs:** Only a few graduates secure stable salaried employment within a year of graduation, showing that educational expansion has not ensured secure employment.
3. **Shortage of Job-Ready Graduates:** Companies lack enough adequately qualified graduates who can work without substantial post-recruitment training, creating a serious employability gap.
4. **Surplus of Poorly Qualified Graduates:** India also has a surplus of poorly qualified graduates, showing that increasing graduate numbers alone cannot solve the employment problem.
5. **Stagnant Public Investment:** Government education spending has remained around **4% of GDP** for a long period, below the **6% target** supported by National Education Policy 2020.
6. **Declining Central Commitment:** Central education spending fell from **3.7% of total expenditure in 2016–17 to 2.4% in 2024–25**, while its GDP share declined from **0.47% to 0.33%**.
7. **Private Tuition Burden:** Nearly half of urban XI–XII students spend about **₹10,000 annually** on private tuition, while about one-third of rural students spend around **₹4,500**.
8. **Quality and Relevance Gap:** Outdated curricula and teaching can leave graduates without current knowledge and practical skills, increasing the gap between education and workplace requirements

Decentralised Education as a Supporting Response

1. **Meaning of Decentralised Education:** It shifts some control from established educational institutions towards learning solutions created by **teachers, industry professionals and other skilled educators**.
2. **Industry-Led Learning:** Decentralised models allow industry professionals and skilled teachers to create learning resources based on current knowledge and workplace requirements.
3. **Flexible Alternatives:** Learning pods, micro-schools and virtual platforms can provide alternatives to conventional institutions and give learners greater flexibility.
4. **Faster Skill Adaptation:** Digital platforms can update learning content more quickly as job requirements change, helping learners acquire relevant skills.
5. **Support for Emerging Careers:** Alternative learning models can support non-traditional careers that conventional education systems may not yet adequately cover.
6. **Student Choice:** Ratings, reviews and feedback can give learners greater influence over course selection and encourage competition among education providers.
7. **Education Entrepreneurship:** Teachers and professionals can create and sell educational content, creating income opportunities within the education ecosystem.

8. **Complement, Not Replacement:** Decentralised education can complement traditional institutions by adding flexible, practical learning without removing the need for recognised educational standards.

Role of Government in Education and Employment

1. **Centre-State Responsibility:** States account for **80–85% of public education spending**, while the Centre has an important role in standards and education-reform goals.
2. **Need for Coordinated Governance:** Education policy should combine Centre and State responsibilities through a coherent framework rather than becoming a process of Centre-led dictation.
3. **Higher Education Investment:** Governments need stronger spending from primary to tertiary levels to improve education quality, graduate skills and employment prospects.
4. **Industry-Oriented Education:** Better knowledge and skills among graduates are essential for promoting manufacturing, especially as internet-sector services face disruption from artificial intelligence.
5. **Labour-Intensive Manufacturing:** Employment policy should promote labour-intensive manufacturing, much of which can come from medium and small enterprises offering decent jobs.
6. **Regional Employment Focus:** Northern states account for most workforce additions and therefore need stronger education quality and industries that can absorb high-school and tertiary graduates.
7. **Education-Infrastructure Balance:** Infrastructure investment alone has not sufficiently boosted manufacturing; higher education spending is also needed to improve graduate skills and support industrial growth.

Way Forward

1. **Reach the Spending Target:** Governments need stronger action to move public education spending towards the **6% of GDP target** and improve educational content.
2. **Improve Education Quality:** Investment should strengthen knowledge, teaching quality and practical skills so graduates are better prepared for employment without substantial additional training.
3. **Modernise Learning Content:** Traditional institutions should regularly update curricula and teaching methods so students gain knowledge and skills relevant to changing technologies and careers.
4. **Link Education with Industry:** Industry professionals can contribute to learning content so that students gain skills more closely connected with workplace requirements.
5. **Use Flexible Learning Models:** Decentralised education can complement traditional institutions by offering flexible learning and skills for emerging careers while maintaining recognised standards.

6. **Promote Job-Creating Sectors:** Manufacturing policy should support labour-intensive activities and medium and small enterprises that can provide employment for educated young people.
7. **Strengthen Cooperative Federalism:** States need flexibility to manage programmes according to local conditions within a coherent framework jointly shaped by the Centre and states.
8. **Make Youth a Development Priority:** Development policy should focus directly on improving education quality and creating better employment prospects for high-school and tertiary graduates.

Conclusion:

India's large educated youth population can become a **demographic dividend** only when education provides relevant skills and employment opportunities. Higher public investment, better teaching, stronger education-industry links and flexible learning models can improve employability. Decentralised education can complement traditional institutions, but governments must ensure **quality, coordinated policy and employment-generating growth** so that young people can contribute fully to India's development.

Question for practice

Discuss how decentralised education can improve youth employability and help create jobs in India.

Source: [Business Standard](#)

The case for tax-free annuities

Source: The post "**The case for tax-free annuities**" has been created based on "**The case for tax-free annuities**" published in "Business Line" on 20th August 2026.

UPSC Syllabus: GS 2- Governance

Context: India's ageing population has increased the need for **secure, lifelong retirement income**, while annuities also mobilise long-term capital into government securities.

About Annuity

An annuity converts retirement savings into a **guaranteed stream of income for the lifetime of the retiree**. It transfers longevity risk to a regulated insurer and also mobilises long-term capital that is substantially invested in government securities and State Development Loans. Therefore, providing targeted tax relief to annuities can serve both **individual retirement security and wider public-finance objectives**.

Reason behind Annuities Deserve Tax Preference

1. **Annuities mobilise long-term capital:** Retirement savings invested in annuities are deployed by insurers in long-duration assets, with a substantial share ultimately flowing into **Government Securities and State Development Loans**.
2. **The existing tax treatment creates an asymmetry:** The government provides tax benefits to investors who lock their money into five-year infrastructure bonds, while retirees who commit their savings to annuities for 20–30 years continue to face slab-rate taxation.

3. **Annuities serve the same public-finance objective for longer:** Like tax-incentivised infrastructure bonds, annuities mobilise stable capital for the economy, but they do so over a much longer period while also providing retirement security.
4. **Recent GST reform supports further reform:** The GST Council's decision of September 22, 2025, to exempt individual life insurance and annuity premiums from **18% GST** was a positive step, but taxation of the periodic annuity payout remains unresolved.

Annuities Strengthen Retirement Security

1. **Annuities provide guaranteed lifetime income:** Unlike mutual funds, equity portfolios, fixed deposits and SWPs, an annuity provides income for as long as the annuitant survives.
2. **Annuities transfer longevity risk:** Through **mortality pooling**, regulated insurers assume the risk that an individual may outlive their accumulated retirement corpus.
3. **Annuities reduce the risk of exhausting retirement savings:** Self-managed portfolios face market volatility, reinvestment-rate risk and uncertainty regarding the sustainable withdrawal rate, whereas annuities provide predictable cash flows.
4. **Annuities can reduce future dependence on the State:** Retirees with assured lifetime income are less likely to require emergency welfare or social-security support in old age.

Existing Tax Rules Create Anomalies

1. **Tax policy has not fully kept pace with NPS reforms:** PFRDA reduced mandatory annuitisation for non-government subscribers on normal exit from **40% to 20%** and removed mandatory annuitisation for a corpus of **₹8 lakh or less**.
2. **The lump-sum exemption remains limited to 60%:** Consequently, the additional 20% that can now be withdrawn under the revised framework is taxable at slab rates, indicating a mismatch between pension regulation and tax policy.
3. **Non-NPS annuities can face double taxation:** The initial corpus may consist of already-taxed household savings, but Indian tax law does not adequately distinguish between the **return of principal and the actual investment yield** in the annuity payout.
4. **The retirement-planning ecosystem also disadvantages annuities:** SCSS remains more prominent in pre-retirement discussions, while chartered accountants and wealth advisers may prefer tax-efficient or AUM-preserving alternatives, reducing annuity adoption.

A Targeted Tax Reform Can Address the Problem

1. **A ₹12 lakh annual exclusion can protect basic retirement income:** Annual annuity income up to **₹12 lakh** can be excluded from total income for eligible lifetime annuity products issued by IRDAI-registered insurers.
2. **The ₹12 lakh threshold has a policy rationale:** It corresponds to the level up to which Parliament has already determined that a resident individual should have no tax liability under the default regime.
3. **A 10% final withholding tax can apply to excess income:** Annuity income above ₹12 lakh can be subjected to a **flat 10% final withholding tax**, ensuring that the reform does not become an unlimited tax shelter.
4. **Eligibility can be restricted to genuine retirement products:** The concession should apply only to **lifetime annuities purchased at or after superannuation**, including variants that return the purchase price to nominees upon death.

5. **Strict safeguards can prevent tax arbitrage:** Disguised tax-free bonds, deferred accumulation products and surrender-heavy wealth products should remain outside the scope of the concession, with insurers undertaking **PAN-based reporting**.

Wider Fiscal and Economic Benefits

1. **Tax relief can expand the retail annuity market:** Greater attractiveness of annuities could potentially mobilise an additional **₹40,000–50,000 crore annually** into long-duration government securities and State Development Loans.
2. **Lower borrowing costs can offset revenue foregone:** Even a modest **50-basis-point reduction in sovereign borrowing costs** could generate cumulative interest savings as the stock of public debt grows.
3. **Reduced welfare dependence creates an additional fiscal benefit:** Every retiree with secured lifetime income is potentially less dependent on future state-funded old-age welfare, although this saving may not immediately appear in conventional budget calculations.

Reforms Needed for Effective Implementation

1. **Inflation-linked annuities should be promoted:** IRDAI should mandate or facilitate inflation-linked variants to protect retirees against the loss of purchasing power over long retirement periods.
2. **Standardised yield disclosures should be introduced:** Insurers should provide clear and comparable information on yields, payouts and product conditions to enable informed decisions.
3. **Distributor controls should be strengthened:** Regulation of distributors is necessary to prevent mis-selling and ensure that retirees select products according to their needs.
4. **A transparent comparison platform should be created:** PFRDA can develop a platform for comparing annuity rates and product features across providers.
5. **TDS provisions should be aligned with the exemption:** Eligible annuity income should not suffer unnecessary withholding that forces retirees to wait for refunds, as such friction can reduce the effectiveness of the reform.

Conclusion: Tax-free annuities can complete the policy trade between the State and retirees: the government can forego limited immediate tax revenue in exchange for **long-duration capital, guaranteed lifetime income and reduced future welfare dependence**. A targeted ₹12 lakh exclusion, a 10% tax on excess income and appropriate regulatory safeguards can make annuities a stronger pillar of India's retirement-security system while supporting long-term public borrowing needs.

Question: Tax treatment of annuities in India needs to balance revenue considerations with the objectives of retirement security and long-term capital mobilisation." Discuss the case for making annuity income tax-free up to a specified threshold.

Source: [Business Line](#)

Gold loans: Inclusion engine or leverage trap?

Source: The post "Gold loans: Inclusion engine or leverage trap?" has been created based on "Gold loans: Inclusion engine or leverage trap? Gold loans: Inclusion engine or leverage trap?" published in "Business Line" on 20th August 2026.

UPSC Syllabus: GS 3-Indian Economy

Context: Indian households hold a very large stock of gold, estimated at \$2.4 trillion and \$10 trillion. The rapid expansion of gold loans is converting this idle store of wealth into collateral for formal credit, but rising loan sizes, repeat borrowing and multiple liabilities are also creating concerns about **household leverage and financial stability**.

Gold Loans Strengthen Financial Inclusion

1. **Gold loans bring idle household wealth into the formal economy:** Gold that traditionally remained a store of value can be used as collateral to access formal credit.
2. **Gold loans provide low-friction access to credit:** For households outside formal income systems, gold-backed borrowing provides an easier entry point into formal credit markets.
3. **Gold loans are becoming a mainstream financial product:** Banks, NBFCs and digital lending platforms are increasingly offering gold loans, moving the product beyond informal lending channels.
4. **Gold loans are expanding rapidly:** According to the RBI's Financial Stability Report, gold loans have been the **fastest-growing segment of non-housing retail loans**, recording a CAGR of **42.4% since March 2024**, compared with 23% for overall non-housing retail loans.
5. **The borrower base is becoming more inclusive:** The increasing participation of **prime and above-prime borrowers, women and borrowers from newer geographies** indicates deeper financial inclusion.
6. **Gold mobilisation can generate wider economic benefits:** Estimates suggest that channelling even **2% of household gold annually into financial assets** could potentially add up to **\$7.5 trillion to GDP by 2047** through multiplier effects.

Macro-Economic Opportunity

1. **Gold can shift from a store of value to a source of value creation:** Financial mobilisation of household gold can allow an otherwise idle asset to participate in credit and economic activity.
2. **Gold-backed credit can strengthen formal financial channels:** Greater use of banks, NBFCs and regulated digital platforms can reduce dependence on informal credit markets.
3. **Gold loans can support broader financial deepening:** The growing participation of women, prime borrowers and new geographical markets shows that gold-backed lending can expand the reach of formal finance.

Rising Gold Loans Also Create Leverage Risks

1. **Loan sizes are increasing:** The average gold loan ticket size increased from around **₹90,000 in 2022 to nearly ₹2 lakh in 2025**, while average outstanding per borrower increased from approximately ₹1.9 lakh to ₹3.1 lakh.
2. **Gold loans are increasingly layered over existing debt:** By 2025, around **74% of gold loan originations** were to borrowers having more than ₹1 lakh of outstanding debt, compared with about 50% in 2022.
3. **Unsecured and secured borrowing are increasingly combined:** The rising share of borrowers with unsecured credit exposure indicates that gold loans are often being added to existing liabilities rather than replacing them.

4. **Repeat borrowing is increasing:** Borrowers are increasingly taking repeated gold loans and maintaining multiple active loan accounts, indicating that gold loans are becoming part of broader borrowing strategies.
5. **Multiple loans increase default risk:** Borrowers with multiple active gold loans face the highest risk of delinquency, indicating that excessive leverage can create financial stress despite the presence of collateral.
6. **Higher gold-loan exposure is associated with greater delinquency:** Borrowers with higher exposure to gold loans have delinquency rates **more than twice** those of borrowers with lower exposure.
7. **Rapid credit growth can create household financial stress:** The 42.4% CAGR in gold loans indicates that the sector is expanding much faster than overall non-housing retail credit.
8. **Collateral does not eliminate repayment risk:** Although gold provides security to lenders, borrowers can still face financial distress when multiple loans and other liabilities accumulate.
9. **Household leverage can become a systemic concern:** If repeat borrowing and multiple loan holdings continue to rise, individual credit stress could increasingly affect the wider retail-credit ecosystem.

Way Forward

1. **Credit growth should be closely monitored:** Regulators should track loan sizes, repeat borrowing, multiple gold-loan accounts and borrowers' total indebtedness.
2. **Lenders should assess overall borrower leverage:** Credit decisions should consider existing secured and unsecured liabilities rather than treating gold collateral as sufficient protection.
3. **Responsible lending practices should be strengthened:** Banks, NBFCs and digital platforms should prevent excessive borrowing and ensure that borrowers understand repayment obligations and the consequences of default.
4. **Gold should be channelled towards productive uses:** Policy should encourage the conversion of household gold into financial capital without creating excessive consumption-driven or debt-dependent borrowing.

Conclusion: Gold loans represent a **dual opportunity and risk** for India. They can financialise a vast household asset base, deepen formal credit access and support economic growth, but rising ticket sizes, repeat borrowing and multiple liabilities can turn them into a **leverage trap**. The policy challenge is therefore to convert gold from a **store of value into a source of productive value creation while maintaining household and systemic financial stability**.

Question: Gold loans can promote financial inclusion but may also increase household leverage." Discuss the opportunities and risks associated with the rapid growth of gold loans in India.

Source: [Business Line](#)

Why is the Supreme Court Examining Polygamy Again?

UPSC Syllabus: Gs Paper 3- Indian Constitution

Introduction

The **Supreme Court has sought the Centre's response** to a petition challenging the constitutional validity of **polygamy among Muslims**. The petition seeks to abolish the practice for all citizens and apply laws against

bigamy uniformly. The case raises questions about **Muslim Personal Law, gender equality, fundamental rights and religious freedom under Article 25**. The Court has only issued notice and has not yet ruled on polygamy.

What Does the Present Petition Seek?

1. **Challenge to the 1937 Act:** The petition challenges **Section 2 of the Muslim Personal Law (Shariat) Application Act, 1937**, insofar as it recognises and validates polygamy.
2. **Declaration against polygamy:** The petitioners seek a declaration that polygamy is unconstitutional and violates the fundamental rights guaranteed to women.
3. **Uniform application of bigamy law:** They seek removal of personal-law exemptions and the application of **Section 82 of the Bharatiya Nyaya Sanhita** to all citizens.
4. **Criminal-law questions raised:** A petition has also questioned whether Sections 498A, 375 and 494 of the Indian Penal Code, 1860 should be used to criminalise triple talaq, polygamy and nikah halala, respectively.
5. **Abolition through legislation:** The Union government has been asked to take suitable legislative steps to abolish polygamy, irrespective of religion.
6. **Codification of Muslim Personal Law:** The petition seeks a codified framework for **marriage, divorce and succession** that conforms to constitutional principles of gender equality.
7. **Mandatory registration:** Muslim marriages and divorces should be compulsorily registered with State authorities to prevent secret or subsequent marriages.
8. **Protection of women and children:** The plea seeks protection regarding **maintenance and the matrimonial home** for the first wife and children affected by a subsequent marriage.
9. **Global examples cited by petitioners:** The petition highlights that **Tunisia and Turkey**, among several Muslim-majority countries, have already abolished polygamy.

What are the Constitutional Questions Involved?

1. **Equality before law:** The petition argues that polygamy violates **Article 14**, which guarantees equality before law and equal protection of laws.
2. **Gender-based discrimination:** It invokes **Article 15**, arguing that permitting multiple marriages to men raises questions of discrimination against women.
3. **Dignity and personal liberty:** The challenge also relies on **Article 21**, linking the practice with women's constitutionally guaranteed dignity and personal liberty.
4. **Personal laws and fundamental rights:** The Court must examine whether provisions under personal law can continue when they are challenged as violating fundamental rights.

5. **Religious freedom under Article 25:** The petition argues that polygamy is permissive rather than an essential religious practice and cannot automatically claim protection under **Article 25**.
6. **Gender equality and constitutional morality:** The petition asks whether a practice permitting multiple wives can survive constitutional scrutiny when weighed against gender equality and constitutional morality.

Why is Section 82 of the Bharatiya Nyaya Sanhita Important?

1. **Provision against bigamy: Section 82 of the Bharatiya Nyaya Sanhita (BNS)** deals with marrying again while an existing marriage remains legally valid.
2. **Punishment for a second marriage:** The provision provides imprisonment of up to **seven years** for contracting another marriage during the subsistence of the first marriage.
3. **Exemption under Muslim Personal Law:** The petition argues that Muslim men are exempt from prosecution for bigamy because Muslim Personal Law permits polygamy.
4. **Demand for a uniform legal position:** The petitioners seek the extension of Section 82 to all citizens, irrespective of religion.

Earlier Supreme Court Rulings and Related Pending Cases

1. Sarla Mudgal Case, 1995

- **Conversion cannot bypass marriage law:** The Supreme Court held that a Hindu man cannot convert to Islam solely to contract another marriage without dissolving his first marriage.
- **Second marriage held void:** Such a second marriage was held **void** when the first marriage remained legally valid.

2. Lily Thomas v. Union of India, 2000

- **Earlier ruling reaffirmed:** The Supreme Court reaffirmed that conversion undertaken merely to contract another marriage cannot defeat the law governing the first marriage.
- **Second marriage remained punishable:** A marriage after a feigned conversion to Islam was held illegal and punishable under **Section 494 of the Indian Penal Code**.

3. Shayara Bano Case, 2017

- **Instant triple talaq was invalidated:** The Supreme Court invalidated **instant triple talaq (immediate and irrevocable divorce through three pronouncements)** in August 2017.
- **2019 law criminalised instant triple talaq:** The **Muslim Women (Protection of Rights on Marriage) Act, 2019** subsequently made instant triple talaq a punishable offence.

4. Earlier challenge before a Constitution Bench

- **Challenge to Section 2 in 2022:** In August 2022, a Constitution Bench issued notices while hearing petitions challenging **Section 2 of the Muslim Personal Law (Shariat) Application Act, 1937**, concerning polygamy and nikah halala.
- **Notices to statutory commissions:** In the same batch of petitions, the Constitution Bench sought responses from the **National Commission for Women, National Commission for Minorities and National Human Rights Commission**.

5. Related pending matters

- **Talaq-e-hasan is also under challenge:** The Supreme Court is examining **nine petitions challenging talaq-e-hasan (divorce through three successive pronouncements over separate periods)**.
- **Cases have been tagged together:** The present petition has been tagged with similar pending matters, bringing several questions concerning Muslim Personal Law before the Court.

What is the Debate Within Muslim Personal Law?

1. **Islam does not simply encourage polygamy:** The Quran permits up to **four wives** only under certain circumstances and places strict conditions on such marriages.
2. **Equality among wives is compulsory:** A man entering multiple marriages must provide complete and equal justice to all his wives.
3. **Preference for one marriage where justice is uncertain:** **Verse 3 of Surah Nisa** directs men to remain with one wife if they fear failing to maintain justice.
4. **Historical context of the provision:** The verse emerged when men could have a very large number of wives, while the provision limited the number to four.
5. **Question of constitutional protection:** The petition argues that polygamy is a permissive practice, not an essential religious practice, and therefore cannot claim automatic protection under Article 25 when tested against gender equality and constitutional morality.

What is the Position of the All India Muslim Personal Law Board (AIMPLB)?

1. **AIMPLB has sought impleadment:** The **All India Muslim Personal Law Board (AIMPLB)** has moved an application to become a party in the matter.
2. **Hindu marriage laws also retain customs:** Referring to **Section 29 of the Hindu Marriage Act, 1955**, the AIMPLB argued that Hindu marriage and divorce laws are themselves not completely uniform.
3. **Section 29(2) protects customs:** The AIMPLB pointed out that **Section 29(2)** protects certain existing customs and practices despite the statutory framework governing Hindu marriages.

Conclusion

The case requires the Supreme Court to examine whether **polygamy permitted under Muslim Personal Law** can continue alongside constitutional guarantees of equality, dignity and personal liberty. The Court must also consider claims relating to **Article 25, uniform bigamy laws and gender justice**. For now, it has only sought responses and tagged related cases; no ruling has yet been delivered.

Question for practice:

Discuss the constitutional, legal and religious issues involved in the Supreme Court's examination of polygamy under Muslim Personal Law.

Source: [The Hindu](#)

The Vexed Problem of Fertilizer Overuse and Subsidy

UPSC Syllabus: Gs Paper 3- Issues related to direct and indirect farm subsidies and minimum support price
Introduction

India's fertilizer sector faces a growing challenge of **import dependence, rising subsidy costs and inefficient fertilizer use**. Geopolitical disruptions have increased the prices of fertilizers, natural gas and other inputs, exposing India's dependence on external supplies. At the same time, heavily subsidised urea has encouraged its excessive use and created nutrient imbalance, soil degradation and diversion. The challenge is to ensure fertilizer availability and affordability while reducing wasteful consumption and fiscal pressure.

1. Present Status of India's Fertilizer Sector

1. **Large Fertilizer Consumption:** India consumes around 70 million tonnes of fertilizers annually.
2. **Dominance of Urea:** Urea accounts for around 55% of total fertilizer consumption, while annual consumption stands at nearly 40 million tonnes.
3. **Heavy Import Dependence:** Around 25% of India's urea requirement, or 10 million tonnes, is imported, mainly from Gulf countries, exposing supplies to external shocks.
4. **Dependence on Imported Inputs:** Domestic urea production also depends on imported natural gas, while India imports most potash, major phosphatic inputs and ammonia.
5. **High Subsidy Support:** The Union Budget 2026-27 provided ₹1.71 lakh crore for fertilizer subsidy, while subsidy expenditure has also risen sharply in recent years.
6. **Heavy Urea Subsidy:** A 45 kg bag of urea costs farmers around ₹270 against an average government cost of nearly ₹2,700, with its price unchanged since 2018.

Major Challenges in the Fertilizer Sector

1. **Geopolitical Supply Vulnerability:** Conflicts and disruptions in West Asia, including risks around the Strait of Hormuz, have increased uncertainty in fertilizer and natural gas supplies.

2. **Rising Import and Transport Costs:** Higher prices of urea and natural gas, along with increased shipping and insurance costs, have sharply raised India's fertilizer import expenditure.
3. **Growing Subsidy Burden:** Rising global prices increase the gap between the fixed farmer price and actual fertilizer cost, putting greater pressure on government finances.
4. **Excessive Urea Use:** Cheap urea encourages farmers to apply it in large quantities, creating excessive dependence on nitrogen-based fertilizer.
5. **Imbalanced Nutrient Use:** The recommended Nitrogen-Phosphorus-Potassium (NPK) ratio is 4:2:1, but actual usage has reached around 11:4:1.
6. **Low Nutrient Efficiency:** Studies indicate that 40-70% of applied nutrients are lost through leaching, volatilisation and runoff instead of being absorbed by crops.
7. **Diversion of Subsidised Urea:** Estimates suggest that 20-25% of urea is diverted for non-agricultural uses, including industries such as glass and plywood.
8. **Distortions in Fertilizer Distribution:** Dealer practices such as tagging can force farmers to purchase other crop nutrients while buying subsidised fertilizers, increasing their costs unnecessarily.

Consequences of the Existing Fertilizer System

1. **Pressure on the Import Bill:** Higher fertilizer and input prices can sharply increase import expenditure, adding to the economic burden created by rising fuel imports.
2. **Stress on Fiscal Consolidation:** Additional spending on fertilizer imports and subsidies can increase pressure on the fiscal deficit and affect the government's fiscal consolidation path.
3. **Declining Fertilizer Response:** The fertilizer-to-output ratio has reportedly fallen from 1:10 to around 1:2, showing lower returns from fertilizer use.
4. **Declining Soil Health:** Excessive and imbalanced fertilizer use degrades soil quality, reduces long-term fertility and affects the productive capacity of agricultural land.
5. **Groundwater and Environmental Pollution:** Nutrient losses through leaching and runoff contribute to groundwater pollution, while excessive urea use also harms the wider environment.
6. **Higher Nitrous Oxide Emissions:** Overuse of urea contributes to the release of nitrous oxide, adding a climate-related cost to inefficient fertilizer consumption.
7. **Reduced Farm Profitability:** Nutrient wastage raises input use without matching gains in output, reducing the efficiency and profitability of farming.

Government Initiatives

1. **Fertilizer Subsidy System:** The government provides heavy subsidies to keep fertilizers affordable, particularly urea, and ensure their availability to farmers.
2. **Land Record-Based Distribution:** Fertilizer sales are being linked with land records to improve identification of users and reduce diversion for non-agricultural purposes.
3. **Aadhaar Verification:** Aadhaar verification of purchasers has been used as a measure to check misuse and diversion of urea.
4. **State-Wise Fertilizer Allocation:** The Union Government allocates fertilizers to States based on factors such as land data and cropping patterns.
5. **Farmer Registry Development:** Work on a farmer registry is underway to identify which farmer is cultivating which crop and on how much land.
6. **Extension Support:** Indian Council of Agricultural Research (ICAR), State Agricultural Universities and Krishi Vigyan Kendras (KVKs) can spread knowledge on efficient nutrient management.

Need for a Shift Towards Efficient Nutrient Management

1. **Shift to Balanced Nutrient Management:** India needs to move from excessive fertilizer application towards balanced nutrient use that improves absorption and reduces wastage.
2. **Expand High Nutrient Use Efficiency Fertilizers:** High Nutrient Use Efficiency (High NUE) fertilizers are designed to improve nutrient absorption and reduce losses through advanced formulations.
3. **Reduce Conventional Fertilizer Requirement:** Field evidence suggests balanced nutrition using High NUE products can reduce conventional fertilizer needs by 25-50% in select crops.
4. **Improve Crop Productivity:** Controlled trials have shown yield increases of 15-40% in select crops, along with improvements in soil microbial activity and nutrient density.
5. **Promote Alternative Nutrient Sources:** Greater use of bio-fertilizers, micronutrients and other specialised fertilizers can support balanced nutrition and reduce excessive dependence on conventional fertilizers.
6. **Strengthen Domestic Manufacturing:** Expanding indigenous High NUE and specialty fertilizer production can reduce dependence on imported ammonia, potash, phosphates and other inputs.
7. **Rationalise Subsidies Across Fertilizers:** Subsidy levels should be adjusted to reduce the present bias towards urea and encourage balanced use of different plant nutrients.

Way Forward

1. **Coordinate Union and State Action:** States can complement Union-level allocation by planning fertilizer distribution at the block and village levels according to local requirements.

2. **Fix User-Based Fertilizer Requirements:** Farmer registries, land data and cropping patterns can help determine an appropriate quantity of urea for each actual fertilizer user.
3. **Include Tenant Farmers:** A suitable system, including self-declaration verified by landowners or local authorities, is needed for cultivators without formal land records.
4. **Move Towards Direct Subsidy Transfer:** Subsidies can be credited directly to eligible fertilizer users while fertilizers are sold at market rates, reducing misuse and excessive consumption.
5. **Link Subsidy with Actual Cultivation:** GPS-based field pictures can help verify that farmers have actually cultivated crops and used fertilizers before releasing subsidies.
6. **Address Unlawful Stocking:** Stronger monitoring and the suggested recognition of “unlawful stock” can help address diversion and other irregularities in fertilizer distribution.
7. **Encourage Crop Diversification:** Incentives can support a shift from paddy towards pulses and oilseeds, reducing dependence on fertilizer, water and related subsidies.
8. **Reduce Multiple Import Dependencies:** Crop diversification can simultaneously lower imports of fertilizers, oilseeds and pulses and reduce exposure to geopolitical supply shocks.
9. **Build Farmer Awareness and Consent:** Mass communication, farmer dialogues and agricultural extension should explain the economic and environmental costs of excessive urea use.
10. **Strengthen Policy Support and Innovation:** Coordinated policy, institutional adoption, industry-guided research and domestic innovation are needed to expand sustainable fertilizer alternatives.

Conclusion

India must move from **subsidy-driven fertilizer consumption to efficient nutrient management**. Better targeting of subsidies, balanced fertilizer use, High NUE products, stronger distribution systems and crop diversification can reduce imports and fiscal pressure. Farmer participation and pilot-based reforms are essential to improve soil health, productivity and long-term fertilizer security.

Question for practice:

Examine the challenges posed by fertilizer overuse and subsidies in India, and suggest measures to promote efficient and sustainable fertilizer use.

Source: [Businessline](#)

Can free public technology break the private coaching industry?

Source: The post “Can free public technology break the private coaching industry?” has been created based on “Can free public technology break the private coaching industry?” published in “The Hindu” on 21st August 2026.

UPSC Syllabus: GS 2- Governance

Context: The government's proposed free online coaching through Digital Public Infrastructure has the potential to democratise access to competitive examination preparation. However, private coaching provides not merely content but a structured and competitive learning ecosystem.

Potential benefits:

- **Educational equity:** It can reduce the financial burden on poor and middle-class families and overcome geographical barriers.
- **Personalised learning:** Agentic AI can provide customised content, rapid feedback and multiple learning formats.
- **Exam-oriented preparation:** Specialised modules can develop problem-solving, time management and test-taking strategies required for JEE, NEET and other competitive examinations.
- **Last-mile access:** Smart boards, offline content and satellite connectivity can extend quality coaching to remote areas.

Challenges:

- **Digital divide:** Poor internet connectivity, electricity shortages and inadequate devices can exclude disadvantaged students.
- **Content versus coaching:** Merely uploading lectures may create another video library without structured learning.
- **Lack of mentorship:** Technology cannot completely substitute teachers who provide academic and emotional support.
- **Assessment gap:** Students require regular tests, doubt resolution, performance tracking and personalised feedback.
- **Exam diversity:** JEE, NEET and UPSC have different patterns and skill requirements; a single common curriculum may dilute quality.
- **Quality assurance:** Maintaining consistently high-quality faculty and content across numerous national-level examinations would be difficult.

Way forward:

- Develop **exam-specific digital platforms** with structured courses, assessments, doubt-solving and progress tracking.
- Use **AI-based personalised learning** while retaining human teachers and mentors.
- Establish **school-based skill hubs** for periodic physical mentoring and peer learning.
- Provide **offline/downloadable content and community digital centres** in areas with weak connectivity.
- Build a common foundation for reasoning, language and general awareness while retaining specialised modules for individual examinations.
- Ensure continuous monitoring, independent evaluation and student feedback to maintain quality.

Conclusion: Free public technology can weaken excessive dependence on private coaching only when it replicates the **complete coaching ecosystem—content, testing, feedback, mentorship and peer learning**. A technology-first but human-centred hybrid model can make competitive examination preparation more equitable and accessible.

Question: “Free online coaching through India’s Digital Public Infrastructure can reduce dependence on private coaching, but access to lectures alone cannot address the deeper structural problems of competitive examination preparation.” Discuss.

Source: [The Hindu](#)

India’s gene-edited rice is ready for the fields

Source: The post “India’s gene-edited rice is ready for the fields” has been created based on “India’s gene-edited rice is ready for the fields” published in “Business Line” on 21st August 2026.

UPSC Syllabus: GS 3- Indian Economy

Context: India is preparing to commercially introduce **Pusa Rice DST1** in the upcoming rabi season, marking an important step in the application of genome-editing technology to agriculture. Along with **DRR Dhan 100 (Kamala)**, it represents an attempt to improve productivity and climate resilience in rice cultivation.

Key developments

1. **Pusa Rice DST1** has been developed by ICAR-IARI from the MTU1010 variety.
2. It involves **SDN-1 genome editing** of the **Drought and Salt Tolerance (DST) gene** to improve tolerance to drought and saline or alkaline soils.
3. Field trials reported **9.66%-30.4% yield advantages** over MTU1010 under different saline and alkaline conditions.
4. **DRR Dhan 100 (Kamala)** was developed by ICAR-Indian Institute of Rice Research from Samba Mahsuri.
5. Its gene editing targets a gene involved in **cytokinin metabolism**, increasing grains per panicle.
6. Kamala matures in around **130 days**, approximately 20 days earlier than Samba Mahsuri, and has stronger stems that reduce lodging.

Why does it matter?

1. The varieties can improve **productivity and resource-use efficiency**.
2. Pusa DST1 can help farmers cope with **drought and soil salinity**.
3. Kamala’s shorter duration can reduce the crop cycle and potentially conserve resources.
4. Climate-resilient varieties can strengthen India’s agricultural response to **climate change**.
5. Wider cultivation can potentially benefit farmers across several States, including Andhra Pradesh, Telangana, Karnataka, Tamil Nadu, Uttar Pradesh and West Bengal.

Gene editing versus GM crops

1. **GM crops** generally involve introducing genetic material from another organism into the plant.
2. **Genome editing** can make targeted changes in genes already present in the plant.
3. **SDN-1** generally produces small insertions or deletions, while **SDN-2** introduces a specific small change using a repair template.
4. **SDN-3** can introduce a new genetic sequence and remains outside the exemption applicable to SDN-1 and SDN-2.

5. India's **2022 guidelines** exempted qualifying transgene-free SDN-1 and SDN-2 plants from the more rigorous regulatory process applicable to SDN-3.
6. Both new rice varieties are **SDN-1 edited and transgene-free**.

Concerns

1. The absence of foreign DNA does not automatically establish that the crop has **no unintended effects**.
2. Unintended mutations could potentially alter gene functioning, biochemistry, nutritional characteristics, toxins or allergens.
3. The reported yield gains need to be assessed across **different environments and farming conditions**.
4. High yield gains in one trait could involve **trade-offs in other traits**.
5. Wider scientific scrutiny is required regarding the **mechanism behind the reported yield advantages**.
6. Farmers and consumers need transparent information regarding **biosafety, performance and long-term effects**.
7. The experience of GM crops such as **Bt cotton, Bt brinjal and GM mustard** shows that technological adoption also involves ecological, regulatory and socio-economic concerns.

Regulatory and global context

1. The government states that the rice varieties underwent biosafety scrutiny for **absence of foreign DNA, mutation stability and robustness of traits**.
2. Each variety was reportedly tested at **more than 50 locations during 2023-24**.
3. India currently permits **Bt cotton** as its only GM crop for commercial cultivation.
4. Bt brinjal completed the regulatory process but was not commercially approved, while GM mustard received conditional environmental clearance and became subject to legal challenges.
5. Globally, countries are developing separate regulatory approaches for transgene-free gene-edited crops.
6. The **US, Canada and Japan** have permitted certain gene-edited crops or foods.
7. The UK introduced a separate precision-breeding framework, while the **EU adopted a new framework for New Genomic Techniques in 2026**, including a category for crops involving changes that could occur naturally.

Way forward

1. India should undertake **long-term, multi-location field evaluation** before large-scale adoption.
2. Regulatory decisions should be based on **transparent and independently scrutinised scientific evidence**.
3. Biosafety assessment should examine unintended mutations, nutritional changes, allergens and ecological effects.
4. Farmers should receive adequate information, extension support and access to quality seeds.
5. Public research institutions should make relevant scientific evidence available for **wider peer and scientific scrutiny**.
6. Regulation should remain **risk-based and technology-neutral**, distinguishing gene editing from transgenic GM technology without compromising biosafety.

Conclusion: Gene-edited rice can become an important tool for making Indian agriculture **more productive, climate-resilient and resource-efficient**. However, its success should not be judged only by higher yields. A combination of **scientific transparency, rigorous biosafety assessment, multi-location testing, farmer participation and proportionate regulation** is essential for ensuring that genome editing delivers sustainable benefits to Indian agriculture.

Question: “Gene-edited rice represents a significant opportunity for India to improve agricultural productivity and climate resilience, but its commercialisation must be accompanied by robust scientific assessment and regulatory oversight.” Discuss with reference to India’s gene-edited rice varieties.

Source: [Business Line](#)

Centre's Fiscal Outlook Faces Geopolitical, Revenue Risks

UPSC Syllabus: Gs Paper 3- Indian economy

Introduction

The Centre’s fiscal outlook for **2026–27** is under pressure from recent tax changes and the **West Asian crisis**. Slower tax growth, reduced fuel excise duties and higher subsidies could affect fiscal performance. However, strong **non-tax receipts**, including Reserve Bank of India dividends, along with new revenue measures and expenditure management, may help keep the fiscal deficit and debt broadly close to the budgeted levels.

Current Fiscal Situation of India

1. **Slow Gross Tax Revenue Growth:** The Centre’s **Gross Tax Revenue (GTR)** grew by only **3.7%** in the first quarter of 2026–27.
2. **Weak Personal Income Tax Growth:** **Personal Income Tax (PIT)** grew by **6.8%**, after registering only **0.037% growth** and zero buoyancy in 2025–26.
3. **Contraction in GST Revenue:** **Goods and Services Tax (GST)** revenue contracted by **11%**, following a growth of **4.67%** during the second half of 2025–26.
4. **Impact of Tax Rationalisation:** Extensive PIT and GST rate rationalisation caused an initial revenue sacrifice, while future tax-base expansion is expected to offset losses.
5. **Decline in Union Excise Revenue:** Rising retail fuel prices led to excise duty cuts, causing **Union excise duty revenue** to contract by **22.4%**.
6. **Higher Subsidy Requirement:** Major subsidies increased by **37.4%** in the first quarter because unexpectedly high global crude oil prices raised expenditure needs.
7. **Strong Non-Tax Revenue Support:** Non-tax revenue contributed **37% of net revenue receipts**, providing significant support despite weak growth in major tax revenues.
8. **Fiscal Deficit and Debt Outlook:** Fiscal deficit is estimated at **₹18.16 lakh crore**, or **4.6% of GDP**, while the debt-to-GDP ratio is estimated at **55.8%** under the new GDP series.

Major Government Measures Supporting Fiscal Stability

1. **New Revenue Measures:** The government discontinued the **GST Compensation Cess** and introduced the **Health Security and National Security (HSNS) Cess** from **February 1, 2026**, increased windfall tax on petroleum exports from **August 3, 2026**, and **raised import duties on specified precious metals**.
2. **Reserve Bank of India Dividend:** The **Reserve Bank of India** transferred dividends in May 2026, covering **77% of budgeted dividends and profits** within three months.
3. **Expected Realisation of Other Receipts:** Budgeted **non-tax and non-debt capital receipts** are expected to be realised, strengthening the Centre's overall fiscal resources.
4. **Containing Revenue Expenditure:** Despite the rise in subsidies, revenue expenditure growth was contained at **7.4%** during the first quarter of 2026–27.
5. **Front-Loading Capital Expenditure:** Capital expenditure grew by **23.7%** in the first quarter, compared with a **23.3% contraction** in the previous quarter.

Key Challenges and Risks

A. Revenue and Fiscal Outlook Risks

1. **Continued Impact of Tax Changes:** The revenue-reducing effect of **Personal Income Tax (PIT)** and **Goods and Services Tax (GST)** rationalisation may continue until tax-base expansion improves collections.
2. **Possible Shortfall in Tax Revenue:** The estimated **Gross Tax Revenue (GTR)** may be realised or fall short by a small margin, depending on revenue performance.
3. **Lower Nominal GDP Level:** Nominal GDP is estimated at **₹391 lakh crore**, below the budgeted **₹393 lakh crore**, despite expected growth of **12.5–13%**.

B. Geopolitical and Expenditure Risks

1. **Prolonged West Asian Crisis:** Continuing geopolitical tensions may keep global crude oil prices high and volatile, while creating further supply-side uncertainties.
2. **Higher Annual Subsidy Burden:** If first-quarter trends continue, major subsidies may exceed the budgeted amount by around **₹50,000 crore** during 2026–27.
3. **Risk from Further Escalation:** A further escalation of the conflict could deliver a major shock to the economy and significantly worsen the Centre's fiscal position.

C. Centre–State Fiscal Risks

1. **Reduced Tax Devolution:** Tax devolution to States contracted by **19.5%** in the first quarter, although transfers are expected to increase later.

2. **Pressure on Shareable Resources:** The **Sixteenth Finance Commission** retained States' **41% share**, but the non-shareable HSNS Cess may marginally reduce the divisible pool.
3. **Lower Finance Commission Grants:** Finance Commission grants to States are budgeted to contract by ₹23,556 crore during 2026–27.

D. Debt and Currency Risks

1. **Pressure from External Debt:** Sustained pressure on the Indian rupee may slightly increase external debt and add to the possibility of fiscal slippage.
2. **Risk of Higher Unbudgeted Spending:** Additional subsidies and other revenue expenditure beyond budget estimates could weaken the Centre's fiscal balance during the year.

Way Forward

1. **Restore Fuel Excise Duties:** The reduction in fuel excise duties should be restored at a suitable time to strengthen Union excise revenue.
2. **Support Tax-Base Expansion:** The expected expansion of the PIT and GST tax base needs to gradually compensate for the initial revenue sacrifice.
3. **Contain Additional Subsidies:** The Centre needs to manage rising subsidy requirements, especially if the West Asian crisis keeps crude oil prices elevated.
4. **Maintain Revenue Expenditure Control:** Revenue expenditure should remain contained to prevent additional subsidies from causing a larger deviation from budgeted fiscal outcomes.
5. **Continue Capital Expenditure:** The Centre should sustain front-loaded capital expenditure while managing other fiscal pressures and maintaining the overall expenditure balance.
6. **Keep Deficit and Debt Near Targets:** Strong non-tax receipts, revenue mobilisation and expenditure control will be necessary to limit possible fiscal slippage.
7. **Prepare for Geopolitical Shocks:** Fiscal planning must account for the possibility that a further escalation of the West Asian conflict could sharply worsen conditions.

Conclusion

The Centre's fiscal outlook for **2026–27** is expected to remain broadly on track despite pressure on tax revenues and higher subsidy requirements. Strong **non-tax receipts**, particularly RBI dividends, along with additional revenue measures, provide important fiscal support. However, a shortfall in tax revenues, sustained crude oil pressures and further escalation of the **West Asian crisis** could still cause fiscal slippage.

Question for the practice:

Discuss the major revenue and expenditure challenges facing the Centre's fiscal outlook in 2026–27 and examine the measures needed to maintain fiscal stability.

Source: [The Hindu](#)

The Vanashakti Verdict – Significance and Way Forward

UPSC Syllabus: Gs Paper 3- Indian economy and Infrastructure

Introduction

The Supreme Court's **29 July 2026 judgment in *Vanashakti v. Union of India*** clarifies the legal position on projects that commenced without obtaining prior **Environmental Clearance (EC)**. The key issue was whether such projects could be allowed to continue through post-facto approval. While reaffirming that prior EC remains the rule under the **Environment Impact Assessment (EIA) Notification, 2006**, the Court also recognised the scope for a limited statutory mechanism in exceptional cases involving larger public interest.

Legal Framework for Environmental Clearance

1. **Prior Environmental Clearance:** The Environment Impact Assessment (EIA) Notification, 2006 requires specified projects to obtain Environmental Clearance before starting construction or operations.
2. **Purpose of Prior EC:** Screening, scoping, public consultation and appraisal assess environmental impacts before projects begin and before ecological damage becomes irreversible.
3. **Consequences of Violation:** Projects starting without prior EC may face restoration of the status quo, including closure, demolition where necessary, remediation and environmental cost recovery.
4. **2017 Violation-Management Scheme:** The **2017 Notification** created a one-time window for eligible violation projects to seek Environmental Clearance within six months.
5. **Environmental Safeguards:** The scheme required **environmental damage assessment, remediation measures and environmental compensation** before bringing violations into the regulatory framework.
6. **2021 Continuing Administrative Mechanism:** The **2021 Office Memorandum** created a continuing administrative mechanism for processing **post-facto Environmental Clearance applications** in violation cases.
7. **The Core Legal Question:** These mechanisms raised the question of whether existing violations could be addressed without weakening the mandatory requirement of prior **Environmental Clearance (EC)**.

Judicial Position on Post-Facto Environmental Clearance

1. ***Common Cause v. Union of India (2017)*:** The Supreme Court held that post-facto Environmental Clearance was generally alien to environmental jurisprudence, but allowed mining operations to resume after obtaining EC and paying compensation.
2. ***Alembic Pharmaceuticals v. Rohit Prajapati (2020)*:** The Court struck down an executive circular permitting post-facto EC but retained existing clearances and imposed environmental compensation under Article 142.

3. **Vanashakti v. Union of India (16 May 2025):** A two-judge Bench struck down both the 2017 Notification and the 2021 Office Memorandum, holding that projects without prior **Environmental Clearance (EC)** could not claim regularisation.
4. **Present Supreme Court Judgment (29 July 2026):** After the 2025 judgment was recalled on review, a three-judge Bench reconsidered the issue and settled the legal position on post-facto Environmental Clearance.
5. **Need to Reconcile Earlier Decisions:** The three-judge Bench examined earlier rulings to balance the mandatory requirement of prior EC with the principle of proportionality in granting relief.

The 2026 *Vanashakti* Verdict

1. **Prior EC Remains the Rule:** Projects commencing construction or operations without EC cannot ordinarily be retained through post-facto approval under the EIA Notification, 2006.
2. **Penalty Does Not Mean Regularisation:** Payment of penalties for environmental violations does not alter the EIA framework or automatically legalise projects operating without prior **Environmental Clearance (EC)**.
3. **2017 Notification Upheld:** The Court upheld it as a valid, one-time statutory mechanism for a closed class of violations, supported by environmental damage assessment, remediation and compensation.
4. **2021 Office Memorandum Quashed:** The Court struck it down because an administrative instruction cannot alter the statutory EC framework or create a continuing mechanism for post-facto approval.
5. **Limited Statutory Exception Allowed:** Section 3 of the Environment (Protection) Act, 1986 permits a narrowly tailored and time-bound statutory regime for exceptional cases in larger public interest.
6. **Safeguards for Future Mechanisms:** Any such regime must satisfy proportionality, preserve the precautionary principle and ensure environmental restoration, remediation and accountability.
7. **Existing Clearances Protected:** ECs already granted under the earlier mechanisms remain valid unless challenged on grounds independent of the validity of those mechanisms.
8. **Pending Cases and Fresh Applications:** Pending applications will be decided under the judgment's principles, while no fresh applications can be entertained under the 2017 Notification or 2021 Office Memorandum.

Significance of the *Vanashakti* Verdict

1. **Strengthens the Precautionary Principle:** The judgment reinforces the requirement that environmental consequences should normally be assessed before project activities begin.
2. **Clarifies the Limits of Executive Power:** It establishes that an administrative Office Memorandum cannot create substantive rights or alter the statutory environmental framework.

3. **Discourages Deliberate Violations:** Closing the continuing regularisation route reduces incentives for project proponents to begin activities without mandatory environmental approval.
4. **Reconciles Earlier Judicial Positions:** The judgment resolves the apparent conflict between earlier decisions by retaining prior EC as the rule while allowing limited statutory exceptions.
5. **Recognises the Problem of Legacy Violations:** Projects that missed earlier violation windows now lack the old regulatory route, creating a need for a lawful solution where public interest requires it.
6. **Applies Eco-Centric Proportionality:** The Court balances environmental protection with developmental and public interest needs without diluting the basic requirement of prior EC.
7. **Avoids Greater Environmental Harm:** The Court recognised that demolishing or closing completed, otherwise permissible projects may sometimes cause more environmental harm.

Way Forward

1. **One-Time Statutory Framework:** Any future mechanism should be created through a valid statutory notification and remain strictly limited to specified exceptional violation cases.
2. **Clearly Defined Eligibility:** The framework should identify the categories of legacy projects eligible for consideration and prevent new violations from entering the scheme.
3. **Environmental Damage Assessment:** Each eligible project should undergo proper assessment to determine the nature and extent of environmental harm already caused.
4. **Remediation and Restoration:** Projects should implement necessary measures to repair environmental damage and restore affected areas wherever possible.
5. **Environmental Compensation:** Violation projects should bear the financial cost of environmental damage and remain accountable for their non-compliance.
6. **Strict Compliance Conditions:** Any project allowed to continue must comply with environmental safeguards and conditions imposed under the statutory framework.
7. **No Permanent Regularisation Route:** The mechanism must not create an expectation that projects can violate environmental law and later obtain routine approval.
8. **Proportionate Decision-Making:** Decisions should consider environmental protection, restoration, public interest and the consequences of closure in individual exceptional cases.

Conclusion

The **Vanashakti** verdict firmly establishes **prior Environmental Clearance as the rule** and rejects permanent administrative regularisation of violations. At the same time, it leaves room for a **narrow and time-bound statutory solution** for exceptional legacy cases. The way forward lies in combining **strict compliance**,

environmental restoration, accountability and proportionate decision-making to protect both environmental integrity and legitimate public interests.

Question for practice:

Examine the significance of the *Vanashakti* verdict in strengthening environmental governance while balancing the need for development and addressing legacy environmental violations.

Source: [The Hindu](#)

Ensuring equity amid India's educational progress

Source: The post “Ensuring equity amid India's educational progress” has been created based on “Ensuring equity amid India's educational progress” published in “The Hindu” on 22nd August 2026.

UPSC Syllabus: GS 2- Governance Context: The **UDISE+ 2025-26 report** covers around **14.7 lakh schools, 24 crore students and 1.02 crore teachers**. It shows improvement in enrolment, retention, dropout reduction, teacher availability and infrastructure. However, **regional, social and economic disparities** continue to affect access, quality and learning outcomes.

Major disparities highlighted by UDISE+

1. **Regional disparities:** Gross Enrolment Ratio (GER), dropout rates, pupil-teacher ratio (PTR) and infrastructure availability vary significantly across States and Union Territories.
2. **Social disparities:** At the national level, GER is highest for **OBCs (49%)**, followed by General category (27%), SCs (17%) and STs (10%), indicating differences in enrolment relative to the population of each group.
3. **Gender:** The Gender Parity Index shows that **girls' enrolment and participation are higher than boys in most States/UTs**, indicating progress in girls' education.
4. **Aadhaar seeding:** Andhra Pradesh has the highest Aadhaar seeding at **99.6%**, while Meghalaya has the lowest at **35%**, against the national average of **90.2%**.
5. **Unequal school structure:** West Bengal has a high proportion of foundational and preparatory schools, while Chandigarh has a very high share of secondary schools. This reflects differences in the availability and structure of schools across regions.
6. **School size:** Average enrolment per school is very high in **Chandigarh (1,194)** and Delhi (788), while it is very low in **Ladakh (64)**, showing substantial regional differences in school size.

Regional differences in GER

1. **Foundational stage:** Meghalaya records the highest GER at **131**, while Bihar records the lowest at **24**.
2. **Preparatory stage:** Meghalaya has the highest GER at **171**, while Gujarat has the lowest at **74**.
3. **Middle stage:** Chandigarh and Meghalaya record the highest GER at **118**, while Bihar records the lowest at **70**.
4. **Secondary stage:** Chandigarh records the highest GER at **109**, while Bihar has the lowest at **48**.
5. These variations show that **access and continuation in education remain uneven across India**.

Teacher-related challenges

1. The **pupil-teacher ratio (PTR)** varies significantly between States and across educational stages.

2. **Jharkhand has the highest secondary PTR at 43**, followed by Uttar Pradesh, indicating a heavy workload on teachers.
3. In contrast, **Sikkim has a secondary PTR of only 6**, followed by Ladakh.
4. Rural and remote schools often face teacher shortages, with teachers handling **multiple classes, subjects and non-teaching duties**.
5. High PTR reduces individual attention and can adversely affect learning outcomes.

Dropout and transition challenges

1. **Bihar** has the highest preparatory-stage dropout rate at **7.9%** and the highest middle-stage dropout rate at **9%**.
2. **Ladakh** has the highest secondary-stage dropout rate at **14.8%**, followed by Karnataka.
3. West Bengal has a low secondary dropout rate of **1.5%**.
4. High dropout rates affect **educational attainment and transition to higher stages of schooling**.
5. Although girls' participation has improved, challenges remain in reducing dropout and ensuring transition from **primary to secondary education**.

Infrastructure and accessibility gaps

1. Access to drinking water and electricity has improved, but infrastructure remains uneven across regions.
2. **Rural, hilly, tribal, remote and border areas** continue to face shortages of schools and transport facilities.
3. Districts such as **Bageshwar, Ganjam, Kandhamal, Kathua and Palghar** face accessibility challenges.
4. Children from **SC, ST, minority and economically weaker families** face greater barriers to enrolment, attendance and completion.
5. Educationally backward districts continue to face weaker learning environments compared with urban areas.

Inclusion challenges

1. Children with disabilities continue to face inadequate access to **suitable facilities, accessible classrooms and inclusive infrastructure**.
2. Inclusive education requires not only physical accessibility but also **supportive teaching practices**.
3. Social and economic disadvantages can reinforce educational inequalities among vulnerable groups.

Way forward

1. **Targeted investment** should be directed towards educationally deprived and remote regions.
2. Teacher deployment should be made more **equitable**, with special attention to rural, tribal, hilly and border areas.
3. Teacher shortages should be reduced and teachers should be protected from excessive **non-teaching responsibilities**.
4. Schools should receive adequate **digital infrastructure and learning resources**.
5. Transport and school infrastructure should be strengthened in remote areas.
6. Special support should be provided to **SCs, STs, minorities, economically weaker families and children with disabilities**.
7. Measures to reduce dropout and improve transition to secondary education should be strengthened.

8. In line with **NEP 2020**, education policy should focus simultaneously on **access, equity, inclusion and quality**.

Conclusion: India has made substantial progress in expanding school education, particularly in enrolment, girls' participation, infrastructure and teacher availability. However, the UDISE+ data show that **progress has not been uniform**. A combination of targeted investment, equitable teacher deployment, inclusive infrastructure, digital access and support for disadvantaged groups is necessary to ensure that educational progress translates into **equal learning opportunities for every child**.

Question: The UDISE+ 2025-26 data indicate significant progress in India's school education system, but also reveal persistent regional and social inequalities. Discuss the major challenges to equitable and inclusive school education in India and suggest measures to address them.

Source: [The Hindu](#)

Crop Cutting Experiments and the Reliability of India's Agricultural Data

Source: The post "**Crop Cutting Experiments and the Reliability of India's Agricultural Data**" has been created based on "**Crop Cutting Experiments and the Reliability of India's Agricultural Data**" published in "**Down To Earth**" on 22nd August 2026.

UPSC Syllabus: GS 3 Science and technology

Context: India's official crop production estimates are mainly based on **crop area and average yield per hectare**. The average yield is estimated through **Crop Cutting Experiments (CCEs)**, making their accuracy important for agricultural policy, food security and farmers' welfare.

About Crop Cutting Experiments (CCEs)

1. CCEs involve harvesting, threshing, cleaning and weighing the crop from a **scientifically selected small plot within a field**.
2. The yield obtained from this sample is used to estimate **yield per hectare**.
3. The estimated yield, along with the total area under the crop, is used to calculate crop production at the **district, state and national levels**.
4. The system has expanded significantly, from about **1.73 lakh CCEs in 1973-74 to over 11.62 lakh in 2023-24**.
5. State Agricultural Statistics Authorities conduct the CCEs, while the **Field Operations Division of MoSPI** provides technical guidance and monitors compliance with scientific procedures.

Importance of CCEs

1. CCE-based production estimates guide the **procurement strategy** of the Food Corporation of India and state agencies.
2. They help determine the scale of **Minimum Support Price (MSP) procurement**.
3. They are used to assess foodgrain availability for the **Public Distribution System (PDS)**.
4. They influence decisions on **agricultural exports and imports** and national food-security planning.
5. In several states, these estimates are also used for **crop insurance claims** and assessment of agricultural performance.

Key findings of the NSO report, 2023-24

1. Only **72% of CCEs** were conducted according to the prescribed scientific procedure, while **28% had procedural lapses, rule violations or other errors.**
2. About **11% of CCEs** had procedural errors, including incorrect plot selection and improper harvesting or weighing.
3. Around **10%** had errors in recording important ancillary information such as **irrigation, seed variety and fertiliser use**, which can affect subsequent analysis.
4. **Sample replacement was widespread.** Selected villages or fields had to be changed in most states because the required crop was unavailable. This affected states such as Andhra Pradesh, Assam, Bihar, Chhattisgarh, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Tamil Nadu, Uttarakhand and Puducherry.
5. The report identified **outdated GCES plans, delayed field selection and inadequate coordination with farmers** as major reasons for sample replacement.
6. **Supervision was inadequate.** National supervision rates were only **85% in Pre-Kharif, 81% in Kharif, 80% in Rabi and 88% in summer**, meaning that around one in five CCEs was not effectively supervised on average.
7. Several states recorded supervision rates below **80%**, particularly during different crop seasons, including Himachal Pradesh, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Uttar Pradesh and West Bengal.
8. The report also highlighted the problem of **untrained personnel** conducting CCEs. This was particularly serious in **Jharkhand (41%) and Uttar Pradesh (40%)**, with concerns also reported in Jammu & Kashmir, Madhya Pradesh, Maharashtra and West Bengal.
9. In Rajasthan, CCE responsibilities were frequently **delegated to personnel other than those originally assigned**, raising concerns about adherence to prescribed procedures.
10. The report stresses that CCEs require accurate **field selection, plot demarcation, harvesting, threshing, cleaning, weighing and data recording.** Errors at any stage can affect yield estimates.

Way forward

1. States should aim for **100% supervision** of CCEs, as recommended by the report.
2. The **GCES plan should be regularly updated** and fields should be selected on time.
3. Better coordination with farmers can reduce unnecessary replacement of selected villages and fields.
4. Only **properly trained personnel** should conduct CCEs.
5. Stronger monitoring and adherence to scientific sampling procedures are necessary to improve the credibility of agricultural statistics.

Conclusion: CCE data form the **foundation of India's official crop production estimates.** The NSO findings, particularly the **28% procedural lapse rate, inadequate supervision, sample replacement and use of untrained personnel**, raise concerns about the reliability of these estimates. Strengthening the scientific integrity, training and supervision of CCEs is therefore essential for evidence-based agricultural policy and food-security planning.

Question: What are Crop Cutting Experiments (CCEs)? Discuss their importance in estimating India's agricultural production and examine the key findings of the NSO report on the quality of CCEs.

Source: [Down To Earth](#)

Unimpeded Trade Needs IPMDA as the Answer

UPSC Syllabus: Gs Paper 2- International Relations

Introduction

Despite difficulties in India-U.S. relations, both sides need cooperation on trade, energy and **Maritime Domain Awareness (MDA)** to protect unimpeded trade. The West Asia crisis has shown that disruptions in major sea routes can affect energy supplies and global commerce. As maritime coercion, illegal activities and surveillance gaps grow, the **Indo-Pacific Partnership for Maritime Domain Awareness (IPMDA)** offers a practical framework for improving maritime transparency and regional cooperation.

Importance of the Indo-Pacific for Global Trade

1. **A major global trade corridor:** The Indo-Pacific carries nearly **\$7 trillion in trade annually**, linking Persian Gulf energy producers with East Asian manufacturing centres and consumer markets across the Americas.
2. **Critical maritime choke points:** The region includes the **Malacca, Lombok and Sunda Straits, Strait of Hormuz, Bab-al-Mandeb and Mozambique Channel**, which are crucial for energy and container supplies.
3. **West Asia crisis and trade disruption:** The energy crisis arising from the war in West Asia has shown how instability can disrupt maritime routes and affect economies beyond the region.
4. **Freedom of navigation and supply chains:** Global supply chains depend on open sea routes, but freedom of navigation is increasingly contested by coercive and disruptive activities.
5. **Limits of unilateral protection:** Geographic scale, different jurisdictions and institutional gaps make it difficult for even the United States to monitor and secure these vast waters alone.

Growing Maritime Surveillance Deficit and Threats

1. **Meaning of Maritime Domain Awareness:** MDA provides a shared understanding of maritime activities and their effects on **security, safety, the economy and the marine environment**.
2. **Dark shipping:** Hundreds of vessels disable their **Automatic Identification System (AIS)** transponders to evade sanctions, conceal cargo, or avoid detection during suspicious activities.
3. **Smuggling and covert transfers:** Vessels operating without AIS signals may engage in smuggling or **ship-to-ship transfers of contraband**, creating security and safety risks.
4. **Illegal fishing:** Smaller vessels outside mandatory AIS requirements may engage in illegal fishing, depleting regional fish stocks and threatening the food security of littoral states.
5. **Grey-zone coercion:** State-affiliated and non-state actors increasingly use intimidation and coercion while remaining below the threshold of conventional military or legal responses.
6. **A widening surveillance gap:** The Indian Ocean, South China Sea and Western Pacific remain difficult to monitor continuously, creating gaps that illegal and coercive actors can exploit.

7. **No country can monitor alone:** The scale of the Indo-Pacific requires cooperation because no single country possesses the capacity to maintain complete maritime surveillance across the region.

The Quad's Response to the Maritime Challenge

1. **Launch of IPMDA:** The **Indo-Pacific Partnership for Maritime Domain Awareness (IPMDA)** was announced on **24 May 2022** at the Quad Leaders' Summit in Tokyo.
2. **A practical Quad initiative:** IPMDA is a flagship Quad mechanism that improves maritime awareness without creating a new treaty or imposing binding obligations.
3. **Focus on data fusion:** It combines commercial satellite-based radio-frequency monitoring, synthetic-aperture radar and AIS data to identify activities that individual data sources may miss.
4. **Detection of dark vessels:** By comparing radio-frequency and radar signals with missing AIS transmissions, IPMDA can identify suspicious vessels attempting to avoid detection.
5. **Use of existing information hubs:** Maritime information is shared through regional centres, allowing partner states to receive data without creating a new Quad-owned surveillance facility.
6. **Regional information-sharing centres:** IPMDA shares maritime data through three existing centres—the **Information Fusion Centre–Indian Ocean Region (IFC-IOR) in Gurugram, India;** the **Information Fusion Centre in Singapore;** and the **Pacific Islands Forum Fisheries Agency (FFA) in Honiara, Solomon Islands.**
7. **Accessible and unclassified information:** Commercial and unclassified data allow non-Quad countries to participate without depending on classified military intelligence from any single power.
8. **Expansion and capacity building:** IPMDA has expanded its regional reach through wider data-sharing, while the **Maritime Initiative for Training in the Indo-Pacific (MAITRI)** helps partner countries use maritime data and strengthen their capacity to police their waters.

India-U.S. Cooperation and Benefits for Regional Partners

1. **Strategic importance of India-U.S. cooperation:** Stronger cooperation is necessary for full IPMDA operationalisation, especially as the United States seeks regional support for wider maritime responsibilities.
2. **SeaVision technology cooperation:** In **2025**, India purchased SeaVision technology from the United States, including software improvements, training and logistical support for MDA cooperation.
3. **India's institutional advantage:** The **Information Fusion Centre–Indian Ocean Region (IFC-IOR)**, established in Gurugram in **2018**, complements IPMDA's regional information-sharing architecture.
4. **Respecting sovereignty while expanding reach:** IPMDA allows India to strengthen its maritime reach through shared information without compromising its sovereignty or creating binding commitments.

5. **Reducing the burden on the United States:** Regional cooperation in the Indian Ocean can help the United States focus greater attention on its immediate strategic priorities in the Pacific and Atlantic.
6. **Support for capacity-constrained states:** Countries such as **Bangladesh, Maldives, Seychelles, Sri Lanka and Fiji** can gain better maritime visibility beyond the limits of their existing surveillance systems.

Way Forward

1. **Convert information into enforcement:** Detecting a suspicious vessel is insufficient unless coastal states also have the capacity and resources to intercept or prosecute it.
2. **Strengthen training and operational capacity: MAITRI and parallel coast-guard cooperation** should help partners use maritime information and strengthen their ability to police their waters.
3. **Ensure sustained access to data:** Commercial satellite data and subscriptions require continuous funding, particularly for small island states dependent on external financial support.
4. **Address data reliability and legal issues:** Questions regarding accuracy, attribution and the legal value of fused data must be addressed when countries use it for interdiction or prosecution.
5. **Expand regional participation:** IPMDA should involve **ASEAN partner states, Pacific Island nations and other willing partners** to strengthen maritime surveillance across critical regional corridors.
6. **Strengthen information-sharing architecture:** Existing regional information-sharing centres should effectively integrate and share maritime data to create a layered and near-continuous picture of maritime activities.
7. **Encourage European Union engagement:** The **United States and India** should cultivate the European Union's interest in free and open trade to expand support for IPMDA.
8. **Present IPMDA as a regional public good:** Its focus on fisheries protection and humanitarian response can encourage participation from states concerned about bloc politics.
9. **Use transparency as deterrence:** Better maritime visibility can deter covert and coercive activities by making them more difficult to conceal.

Conclusion

IPMDA provides a practical answer to the growing gap between the need for open maritime trade and limited surveillance capacity. Stronger India-U.S. cooperation, wider regional participation, sustained data access and improved enforcement capacity can make it more effective. In an increasingly contested Indo-Pacific, **maritime transparency can support deterrence, protect freedom of navigation and help secure unimpeded global trade.**

Question for practice:

Discuss the role of the Indo-Pacific Partnership for Maritime Domain Awareness (IPMDA) in ensuring unimpeded trade and strengthening maritime security in the Indo-Pacific.

Source: [The Hindu](#)

Tribunal Reform 2026: Old Wine in a New Bottle

UPSC Syllabus: Gs Paper 2- Statutory, regulatory and various quasi-judicial bodies.

Introduction

The **Tribunals Reforms Act, 2026** repeals and replaces the 2021 framework with the **National Tribunals Commission (NTC)**, a five-year tenure and revised selection rules. However, the same basic structure largely continues, including the **16 tribunals** and an important role for the Central Government. The key question is whether these changes ensure genuine **tribunal independence** or mainly repair the constitutional defects of the 2021 framework.

Tribunals in India: Meaning, Constitutional Basis and Evolution

- 1. Specialised adjudicatory institutions:** Tribunals are judicial or quasi-judicial bodies established by law to decide specialised disputes requiring faster resolution and subject-specific expertise.
- 2. Alternative to traditional courts:** They were developed to reduce the burden on regular courts and provide specialised adjudication in technical and sector-specific matters.
- 3. Constitutional basis under the 42nd Amendment:** Articles 323A and 323B were inserted in 1976, providing the constitutional basis for establishing tribunals.
- 4. Article 323A and administrative tribunals:** It empowers Parliament to establish administrative tribunals (both at central and state level) for disputes related to recruitment and service conditions of public servants.
- 5. Article 323B and tribunals on specified subjects:** It allows Parliament and State Legislatures to establish tribunals on subjects such as taxation and land reforms through legislation.
- 6. Tribunal powers are not limited to listed subjects:** The Supreme Court clarified in 2010 that legislatures may establish tribunals on subjects within their legislative powers under the Seventh Schedule.
- 7. A long institutional evolution:** The Income Tax Appellate Tribunal, established in 1941, was an early example, followed by administrative and sector-specific tribunals after 1976.
- 8. Tribunals may function at different levels of the judicial system:** Some tribunals act as substitutes for High Courts, with appeals going directly to the Supreme Court, while others remain subordinate to High Courts, where appeals lie before the corresponding High Court.

Tribunal Reforms in India

- 1. Tribunal rationalisation began before 2021:** The reform process started with the Finance Act, 2017, which abolished or merged tribunals and reduced their number from 26 to 19.

2. **Centralised service rules were introduced:** The 2017 framework empowered the Central Government to prescribe qualifications, selection, tenure and other service conditions for remaining tribunals.
3. **Judicial intervention shaped tribunal reforms:** In **Roger Mathew**, the Supreme Court recommended an **independent National Tribunals Commission (NTC)**, while the **Madras Bar Association** cases stressed **judicial independence and limits on Executive control**.
4. **The NTC was envisaged as an independent oversight body:** The Supreme Court proposed an **independent National Tribunals Commission to oversee appointments, service conditions, infrastructure and tribunal functioning**.
5. **The Tribunals Reforms Act, 2021 continued rationalisation:** It abolished five more tribunals and created a common framework for qualifications, appointments, tenure, salaries, removal and service conditions.
6. **The 2021 framework created fresh constitutional disputes:** It imposed a minimum age of 50 years, a four-year tenure, and a two-name recommendation process for appointments.

Why Was a New Tribunal Reform Framework Needed?

1. **The 2021 framework failed constitutional scrutiny:** In *Madras Bar Association v. Union of India*, the Supreme Court struck down provisions that affected judicial independence and separation of powers.
2. **The age restriction had to be reconsidered:** The bar on appointing persons below 50 years was among the provisions rejected under the earlier framework.
3. **The four-year tenure was constitutionally questioned:** A short tenure raised concerns about institutional continuity and the independence of tribunal members.
4. **The two-name recommendation system faced criticism:** Allowing the Executive to choose from two recommended names raised concerns about excessive executive influence in appointments.
5. **The Supreme Court sought an independent institutional mechanism:** The Court directed the Union Government to establish an NTC with independence, expertise, transparency and proper oversight.
6. **The 2026 framework responded to these judicial concerns:** Its purpose was to replace the constitutionally defective parts of the 2021 system with a revised institutional arrangement.

What Is New in the Tribunals Reforms Act, 2026?

1. **National Tribunals Commission (NTC):** The NTC will handle selections, performance review, complaint inquiries and the National Tribunals Data Grid.
2. **Judicial and technical composition:** It will have a chairperson, **two judicial members and two technical members**.

3. **Five-year tenure:** The tenure of tribunal chairpersons and members has increased from **four years to five years**.
4. **Removal of minimum age:** The earlier **minimum age requirement of 50 years** has been removed.
5. **Revised selection process:** Search-cum-Selection Committees continue, but the earlier **two-name panel has been replaced by one recommended candidate**.

Major Concerns with the Tribunals Reforms Act, 2026

1. **Executive role in appointments:** The Central Government remains the final appointing authority, retaining an important role despite stronger judicial participation in the selection process.
2. **Uncertainty over recommendations:** Although the Act sets a **three-month deadline**, it does not clearly state what happens if the Government delays, rejects or seeks another candidate.
3. **Judicial primacy:** The **two-name panel** has been replaced by one recommended candidate and judicial participation has increased, but final appointment power remains with the Executive.
4. **Limited institutional continuity:** The **five-year tenure** may still lead to the loss of specialised knowledge, procedural experience and institutional memory when experienced members leave.
5. **NCLT-NCLAT inconsistency:** The National Company Law Appellate Tribunal (NCLAT) is covered under the new framework, while NCLT remains excluded despite being its original adjudicatory body, creating an unexplained gap in uniform tribunal governance.

Reform or Repair? What Remains from the 2021 Framework?

1. **Same tribunal structure:** The First Schedule again covers **16 tribunals and authorities**, showing that the overall institutional structure remains largely unchanged.
2. **Common framework:** Qualifications, selection, appointments, salaries, removal and service conditions continue to be governed through a common legislative framework.
3. **Selection mechanism:** **Search-cum-Selection Committees** remain part of the system, although their composition and recommendation process have changed.
4. **Executive presence:** The Central Government continues to hold an important position in the appointment structure despite stronger judicial participation.
5. **Centralised framework:** Parent statutes are again aligned with the new law, allowing a common framework to govern covered tribunals.
6. **Correction, not redesign:** The 2026 Act addresses concerns over **tenure, minimum age and selection**, but retains much of the 2021 legislative architecture.
7. **Uniformity and independence:** A common framework may improve administrative uniformity, but tribunals still require institutional safeguards because they exercise judicial power.

8. **Real test:** The reform's success will depend on whether the **National Tribunals Commission** actually reduces executive influence and strengthens tribunal independence.

Way Forward: Towards Genuine Tribunal Reform

1. **Independent NTC:** The **National Tribunals Commission (NTC)** must function independently and protect tribunal appointments and administration from excessive Executive influence.
2. **Timely Appointments:** Appointment timelines should ensure actual appointments and prevent avoidable delays after candidates are recommended.
3. **Judicial Primacy:** The selection process should maintain judicial primacy to protect adjudicatory neutrality and institutional independence.
4. **Administrative Independence:** Reforms should address vacancies, infrastructure, funding and dependence on parent ministries, which affect effective and independent functioning.
5. **Data-Based Oversight:** The **National Tribunals Data Grid** should track vacancies, pendency, disposal, case age and other indicators of institutional performance.
6. **Broader Evaluation:** Performance review should consider judicial quality, case complexity, appellate reversals, vacancies and administrative support, not only disposal numbers.
7. **Coverage Gaps:** The exclusion of **National Company Law Tribunal (NCLT)** and **Goods and Services Tax Appellate Tribunal (GSTAT)** requires a clear explanation or correction if no substantive reason exists.

Conclusion

The **Tribunals Reforms Act, 2026** makes meaningful corrections through the **NTC, five-year tenure and revised selection rules**, but much of the 2021 structure survives. Its success will depend on whether appointments, administration and resources become genuinely independent of excessive executive influence. Tribunal reform will be complete only when tribunals can function independently and decide against the government when required by law.

Question for practice:

Examine whether the Tribunals Reforms Act, 2026, represents a genuine reform of India's tribunal system or merely a correction of the 2021 framework.

Source: [Businessline](#)

What is regenerative agriculture and why does India need it?

Source: The post "What is regenerative agriculture and why does India need it?" has been created based on "What is regenerative agriculture and why does India need it?" published in "Indian Express" on 6th July 2026.

UPSC Syllabus: GS-3-Economy

Context: **Regenerative agriculture** is a holistic approach to farming that focuses on restoring **soil health, biodiversity and natural farming systems** while maintaining agricultural productivity. Unlike conventional

sustainability approaches that mainly seek to maintain existing conditions, regenerative agriculture aims to **improve the condition of land over time.**

Key Principles

1. It seeks to **minimise soil disturbance** and maintain soil cover.
2. It promotes **living roots of perennial crops** and greater biodiversity.
3. It encourages **integration of livestock with farming.**
4. It aims to **reduce dependence on chemical inputs** and restore natural **soil processes.**

Major Practices

1. **Micro-irrigation:** Drip and sprinkler systems improve water-use efficiency and reduce wastage.
2. **Natural farming:** It uses biological inputs such as Beejamrut, Jeevamrut, GhanJeevamrut, Neemastra and Dashparni, along with mulching, cover cropping, multi-cropping and livestock integration.
3. **Soil health management:** Green manuring, cover crops and mulching increase organic matter, conserve moisture and reduce soil erosion.
4. **Integrated Farming Systems:** Combining crops with livestock, fisheries, horticulture, agroforestry and apiculture diversifies livelihoods and reduces the risk of crop failure.
5. **Agroforestry:** Integrating trees with crops can provide additional income, improve soil moisture, regulate local temperatures and store carbon.

Why India Needs Regenerative Agriculture

1. India's agriculture and allied sectors recorded **4.45% decadal growth during FY16-FY25**, but sustaining this growth requires healthy soils, adequate water and resilient farming systems.
2. Intensive cultivation and heavy chemical use can put pressure on **soil health and farm productivity.**
3. Erratic rainfall, heatwaves, dry spells and excessive rainfall increase risks, particularly for **small and marginal farmers.**
4. Regenerative agriculture can make farming more **resource-efficient and resilient** to climate and market uncertainties.

Benefits for Farmers and Environment

1. It can improve **soil fertility, soil structure and water retention.**
2. Better soil cover can reduce **erosion and runoff.**
3. Greater biodiversity can support **pollinators, beneficial insects and soil microorganisms.**
4. Reduced dependence on synthetic fertilisers, pesticides and irrigation can help **lower input costs.**
5. Improved soil and farming systems can enhance **climate resilience and carbon storage.**
6. Diversified farming can provide **additional livelihood opportunities** and reduce the risk of crop failure.

Government Initiatives

1. **National Mission on Natural Farming:** Launched in 2024, it provides an output-based incentive of **₹4,000 per acre per year for two years**, covering up to one acre per farmer. By March 5, 2026, **18,786 natural farming clusters** had been formed, covering **8.80 lakh hectares** and enrolling **18.19 lakh farmers.**
2. **Per Drop More Crop:** It promotes drip and sprinkler irrigation. By May 2026, it had covered about **109 lakh hectares**, with **₹26,325 crore** released as central assistance.
3. **Rainfed Area Development Programme:** It promotes integrated farming systems. It covered **9.53 lakh hectares** and benefited **15.73 lakh farmers**, with **₹2,251.98 crore** provided as central assistance to states as of December 2025.
4. **Soil Health Card Scheme:** Launched in 2015, it provides plot-wise soil test reports and crop-specific recommendations. By March 13, 2026, **25.89 crore Soil Health Cards** had been generated.

Challenges

1. **Soil degradation:** Intensive cultivation and heavy chemical use can negatively affect soil health.

2. **Water stress:** Erratic rainfall and increasing climate-related stresses make water management difficult.
3. **Climate vulnerability:** Heatwaves, dry spells and excessive rainfall can affect farm productivity.
4. **Small farmer vulnerability:** Small and marginal farmers face greater risks from climate variability and crop failure.
5. **Dependence on external inputs:** Reducing dependence on synthetic fertilisers and pesticides requires greater adoption of natural and biological alternatives.
6. **Market uncertainty:** Farmers also face risks from market fluctuations, making diversified and resilient farming systems important.

Way Forward

1. **Promote natural farming:** Expand practices such as biological inputs, mulching, cover cropping and multi-cropping.
2. **Improve water-use efficiency:** Greater adoption of drip and sprinkler irrigation can reduce water wastage.
3. **Strengthen soil health:** Promote green manuring, cover cropping and mulching to improve organic matter and moisture retention.
4. **Encourage diversification:** Integrate crops with livestock, fisheries, horticulture, agroforestry and apiculture to reduce dependence on a single activity.
5. **Expand agroforestry:** Integrating trees with crops can provide additional income while improving soil moisture and storing carbon.
6. **Strengthen scientific soil management:** Soil Health Cards can help farmers understand soil conditions and adopt crop-specific recommendations.
7. **Scale up government support:** Existing initiatives such as the **National Mission on Natural Farming, Per Drop More Crop, Rainfed Area Development Programme and Soil Health Card Scheme** should continue supporting regenerative practices.

Conclusion: Regenerative agriculture shifts the focus from **short-term production to long-term productivity of land**. For India, it offers a pathway towards **healthier soils, efficient water use, greater biodiversity, climate-resilient farms and more secure farmer livelihoods**.

Question: What is regenerative agriculture? Discuss its key principles, major practices and significance for India's agricultural sustainability and climate resilience. Also highlight the government initiatives supporting it.

Source: DD News

Floating Solar: India's Next Renewable Energy Success Story?

Source: The post "Floating Solar: India's Next Renewable Energy Success Story?" has been created based on "Floating Solar: India's Next Renewable Energy Success Story?" published in "Indian Express" on 6th July 2026.

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UPSC Syllabus: GS-3-Economy

Context: India's rapid growth in solar capacity is facing land constraints due to competing demands from agriculture, urbanisation and conservation. In this context, floating solar offers a land-saving alternative, and the PM Surya Sarovar Yojana aims to accelerate its large-scale adoption across India.

About Floating solar

1. It refers to solar panels mounted on floating platforms placed on water bodies such as **reservoirs, lakes and industrial ponds**.
2. The platforms are anchored to the reservoir bed or banks, and the electricity generated is transmitted to the shore through cables.
3. With increasing land constraints for solar projects, floating solar can help India expand renewable **energy capacity without requiring additional land**.

Significance for India

1. **Land conservation:** It avoids competition for land with agriculture, urbanisation and ecological conservation.
2. **Large potential:** India's floating solar potential is estimated at **102 GW**, considering only 20% usage of reservoir areas, while current installed capacity is only about **700 MW**.
3. **Water conservation:** Solar panels can reduce evaporation from covered portions of water bodies, although the extent depends on local conditions and reservoir characteristics.
4. **Higher efficiency:** Water beneath the panels helps keep them cooler, improving their performance, particularly during hot summers.
5. **Clean energy:** It provides an additional source of renewable electricity and can complement ground-mounted and rooftop solar.
6. **Existing experience:** The **100 MW Ramagundam project** in Telangana and **92 MW Kayamkulam project** in Kerala were commissioned in 2022. The planned **600 MW Omkareshwar Floating Solar Park** in Madhya Pradesh is another major project.

About PM Surya Sarovar Yojana (PM-SSY)

1. PM-SSY is the **first dedicated national initiative** aimed at scaling up floating solar in India.
2. It targets **5,000 MW of floating solar capacity** with a total outlay of **₹5,070 crore**.
3. It also supports co-located energy storage with a minimum storage capacity of **2 hours**, amounting to **10,000 MWh** of cumulative storage capacity.
4. It provides **₹1 crore per MW** as central financial assistance for eligible projects upon commissioning.
5. Up to **₹0.5 crore per project** is available for feasibility and preparatory activities such as hydrographic and environmental assessments.
6. The scheme can also promote **domestic manufacturing and employment** across the floating solar value chain.

Challenges

1. **High costs:** Floating solar is more expensive than ground-mounted solar due to floating platforms, anchoring systems, specialised equipment and installation costs.
2. **Storage costs:** Addition of energy storage systems can further increase capital requirements.
3. **Climate risks:** Strong winds, waves and changing water levels require climate-resilient designs.
4. **Ecological concerns:** Poorly planned projects may affect aquatic life, water quality, biodiversity, bird habitats and fisheries.
5. **Site selection:** Suitable water bodies require detailed feasibility studies, hydrographic assessments and environmental assessments.
6. **Institutional coordination:** Multiple agencies, including water resources departments, electricity utilities, environmental authorities, municipal bodies and industries, may be involved.
7. **Financial viability:** Developers require affordable financing and clear revenue streams through long-term power purchase agreements.

8. **Regulatory complexity:** Lack of clear frameworks for identifying water bodies, allocating them and defining institutional responsibilities can delay projects.

Way Forward

1. **Scientific site selection:** Identify suitable water bodies through comprehensive hydrographic and environmental assessments.
2. **Ecological safeguards:** Exclude ecologically sensitive areas and locations important for biodiversity, birds and fisheries unless thorough assessments establish their suitability.
3. **Climate-resilient design:** Develop systems capable of withstanding extreme winds, waves and fluctuating water levels.
4. **Affordable financing:** Improve access to low-cost finance and ensure bankable projects with predictable revenue streams.
5. **Streamline approvals:** Establish clear frameworks for water-body allocation and institutional responsibilities.
6. **Strengthen coordination:** Improve coordination among state agencies, utilities, water and irrigation departments, environmental authorities and other stakeholders.
7. **Promote domestic manufacturing:** Use the expansion of floating solar to strengthen the domestic supply chain and generate employment.
8. **Integrate storage:** Develop floating solar along with suitable energy storage to improve grid stability.

Conclusion: Floating solar can become an important **complement to ground-mounted and rooftop solar**, helping India expand renewable capacity while reducing pressure on scarce land. **PM-SSY provides the policy and financial push**, but its success will depend on environmentally responsible site selection, climate-resilient designs, affordable financing and effective institutional coordination.

Question: What is floating solar technology? Discuss its significance for India, the challenges associated with its large-scale adoption and the way forward.

Source: [Indian Express](#)

Vande Mataram and the Right to Dissent

UPSC Syllabus: Gs Paper 2- Constitution of India

Introduction

The **Prevention of Insults to National Honour (Amendment) Act, 2026** extends criminal-law protection to **Vande Mataram**, similar to the National Anthem. This raises questions about its historical and constitutional status, the freedom of conscience, and the right to remain silent. The central issue is whether respect for a national symbol can coexist with an individual's right to peaceful non-participation and dissent.

Historical Status and Recognition of Vande Mataram

1. **Origin and freedom struggle:** Vande Mataram, written by Bankim Chandra Chatterjee, appeared in his 1882 novel *Anandamath* and became popular during India's freedom movement.
2. **Early public recognition:** Rabindranath Tagore first publicly recited Vande Mataram at the 1896 session of the Indian National Congress in Calcutta.
3. **Meaning of the expression:** In "Vande Mataram", *Vande* means to praise or celebrate, while *Mataram* means mother.
4. **1937 decision on official use:** In October 1937, the Congress Working Committee decided that only the first two stanzas would be sung at official gatherings.
5. **Reason for limiting the stanzas:** The later stanzas contain devotional and goddess-centred references, while some verses of *Anandamath* were also seen as portraying Muslims as adversaries.
6. **Nature of the first two stanzas:** The first two stanzas use pastoral and secular imagery and do not contain references to any deity.

7. **Recognition in 1950:** On January 24, 1950, Dr. Rajendra Prasad declared Jana Gana Mana as the National Anthem and said Vande Mataram would be honoured equally.
8. **Different status from the National Anthem:** Vande Mataram was neither declared the National Anthem nor a co-anthem, and the Constitution contains no reference to a "National Song".

Judicial Position on National Symbols and Individual Rights

1. **Balancing national respect and individual rights:** The question of respecting national symbols also involves whether citizens can be compelled to participate despite genuine religious objections.
2. **Central constitutional issue:** *Bijoe Emmanuel v. State of Kerala (1986)* examined whether citizens could refuse to sing the National Anthem because of genuine religious beliefs.
3. **Religious basis of non-participation:** Three students belonging to Jehovah's (Christian religious group) Witnesses stood respectfully during the National Anthem but refused to sing because of their religious convictions.
4. **Protection under Article 19(1)(a):** The Supreme Court held that freedom of speech and expression includes the right to remain silent.
5. **Protection under Article 25:** Compelling a person to sing despite a genuine religious objection can violate freedom of conscience under Article 25(1).
6. **Respect does not require singing:** The Court held that respect for the National Anthem can be shown by standing respectfully, without necessarily joining in the singing.
7. **Fundamental rights over fundamental duties:** Article 51A(a) cannot be used to cut down or override the fundamental rights guaranteed under Part III of the Constitution.
8. **Limits of the 1971 Act:** The Supreme Court interpreted the Prevention of Insults to National Honour Act, 1971 as requiring respectful conduct, not compulsory participation.
9. **Relevance to Vande Mataram:** The same principle can protect peaceful non-participation in Vande Mataram, especially where participation conflicts with an individual's freedom of conscience.

What Does the 2026 Amendment Provide?

1. **Extension of statutory protection:** The Prevention of Insults to National Honour (Amendment) Bill, 2026 amended Section 3 to extend statutory protection to Vande Mataram.
2. **Parliamentary passage:** The Bill was introduced in the Rajya Sabha on July 24, 2026, passed there on July 29 and cleared by the Lok Sabha on July 30.
3. **Limited parliamentary discussion:** The amendment was passed after brief discussions, with opposition parties raising concerns about its timing and possible cultural implications.
4. **Two punishable acts:** Section 3 of the Prevention of Insults to National Honour Act, 1971, as amended in 2026, punishes anyone who intentionally prevents the singing or causes disturbance to an assembly engaged in singing..
5. **Same protection for both compositions:** These provisions now apply to both the National Anthem and the National Song, giving them similar criminal-law protection.
6. **Nature of punishment:** The offence carries imprisonment of up to three years, a fine, or both, while repeat offenders face a minimum imprisonment of one year.

Key Legal and Constitutional Questions Raised by the Amendment

1. **Scope of compulsory participation:** Section 3 of the Prevention of Insults to National Honour Act, 1971, as amended in 2026, does not expressly require any person to sing Vande Mataram or participate in its rendition.
2. **No prescribed version of the song:** The law does not specify which stanzas must be sung or require all six stanzas for statutory protection.
3. **Freedom of conscience:** Article 25 protects freedom of conscience, which may apply where participation conflicts with sincerely held religious beliefs.
4. **Different constitutional status:** Vande Mataram and the National Anthem have different constitutional positions, raising questions about extending identical criminal-law protection to both.

5. **Proportionality of punishment:** The maximum punishment of three years' imprisonment raises questions about whether it is proportionate to the conduct prohibited under Section 3.
6. **Comparison with the Bharatiya Nyaya Sanhita:** Section 197(1)(d) of the Bharatiya Nyaya Sanhita, 2023, also allows imprisonment up to three years for publishing false or misleading information threatening national interests.

Way Forward

1. **Distinguish non-participation from disruption:** Peaceful refusal or silence should be clearly separated from intentional prevention or disturbance during the singing.
2. **Protect freedom of conscience:** Implementation should remain consistent with Articles 19(1)(a) and 25 and the principles established in *Bijoe Emmanuel*.
3. **Prevent coercive interpretation:** The law should not be interpreted in a way that indirectly forces citizens to participate against their conscience.
4. **Respectful non-participation:** The law should distinguish peaceful silence from intentional prevention or disturbance, protecting those who remain respectful without participating.
5. **Examine proportionality of punishment:** The three-year maximum punishment should be assessed in relation to the gravity of the prohibited act and harm caused.

Conclusion

Vande Mataram holds an important place in India's freedom struggle and deserves due honour. However, its legal protection must remain consistent with fundamental rights. The 2026 amendment punishes intentional prevention and disturbance, not peaceful non-participation. Its implementation should therefore respect freedom of conscience and the right to remain silent, while ensuring that the punishment remains proportionate to the prohibited conduct.

Question for practice:

Evaluate the constitutional and legal issues surrounding the extension of criminal-law protection to Vande Mataram, particularly in relation to freedom of conscience and the right to dissent.

Source: The Hindu; [The print](#)

Need for Long Elephant Corridors

UPSC Syllabus: Gs Paper 3- Environment

Introduction

Elephants naturally travel long distances in search of **food, water and suitable habitats**. However, infrastructure, mining and changing land use are increasingly disrupting their traditional movement routes. This can fragment habitats and push elephants towards farms and human settlements, increasing **human-elephant conflict**. The Supreme Court's direction for a fresh survey has renewed focus on protecting **long and unobstructed elephant corridors**.

Elephant Movement, Corridors and Their Current Status

1. **Large Movement Range:** A male elephant's average home range extends between 50 and 300 square kilometres, depending on food, water, shelter and other available resources.
2. **Seasonal Resource Movement:** The seasonal and spatial availability of food, water and habitat strongly influences the direction and extent of elephant movement.
3. **Migration During Dry Periods:** During dry months, elephants commonly migrate into Kerala to access food and water in the relatively moist Western Ghats forests.
4. **Impact of Drought and Climate:** Climate-related changes and drought have historically forced elephant herds to move towards areas offering better resources.

5. **Meaning of Elephant Corridors:** Elephant corridors are movement pathways connecting two natural habitats, allowing elephants to move between different habitat areas.
6. **India's Major Elephant Landscapes:** India has four principal elephant landscapes—Western Ghats; North-Eastern Hills and Brahmaputra floodplains; Shivalik Hills and Gangetic plains; and Central India and Eastern Ghats.
7. **Elephant Concentration in the Western Ghats:** More than 50% of India's 22,446 elephants occur in the Western Ghats, including Karnataka (6,013), Tamil Nadu (3,136) and Kerala (2,785).
8. **Changing Distribution in Central India:** Elephant movement expanded in Central India from the mid-to-late 1980s, first after drought and later due to mining pressures.

Significance of Long and Unobstructed Elephant Corridors

1. **Connecting Fragmented Habitats:** Corridors provide connectivity between fragmented natural habitats, allowing elephant populations to move instead of remaining separated in isolated habitat areas.
2. **Supporting Natural Dispersal:** Corridors allow elephants to disperse naturally between habitats as part of their regular movement across wider landscapes.
3. **Maintaining Genetic Diversity:** Movement between different elephant populations enables genetic exchange, helping maintain diversity within the overall population pool.
4. **Access to Natural Resources:** Well-conserved corridors provide access to natural food and water, especially when seasonal conditions affect resource availability.
5. **Supporting Long-Distance Movement:** Long corridors are essential because elephant herds naturally travel over large areas and may move across different states.
6. **Reducing Pressure on Croplands:** Access to connected natural habitats can prevent elephants from entering crop fields while searching for food and water.
7. **Reducing Human-Elephant Conflict:** Unobstructed movement through natural habitats can reduce encounters between elephants and human settlements, helping limit conflict.

Major Concerns Affecting Elephant Corridors

1. **Infrastructure and Physical Barriers:** Highways, railway lines, canals, power lines, walls and electric fences can disrupt or block traditional elephant routes, pushing herds towards farms and settlements.
2. **Mining and Industrial Activity:** Mining and industrial activities can fragment elephant habitats and disturb movement between connected forest areas.
3. **Land-Use Changes:** Agriculture, plantations and other land-use changes are increasingly fragmenting habitats and altering traditional elephant movement routes.
4. **Western Ghats Fragmentation:** Changing land use, coffee and tea plantations, invasive plants and farmland fencing are rapidly fragmenting elephant habitats in this landscape.
5. **Shivalik and Brahmaputra Region:** Railway lines, roads, power infrastructure and land-use changes have disrupted traditional corridors and fragmented habitats in these areas.
6. **Habitat Loss in Central India:** Habitat loss and mining pressures have driven elephants from Jharkhand and Odisha into Chhattisgarh over the last two decades.
7. **Expansion into New Areas:** Elephants later expanded into Umaria and Shahdol in Madhya Pradesh and Gadchiroli in Maharashtra, showing changing movement patterns.

Initiatives for Corridor Mapping and Protection

1. **National Corridor Mapping:** The government's major 2023 mapping exercise documented 150 elephant corridors across 15 states within India's four major elephant landscapes.

2. **Identification of Corridor Bottlenecks:** A Southern India report mapped barriers across 32 corridors, helping identify pressures affecting elephant movement.
3. **West Bengal's Corridor Network:** West Bengal has the highest number of identified corridors, with 26 corridors located across its northern and southern regions.
4. **Charmar-Jingol Corridor:** This 20-km-long and 2.5-km-wide corridor supports the movement of an estimated 80–100 elephants from Odisha into Chhattisgarh.
5. **Emerging Corridor in Bihar:** The Jamui–Jhajha–Chakayi forest stretch was included in the national corridor list in 2023, showing the identification of emerging elephant movement routes.
6. **Existing Government Guidelines:** The Environment Ministry has issued mandatory guidelines to ensure seamless and unobstructed elephant corridors across different states.
7. **Supreme Court's Fresh Survey:** The Supreme Court directed the Union government to conduct a fresh survey and submit a comprehensive report on preventing corridor obstructions.
8. **Review of Coercive Measures:** The Court also sought details of steps taken against fireballs, spikes, firearms and other coercive methods used to divert elephants.

Way Forward

1. **Conduct Detailed Field-Based Mapping:** Mapped corridors should be refined through ground studies, GPS telemetry, occupancy surveys and participatory mapping to identify their actual boundaries.
2. **Provide Suitable Legal Protection:** Clearly identified corridors can be protected through appropriate legal frameworks to regulate land-use changes and incompatible development activities.
3. **Secure Land in Critical Corridors:** Where corridors pass through private or agricultural land, suitable mechanisms such as land purchase, lease or other arrangements can support connectivity.
4. **Restore Degraded Corridor Areas:** Native vegetation should be restored, invasive species removed, and water and habitat cover improved in ecologically degraded stretches.
5. **Reduce Barriers from Linear Infrastructure:** Roads, railways, power lines and other infrastructure should adopt suitable mitigation measures to maintain safe elephant movement across corridors.
6. **Involve Local Communities:** Communities affected by elephant movement should be involved through participation, awareness, compensation and support for crop and land-use concerns.
7. **Strengthen Monitoring and Adaptive Management:** GPS collars, camera traps, drones, occupancy studies and community reporting can help track corridor use and identify areas needing intervention.
8. **Improve Inter-State and Inter-Agency Coordination:** Corridors crossing forest divisions, districts and states require joint action plans and coordination among concerned authorities.
9. **Integrate Corridors with Elephant Conservation Plans:** Corridor protection should be incorporated into broader Elephant Conservation Plans, linking habitat protection with conflict management and other conservation measures.
10. **Strengthen Research, Technology and Funding:** Research on elephant movement, corridor design and climate impacts, along with monitoring technology and adequate funding, can strengthen corridor conservation.

Conclusion

Long and unobstructed corridors are essential for elephant movement, access to resources, natural dispersal and **genetic exchange**. Their fragmentation can isolate habitats and push elephants towards farms and settlements. Therefore, **fresh surveys, removal of bottlenecks, effective implementation of guidelines and coordinated action** are necessary to protect elephant corridors and reduce human-elephant conflict.

Question for practice:

Discuss the need for long and unobstructed elephant corridors in India and the challenges involved in their protection.

Source: [Indian Express](#)

Urbanisation in India: Towards Inclusive, Sustainable and Resilient Cities

Source: The post “Urbanisation in India: Towards Inclusive, Sustainable and Resilient Cities” has been created based on “Urbanisation in India: Towards Inclusive, Sustainable and Resilient Cities” published in “Indian Express” on 25th August 2026.

UPSC Syllabus: GS 3- Indian Economy

Context: Delhi’s Master Plan for 2047 aims to create a richer, taller and better-connected global city. However, urban planning is not merely a technical exercise of land use, density and infrastructure; it determines **who gets access to housing, employment and public spaces and who benefits from rising land values.**

Major concerns

1. **Affordable housing and spatial inequality:**

Housing in peripheral areas may be formally affordable, but high transport costs, long commutes and limited access to employment can make it unaffordable for low-income households.

2. **Exclusion of informal workers:**

Street vendors, construction workers, domestic workers, sanitation workers, small traders and delivery riders are essential to Delhi’s economy but are often treated as obstacles to a clean and planned city.

3. **Needs of gig workers are overlooked:**

Delivery riders require not only roads but also **safe parking, toilets, drinking water, charging points, rest spaces and affordable housing near employment centres.**

4. **Inadequate rehabilitation of informal settlements:**

The principle of “*Jahan jhuggi, wahan makan*” is important because relocation to distant housing can disconnect residents from employment and livelihoods.

5. **Caste and occupational inequalities:**

Access to housing, land, dignity and public services is also shaped by caste and occupation. Workers in sanitation, waste management and other precarious occupations face insecurities that income-based classifications alone cannot capture.

6. **Gendered impact of urban planning:**

Women’s inclusion requires more than toilets and childcare facilities. The location of affordable housing affects **commuting, unpaid care work and access to employment**, making housing, transport and care infrastructure interdependent.

7. **Accessibility for persons with disabilities:**

A ramp alone does not ensure accessibility if connecting pavements are inaccessible or public transport cannot be used independently. Planning must enable independent movement between homes, workplaces, educational institutions, healthcare and recreational spaces.

8. **Public investment and private land gains:**

Metro lines and commercial corridors can increase surrounding land values. If these gains primarily accrue to property owners while poorer residents are displaced, public investment can generate **private wealth while socialising the costs of displacement.**

9. **Visibility versus recognition of the informal economy:**

The experience around the **2023 G20 Summit**, when vendors were removed from prominent locations and informal settlements were screened from public view, highlighted the contradiction between Delhi’s dependence on informal workers and its reluctance to acknowledge their presence.

Way forward

1. **Adopt an integrated approach to housing, transport and employment** so that affordable housing is located close to livelihood opportunities.

2. **Plan for informal and gig workers as legitimate urban stakeholders** by providing essential facilities such as rest areas, toilets, parking and charging infrastructure.

3. **Ensure livelihood-sensitive rehabilitation** so that relocation does not sever residents from employment and social networks.
4. **Make public infrastructure universally accessible** by integrating accessible pavements, transport and public facilities into planning.
5. **Ensure equitable sharing of land-value gains** generated by public infrastructure so that development does not become a mechanism for displacement.

Conclusion: The success of **Delhi 2047** should not be measured only by whether the capital becomes richer, taller or more connected. Its real test is whether the people who **build, clean, deliver, drive and sustain the city can continue to afford a place in its future**. Thus, Delhi's master planning must move from a numbers-based approach towards **inclusive, livelihood-sensitive and people-centred urbanisation**.

Question: Delhi's Master Plan for 2047 seeks to make the capital globally competitive through housing, transit-oriented development, economic corridors and infrastructure. Discuss the major challenges of ensuring that such urban development remains inclusive and affordable for the city's vulnerable and working populations.

Source: Indian Express

Time for Yoshida Doctrine 2.0

Source: The post "**Time for Yoshida Doctrine 2.0**" has been created based on "**Time for Yoshida Doctrine 2.0**" published in "**Tribune**" on 25th August 2026.

UPSC Syllabus: GS 2- International Relations

Context: The **Yoshida Doctrine** enabled post-war Japan to rely on the US security umbrella while concentrating on economic recovery. Today, Japan faces a "China dilemma" because China is simultaneously its major economic partner and principal security concern. India faces a similar challenge. This creates the need for a **Yoshida Doctrine 2.0 based on economic de-risking, deterrence and diversified partnerships**.

Requirement of Yoshida Doctrine 2.0

1. **China's economic importance:**
China is deeply integrated into Japanese and Indian supply chains, making complete economic decoupling costly and impractical.
2. **Growing security threat:**
Both India and Japan face concerns over China's increasing military capabilities and unilateral attempts to alter the status quo, particularly in the Indo-Pacific.
3. **Need to balance security and economic interests:**
The objective should be to **de-risk from China without completely decoupling**, while deterring aggression without provoking a wider conflict.
4. **Need for strategic autonomy:**
Both countries need diversified partnerships so that they are not strategically dependent on either Washington or Beijing.

Three pillars of Yoshida Doctrine 2.0

1. Economic security and resilient supply chains

- a. India and Japan should cooperate on **critical minerals, semiconductors and resilient supply chains**.
- b. More than 1,400 Japanese firms operate in India, with around half engaged in manufacturing.
- c. Japan's proposed **\$61-billion investment over the next decade** can strengthen India's manufacturing base while providing Japanese companies an alternative to excessive dependence on China.
- d. Bilateral trade should be progressively expanded towards **\$100 billion**.

2. Defence technology and credible deterrence

- a. Economic cooperation needs to be complemented by deployable security capabilities.

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- b. Japan has increased defence spending from **1% to around 2% of GDP**, while India's defence spending as a share of GDP has declined despite rising absolute expenditure.
- c. Japan's gradual relaxation of post-war arms export restrictions creates opportunities for deeper defence cooperation.
- d. The proposed transfer and production of **Mogami-class frigates under Make-in-India**, along with BrahMos integration, can strengthen maritime capabilities.
- e. Cooperation should particularly focus on **underwater domain awareness, maritime ISR, unmanned systems, secure communications and anti-submarine warfare**.

3. Joint outreach in West Asia

- a. Both India and Japan are heavily dependent on imported hydrocarbons.
- b. Cooperation in West Asia can therefore combine **energy security with maritime security**.
- c. A joint framework for maritime security in West Asia would protect freedom of navigation while remaining relatively low-provocation and high-utility.

Major constraints

1. **Economic interdependence with China:**
India-China trade reached **\$127.7 billion in FY 2024-25**, while Japan-China trade was around **\$300 billion in 2024**, showing that de-risking cannot simply mean economic separation.
2. **Domestic political and institutional constraints:**
Japan faces pacifist sentiment and a risk-averse defence industry, while India has traditionally preferred outright defence purchases over co-development.
3. **Currency vulnerabilities:**
Weakness of the yen and rupee increases the cost of imports, including defence equipment, and complicates strategic decision-making.
4. **Implementation deficit:**
Despite strong political convergence, India and Japan have not yet translated their shared concerns regarding China into sufficiently **deployable and deterrent capabilities**.

Way forward

1. India and Japan should **ring-fence strategic projects** from routine procurement procedures.
2. Two or three flagship projects should be prioritised in areas such as **underwater domain awareness, maritime ISR and secure communications**.
3. Defence cooperation should move from buyer-seller relations towards **co-development and co-production**.
4. Economic diversification should focus on critical technologies and supply chains rather than complete decoupling from China.
5. Maritime cooperation should extend from the Indo-Pacific to **West Asia**, linking security with energy interests.

Conclusion: The original Yoshida Doctrine succeeded because Japan made a clear strategic choice and pursued it consistently for decades. A **Yoshida Doctrine 2.0** should similarly combine **economic growth with strategic resilience**: de-risk from China without decoupling, deter aggression without provoking war, and diversify partnerships without becoming dependent on any single power. For India and Japan, the priority is therefore to move **from shared anxiety to shared deterrent capability and from strategic rhetoric to implementation**.

Question: India and Japan face a common strategic challenge from China while remaining economically interdependent with it. In this context, discuss the relevance of a "Yoshida Doctrine 2.0" for India-Japan relations.

Source: Tribune

How the SC Ruling Redefined 'Industry'

UPSC Syllabus: Gs Paper 3- Indian economy and Industry

Introduction

The Supreme Court's nine-judge Constitution Bench revisited the meaning of "industry" under Indian labour law. The issue centred on the **1978 Bangalore Water Supply** precedent and its triple test. Pending disputes under the **Industrial Disputes Act, 1947** will continue under this test. However, the **Industrial Relations Code, 2020**, which came into force in November 2025, will be interpreted independently.

Evolution of the Definition of 'Industry'

1. Definition under the 1947 Act: Section 2(j) of the Industrial Disputes Act, 1947 defined "industry", but its broad wording created disputes over its actual scope.

2. The 1978 Bangalore Water Supply ruling:

- **The triple test:** The 1978 ruling treated an undertaking as an industry when it involved systematic activity, employer-employee cooperation, and production or supply of goods or services.
- **Profit motive was not necessary:** The Court held that an activity could remain an industry even when it was not carried out to earn profit.
- **Wider institutional coverage:** The broad definition brought hospitals, educational institutions and municipalities within the legal definition of an industry.
- **Impact on workers:** The broad interpretation enabled workers across diverse sectors to seek legal recourse, enforce labour rights and engage in collective bargaining.
- **Dominant nature test:** Where an establishment performed several activities, its dominant nature could help determine whether it qualified as an industry.
- **Core sovereign function exception:** Only genuine core functions, such as defence, judiciary and law enforcement, remained outside the scope of industry.

3. Parliament's 1982 response: The Industrial Disputes (Amendment) Act, 1982 sought to exclude several institutions, but its amended definition was never notified.

4. The Industrial Relations Code, 2020: The new Code introduced its own definition and exclusions, including charitable institutions, domestic services and sovereign government functions.

Why Was the 1978 Interpretation Referred for Reconsideration?

- 1. Continuing judicial disagreement:** Courts later differed on whether government welfare activities and certain departmental functions could be treated as industries.
- 2. The Social Forestry dispute:** In 1996, a three-judge Bench treated the Social Forestry Department as an industry, while a later two-judge Bench took a narrower view regarding a forest department.
- 3. The 2005 Jai Bir Singh ruling:** A five-judge Bench expressed reservations about the expansive 1978 interpretation of "industry" and referred the matter to a larger Bench for reconsideration.
- 4. The 2017 seven-judge Bench:** The matter was placed before a seven-judge Bench, which directed that it should be examined by a nine-judge Constitution Bench.
- 5. Validity of the reference:** The recent Bench itself differed on whether the 2005 reference was properly made, producing an effective 6:3 majority supporting its validity.
- 6. The recent nine-judge hearing:** The Bench examined the correctness of the triple test, sovereign functions and the continuing relevance of the 1978 precedent.

Recent Supreme Court Ruling: What Did the Court Decide?

- 1. Refinement of the 1978 test:** By a **5:4 majority**, the Court held that the 1978 triple test required further refinement, while its essential framework had stood the test of time.
- 2. Pending cases under the old law:** Pending proceedings under the Industrial Disputes Act, 1947 will continue to be decided using the existing *Bangalore Water Supply* triple test.
- 3. No effect on existing cases:** The reformulated test will apply only in the future and will not affect pending or already concluded cases.

4. **Independent interpretation of the new Code:** The meaning of “industry” under the Industrial Relations Code, 2020 will be interpreted independently under its own text and statutory scheme, without being governed by the 1978 precedent.

4. Five Distinct Judicial Views on the Definition of ‘Industry’

1. CJI Surya Kant and three judges

- **Need for refinement:** CJI Surya Kant, joined by Justices Satish Chandra Sharma, Alok Aradhe and Vipul M. Pancholi, held that the 1978 triple test required refinement.
- **Commercial character:** They proposed that an activity should have a discernible commercial character similar to trade or business, even if profit motive remains irrelevant.
- **Effect of the new law:** However, their reformulated test could not apply under the repealed 1947 Act because the Industrial Relations Code, 2020 had already come into force.

2. Justice B.V. Nagarathna

- **No need for reconsideration:** She defended the broad 1978 definition and warned that changing it could create uncertainty and disturb industrial peace..
- **Importance of the broad definition:** She viewed the broad test as important when privatisation and economic changes were shifting workers across sectors.

3. Justices Dipankar Datta and Ujjal Bhuyan

- **Importance of settled precedent:** Justice Datta, with Justice Bhuyan agreeing, stressed that a long-settled seven-judge Bench precedent should not be reopened without strong reasons.
- **Objection to the reference:** They considered the 2005 reference flawed and held that the required grounds for reconsidering the 1978 ruling were not established.

4. Justice Joymalya Bagchi

- **Valid reference, but no reformulation:** Justice Bagchi accepted the validity of the reference but disagreed with the need to redraft the 1978 triple test.
- **Support for the existing approach:** He rejected the need to reformulate the triple test, holding that concerns about it covering every organised activity were misplaced. He also held that the absence of profit motive did not take an activity outside the scope of an industry.

5. Justice P.S. Narasimha

- **Reconsideration became unnecessary:** Justice Narasimha held that debating changes to the triple test had become unnecessary because the Industrial Disputes Act, 1947 had been repealed.
- **Focus on the new legal framework:** He viewed the issue as having limited future relevance because disputes under the Industrial Relations Code would require independent interpretation.

Significance of the Ruling

1. **Continuity for pending disputes:** Pending cases under the Industrial Disputes Act, 1947 will continue to be decided using the **1978 Bangalore Water Supply triple test**.
2. **No reopening of settled cases:** The ruling protects concluded decisions by ensuring that the reformulated approach does not operate retrospectively.
3. **A separate framework for the new labour law:** The **Industrial Relations Code, 2020** is not bound by the 1978 interpretation and must be understood through its own provisions.
4. **Scope for fresh judicial interpretation:** Future courts will determine how the new Code applies to different activities and where the boundaries of “industry” should be drawn.
5. **Impact on worker protection:** The future interpretation of “industry” under the Code will affect which establishments and workers can claim protection under industrial dispute law.
6. **A shift from precedent to statutory interpretation:** The ruling moves future disputes away from automatic reliance on the 1978 precedent towards interpretation based on the text and scheme of the new Code.

Conclusion

The ruling preserves the **1978 triple test** for pending disputes under the old law. It does not automatically extend the same interpretation to the **Industrial Relations Code, 2020**. This creates a separate framework for interpreting “industry” under the new labour law. Future courts will determine its scope and its impact on workers and establishments.

Question for practice:

Examine how the Supreme Court’s recent ruling has reshaped the interpretation of “industry” under Indian labour law.

Source: [The Hindu](#)

India Needs a Grid Revolution

UPSC Syllabus: Gs Paper 3- Infrastructure

Introduction

India has rapidly expanded its clean energy capacity, bringing the 500 GW non-fossil capacity target within reach. However, adding renewable capacity alone cannot ensure affordable, reliable and clean electricity. The grid must also absorb, transmit and deliver this power when consumers need it. Rising renewable generation, changing demand patterns and growing curtailment now expose gaps in grid infrastructure, storage, planning, operations and power markets, making a comprehensive grid transformation necessary.

Current Status of India’s Clean Energy Transition and Power System

1. **Rapid Expansion of Non-Fossil Capacity:** India has **297 GW of non-fossil capacity**, with **138 GW** of large-scale solar and wind under construction and **40 GW** of distributed solar planned.
2. **Growing Role in Electricity Generation:** Non-fossil sources now provide about **one-fourth of annual electricity generation**, and their share crossed **50% during daytime** in July 2025 and July 2026.
3. **Policy Support for Renewable Growth:** Financial incentives, competitive auctions and new electricity trading platforms have supported renewable deployment, integration and market-based price discovery.
4. **Clean Energy Cannot Be Fully Utilised:** Between **April and June 2026**, India curtailed or restricted **8,133 GWh of solar generation** because the grid could not absorb and deliver it.
5. **Storage Remains Inadequate:** In India, **1 GW of battery capacity supports about 60 GW of solar and wind**, compared with 4–13 GW in Australia, the United States and China.

Why Rapid Renewable Capacity Addition Alone Is Not Enough

1. **Cheap Generation Is Not Cheap Electricity:** Low solar or wind tariffs do not ensure affordable electricity when curtailment, congestion, balancing and backup costs increase.
2. **The Whole Power System Must Progress Together:** Generation, transmission, storage, flexible capacity, grid operations and markets must develop as **one coordinated system**.
3. **Excess Renewable Power Is Curtailed:** Daytime renewable electricity is being curtailed despite high demand after sunset because storage and reserves are limited.
4. **Separate Planning Raises Consumer Costs:** Developing generation, networks and flexibility separately can increase costs through delayed transmission and underutilised capacity.
5. **The Objective Is 24×7 Clean Electricity:** India must deliver electricity that is **affordable, abundant, reliable and clean**, rather than focusing only on installed capacity.

Key Challenges in Building a Reliable and Renewable-Based Power System

1. **Inflexible Grid Design:** Existing grids were largely built for one-way electricity flows and are not designed for high levels of variable renewable generation.

2. **Transmission Expansion Is Too Slow:** Renewable projects can be installed faster than transmission lines, creating congestion and limiting power evacuation.
3. **Declining Reserve Availability:** Available reserve capacity is becoming thin, reducing the system's ability to manage sudden changes in demand or renewable output.
4. **Insufficient Grid Visibility:** Many distribution companies lack adequate information on consumer demand, network assets, rooftop solar and electric vehicle impacts.
5. **Traditional Planning Cannot Handle Uncertainty:** Periodic planning based on fixed demand forecasts is less suitable when weather, demand and generation conditions change rapidly.
6. **Changing Demand Patterns:** Electric mobility, industrial electrification and data centres are changing when, where and how electricity is consumed.
7. **Underdeveloped Wholesale Markets:** Most electricity is sold through **long-term 25-year contracts**, leaving limited scope for competitive short-term electricity trading and flexible resource use.
8. **Markets Mainly Reward Energy Generation:** Current arrangements do not adequately value capacity, dispatchability, rapid ramping, reserves, storage or congestion relief.
9. **Technology-Specific Procurement Limits Competition:** Separate auctions for thermal, solar, wind and renewable energy with storage prevent direct competition for least-cost system services.

Way Forward

A. Modernise and Strengthen the Grid

1. **Use Advanced Grid Technologies:** Reconductoring existing transmission lines can increase power evacuation using the same infrastructure and reduce the need for entirely new lines.
2. **Expand Flexible Capacity and Reserves:** Flexible operation of the state-owned thermal fleet can strengthen reserves beyond central generating stations and support variable renewable output.
3. **Promote Grid-Forming Technologies:** Grid codes should mandate **grid-forming inverters** to support stability as renewable generation becomes a larger part of the power system.
4. **Co-Locate Renewable Energy and Storage:** Battery storage should be developed alongside existing and new renewable projects to shift surplus electricity to periods of higher demand.

B. Build an Adaptive and Intelligently Operated Grid

1. **Adopt Adaptive Planning and Operations:** The power system should continuously observe conditions, anticipate changes, act, learn and adapt as demand and weather evolve.
2. **Use Physical Artificial Intelligence:** Physical Artificial Intelligence can combine weather, demand, plant, network and market data to compare physically feasible operating decisions.
3. **Guide Investments Through Operating Evidence:** Repeated bottlenecks should help determine whether additional investment is needed in transmission, storage, flexible generation or demand response.
4. **Keep Human Control Over Decisions:** Physical Artificial Intelligence should remain explainable, grounded in grid physics and subject to human oversight by system operators.

C. Accelerate Digitalisation and Demand-Side Management

1. **Expand the Use of Smart Meters:** Smart meters can provide better information on electricity use and help consumers change consumption during grid stress.
2. **Introduce Time-Varying Tariffs:** Smart meter data can support tariffs that encourage consumers to shift electricity use to suitable periods.
3. **Improve Consumer Information:** Consumer-facing applications should provide real-time electricity prices and detailed information on electricity consumption.
4. **Create a Shared Data System:** Grid institutions need interoperable data and a shared operating picture to coordinate generation, transmission and distribution decisions.

D. Reform Power Markets and Procurement

1. **Reward Capacity and Flexibility:** Power markets should pay for capacity, storage, reserves, rapid ramping and flexible demand based on when and where these services are needed.
2. **Develop Short-Term Capacity Markets:** Centrally allocated thermal capacities can initially be brought into short-term capacity markets, followed by gradual market expansion.
3. **Use New Market-Based Instruments:** The **Contracts-for-Difference pilot** and similar instruments can attract investment in projects supplying clean electricity when utilities need it most.
4. **Enable Cross-Technology Competition:** Utilities should specify future needs such as capacity, flexibility and grid stability, allowing different technologies to compete on merit.
5. **Adopt Integrated Power System Planning:** Generation, transmission and flexibility should be planned together, while future resource adequacy is regularly reassessed using operating evidence.
6. **Support Innovative Procurement Designs:** The Ministry of Power and the Central Electricity Regulatory Commission should promote tender and contract designs that compare technologies on least-cost outcomes.
7. **Use Expandable Grid Corridors:** Interconnected and expandable transmission corridors can support data centres and industrial clusters as electricity demand develops over time.

Conclusion

India's energy transition must now move from adding renewable capacity to integrating and using it effectively. A modern grid, adequate storage, adaptive planning, intelligent operations and better power markets must work together. The real measure of success will not be gigawatts installed, but the ability to deliver affordable, abundant, reliable and clean electricity to consumers when and where they need it.

Question for practice:

Discuss the need for a grid revolution to ensure the effective integration and utilisation of renewable energy in India.

Source: [Business Standard](#); [Economic times](#)

What are H-1B visas for skilled workers and what changes loom?

Source: The post "What are H-1B visas for skilled workers and what changes loom?" has been created based on "What are H-1B visas for skilled workers and what changes loom?" published in "DD News" on 26th August 2026.

UPSC Syllabus: GS-2- International Relations

Context: The **H-1B visa programme**, established by the U.S.A Congress in **1990**, allowed U.S.A employers to hire skilled foreign workers for a limited period. The programme is particularly important for **technology and other specialised sectors** facing shortages of qualified workers.

Key Features of the H-1B Programme

1. The programme provides **65,000 visas annually**, along with an additional **20,000 visas for workers with advanced degrees**.
2. H-1B visas are generally granted for **three years** and can be renewed up to **six years**.
3. The programme is especially important for recruiting skilled professionals from **India and China**.
4. Major H-1B sponsors include **Deloitte, PwC, Ernst & Young, TCS, Infosys, HCLTech and LTIMindtree**.
5. Supporters argue that H-1B visas help U.S.A companies recruit highly skilled professionals and address shortages of qualified American workers.
6. Critics argue that some companies use the programme to employ foreign workers at lower wages instead of hiring American workers.

Major Changes under the Trump Administration

1. The administration initially increased the H-1B fee to **\$100,000**, while the earlier fee generally ranged between **\$2,000 and \$5,000**.
2. The Department of Homeland Security has proposed making the increase permanent at **\$103,265**.
3. The proposed fee has led to **multiple lawsuits** by businesses, states, unions and employers.
4. A federal judge had ruled that the earlier fee was illegal and blocked the administration from collecting it, while related cases remain under judicial consideration.
5. The administration has introduced **enhanced vetting** of H-1B applicants.
6. U.S.A consulates have been directed to scrutinise applicants' **LinkedIn profiles and resumes**, particularly applicants in technology backgrounds who may have been involved in alleged suppression of protected expression.
7. Increased scrutiny and costs have affected companies' **hiring and expansion plans**, with some major H-1B users increasing operations in **India**.
8. H-1B registrations have also declined significantly, from about **759,000 in 2023 to 344,000 in 2025**, a fall of more than 25% from 2024.

Implications

1. The higher fee could make it **more expensive for U.S.A companies to recruit skilled foreign professionals**.
2. Enhanced vetting could increase **processing difficulties and uncertainty** for employers and applicants.
3. Reduced access to H-1B workers could affect sectors that depend heavily on **specialised global talent**.
4. For India, tighter H-1B rules could particularly affect **Indian technology professionals and IT outsourcing companies**.
5. At the same time, the measures could support the administration's objective of **protecting employment opportunities for American workers**.

Conclusion: The H-1B programme remains an important mechanism for meeting U.S.A demand for specialised skilled workers. The proposed **\$103,265 fee, enhanced vetting and declining registrations** represent a significant tightening of the programme. The challenge for U.S.A policymakers is to balance **protection of American workers with the need of U.S.A industries to access highly skilled global talent**.

Question: What is the H-1B visa programme? Discuss the major changes proposed under the Trump administration and their implications for skilled foreign workers and U.S.A employers.

Source: [DD News](#)

UPI — an eventful journey

Source: The post "UPI — an eventful journey" has been created based on "UPI — an eventful journey" published in "DD News" on 26th August 2026.

UPSC Syllabus: GS-3-Indian Economy

Context: The **Unified Payments Interface (UPI)** was launched in **2016** with the objective of making money transfer as easy as sending a message. Over the last decade, UPI has emerged as the **world's largest real-time payment system by volume** and an important pillar of India's digital economy.

Foundations of UPI's Success

1. The **Digital India programme**, launched in 2015, created the broader foundation for a digitally connected economy.
2. **Jan Dhan accounts** expanded access to banking, while **Aadhaar** provided a digital identity layer and mobile connectivity expanded access to digital services.
3. India now has more than **108 crore internet users, 130 crore mobile subscribers and 145 crore Aadhaar holders**.

4. About **58.97 crore Jan Dhan accounts**, including **32.86 crore accounts held by women**, support financial inclusion.
5. More than **₹52 lakh crore** has been transferred through Direct Benefit Transfer, creating a strong foundation for digital financial services.

Growth of UPI

1. UPI processed about **2 crore transactions in FY 2016-17**, which increased to **24,162 crore transactions in FY 2025-26**.
2. The value of transactions increased from **₹0.07 lakh crore to ₹314 lakh crore** during the same period.
3. In the first four months of **FY 2026-27**, UPI processed **9,192 crore transactions worth ₹118 lakh crore**, including **2,366 crore transactions in July 2026**.
4. UPI accounts for around **84% of India's digital payment volumes** and serves more than **55 crore active users**.

Contribution to Financial Inclusion

1. Around **86% of merchant transactions** on UPI are below ₹500, showing its widespread use for small everyday payments.
2. Nearly **59% of person-to-person transfers** are also below ₹500, indicating that UPI is not limited to high-value transactions.
3. Person-to-merchant payments accounted for **15,231 crore transactions in FY 2025-26**, or about **63% of total UPI volume**.
4. Payment acceptance points increased from **0.31 crore in March 2018 to more than 81 crore by June 2026**, with around **80 crore being QR codes**.
5. QR-based payments have enabled **small merchants, street vendors and auto drivers** to participate in the formal digital economy.
6. Digital transaction records can help small businesses demonstrate cash flows and potentially **access formal credit**.

Robust UPI Ecosystem

1. The **DIGIDHAN Mission**, launched in 2017, promoted digital payment adoption across the country.
2. The RBI's **Payment Infrastructure Development Fund** supported payment acceptance infrastructure in Tier-3 to Tier-6 centres, the North-Eastern States and Union Territories.
3. UPI's **interoperable architecture** allows customers using one application to pay merchants using another application.
4. This open architecture has enabled banks and fintech companies to develop new services without creating separate payment infrastructure.

Global Significance

1. The **International Monetary Fund** has recognised UPI as the world's largest retail fast payment system by volume.
2. India accounts for nearly **half of global real-time payment transactions**.
3. UPI is operational in **11 countries**, including the UAE, France, Singapore, Nepal and Sri Lanka.
4. Agreements for UPI-like systems have also been signed with **Peru, Namibia and Trinidad and Tobago**.
5. India's experience is therefore becoming a model for countries developing their own **digital public infrastructure**.

Challenges

1. **Cybersecurity risks** may increase with the rapid expansion of digital payments and the growing use of UPI.
2. **Fraudulent and suspicious transactions** remain a concern, requiring continuous improvement in detection and prevention mechanisms.

3. **Digital literacy gaps** can make UPI difficult to use for first-time and less digitally experienced users.
4. **Grievance redressal** needs to become faster and more effective so that users can resolve failed or disputed transactions easily.
5. **System resilience** must be strengthened to ensure that UPI remains reliable during technical disruptions and periods of very high transaction volumes.
6. The benefits of digital payments must reach users who still face **barriers to formal financial services**.

Way Forward

1. **Consumer awareness** should be strengthened through wider digital and financial literacy initiatives.
2. **Grievance redressal mechanisms** should be made faster, simpler and more accessible.
3. Banks and payment providers should continue using **AI-based fraud detection** along with existing security measures such as device binding and PIN-based two-factor authentication.
4. UPI infrastructure should be continuously upgraded to improve **system resilience, reliability and security**.
5. UPI should be developed as a gateway to **credit, savings and insurance**, particularly for financially underserved sections.
6. India should continue promoting UPI and its interoperable digital public infrastructure model **globally**.
7. The next phase should ensure that UPI carries not only payments but also the **broader financial journey of every Indian**, supporting the vision of **Viksit Bharat by 2047**.

Conclusion: UPI has transformed digital payments from a primarily urban service into an important instrument of **mass financial inclusion**. Its success is reflected not only in transaction volumes but also in the **trust of small merchants and ordinary households**. As UPI enters its second decade, the focus should shift from merely expanding payments to building a **secure, resilient and inclusive financial ecosystem**, contributing to the vision of **Viksit Bharat by 2047**.

Question: UPI has evolved from a digital payment platform into a major public digital infrastructure in India. Discuss its contribution to financial inclusion and the challenges that need to be addressed in its next phase.

Source: [Business Line](#)

End the Culture of Secrecy in Judicial Appointments

UPSC Syllabus: Gs Paper 2- Judiciary

Introduction

The Collegium system was developed to protect **judicial independence** from executive interference. However, its functioning has raised concerns over **secrecy, unclear selection criteria and the absence of publicly intelligible reasons** for important decisions. Justice Ujjal Bhuyan's recent observations have renewed this debate. The central challenge is to preserve legitimate confidentiality while ensuring that judicial appointments follow a process that is **transparent, fair, objective and accountable**, thereby strengthening public confidence in the judiciary.

Evolution of the Collegium System

1. **Constitutional basis:** The Constitution does not expressly use or provide for a Collegium system.
 - However, Articles 124 and 217 govern the appointment of Supreme Court and High Court judges, while Article 222 deals with the transfer of High Court judges.
2. **First Judges Case, 1981:** The Court held that consultation did not mean concurrence, giving the Executive primacy in judicial appointments.
3. **Second Judges Case, 1993:** A nine-judge Bench shifted primacy to the collective opinion of the Chief Justice of India and senior judges.
4. **Third Judges Case, 1998:** The Court expanded and clarified the Collegium system. For Supreme Court appointments and High Court transfers, the Chief Justice of India consults the four senior-most puisne judges.

5. National Judicial Appointments Commission: The Ninety-Ninth Constitutional Amendment created the National Judicial Appointments Commission (NJAC) to replace the Collegium system for judicial appointments.

6. National Judicial Appointments Commission judgment: In 2015, the Supreme Court struck down the Ninety-Ninth Constitutional Amendment and the NJAC, holding that the proposed system threatened judicial independence, which forms part of the basic structure.

7. Concerns despite judicial primacy: The judgment also recognised concerns about the Collegium's transparency, accountability and objectivity, showing that judicial primacy does not make the appointment process free from shortcomings.

Why Greater Transparency is Needed in Judicial Appointments

1. Lack of a clear selection framework: The process has no publicly known system for notifying vacancies, defining eligibility or assessing candidates.

2. Declining disclosure of reasons: In October 2017, the Collegium began publishing its resolutions along with brief reasons for recommending candidates for elevation.

- However, since November 28, 2024, the resolutions have stopped identifying the Collegium members who participated in the decision and no longer provide reasons for the decisions.

3. Need for reasoned decisions: Reasons show that relevant factors were considered, reduce arbitrariness and help distinguish principled selection from personal preference or proximity.

4. Protection of deserving candidates: Unexplained deferment, supersession or rejection can damage deserving judges and advocates, leaving their professional record without any public clarification.

5. Concerns about nepotism: Opaque appointments have strengthened concerns about "Uncle Judges", where relatives of serving or retired judges may receive an unfair advantage.

6. Evidence of familial links: In 2018, 11 of the 33 names recommended by the Allahabad High Court Collegium involved relatives of sitting or retired judges.

- A 2025 assessment also found that nearly 30%, or about 10 of 33 Supreme Court judges, had familial links to former judges.

7. Need for equal opportunity: Articles 14 and 16 guarantee equality and equal opportunity in public employment.

- In the *Umadevi* judgment, the Supreme Court held that public appointments should ordinarily follow a transparent procedure open to eligible candidates, raising questions about the absence of similar openness in judicial appointments.

8. Consistency with judicial standards: In *MediaOne*, the Supreme Court held that sealed-cover secrecy was against a transparent and accountable system.

- In *CPIO v. Subhash Chandra Agarwal*, it also held that the Chief Justice of India's office falls within the Right to Information Act..

9. Changing nature of public scrutiny: Judicial decisions and appointments now face immediate scrutiny on social media, making institutional secrecy increasingly difficult to sustain.

Why Complete Disclosure May Not Be Appropriate

1. Need for candid consultation: Collegium members need space for honest assessments without every preliminary view becoming a public controversy or personal dispute.

2. Protection of sensitive information: Intelligence and background inputs may involve confidential sources whose identity or information cannot always be publicly disclosed.

3. Protection of professional reputation: Publicly stating why a serving judge or advocate was rejected may harm their authority, dignity and future professional career.

4. Comparative nature of selection: Judicial appointments involve comparative assessment of merit, integrity, seniority, diversity, temperament and institutional needs, which cannot become a public ranking exercise.

5. Risk of external pressure: Complete disclosure may encourage lobbying, strategic media campaigns and litigation by candidates who are not selected.

6. Recording and publishing are different: Reasons should always be recorded, but their public disclosure can be limited by privacy, security and institutional necessity.

Lessons from Other Democracies

1. United Kingdom model: The Judicial Appointments Commission publicly advertises vacancies and uses a structured selection process, including interviews.

2. South African model: The Judicial Service Commission allows public nominations and conducts open and televised interviews of candidates.

3. Transparency and independence can coexist: These systems show that greater openness in selection does not automatically weaken judicial independence.

4. Public understanding builds legitimacy: Citizens are more likely to trust judicial institutions when they understand how judges are selected and what standards are applied.

Way Forward: Towards Structured Transparency

1. Expand existing transparency measures: The Collegium already publishes resolutions and some appointment-related information. This shows that transparency can be increased further while keeping confidential discussions and sensitive information protected.

2. Publish anticipated vacancies: The Collegium should disclose expected vacancies in advance and allow eligible advocates and judges to know about upcoming appointment opportunities.

3. Define clear selection criteria: Publicly stated criteria should cover **merit, integrity, professional competence, judicial temperament, constitutional values, diversity and institutional requirements**.

4. Adopt a structured assessment process: Verified professional information and clear assessment methods can reduce excessive dependence on informal knowledge, personal networks and subjective preferences.

5. Give concise reasons for recommendations: Positive recommendations should include brief, candidate-specific reasons based on judicial work, professional standing and institutional requirements.

6. Maintain confidential reasons for non-selection: Detailed reasons for deferment or rejection should be preserved internally, while a non-stigmatising public summary may be issued where possible.

7. Ensure fairness in adverse assessments: Serious adverse material should be verified and, where feasible, its substance should be communicated privately to the candidate, while protecting sensitive sources.

8. Disclose broad reasons for transfers: Transfer resolutions should state the broad institutional basis, such as **administrative necessity, public interest or better administration of justice**, without revealing sensitive details.

9. Create a permanent institutional mechanism: A judicial appointments secretariat should maintain verified professional records, while annual reports should disclose aggregate data on vacancies, recommendations, deferments, reiterations and delays.

10. Undertake timely institutional reform: The Collegium should address concerns through voluntary reform, as greater openness can strengthen **public confidence and institutional legitimacy**.

Conclusion

Judicial independence does not require complete secrecy, and transparency does not require disclosure of every confidential detail. The real choice is between **unexplained power and structured transparency**. A clear process, known criteria, fair assessment and recorded reasons can protect both independence and accountability. Reforming the Collegium in this manner can strengthen **public confidence, institutional legitimacy and merit-based judicial appointments**.

Question for practice:

Examine the need for greater transparency and accountability in India's judicial appointment process while ensuring judicial independence and necessary confidentiality.

Source: [The Hindu](#)

The Limits of Air Power, Implications for Theatre-isation

UPSC Syllabus: Gs Paper3 - Security challenges and their management in border areas.

Introduction

Modern conflicts show that **air power remains important but cannot independently decide the outcome of a war**. Ukraine demonstrated how integrated air defences can deny control of the skies, while the Iran conflict showed that even air dominance may not achieve political objectives. Operation Sindoor further underlined the importance of networked systems and data integration. These lessons are important for India's debate on **operational flexibility, jointness and theatre-isation**.

Changing Nature and Limits of Air Power

1. **Networked and Integrated Warfare:** Modern air operations increasingly depend on data fusion and coordination between aircraft, airborne warning systems and ground-based sensors, rather than individual platforms alone.
2. **Multi-domain Nature of Air Operations:** Air power increasingly operates alongside electronic, cyber and other domains, making coordination across military capabilities more important.
3. **Denial of Airspace:** Ukraine showed that networked air defence can prevent a stronger air force from gaining control of the skies, despite its larger number of aircraft.
4. **Air dominance may not produce a decisive outcome:** In the United States–Iran conflict, control of the skies and precision strikes failed to force Iran into collapse or end its ability to retaliate.
5. **Air power cannot independently achieve political control:** The Iran conflict showed that air strikes can disrupt leadership and military assets, but cannot establish permanent control or independently remove a resilient regime.
6. **Unfavourable Cost Arithmetic:** Shahed-type drones cost about \$20,000–\$50,000, while interceptors can cost millions, allowing cheaper systems to impose disproportionate costs.

Implications for India's Security Challenges

1. **Integrated air defence cuts both ways:** India could deny China control of the skies through integrated air defence, but China could impose similar limits on India.
2. **Pakistan and China present different challenges:** Pakistan has limited strategic depth, while China can absorb losses and continue fighting because of its larger military capacity.
3. **A model tested mainly against Pakistan:** The Indian Air Force's (IAF) flexible and centralised approach has worked in Balakot and Operation Sindoor, but remains untested against China.
4. **Tighter balance of air power:** The Indian Air Force has around 460–520 combat aircraft, while the China Air Force has roughly 65 squadrons, giving China a larger pool of air power and increasing the pressure on India's limited aircraft.
5. **Mountain terrain restricts redeployment:** Fewer airbases and limited space for manoeuvre along the China front could reduce the IAF's ability to shift forces quickly.
6. **Importance of networked capabilities:** A conflict with China may depend not only on aircraft numbers, but also on India's ability to integrate fighters, sensors and warning systems.
7. **Cost pressures could increase against China:** Cheap drones and other systems could force India to use expensive interceptors and defensive assets on a much larger scale.

The Debate Between Operational Flexibility and Theatre-isation

1. **The case for centralised flexibility:** The IAF prefers centralised control to shift its limited air assets between sectors instead of permanently assigning them to fixed commands.
2. **Limits of flexibility on the China front:** Limited combat aircraft, difficult terrain and fewer airbases could restrict the IAF's ability to rapidly redeploy forces against China.
3. **Need for joint operational integration:** Modern warfare requires coordinated use of air, land and other capabilities through shared information and joint operations.

4. **A persistent gap in joint preparedness:** Kargil in 1999 and the Ladakh crisis in 2020 showed that joint force generation, shared planning and coordination remained insufficient.
5. **Institutional barriers to joint command:** Career progression concerns and uneven rank structures across the three services continue to leave important questions about joint command unsettled.
6. **From consultation to clear command authority:** The proposed Joint Coordination Centre depends on consensus, while a theatre command gives one commander authority to act quickly during a crisis.

Way Forward

1. **Strengthen joint force generation:** India should develop stronger joint force generation for the China front, where air power alone may not overcome the operational challenge.
2. **Build peacetime jointness:** The three services should strengthen joint training and shared planning before a crisis, as effective coordination cannot be created during war.
3. **Improve integration of military capabilities:** Aircraft, sensors, warning platforms and ground forces should operate through better information-sharing and coordinated planning.
4. **Resolve institutional barriers:** Issues related to career progression and uneven rank structures across the three services should be addressed to establish workable joint command arrangements.
5. **Create clear command and resource allocation:** A clear command structure should enable quick decisions on deploying limited assets such as Rafales and S-400 systems during simultaneous crises.
6. **Ensure reliable support to frontline forces:** An Integrated Battle Group commander along the Line of Actual Control should have clarity about the availability of air support when required.
7. **Preserve flexibility within theatre-isation:** Theatre-isation should provide greater jointness and unified command while allowing the Indian Air Force to retain operational flexibility.

Conclusion

Air power remains **essential, but recent conflicts show that air superiority alone cannot ensure military or political success**. For India, the larger challenge is to prepare its armed forces for a possible conflict with China through stronger integration, joint planning and clear command structures. **Theatre-isation should therefore combine greater jointness with the IAF's operational flexibility and improve preparedness before a crisis.**

Question for practice:

Discuss the changing nature and limits of air power and examine its implications for theatre-isation and joint military preparedness in India.

Source: [The Hindu](#)

India's gene-edited rice is ready for the fields

Source: The post "India's gene-edited rice is ready for the fields" has been created based on "India's gene-edited rice is ready for the fields" published in "Business Line" on 27th July 2026.

UPSC Syllabus: GS 3- Indian Economy

Context: India has developed two genome-edited rice varieties, **DRR Dhan 100 (Kamala)** and **Pusa Rice DST1**, using **SDN-1 genome editing**. Pusa Rice DST1 is expected to enter commercial production in the upcoming **rabi season**, with transplanting around November.

About the Two gene-edited rice varieties

1. **Pusa Rice DST1** was developed by **ICAR-Indian Agricultural Research Institute (IARI)**, New Delhi from the established **MTU1010** variety.
2. It targets the **Drought and Salt Tolerance (DST)** gene to improve the plant's ability to tolerate drought and salt-affected soils.
3. ICAR field trials reported **9.66% to 30.4% yield advantages over MTU1010** under different saline and alkaline conditions.

4. It is expected to be grown in **Andhra Pradesh, Telangana, Karnataka, Tamil Nadu, Kerala, Chhattisgarh, Odisha, Madhya Pradesh, Maharashtra, Jharkhand, Bihar, Uttar Pradesh and West Bengal.**
5. **DRR Dhan 100 (Kamala)** was developed by **ICAR-Indian Institute of Rice Research, Hyderabad** from the popular **Samba Mahsuri (BPT 5204)** variety.
6. Scientists edited a gene involved in **cytokinin metabolism** to increase the number of grains produced by each panicle.
7. Kamala matures in about **130 days**, around **20 days earlier than Samba Mahsuri**, and has a stronger stalk that is less prone to lodging.

Importance of these varieties

1. They aim to **increase rice production** while reducing the pressure of rice cultivation on **water and the environment.**
2. Pusa DST1 can improve rice cultivation in **drought-prone and salt-affected soils.**
3. Kamala's shorter duration can contribute to **resource-use efficiency and climate resilience.**
4. Kamala also has a **stronger stem**, reducing the risk of lodging.
5. Thus, both varieties are intended to make rice cultivation more **climate-resilient.**
6. They are developed by making **targeted changes in existing rice varieties**, rather than creating completely new plants from scratch.

Gene editing vs GM crops

1. Both technologies alter the DNA of plants, but they differ mainly in the **nature of the genetic change and the presence of foreign genetic material.**
2. Traditional **transgenic GM crops** involve insertion of genetic material from another organism into the plant.
 - a. For example, **Bt cotton** contains genes derived from *Bacillus thuringiensis*, enabling it to produce proteins toxic to certain pests.
3. **Genome editing** can instead make a targeted change in a gene already present in the plant.
 - a. **SDN-1** disrupts a target gene through small insertions or deletions produced during repair of a targeted DNA break.
 - b. **SDN-2** uses a repair template to introduce a specific small change in the plant's DNA.
 - c. **SDN-3** can introduce a new genetic sequence and therefore remains outside the exemption available to SDN-1 and SDN-2.
4. In **2022**, India amended its guidelines and exempted SDN-1 and SDN-2 modifications from the same rigorous process applicable to SDN-3 plants, provided the relevant plants are **free of transgenes.**
5. Both new rice varieties have been developed through **SDN-1 genome editing.**

Concerns associated with gene-edited rice

1. The absence of foreign genes does not by itself complete the scientific assessment of a gene-edited crop.
2. Questions have been raised about whether the publicly available evidence sufficiently explains the **mechanism behind the reported yield gains.**
3. There are concerns about whether the claimed advantages will remain consistent across **different environments and locations.**
4. Large yield improvements across diverse locations could potentially involve **trade-offs in other traits.**
5. Unintended mutations may alter patterns of gene function and could potentially cause unintended biochemical changes.
6. Such unintended changes in food crops could include the production of **unexpected toxins or allergens** or changes in **nutritional value.**

7. Wider availability of the underlying scientific evidence would enable greater **independent scientific scrutiny** of the reported benefits and mechanisms.

Biosafety assessment and regulatory experience

1. The government states that the varieties underwent **biosafety scrutiny**.
2. They were assessed for the **absence of foreign DNA**, stability of mutations and robustness of the phenotype.
3. They were tested at **more than 50 locations each during 2023 and 2024**.
4. Unlike GM crops, gene-edited seeds are stated to be similar to normal seeds in the sense that farmers need to purchase them **only once or when required**, rather than necessarily purchasing new seeds every season.
5. **Bt cotton remains India's only GM crop approved for commercial cultivation**, with GEAC approval in 2002.
6. **Bt brinjal** cleared the regulatory process in 2009 but was not approved for commercial cultivation.
7. **GM mustard** received conditional environmental clearance from GEAC, but became involved in a Supreme Court case.
8. Concerns around GM mustard include possible effects on **honeybees** and implications for organic honey exports to the US and EU, where strict non-GMO certification is required.

Global developments

1. Regulators in several countries are increasingly distinguishing **transgene-free gene-edited crops** from conventional GMOs.
2. The **US and Canada** have allowed products such as gene-edited anti-browning potatoes and high-oleic soybeans.
3. **Japan** has approved gene-edited foods such as high-GABA tomatoes.
4. The **UK's 2023 Precision Breeding Act** created a separate regulatory pathway for gene-edited crops.
5. The **EU adopted a new framework in July 2026** for plants developed using New Genomic Techniques, under which Category 1 crops involving changes that could occur naturally are exempted from stricter GMO rules.
6. This EU framework is expected to be **fully implemented by 2028**.

Conclusion: India's gene-edited rice represents an attempt to combine **higher productivity, climate resilience and efficient resource use**. Pusa DST1 focuses particularly on **drought and salinity tolerance**, while Kamala focuses on **higher grain production, shorter duration and stronger stems**. However, commercial introduction should be accompanied by **robust biosafety assessment, transparent scientific evidence and wider scientific scrutiny** to ensure that the claimed benefits are sustained without unintended consequences.

Question: With reference to India's gene-edited rice varieties, discuss their significance, the distinction between gene editing and GM crops, and the concerns associated with their introduction.

Source: [Business Line](#)

Why India could shape the next global financial order

Source: The post "Why India could shape the next global financial orders" has been created based on "Why India could shape the next global financial order" published in "The Hindu" on 27th July 2026.

UPSC Syllabus: GS 3- International Relations

Context: The **international financial architecture** consists of institutions, rules and practices that govern global capital and international finance. For decades, this architecture was largely dominated by the **Global North**, with institutions such as the **International Monetary Fund (IMF)** and the **World Bank** at its centre. Changing global economic power and the growing importance of emerging economies are now creating a **more**

multipolar international financial order. India has the potential to play an important role in shaping this emerging order, particularly in the area of **global green finance**.

Reason behind the existing international financial architecture being under strain

1. The traditional financial architecture was designed largely under the influence of the developed world and does not fully reflect the **current distribution of global economic power**.
2. The existing system is increasingly struggling to meet the huge financing requirements associated with the **Sustainable Development Goals (SDGs)**.
3. The **escalating climate crisis** has created an additional need for large-scale and accessible climate and green finance.
4. Developing and emerging economies require greater financial resources to pursue development while simultaneously responding to climate change.
5. Therefore, there is a need to reshape global financial institutions and practices according to the **changing needs of the global economy**.

Emergence of a multipolar global financial order

1. The international financial system is no longer the exclusive preserve of Western powers.
2. The rise of **China, Brazil and India** has increased the economic and political weight of emerging economies.
3. Their growing influence is introducing new perspectives into global economic governance.
4. The emerging order is therefore becoming increasingly **multipolar**, with greater scope for emerging economies to influence global financial rules and institutions.

Changing role of traditional global powers

1. The transformation is also being accelerated by a perceived **withdrawal of traditional leaders, particularly the United States, from important global commitments**.
2. This includes commitments relating to the **Sustainable Development Goals, the UN Framework Convention on Climate Change (UNFCCC) and the Paris Agreement**.
3. Such developments have created greater space for other major economies to provide leadership on global development and climate-related issues.
4. This changing leadership landscape can accelerate the transition towards a more diversified global financial order.

Importance of green finance in the emerging order

1. The achievement of the **SDGs** requires enormous financial resources, particularly in developing countries.
2. Climate change has further increased the requirement for investment in **sustainable and climate-resilient development**.
3. The international financial system therefore needs to mobilise greater capital towards **green and sustainable projects**.
4. Green finance can help reconcile the twin objectives of **economic development and environmental sustainability**.
5. The restructuring of international finance provides an opportunity to make global capital flows more responsive to the climate and development requirements of emerging economies.

Ways in which India can shape the next global financial order

1. Greater representation of the Global South

- a. India can use its growing economic and diplomatic influence to advocate for a financial architecture that gives **greater voice to developing and emerging economies**.
- b. It can push for international institutions to better reflect the contemporary distribution of global economic power.

2. Leadership in global green finance

- a. India can position itself as an important leader in designing mechanisms for **global green finance**.

- b. It can advocate for greater availability of climate finance for developing countries.
- c. India can help ensure that the transition towards a green economy does not undermine the **developmental priorities of emerging economies**.

3. Bridging development and climate objectives

- a. India occupies an important position because it has to pursue rapid economic development while also addressing climate change.
- b. Its experience can help build financial mechanisms that combine **developmental needs with climate action**.
- c. India can therefore contribute to making global green finance more relevant to the realities of developing economies.

4. Strengthening a multipolar financial system

- a. **India can work with other emerging economies** such as **China and Brazil** to promote a more inclusive international financial architecture.
- b. Greater participation of emerging economies can make global financial governance more representative and responsive.
- c. India can contribute to moving the system from a predominantly **Global North-led model towards a more balanced multipolar framework**.

5. Using its growing global influence

- a. India's increasing economic and political importance gives it greater ability to influence international discussions on finance, development and climate change.
- b. This provides an opportunity for India to move beyond being a recipient of global financial arrangements and become a **rule-shaper in the emerging global financial system**.

Key challenges

- 1. The transition towards a multipolar financial architecture may face resistance from **established powers and institutions**.
- 2. Differences in the priorities of developed and developing countries can complicate the creation of common financial mechanisms.
- 3. There is a continuing challenge of mobilising sufficient finance for the **SDGs and climate action**.
- 4. Developing economies need access to finance without compromising their **developmental priorities**.
- 5. The effectiveness of India's leadership will depend on its ability to build **coalitions with other emerging and developing economies**.

Way Forward

- 1. International financial institutions should become more representative of the **changing global economic balance**.
- 2. Greater financial resources should be mobilised for the **SDGs and climate action**.
- 3. Emerging economies should receive a stronger role in determining the rules and priorities of global financial governance.
- 4. Green finance mechanisms should address both **climate requirements and developmental needs**.
- 5. India should work with other countries of the **Global South** to promote a more inclusive, sustainable and multipolar financial architecture.

Conclusion: The global financial order is moving from a predominantly **Global North-dominated architecture towards a more multipolar system**. The rise of emerging economies and the changing commitment of traditional powers are accelerating this transformation. India, with its growing global influence and its position between the developmental and climate imperatives, can play a **vanguard role in shaping global green finance**. A more representative international financial architecture can help align global capital with the twin goals of **sustainable development and climate action**.

Question: The global financial architecture is undergoing a shift towards a more multipolar order. Discuss the factors behind this transformation and examine how India can shape the emerging global financial order, particularly in the context of green finance.

Source: [The Hindu](#)

The High Cost of India's Private Health-Care Boom

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

Introduction

India's private health-care expansion has improved access to specialised treatment, advanced technology and tertiary care, but it has also created a serious affordability gap. Treatment in private hospitals costs far more than in public facilities, while many public hospitals still lack adequate specialists, diagnostics, medicines and infrastructure. The challenge is therefore not only to control rising private health-care costs, but also to balance private investment, effective regulation, health-care financing and stronger public provision.

Current Status of Health-Care Costs and Financing in India

1. **Rapid rise in health-care costs:** Health-care costs increased by 105% during 2012–25, exceeding the 98% rise in consumer prices over the same period.
2. **Growing per capita health expenditure:** Nominal per capita health expenditure rose by around 75% to ₹6,373 by 2022–23, although the real increase was about 20%.
3. **Sharp public-private cost gap:** Average hospitalisation costs ₹50,508 in private hospitals, almost eight times the ₹6,631 charged in public hospitals.
4. **High childbirth expenses in private facilities:** Average out-of-pocket expenditure for childbirth is ₹37,630 in private facilities, compared with only ₹2,299 in public facilities.
5. **Reduced out-of-pocket share:** Out-of-pocket expenditure fell from 64.2% in 2013 to 43.4% in 2023, as government and insurance spending increased.
6. **Greater role of government and insurance:** Government spending rose from 28.6% to 43.7%, while social security and private insurance spending also increased during 2013–23.
7. **Change in payer, not necessarily in costs:** Lower out-of-pocket spending mainly shows that others are paying more, not that health-care services have become cheaper.
8. **Large differences across States:** Per capita expenditure ranged from ₹2,189 in Bihar to ₹13,116 in Kerala, reflecting differences in income, disease burden and public services.

Why Is Private Health Care Becoming Increasingly Expensive?

1. **High cost of hospital infrastructure:** Land, advanced equipment, intensive care units, laboratories, digital systems and trained personnel require substantial and continuous investment.
2. **Expensive specialists and premium facilities:** Corporate hospitals compete for senior specialists, sophisticated technology and premium infrastructure, creating a high-cost treatment ecosystem.
3. **Pressure to recover investment:** Hospitals facing high salaries, costly equipment and investor expectations may seek higher revenues to recover their operating and capital costs.
4. **Revenue-linked institutional incentives:** Revenue targets, procedure-linked incentives, higher occupancy expectations and greater revenue per bed can influence institutional behaviour.
5. **Limited public capacity increases dependence:** Public hospitals cannot meet the full demand for secondary and tertiary care, forcing many patients towards costly private providers.
6. **Investment remains necessary:** Private equity, foreign investors and other private players can provide capital, technology and managerial capacity to expand hospital networks.

What Are the Major Challenges of India's Private Health-Care Boom?

1. **Patients face information asymmetry:** Doctors and hospitals know more than patients, who usually cannot independently judge whether tests, procedures or longer admission are necessary.
2. **Risk of excessive medicalisation:** Financial incentives can encourage more tests, follow-up investigations, hospital admissions and medicines than a patient may actually require.
3. **Clinical decisions may be shaped by incentives:** Procedures such as Caesarean sections, angioplasties and intensive-care admissions need safeguards where systems reward higher intervention volumes.
4. **Investment may create market concentration:** Acquiring existing hospitals can reduce competition and raise pricing risks without necessarily adding new beds or health-care capacity.
5. **Growth remains concentrated in profitable markets:** Investors may add high-end facilities in metropolitan areas instead of expanding services in underserved districts and rural regions.
6. **Public concessions may lack clear obligations:** Investors receiving concessional land, tax benefits or other support may need enforceable duties regarding affordable beds or public insurance participation.
7. **Patients face a difficult service choice:** They often choose between under-resourced public facilities and private hospitals that provide advanced care at a much higher cost.

Limitations of the Existing Health-Care Financing and Insurance Model

1. **Insurance changes who pays, not the cost of care:** Rising government and insurance spending has reduced out-of-pocket expenditure, but health-care costs themselves continue to rise.
2. **Fee-for-service payments can increase treatment volumes:** When providers are paid for individual services, financial incentives may encourage more procedures, tests and other billable treatments.
3. **Provider and insurer incentives remain misaligned:** The conventional insurance model can create cost-inflating incentives because providers benefit from more treatment while insurers seek to control expenditure.
4. **Insurance does not ensure affordable or adequate care:** Without strong public provision and regulation of private providers, expanded insurance can transfer public funds to private hospitals without reducing costs.
5. **Outpatient expenses remain insufficiently covered:** Consultations, medicines and diagnostic tests form a large part of household spending, making their exclusion a major gap in health protection.
6. **Alternative financing models need to be explored:** Cooperative facilities and the Accountable Care model can better align provider incentives with prevention, early treatment and lower curative costs.

What Has the Parliamentary Standing Committee Recommended?

1. **Standardised treatment package rates:** Rationalised package rates can bring greater uniformity to hospital charges while reflecting the actual operating costs of treatment.
2. **Mandatory price disclosure before treatment:** Patients should receive clear cost estimates and full price information at admission to prevent unexpected or excessive billing.
3. **Regulation of routine procedures and diagnostics:** Capping charges for selected procedures and diagnostic services can help curb arbitrary pricing in private health care.
4. **Cross-subsidisation by large corporate hospitals:** Hospitals earning from medical tourism, foreign patients and wealthy individuals should support poorer patients through affordable treatment.
5. **Regulated beds for public insurance beneficiaries:** Large private hospitals should reserve beds at regulated rates for Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana beneficiaries.
6. **Review of foreign investment in hospital acquisitions:** Foreign direct investment rules should be examined where acquisition of existing hospitals may reduce competition or increase excessive pricing.

7. **Stronger public health infrastructure:** Public facilities should expand capacity, recruit specialised personnel and follow Indian Public Health Standards for reliable services.
8. **Better protection against excessive billing:** A fast-track ombudsman, uniform adoption of the Clinical Establishments (Registration and Regulation) Act, 2010, and tiered quality assurance have been proposed.

Why Are These Measures Not Sufficient on Their Own?

1. **Room tariff caps cannot control total treatment costs:** Capping room charges addresses only one part of the bill and may not make the overall treatment affordable.
2. **Hospitals may shift costs to other services:** If one component is capped, hospitals can increase charges for diagnostics, procedures or other services to recover revenue.
3. **Hotel-based tariff comparison has limitations:** Hospital rooms include nursing, infection-control and emergency support, making direct comparison with three-star hotel tariffs incomplete.
4. **Price regulation needs strong enforcement:** Package rates and price caps require transparent cost data, independent audits, credible benchmarks and penalties to prevent evasion.
5. **Overly restrictive investment rules may affect capacity expansion:** Unpredictable regulation can discourage private and foreign investment and slow the expansion of needed health-care infrastructure.

Way Forward

1. **Focus on the total treatment cost:** Package rates, transparent estimates, standardised billing and audit mechanisms should regulate the full cost of care.
2. **Use Diagnosis-Related Groups for hospital payments:** Diagnosis-Related Groups can provide predetermined payments based on diagnosis and procedures instead of paying separately for every service.
3. **Encourage greenfield investment in underserved areas:** India should support new hospitals and medical manufacturing while scrutinising acquisitions that reduce competition or raise pricing risks.
4. **Link public support with affordability obligations:** Investors receiving public concessions can be required to provide affordable beds or participate in public insurance schemes.
5. **Make public hospitals a credible alternative:** Public facilities need specialists, diagnostics, medicines, modern amenities and cashless treatment for insured patients.
6. **Strengthen primary and preventive care:** Early detection and treatment can reduce dependence on expensive hospital care and prevent diseases from becoming more serious.
7. **Align insurance with appropriate treatment:** Schemes, including Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana, should reward necessary and appropriate care rather than higher procedure volumes.
8. **Invest in wider determinants of health:** Safe drinking water, nutrition, women's education, clean air, hygiene and physical activity can reduce future demand for curative treatment.
9. **Increase and better distribute public spending:** Public investment must rise without shifting excessive responsibility to fiscally weaker States, which could widen regional inequalities.
10. **Integrate all parts of health-care reform:** Investment, staffing, medicines, referral systems, insurance design and price regulation must progress together for lasting affordability.

Conclusion

India must balance **private investment, effective regulation and stronger public health care**. Price caps and insurance expansion alone cannot control rising costs or ensure affordable treatment. Public investment must create reliable health-care alternatives, while financing and regulation should align provider incentives

with patient needs. The ultimate goal should be a system where every citizen receives **necessary, appropriate and affordable care**.

Question for practice:

Discuss the key factors behind the rising cost of private health care in India and the measures needed to make health care more affordable.

Source: [The Hindu](#); [epw](#)

Making India's Food System Climate-Proof Cannot Wait

UPSC Syllabus: Gs Paper 3- issues of buffer stocks and food security

Introduction

India has moved from **food-aid dependence in the 1960s** to becoming a major food producer. This achievement is supported by strong buffer stocks and the **National Food Security Act (NFSA), 2013**, which provides subsidised foodgrains to around **800 million people**. Climate change and wider disruptions now threaten these gains through rising temperatures, erratic rainfall, extreme weather and supply-chain risks. India must ensure an **affordable, nutritious and climate-resilient food supply** for its **1.4 billion people**.

Why Does India Need to Climate-Proof Its Food System?

1. **Heat stress and lower crop yields:** Rising temperatures can reduce **wheat yields**, while climate variability can disrupt monsoons, reduce agricultural output and increase pressure on water resources.
2. **Erratic monsoons and extreme events:** Unpredictable rainfall can cause **floods and droughts within the same season**, creating serious uncertainty for agricultural production.
3. **Groundwater depletion:** Falling groundwater levels weaken irrigation buffers and make agricultural production more vulnerable when rainfall becomes unreliable.
4. **Risks across the food chain:** Extreme weather and other disruptions can affect **production, storage, transport, fertiliser supplies and agricultural trade**, creating wider food-security risks.
5. **Market volatility and food access:** Disruptions across food supply chains can increase market volatility and limit access to **affordable and nutritious food**, especially for vulnerable populations.
6. **Concentration of production:** Heavy dependence on a few crops, regions or production models increases vulnerability to **climate, economic and supply disruptions**.

India's Existing Strengths and Opportunities

1. **High foodgrain production:** India produced **more than 350 million tonnes of foodgrains in 2024-25**, including record output of rice and wheat.
2. **Large food security coverage:** The **NFSA, 2013** provides a legal entitlement to subsidised foodgrains for around **800 million people**.
3. **Strong institutional foundation:** Public investment in improved seeds, irrigation, procurement, storage, price support and distribution has created a strong food-security base.
4. **Established distribution system:** The **Public Distribution System (PDS)** provides an extensive mechanism for delivering food entitlements across the country.
5. **Digitisation and portability:** Digitisation and the **One Nation One Ration Card (ONORC)** have expanded the reach and portability of food entitlements.
6. **Support for farmers:** **PM-KISAN** has provided direct benefit transfers to more than **110 million farming households**, strengthening farmer and food-system resilience.
7. **Experience with climate-resilient crops:** India's promotion of the **International Year of Millets in 2023** has drawn greater attention to millets as climate-resilient and nutrient-rich crops.
8. **Capacity for wider cooperation:** India's investments in food systems, digital public infrastructure and climate-adaptive agriculture provide experience that can also support wider cooperation.

Building a Climate-Resilient Food System

A. Diversifying Crops, Production and Procurement

1. **Diversifying procurement:** Procurement should gradually expand across crops and geographical regions to reduce dependence on a limited production base.
2. **Climate-suitable price support:** Price support should encourage crops suited to local **water availability and climate conditions**, reducing pressure on stressed resources.
3. **Promoting climate-resilient crops:** **Millets, pulses, oilseeds and other nutri-cereals** can reduce risk concentration while improving dietary diversity and climate resilience.
4. **Reducing dependence on single models:** Food security should not rely excessively on one crop, production model or supply source, as such dependence increases vulnerability to disruptions.
5. **Maintaining essential cereals:** Rice and wheat will remain important, but a broader production and procurement base can create a more **resilient food portfolio**.

B. Diversifying the Food Basket

1. **Including locally suitable foods:** The PDS can gradually include **locally appropriate millets and pulses** along with existing foodgrains.
2. **Linking food security with sustainability:** A diversified food basket can connect **nutrition, water conservation and climate adaptation** with food security.

C. Using Climate Information and Early Warning

1. **Climate-informed food decisions:** Forecasts from the **India Meteorological Department (IMD)** can guide procurement, buffer-stock management and contingency decisions.
2. **Monitoring climate-related risks:** The NFSA monitoring framework can include **heat stress, water stress, storage exposure and supply-chain resilience** alongside coverage and offtake.
3. **Broader supply-chain assessment:** Early-warning systems can also assess disruptions affecting **food, fertilisers, fuel and logistics**, allowing quicker responses to food-system risks.

D. Strengthening Farmers Against Climate Risks

1. **Climate-resilient farming tools:** Climate-resilient seeds, micro-irrigation, watershed development, precision farming and digital advisories can reduce production variability.
2. **Access to critical farm inputs:** Predictable and affordable access to **fertilisers, quality seeds, technology and concessional finance** can strengthen agricultural resilience.
3. **Weather-based insurance:** **Weather-indexed insurance** can help farmers manage climate-related risks and support better decisions under uncertain weather conditions.
4. **Support for small and marginal farmers:** Public safety nets and targeted support can ensure that **smallholders and climate-exposed regions** are not left behind.
5. **Research and last-mile delivery:** Public-private collaboration can accelerate research, certification and the delivery of climate-related technologies and services to farmers.

E. Building Climate-Resilient Storage and Supply Chains

1. **Flood-resilient warehouses:** Storage infrastructure should withstand floods and extreme weather to protect foodgrains and other agricultural products.
2. **Heat-suitable storage:** Storage systems suited to **higher temperatures** are needed to reduce risks to foodgrains and perishables.
3. **Expanded cold chains:** Stronger cold-chain infrastructure is necessary to protect perishables as the national food basket becomes more diverse.
4. **Robust transport and logistics:** Better transport, logistics and supply chains can reduce disruptions in food movement caused by climate and other shocks.
5. **Diversified supply chains:** Strengthening domestic production and diversifying supply chains can reduce dependence on vulnerable external sources.
6. **Adaptation across the value chain:** Climate adaptation should cover **procurement, storage, logistics and market stabilisation**, rather than focusing only on agricultural production.

F. Financing and Coordinating the Transition

1. **Climate-resilient finance: Green bonds, adaptation finance, insurance and investment** in resilient agricultural value chains can support the required transformation.
2. **Affordable development finance:** Access to concessional finance can help developing agricultural systems invest in climate adaptation and stronger food production.
3. **Integration with climate goals:** Food systems can be linked with India's **net-zero pathway** through measurable emission reduction, carbon sequestration and resilience targets.
4. **Coordinated policy action:** Agriculture, water, energy, transport and nutrition should work together to support a coordinated climate-resilient food system.

Towards Sustainable Food Security

1. **Building a broader "climate buffer":** Like traditional buffer stocks that reduce poor-harvest risks, diversified crops and regions, resilient infrastructure, climate information, insurance and water management can reduce systemic climate risks.
2. **Embedding climate risk in food policy:** Climate risk management should become a **core design factor** in NFSA planning and monitoring rather than being addressed only after disruptions occur.
3. **Strengthening domestic and supply resilience:** Resilient domestic production, diversified supply chains and reliable access to key agricultural inputs can protect food systems from wider shocks.
4. **Moving towards sustainable food security:** India should shift from **"food security" to "sustainable food security"** by combining resilience, nutrition, water management and long-term sustainability.

Conclusion

Climate-resilient food and nutrition security is the **logical next phase of India's food security journey**, not a departure from it. India already possesses the institutions, production capacity and policy framework needed for this transition. The priority is to embed **climate risk management and supply resilience** across production, procurement, infrastructure and distribution, ensuring a **nutritious, sustainable and resilient food system** for the future.

Question for practice:

Examine the need and key measures for making India's food system climate-resilient and sustainable.

Source: [The Hindu](#)

India's return to its Central Asian neighbourhood

Source: The post **"India's return to its Central Asian neighbourhood"** has been created based on **"India's return to its Central Asian neighbourhood"** published in **"The Hindu"** on 28th July 2026.

UPSC Syllabus: GS-2-International Relations

Context: Central Asia is an important part of India's extended neighbourhood, despite the lack of direct overland connectivity. India shares deep **civilisational, cultural, religious, linguistic and architectural links** with the region. Prime Minister Narendra Modi's upcoming visit to **Uzbekistan** and participation in the **SCO summit in Bishkek, Kyrgyzstan**, reflect India's renewed focus on Central Asia.

India's Engagement with Central Asia

1. **2015:** Prime Minister Modi's visit to all five Central Asian countries marked a historic shift from India's earlier policy of largely deferring to Russia in its neighbourhood.
2. **2017:** India became a full member of the **Shanghai Cooperation Organisation (SCO)**.
3. **2022:** India invited all Central Asian leaders as chief guests for Republic Day to mark 30 years of their independence and diplomatic ties. Although the event was held virtually due to COVID-19, it led to stronger institutional mechanisms such as the **India-Central Asia Dialogue**.
4. India has also explored **alternative rail and road connectivity routes through Iran and Afghanistan**.

Significance of Central Asia for India

1. Strategic and geopolitical importance

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- a. Central Asia lies between **Russia and China**, making it strategically important for India.
- b. As Russia's influence weakens and China's influence grows, countries of the region are increasingly looking for partners beyond these two powers.
- c. India can strengthen its **strategic presence and diplomatic influence** in the region.

2. Civilisational and cultural links

- a. India has historical connections with Central Asia through **culture, religion, language and architecture**.
- b. Geographically, India and Tajikistan are separated only by the narrow **Wakhan Corridor in Afghanistan**.
- c. India's plural, moderate and democratic model is admired in the region.

3. Economic and trade opportunities

- a. India can expand cooperation in **trade, economic development and natural resources**.
- b. The region's diverse resource endowments provide opportunities for stronger economic partnerships.
- c. Better connectivity can further facilitate India's trade and economic engagement.

4. Security and counter-terrorism

- a. Central Asian countries face challenges from **radicalisation, terrorism and instability emanating from Afghanistan**.
- b. Uzbekistan has adopted a strong approach against terrorism and extremism.
- c. Its knowledge of Afghanistan and pragmatic approach towards the **Taliban** are important for India.
- d. Cooperation with Central Asian states can strengthen India's regional security interests.

5. Connectivity

- a. The absence of direct overland connectivity remains a major challenge.
- b. India needs to revisit alternative connectivity routes through **Iran and Afghanistan** in light of recent developments.
- c. Improved connectivity can strengthen India's economic and strategic presence.

Importance of Uzbekistan

1. Uzbekistan is among the **most dynamic countries in Central Asia** and is actively diversifying its foreign relations.
2. India-Uzbekistan relations have steadily improved under President **Shavkat Mirziyoyev** since 2016.
3. Uzbekistan's geographical position, counter-terrorism efforts and understanding of Afghanistan make it particularly important for India.

Importance of the SCO

1. The SCO originated from the **Shanghai Five in 1996** and has expanded to **10 members, 15 dialogue partners and 2 observers**.
2. India's engagement with the SCO is driven mainly by **geography rather than ideology**.
3. India faces the challenge of negotiating within the SCO in the context of the **China-Pakistan alignment**.
4. India has nevertheless promoted cooperation in **economic, technological and civilisational fields**.
5. At Tianjin, Prime Minister Modi presented the vision of **security, connectivity and opportunity** for the SCO.
6. For countries such as Kyrgyzstan, which are heavily dependent on China, India can provide an additional **geopolitical and economic option**.

Challenges

1. **China's growing influence** and Russia's traditional presence create a complex geopolitical environment.
2. **Border, water and ethnic disputes** among Central Asian countries complicate regional relations.
3. Instability and extremism emanating from **Afghanistan** remain security concerns.
4. Lack of direct **overland connectivity** limits India's economic engagement.

5. India must also navigate the **China-Pakistan dyad within the SCO**.

Way Forward

1. India should consolidate its position in Central Asia through greater cooperation in **economy, trade, defence, natural resources and technology**.
2. It should also expand **cultural, educational, health and tourism exchanges**.
3. India should strengthen alternative connectivity routes through **Iran and Afghanistan**.
4. Greater engagement with Central Asian countries can help India balance the growing influence of China and strengthen its wider **Eurasian presence**.

Conclusion: Central Asia is not merely a geographically distant region but an important part of **India's civilisational and strategic neighbourhood**. India's renewed engagement provides an opportunity to deepen **strategic presence, economic ties and diplomatic influence** while contributing to regional security and connectivity.

Question: India's engagement with Central Asia is driven by strategic, economic, security and civilisational interests. Discuss the significance of India's renewed engagement with the region.

Source: [The Hindu](#)

Danger from Above: On the Nepal Flood

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

Introduction

The devastating flash floods along the Nepal-Tibet border show the growing danger of disasters originating in the high Himalayas. The event was initially linked to an earthquake or rainfall, but satellite evidence pointed towards a **glacial collapse or ice-rock avalanche**, followed by destructive downstream flooding. It highlights the risks from unstable glaciers, debris blockages, glacial lakes and vulnerable infrastructure in a rapidly warming Himalayan region.

Nepal Flood Disaster: Causes and Sequence of Events

1. **Glacial collapse as the trigger:** Satellite imagery and scientific assessments indicate that a **glacier collapse or ice-rock avalanche** triggered the destructive flood, while the seismic event resulted from the collapse.
2. **Possible river blockage and breach:** Ice, rock and sediment may have temporarily blocked the river before accumulated water broke through, intensifying downstream flooding.
3. **Rapid spread through river valleys:** The flood entered the **Lhende Khola**, flowed into the **Bhote Koshi**, and then travelled south through the Trishuli river system.
4. **Sudden rise in water level:** Water in the **Trishuli River reportedly rose by about 9 metres within 30 minutes**, showing the extreme speed of the flood.
5. **Human and infrastructure losses:** The disaster caused **hundreds of deaths and many missing persons**, while settlements, hydropower and monitoring infrastructure suffered extensive damage.
6. **Continuing secondary flood risk:** A newly formed barrier lake upstream created fears of another breach and further flooding in downstream areas.

Glacial Collapse and the Chain of Himalayan Hazards

1. **Meaning of glacial collapse:** It involves the detachment of a large mass of glacier ice, often carrying rock, sediment and water, from its bed.
2. **Different forms of failure:** Such gravity-driven events can include glacier detachments, ice avalanches and rock-ice avalanches on steep mountain slopes.
3. **Transformation into debris flows:** The collapsed material can move rapidly downhill as an ice-rich avalanche or a highly destructive debris flow.
4. **High-altitude fall:** Satellite observations suggested that part of the glacier broke off at about 5,200 metres and fell roughly 1,200 metres into the valley.

5. **Role of melting snow:** Available imagery indicated that a substantial amount of snow may have melted during the 24 hours before the disaster.
6. **Barrier lake formation:** Landslide and avalanche debris can block mountain rivers, creating temporary lakes that store large volumes of water.
7. **Sudden barrier failure:** When such blockages fail, stored water, mud, rock and debris can surge downstream as a catastrophic flood.
8. **Difficulties in escape:** High-speed flows of mud and water leave very little time for evacuation and can overwhelm roads and vehicles.

Glacier-Related Disasters: Evidence from the Himalayas and Beyond

1. **South Lhonak Lake disaster:** In October 2023, a Glacial Lake Outburst Flood in Sikkim released water, debris and rock, severely damaging the State's largest hydropower project.
2. **Long-term build-up of risk:** Subsequent analysis showed that the South Lhonak disaster had developed over several years rather than appearing suddenly.
3. **Aru glacier collapses in Tibet:** In 2016, two major glacier collapses released about 68 million and 83 million cubic metres of ice, killing people and animals.
4. **Sedongpu Basin events:** Ice-rock avalanches in 2018 blocked the Yarlung Tsangpo River, creating a dangerous temporary lake and downstream flood threat.
5. **Bukadaban Feng collapse:** In 2022, around 40 million cubic metres of glacier ice detached and generated a 13-metre-high wave after entering a lake.
6. **Ronti Peak disaster:** In 2018, about 27 million cubic metres of rock and glacier ice collapsed in Uttarakhand, killing more than 200 people.
7. **Rare but serious events:** Glacial collapses remain unusual and site-specific, but Tibet has emerged as a location of several major documented collapses.
8. **Risk beyond the Himalayas:** The Blatten collapse in Switzerland also showed how combined rock, soil and ice failures can destroy settlements.

Climate Change and Increasing Himalayan Cryosphere Risks

1. **Rapid glacier loss:** Glaciers across the Hindu Kush Himalaya lost ice 65% faster between 2011 and 2020 than during the previous decade.
2. **Shrinking glaciers in Nepal:** Nepal's glaciers lost close to one-third of their ice volume in roughly three decades, according to United Nations estimates.
3. **Glacial retreat and instability:** Rising temperatures can increase glacier retreat, alter mountain slopes and contribute to conditions favourable for glacier-related hazards.
4. **Permafrost reduction:** Warming can reduce permafrost, weakening high-altitude slopes and increasing the possibility of landslides and ice-rock failures.
5. **Growing danger of glacial lakes:** Melting glaciers can create or enlarge glacier-fed lakes, increasing the risk of Glacial Lake Outburst Floods (GLOFs).
6. **More heat-related pressures:** There is high confidence that increasing heatwaves, glacier retreat and permafrost loss will raise Himalayan hazard risks.
7. **Hazards are location-specific:** Even under a warming climate, the immediate causes of individual glacial collapses must be examined separately for each site.

Challenges in Monitoring and Predicting Himalayan Disasters

1. **Large monitoring challenge:** The Indian Himalayas contain nearly 7,500 glacial lakes and about 15,000 glaciers, making comprehensive monitoring extremely difficult.
2. **Limits of remote sensing:** Satellites can detect changes and reconstruct disasters, but they cannot fully determine the stability of every glacier or lake.
3. **Need for field assessment:** Accurate assessment often requires site visits, but remote terrain makes access difficult and limits the period for expeditions.

4. **Short fieldwork window:** High-altitude expeditions are generally feasible only from July to September, restricting detailed on-ground observations.
5. **Difficulty of precise forecasting:** Even with satellite data, predicting exactly when and where a glacier will collapse remains extremely difficult.
6. **Limits of conventional flood warnings:** The absence of rainfall before the Nepal disaster shows that rainfall-based warning systems may fail to detect such sudden events.
7. **Risk of ineffective warnings:** Warnings may also have limited value when residents cannot relocate because of habit, livelihood needs or lack of alternatives.
8. **Role of advanced technology:** Satellites, drones, unmanned aerial vehicles and thermal imaging can help assess damage, locate survivors and identify high-risk areas.

Way Forward

1. **Improve glacier health monitoring:** Governments should invest in better tracking of glaciers, glacial lakes and unstable mountain areas through remote sensing and field studies.
2. **Identify vulnerable zones:** Scientific monitoring should be used to map areas exposed to glacier collapse, GLOFs, landslides and debris-blocked rivers.
3. **Integrate risk into development:** Disaster assessments must become part of long-term development planning instead of being considered only after a disaster.
4. **Restrict construction in high-risk areas:** Settlements and large infrastructure projects should be discouraged in zones already identified as vulnerable to major natural outbursts.
5. **Strengthen construction standards:** Governments should enforce appropriate construction codes to reduce damage to roads, bridges and other infrastructure.
6. **Protect hydropower infrastructure:** Dams and hydropower projects in Himalayan valleys require greater attention because they are often among the first assets damaged.
7. **Prepare for cascading hazards:** Disaster planning must consider secondary risks, including temporary barrier lakes, river breaches and repeated downstream flooding.
8. **Go beyond relief and rescue:** Long-term prevention, continuous monitoring and safer development are necessary to address disasters worsened by passive neglect.

Conclusion

The Nepal flood shows how a disaster high in the Himalayas can quickly turn into a major downstream crisis through **glacial collapse, debris flow and river blockage**. Climate change is increasing the wider risks, even if its direct role remains uncertain. Better monitoring, safer construction and risk-based development can reduce future losses and prevent natural hazards from becoming larger human disasters.

Question for practice:

Discuss the causes, growing risks and challenges associated with glacier-related disasters in the Himalayan region, with special reference to the Nepal flood.

Source: The Hindu

Why Central Asia matters for India

Source: The post “Why Central Asia matters for India” has been created based on “PM Modi visit to Uzbekistan, Kyrgyz Republic: Why Central Asia matters for India” published in “Indian Express” on 25th August 2026.

UPSC Syllabus: GS 2- International Relations

Context: Prime Minister Narendra Modi is visiting Central Asia from August 29 to September 1, 2026, with a bilateral visit to Uzbekistan from August 29–30, followed by participation in the 26th Shanghai Cooperation Organisation (SCO) Summit in the Kyrgyz Republic from August 31–September 1.

Introduction

1. Central Asia, comprising **Kazakhstan, Kyrgyz Republic, Uzbekistan, Tajikistan and Turkmenistan**, is considered India's **extended neighbourhood**.
2. India's focused engagement with the region began with the **"Connect Central Asia" policy in 2012**, and Prime Minister Modi's visit to all five Central Asian countries in 2015 gave further momentum to this outreach.

Why Central Asia matters for India

1. **Strategic and geopolitical importance**

- a. Central Asia has traditionally been regarded as **Russia's backyard**, while China has increased its economic and strategic presence through the **Belt and Road Initiative (BRI)**.
- b. India's engagement seeks to ensure that the **post-Soviet space is not dominated by China** and to expand India's strategic space in the region.

2. **Security concerns**

- a. The **Taliban takeover of Afghanistan** has increased concerns regarding terrorism, radicalisation and instability in the region.
- b. Cooperation with Central Asian countries is therefore important for **counter-terrorism and regional security**.
- c. The possibility of regrouping of the **Islamic State** in the wider region poses an additional security challenge.

3. **Energy and mineral resources**

- a. Central Asia is extremely rich in natural resources.
- b. **Kazakhstan** possesses major uranium reserves along with coal, lead, zinc, gold and iron ore.
- c. **Turkmenistan** has one of the world's largest natural gas reserves.
- d. **Uzbekistan** has gold, uranium and natural gas, while the **Kyrgyz Republic and Tajikistan** have significant hydropower potential.
- e. Access to these resources can support India's **energy security and industrial requirements**.

4. **Connectivity and trade**

- a. India faces a major geographical disadvantage because **Pakistan blocks direct overland access to Central Asia**.
- b. India therefore seeks to use the **Chabahar Port in Iran** and integrate it with the **International North-South Transport Corridor (INSTC)** to improve connectivity with Central Asia.
- c. Better connectivity can also expand India's trade and economic engagement with the region.

5. **Economic opportunities**

- a. The region's mineral and energy resources offer opportunities for **Indian investment, trade and resource access**.
- b. Uzbekistan is already among India's important trading partners, with bilateral trade reaching **nearly \$1 billion in 2025-26**.

6. **Civilisational and cultural ties**

- a. India shares deep historical and civilisational links with Central Asia.
- b. The **Kara Tepa Buddhist monastery in Termez, Uzbekistan**, reflects the spread of Buddhism from India into Central Asia during the Kushana period.
- c. India and Uzbekistan also share linguistic and cultural similarities, including around **3,000 shared words** and similarities in cuisine such as **samosa-samsa, naan-non and pulao-pilaf**.

7. **Multilateral significance**

- a. India has been a member of the **Shanghai Cooperation Organisation (SCO)** since 2017.
- b. The SCO provides India with a platform to engage simultaneously with **Central Asian countries, Russia, China and other regional actors** on security and strategic issues.

- c. India's outreach was also reflected in its invitation to Central Asian leaders for the **Republic Day celebrations in January 2022**.

Challenges

1. **Connectivity deficit:** Pakistan's geographical position prevents direct land access, making India dependent on alternative routes such as Iran.
2. **Chinese influence:** China's large investments under the BRI have increased its economic and strategic influence in Central Asia.
3. **Afghanistan instability:** Taliban rule, terrorism and radicalisation create security uncertainties.
4. **Russia-Ukraine conflict:** The conflict may create political and economic churn in Central Asian countries.
5. **Demographic and social pressures:** The movement of skilled and wealthy Russians into Central Asia could bring economic benefits but may also create **local social tensions**.

Way Forward

1. India should deepen its **security and counter-terrorism cooperation** with Central Asian states.
2. It should accelerate connectivity through **Chabahar and the INSTC** to overcome geographical constraints.
3. India should strengthen cooperation in **uranium, hydrocarbons, minerals and hydropower**.
4. Greater trade, investment and cultural exchanges can provide a stronger foundation for long-term relations.
5. India should also use platforms such as the **SCO** to pursue its strategic interests while maintaining balanced relations with Russia, China and Central Asian states.

Conclusion: Central Asia is important for India not only because of its **energy and mineral resources**, but also because of its location at the intersection of India's **security, connectivity and geopolitical interests**. A sustained and multidimensional engagement can help India secure its **extended neighbourhood**, diversify its resource supplies and contribute to stability in the wider region.

Question: Central Asia is strategically important for India's security, connectivity, energy and economic interests. In this context, discuss the significance of India's engagement with Central Asian countries and the challenges involved.

Source: Indian Express

Safeguarding small sellers in the e-comm space

Source: The post "Safeguarding small sellers in the e-comm space" has been created based on "Safeguarding small sellers in the e-comm space" published in "Indian Express" on 25th August 2026.

UPSC Syllabus: GS 2- International Relations

Context: India is increasingly using **cross-border e-commerce** to connect small producers, artisans and MSMEs with global consumers. The **DGFT Notification 27/2026-27 and Public Notice No. 25/2026-27**, issued on August 5, 2026, operationalise the **Inventory-based Cross-Border E-Commerce Facilitation Framework** while introducing safeguards for small sellers.

Key concerns for small sellers

- Large e-commerce intermediaries may gain excessive control over **pricing, customer ownership and market information**.
- Small producers may become dependent on intermediaries without knowing the **final overseas sale price or consumer demand**.
- MSMEs may also face risks related to **unfair deductions, returns, discounts, damaged inventory and rejection of goods**.
- There are concerns regarding **unauthorised rebranding, copying of designs and misuse of trademarks**.

Major safeguards introduced by DGFT

1. **Clear distinction between participants**
 - a. The framework distinguishes between the **Exporter-on-Record (EOR)**, who manages exports and inventory, and the **Seller-on-Record (SOR)**, whose goods are procured for export.
 - b. This recognises that the logistical exporter and the actual producer need not be the same entity.
2. **Greater transparency**
 - a. The EOR must maintain a digital repository connecting **procurement records, GST invoices and export documents** with individual sellers.
 - b. Sellers must receive information on the **final overseas sale price, order status, shipment tracking and destination country**.
3. **Access to export benefits**
 - a. Seller-attributable export benefits must reach the SOR.
 - b. The administrative charge retained by the EOR cannot exceed **10% of export rebates and refunds**, and attributable benefits must be transferred within **30 days** of receipt.
4. **Accountability and compliance**
 - a. **Independent compliance certification** and preservation of records for **five years** strengthen transparency and accountability.
5. **Dispute resolution**
 - a. Sellers can approach the concerned **DGFT Regional Authority** for dispute resolution.
 - b. The existing rights of micro and small enterprises under the **MSMED Act**, including access to the **MSE Facilitation Council**, remain unaffected.

Measures to further strengthen the framework

1. A **model EOR-SOR agreement** should be developed for micro and small enterprises, clearly specifying procurement prices, commissions, deductions, returns, discounts and damaged inventory.
2. **Retrospective price reductions or deductions** should generally be prohibited after goods have been accepted into export inventory.
3. Sellers should receive a simple **digital dashboard** containing information on exports, destinations, realised prices, returns, discounts and export benefits.
4. Stronger protection should be provided for **Indian brands, trademarks, handicrafts, handlooms and GI products** against unauthorised rebranding and copying.
5. The framework should balance seller protection with the legitimate costs and returns of EORs, which provide **warehousing, technology, logistics, marketing, fulfilment and global market access**.

Way Forward

1. India should aim for a **partnership-based e-commerce ecosystem** rather than excessive regulation.
2. The EOR should earn through logistics, technology, fulfilment and market access, while the SOR should retain **timely payments, export benefits, brand protection and access to market information**.
3. The pilot phase should be used to improve the framework and ensure that e-commerce becomes **shared export infrastructure for MSMEs**.

Conclusion: The success of the framework should not be measured merely by the **volume of exports through e-commerce warehouses**. Its real success will lie in enabling **Indian micro and small enterprises to become stronger, more profitable and globally competitive without surrendering their economic identity**.

Question: The inventory-based cross-border e-commerce model can expand India's export potential, but may also create risks for small sellers. Discuss the safeguards introduced by DGFT and suggest measures to further protect MSMEs.

Source: [Business Line](#)

The Real Causes of Sugar Price Spike

UPSC Syllabus: Gs Paper 3- Indian economy

Introduction

Retail sugar prices have risen sharply from around ₹45-₹48 to ₹58-₹70 per kg, raising concerns before the festive season. The increase reflects **lower domestic production, weather damage, seasonal demand, ethanol diversion, global supply pressure and speculative hoarding**, rather than one single cause. The key issue is to identify how these factors interact and determine why the present spike is sharper than normal seasonal increases.

Understanding the Underlying Structural Problem

1. **Cobweb cycle:** Sugar prices follow a recurring cycle where high prices encourage cultivation, while later oversupply causes prices and farmer returns to fall.
2. **Production time lag:** Sugarcane takes around **12-18 months** to mature, so farmers' acreage decisions affect market supply only after a substantial delay.
3. **Surplus and price crash:** Increased cultivation eventually creates excess sugar, pushing domestic prices down and causing sugar mills to struggle with farmer payments.
4. **Farmer arrears:** Falling returns increase payment problems, with sugarcane farmers facing around **₹3,449 crore in arrears during 2024-25** alone.
5. **Reduced future cultivation:** Poor returns discourage farmers from maintaining sugarcane acreage, creating supply shortages that can push prices sharply upward later.
6. **Declining production:** Sugarcane production fell from **491 million tonnes in 2022-23 to 456 million tonnes in 2024-25**, strengthening the current supply shortage.
7. **Higher cane costs:** Rising **Fair and Remunerative Price (FRP) and State Advised Price (SAP)** have increased sugarcane costs, adding to the cost pressure faced by the sugar industry.

Immediate Drivers of the Current Sugar Price Spike

1. **Lower sugar output:** Current sugar production is estimated at 30.6 million tonnes, around 11% below the initial estimate of 34.3 million tonnes, sharply tightening expected availability.
2. **Crop diseases: Red Rot and Top Borer** infestations have damaged sugarcane crops and contributed to the decline in expected sugar production.
3. **Excess rainfall:** Heavy rainfall and waterlogging in major growing areas damaged crops, showing that both excess and deficient rainfall can affect sugar output.
4. **El Niño impact:** El Niño-related dry spells and weak monsoon conditions reduced water availability, but the earlier production decline without similar price pressure limits its explanatory role.
5. **Festive demand:** Sugar purchases rise during the festive season among households, sweet manufacturers and confectioners, adding demand pressure to already-tight domestic supplies.
6. **Global supply pressure:** A projected **3.3-million-tonne global sugar deficit in 2026-27** and rising international prices have added further pressure on domestic prices.

Ethanol Diversion and Market Speculation: How Much Do They Matter?

1. **Ethanol diversion:** Diverting sugar towards ethanol reduces the quantity available for edible consumption, adding to domestic supply pressure during production shortages.
2. **Rising diversion:** Sugar diverted for ethanol increased from **0.8 million tonnes in 2019-20 to more than 3 million tonnes in 2025-26**, tightening inventories.
3. **Government restriction:** The government reduced diversion when production prospects weakened, including a **1.7-million-tonne cap** on sugarcane juice and B-heavy molasses.
4. **Shift to grain feedstocks:** The share of ethanol produced from sugarcane fell from **86.2% in 2020-21 to 31.5% in 2024-25**, as maize and other grain-based feedstocks increasingly filled the gap.

5. **Ethanol remains contested:** Ethanol diversion has tightened sugar availability, but its reduced share and government restrictions show that it **cannot alone explain the present price spike**.
- 6.
7. **Speculative hoarding:** Traders, stockists and bulk buyers may withhold inventories when they expect shortages, creating artificial scarcity and pushing prices higher.
8. **Overall assessment:** Ethanol diversion contributes to supply tightness, but **production losses, festive demand and speculative holding together explain the sharper retail price increase**.

Government Initiatives

1. **Raw sugar imports:** The Centre permitted imports of **10 lakh tonnes of raw sugar until October 31** to increase domestic availability and ease price pressure.
2. **Stock limits:** Stock limits have been imposed on dealers and large bulk buyers, including beverage manufacturers, to discourage excessive inventory holding.
3. **Export restrictions:** Sugar exports had already been prohibited, ensuring that available domestic supplies remain focused on meeting Indian consumption requirements.
4. **Market monitoring:** The government is closely monitoring sugar prices, production, stocks and market behaviour to identify factors contributing to the unusual price rise.
5. **Ethanol allocation:** Ethanol diversion has been restricted during periods of expected sugar shortage, preventing excessive diversion from further reducing edible sugar availability.
6. **Supply management:** These measures aim to balance **consumer affordability, domestic sugar availability and the financial interests of farmers and sugar mills** during supply stress.

Way Forward

1. **Flexible ethanol policy:** Ethanol diversion should respond to **monsoon conditions, reservoir levels and real-time crop estimates** instead of following rigid multi-year allocation targets.
2. **Digital stock tracking:** A mandatory inventory portal for large traders, stockists and bulk consumers can provide real-time stock visibility and reduce speculative hoarding.
3. **Better sugarcane pricing: Fair and Remunerative Price (FRP)** should consider actual cultivation costs rather than relying mainly on projected cost estimates.
4. **Higher farm productivity:** Sugarcane productivity has remained around **83 tonnes per hectare since 2020-21**, making greater use of modern technology necessary for better farmer returns.
5. **Drip irrigation:** Promoting drip irrigation in major sugarcane belts such as **Maharashtra, Karnataka and Tamil Nadu** can reduce water use by up to **40%**.
6. **Price stabilisation fund:** A **Sugar Price Stabilisation Fund**, financed through a nominal variable cess on industrial sugar users, can help clear farmer arrears during market downturns.
7. **Integrated policy approach:** Sugar policy should balance **consumer prices, farmer incomes, mill viability and energy security** instead of addressing each objective separately.

Conclusion

The current sugar price spike reflects a combination of **structural production cycles, lower output, weather and disease damage, higher cane costs, festive demand, global supply pressure and speculative hoarding**. Ethanol diversion has added to supply pressure but does not fully explain the increase. A stable sugar economy therefore requires **better production planning, flexible ethanol allocation, transparent stock management, higher productivity and sustainable farmer returns**.

Question for practice:

Examine the real causes behind the recent rise in sugar prices in India.

Source: [Businessline](#); [Livemint](#)

A Shared Disaster, Beyond Borders and Geopolitics

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

Introduction

The **August 26, 2026 Himalayan disaster** began with a massive glacial collapse near the Nepal-China border and triggered destructive flash floods across interconnected river systems. Initially mistaken for an earthquake, the event became a **wider regional disaster affecting Nepal, China and India**, causing heavy loss of life, infrastructure destruction and cross-border flood risks. It exposed shared vulnerabilities in the Himalayas and showed why **disaster preparedness, scientific cooperation and humanitarian coordination** must extend beyond political boundaries.

From Glacial Collapse to Catastrophic Floods

1. **Glacial collapse, not tectonic activity:** The **United States Geological Survey** confirmed that the reported seismic activity came from a glacial collapse and landslide, rather than tectonic movement.
2. **Powerful impact created seismic signal:** The collapsed glacier fell nearly **1 km into the valley**, producing an impact equivalent to a **magnitude 5.2 earthquake** and triggering catastrophic downstream effects.
3. **Floodwaters travelled far downstream:** Water and debris moved nearly **100 km through the Trishuli and Bhoite Koshi river systems**, damaging settlements, roads and border infrastructure.
4. **Possible landslide-dam formation:** Debris may have temporarily blocked narrow sections of the Trishuli River, creating a **landslide dam** and raising the possibility of another major flood.
5. **Barrier lakes created fresh danger:** Two barrier lakes formed upstream, while one accumulated about **2.5 million cubic metres of water**, creating a risk of renewed downstream flooding.
6. **Uncertain sequence of events:** Scientists were still examining whether the glacier collapsed hours or days earlier, followed by river blockage and a sudden debris-filled flood.

Humanitarian and Infrastructure Devastation Across Borders

1. **Severe human losses in Nepal:** Later reports put Nepal's deaths at **at least 616**, while **1,924 people remained missing**, including large numbers of foreign nationals.
2. **Foreign tourists and pilgrims affected:** At least **540 foreigners** were among those missing, including Indian pilgrims and tourists travelling through the Himalayan border region.
3. **Major electricity capacity destroyed:** Damage to hydropower facilities wiped out around **475 megawatts of generating capacity**, severely affecting Nepal's electricity system.
4. **Gyirong Port suffered extensive destruction:** China's **\$175.8 million Gyirong Port**, a major Nepal-China trade gateway, was buried under sediment and debris.
5. **Chinese border connectivity collapsed:** Roads, power supplies and communication links around Gyirong County were severely damaged, while **seven deaths and 558 missing people** were later reported in Tibet.
6. **Downstream Indian districts faced flooding:** Floodwaters entered the **Gandak, Kosi and Ganga systems**, placing Bihar and Uttar Pradesh on high alert and forcing riverside communities to evacuate.

Crisis Transcending Political Boundaries

1. **Shared Himalayan geography creates shared risks:** Glaciers, rivers and mountain systems cross political boundaries, allowing hazards originating in one country to affect neighbouring populations.
2. **Natural hazards disrupt regional connectivity:** Damage to Gyirong Port and border routes showed how a Himalayan disaster can disrupt **trade, transport and connectivity between South Asia and Tibet**.
3. **Human movement creates cross-border humanitarian concerns:** The presence of foreign tourists and pilgrims among the missing made the disaster a wider humanitarian concern for several countries.

4. **Downstream impacts connect distant communities:** Floodwaters originating in the Himalayan border region reached river systems in India, showing how impacts can extend far beyond the disaster's source.
5. **Disaster risks require regional thinking:** The shared impact across Nepal, China and India shows that Himalayan disaster management cannot depend only on separate national responses.

Rescue, Relief and Regional Response

1. **Nepal expanded rescue operations:** Rescue teams were deployed along riverbanks from Rasuwa to Chitwan and other possible affected locations to locate survivors.
2. **China faced difficult access conditions:** Chinese rescuers reached the devastated Gyirong complex after roads and normal routes were destroyed.
3. **Nepal sought specialised foreign assistance:** Kathmandu requested help with **transport restoration, communication, body identification, DNA testing and long-term body preservation**, while retaining responsibility for general search and rescue.
4. **India and China supported connectivity restoration:** Nepal requested **Bailey bridges** from both neighbours after around two dozen bridges were destroyed.
5. **India provided emergency relief:** The **Indian Air Force sent nearly 50 tonnes of supplies**, including medical material, rations and tents, while National Disaster Response Force teams supported flood preparedness.
6. **International support expanded:** The United States offered **\$500,000**, the United Kingdom offered **£5 million**, and United Nations officials urged wider support for disaster response.

Emerging Risks in a Warming Himalayas

1. **Glacier melt is increasing regional vulnerability:** Climate change is accelerating glacier melt across the **Hindu Kush Himalaya**, potentially increasing instability in high mountain areas.
2. **Glacial thinning may raise landslide risks:** Warmer conditions can thin glaciers and weaken surrounding slopes, increasing the possibility of large-scale landslides and related hazards.
3. **Permafrost degradation can destabilise slopes:** Warming and thawing permafrost may reduce the natural stability of mountainsides and contribute to more frequent landslides.
4. **Climate link remains unconfirmed for this event:** Scientists cautioned that it is **too early to definitively attribute this specific disaster to climate change**, despite its possible influence.
5. **Secondary hazards may continue:** Over **100 glacial lakes** in the wider area could pose risks, while heavy rainfall and unstable barrier lakes may trigger further flooding.

Way Forward

1. **Build cross-border early-warning systems:** Nepal, India and China should strengthen joint monitoring of **glaciers, glacial lakes, landslides and river levels** to provide timely warnings.
2. **Map high-risk zones:** Scientific monitoring should identify areas vulnerable to **glacier collapse, glacial lake outbursts, landslides and debris-blocked rivers** for better preparedness.
3. **Share scientific and hydrological information:** Regular exchange of **geological, satellite and river-flow data** can improve understanding of hazards that move across national boundaries.
4. **Prepare for cascading hazards:** Disaster plans should cover **barrier-lake breaches, landslide dams and repeated downstream flooding**, rather than focusing only on the initial disaster.
5. **Integrate risk into development planning:** Disaster-risk assessment should become part of **long-term infrastructure planning**, especially for roads, bridges and hydropower projects in vulnerable Himalayan valleys.
6. **Create coordinated disaster-response mechanisms:** The three countries need practical arrangements for **rescue access, emergency communication, transport restoration and deployment of specialised technical teams** during cross-border disasters.

7. **Strengthen climate-risk preparedness:** Disaster planning should account for **glacier melt, permafrost degradation, unstable slopes and cascading hazards**, while recognising that the climate link to this specific event remains unconfirmed.
8. **Separate disaster cooperation from geopolitics:** India, Nepal and China should preserve space for **humanitarian and technical cooperation** even when broader strategic relations remain contested.

Conclusion

The disaster shows that natural hazards can cross political borders and affect interconnected Himalayan communities. Nepal, India and China therefore need stronger early-warning systems, scientific data-sharing, coordinated disaster response and climate-risk planning. At the same time, humanitarian cooperation should remain open despite wider geopolitical differences, turning shared vulnerability into stronger regional disaster resilience and more effective preparedness for future cross-border hazards.

Question for practice:

Examine how the Himalayan disaster shows the need for cooperation among Nepal, India and China beyond geopolitical differences.

Source: [The Hindu](#)

Atmanirbharta in fuel must strengthen India's food security

Source: The post "Atmanirbharta in fuel must strengthen India's food security" has been created based on "Atmanirbharta in fuel must strengthen India's food security" published in "Indian Express" on 31st August 2026.

UPSC Syllabus: GS-3 - Economy

Context: India's ethanol blending programme has made rapid progress, rising from **1.53% in 2013-14 to about 20% in 2025-26**. However, the recent sharp rise in sugar prices highlights the emerging **food-fuel trade-off** and the need to recalibrate the ethanol policy.

Challenges

1. **Tightening sugar supplies:** Opening sugar stocks fell from **8 MT to 5 MT**, while sugar production in 2025-26 is expected to decline from the initial estimate of 34.3 MT to around **28-29 MT**.
2. **Diversion of sugar:** Around **2.75 MT of sugar was diverted for ethanol**, aggravating the shortage when sugar supplies were already tight.
3. **Highly regulated value chain:** Government control over sugarcane pricing, sugar sales, imports, exports and ethanol feedstock allocation reduces the ability of market signals to correct shortages.
4. **Limited imports:** Allowing only **1 MT of duty-free raw sugar imports** may not be sufficient to rebuild stocks before the festive season.
5. **Rice as an alternative:** Excess FCI rice stocks can be used for ethanol, but such diversion must occur only when there is a **genuine surplus**.
6. **Maize productivity constraint:** Maize is a better feedstock due to its lower water requirement, but India's productivity is only around **3.5 tonnes/ha**, compared with about **11 tonnes/ha in the US**.
7. **Impact on livestock sector:** Greater use of maize for ethanol can raise maize prices and increase the cost of **poultry meat, eggs and milk**, since maize is an important feed.
8. Thus, shifting from sugar to rice or maize **does not completely eliminate the food-fuel trade-off**.

Way Forward

1. The government should **import adequate sugar**, preferably around **3-4 MT of refined sugar**, and reduce the import duty on refined sugar from 100% to zero or around 5% temporarily.
2. **Sugar-based ethanol should be reduced temporarily** during periods of tight sugar supply.
3. FCI rice should be used for ethanol **only when genuine surplus exists**, while ensuring at least the procurement price is recovered.

4. **Maize should be promoted as the preferred long-term feedstock**, along with investments in irrigation efficiency, better seeds, technology and productivity enhancement.
5. India should undertake a **360-degree evaluation of the ethanol programme**, including the net energy balance and environmental impact of different feedstocks.
6. Oil marketing companies should receive **greater flexibility to choose economical feedstocks**, subject to safeguards for food security, farmers and the environment.
7. **Imported ethanol should act as a safety valve**, and blending may be temporarily reduced from 20% to around **15%** when domestic feedstock shortages threaten food prices.

Conclusion: Ethanol blending is important for **energy security, import reduction and fuel self-reliance**, but **food security must remain the higher-order priority**. Therefore, India's *Atmanirbharta* in fuel should be designed to **strengthen, not undermine, food security**, with strategic buffers, flexible feedstock use and higher maize productivity.

Question: Atmanirbharta in fuel is important for India's energy security, but it should not come at the cost of food security. Discuss the challenges associated with India's ethanol blending programme and suggest a way forward.

Source: [Indian Express](#)

OBC creamy layer and the income test

Source: The post "OBC creamy layer and the income test" has been created based on "OBC creamy-layer income test: What did the Supreme Court rule, and why is the Centre seeking clarification? | Explained" published in "The Hindu" on 31st August 2026.

UPSC Syllabus: GS-2- Governance

Context: The concept of the **OBC creamy layer** seeks to exclude socially and economically advanced sections among OBCs from reservation benefits. The Supreme Court's **March 11, 2026 judgment in *Union of India vs Rohith Nathan*** addressed the manner in which the income/wealth test should be applied to certain OBC candidates.

Supreme Court's ruling:

1. The cases involved OBC candidates whose parents worked in **PSUs or the private sector**, where equivalence of posts with government services had not been established.
2. The Court held that such candidates **cannot be treated differently** from OBC candidates in other categories for creamy-layer determination.
3. The income/wealth test should operate as a **"residual filter"**. The 1993 DoPT Office Memorandum had consciously excluded **salary and agricultural income** while applying the test.
4. The Court found that the subsequent 2004 DoPT letter had resulted in the inclusion of salary income in certain cases, creating **"hostile discrimination"** between children of government employees and those of PSU/private-sector employees.
5. The Court directed the Centre to implement this interpretation within six months and create **supernumerary posts** for affected OBC candidates according to their CSE ranks.

Why is the Centre seeking clarification?

1. The Centre argues that **retrospective implementation** would be extremely difficult and could have a **cascading effect on settled services from 2012 onwards**.
2. It apprehends a large number of **claims for adjustment and seniority disputes** arising from retrospective changes.
3. The impact could extend beyond OBC candidates to **all categories, including the Unreserved category**.
4. Since the judgment, **22 other judgments** have reportedly applied its principles, while **12 new cases** have sought reconsideration of OBC non-creamy-layer status.

5. The Centre has separately sought permission to continue the existing service allocation for **CSE 2025 candidates**, with more than **950 candidates** about to begin their Foundation Course.
6. It has also argued that salary income may sometimes be the “**sole intelligible differentia**” between OBC candidates from similar social backgrounds and raised concerns about cases where parents earning up to **₹1 crore** could potentially be considered non-creamy layer if salary is excluded.

Way Forward

1. **Clear implementation guidelines:** The Centre should issue clear, uniform guidelines on the application of the income/wealth test to avoid arbitrary interpretation by authorities.
2. **Prospective implementation:** To protect settled services and seniority, the Court may consider a clearly defined framework for implementing the judgment prospectively while addressing genuinely affected candidates.
3. **Equivalence of posts:** The government should establish equivalence between PSU/private-sector posts and government-service posts at the earliest to ensure uniform application of creamy-layer criteria.
4. **Avoid retrospective disruption:** Any corrective exercise should minimise disruption to already settled recruitments, service allocations and seniority, particularly where third-party rights are involved.
5. **Balanced income criterion:** The policy should ensure that exclusion from reservation reflects social and economic advancement, while preventing salary income from becoming an arbitrary basis for treating similarly placed candidates differently.
6. **Judicial clarification:** The Supreme Court should clearly settle the scope, temporal application and procedure for implementing the March 11 judgment so that prolonged litigation and administrative uncertainty are avoided.

Conclusion: The issue involves balancing substantive equality and non-discrimination with administrative certainty and protection of settled rights. A clear, uniform and carefully phased implementation framework can reconcile both objectives.

Question: What did the Supreme Court rule regarding the OBC creamy-layer income test in the Rohith Nathan case? Why has the Centre sought clarification on its implementation? Discuss.

Source : [The Hindu](#)

Nepal's Agony, the Himalayan Warning to India

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

Introduction

The August 26 Nepal disaster shows how **glacier collapse, fragile geology and changing climatic conditions** can combine into cascading hazards. For India, the warning is serious because the Himalaya is an interconnected geological, cryospheric and river system. **Climate change, infrastructure growth and rising tourism** can further increase exposure. The disaster therefore underlines the need for better preparedness, safer development and stronger regional cooperation.

What Happened in Nepal?

1. **Glacial collapse triggered the disaster:** **Satellite imagery and scientific assessment** indicate that a glacier collapse or ice-rock avalanche triggered the destructive flood, rather than a conventional earthquake.
2. **High-altitude glacier failure:** A section of glacier reportedly broke away at about **5,200 metres** and fell nearly **1,200 metres** into the valley, carrying ice and rock.
3. **Snowmelt may have contributed:** Available imagery indicated that **substantial snow may have melted during the 24 hours** before the disaster, although the immediate trigger was glacier and slope failure.

4. **Scientific uncertainty about the sequence:** The exact chain remains under assessment, including whether an **earthquake triggered the collapse** or the collapse produced the unusual seismic signal.
5. **Possible temporary river blockage:** Ice, rock and sediment may have temporarily blocked the river, allowing water to accumulate before the natural barrier suddenly failed.
6. **Flood travelled through connected rivers:** The flood entered the **Lhende Khola**, then the **Bhote Koshi**, and finally moved south through the **Trishuli river system**.
7. **Extremely rapid water rise:** The **Trishuli River** reportedly rose about **9 metres** within **30 minutes**, leaving very little time for evacuation.
8. **Extensive human and infrastructure losses:** The disaster caused **hundreds of deaths and many missing persons**, while settlements, hydropower facilities and monitoring infrastructure suffered extensive damage.
9. **Secondary flooding remained possible:** A newly formed **barrier lake upstream** created fears that another breach could release further water and debris downstream.

Why Is the Himalayan Region So Vulnerable?

1. **Naturally fragile geology:** The Himalaya is highly exposed to **earthquakes, landslides, avalanches and flash floods** because of its steep slopes and unstable geological conditions.
2. **Glacial collapse carries multiple materials:** Glacier failures can detach large masses of **ice along with rock, sediment and water**, increasing the destructive force of resulting flows.
3. **Different forms of glacier failure:** Gravity-driven failures may occur as **glacier detachments, ice avalanches or rock-ice avalanches**, especially on steep mountain slopes.
4. **Avalanches can become debris flows:** Collapsed ice and rock can move rapidly downhill and transform into an **ice-rich avalanche or destructive debris flow**.
5. **Barrier lakes create secondary hazards:** Landslide and avalanche debris can block mountain rivers, forming temporary lakes that store **large volumes of water**.
6. **Sudden barrier failure increases destruction:** When these blockages fail, **water, mud, rock and debris** can surge together through downstream valleys.
7. **Very little evacuation time:** High-speed flows can overwhelm **roads and vehicles**, leaving communities little time to reach safety.
8. **Himalayan hazards can cascade:** A single glacier or slope failure can trigger **river blockage, lake formation, sudden breach and downstream flooding** in sequence.

Why Should India Be Concerned?

1. **The Himalaya is one interconnected system:** The **Hindu Kush Himalaya** stretches from Afghanistan and Pakistan through India and Nepal to Bhutan and China, allowing hazards to cross borders.
2. **Large populations depend on Himalayan rivers:** Rivers originating in the region support **hundreds of millions in mountain areas and more than two billion downstream**.
3. **India has already faced similar disasters:** **Kedarnath (2013), Ronti Peak (2018), Chamoli (2021) and South Lhonak Lake (2023)** show India's exposure to sudden mountain hazards.
4. **South Lhonak showed long-term risk build-up:** The **2023 Sikkim GLOF** developed through changes accumulated over several years before damaging major infrastructure.
5. **Indian glacial systems are changing:** Uttarakhand has numerous glaciers and glacial lakes, while the **Alaknanda basin** has recorded significant expansion of glacial-lake areas.
6. **Risk extends across the Indian Himalaya:** **Ladakh, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh** contain glaciers, lakes and valleys exposed to cascading hazards.
7. **Water risks have two dimensions:** A changing cryosphere can cause **sudden excess water during disasters** while reducing dependable water availability over longer periods.

8. **Declining snow cover adds concern:** Himalayan snow cover in **2026** was **27.8% below the long-term average**, marking the **fourth consecutive year** of below-normal persistence.

What Is Making the Risk Worse?

1. **Rapid glacier loss:** Hindu Kush Himalayan glaciers lost ice **65% faster during 2011–2020** than during the previous decade, showing accelerating cryospheric change.
2. **Nepal has lost substantial ice volume:** Nepal's glaciers lost **nearly one-third of their ice volume in roughly three decades**, according to United Nations estimates.
3. **Himalayan warming is rapid:** High Mountain Asia is warming at about **0.32°C per decade**, compared with the **global average of 0.16°C**, increasing pressure on the cryosphere.
4. **Permafrost is becoming weaker:** Rising temperatures can reduce **permafrost**, weakening high-altitude slopes and increasing the possibility of landslides and ice-rock failures.
5. **Glacial lakes are becoming a greater concern:** Glacier melting can create or enlarge glacier-fed lakes, increasing the possibility of **Glacial Lake Outburst Floods (GLOFs)**.
6. **Climate change increases underlying vulnerability:** Reduced snow cover exposes darker glacier ice, which absorbs more heat and can accelerate melting and weaken glacier fronts.
7. **Infrastructure increases exposure:** **Roads, tunnels, dams, hydropower projects and settlements** place more people and assets in fragile mountain areas.
8. **Hydropower development is extensive:** Nepal has **over 570 projects**, while at least **193 dams** have been built or planned across the wider Tibetan region since 2000.
9. **Construction can disturb fragile terrain:** **Drilling, tunnelling and large-scale construction** can disturb mountain geology and increase vulnerability in unstable areas.
10. **Tourism adds pressure:** High **tourist footfall** can increase disaster losses by concentrating more people and infrastructure in vulnerable valleys.
11. **Large projects can create transboundary risks:** **China's Yarlung Tsangpo mega-dam** near Arunachal Pradesh has raised concerns because researchers identified an **active fault and weak surrounding terrain**.

Why Does Cooperation Between Himalayan Countries Matter?

1. **Shared risks cross borders:** **Floods, GLOFs and other mountain hazards** do not follow political boundaries, so disaster planning cannot remain limited to individual countries.
2. **Weak ecosystem cooperation:** **China, India and Nepal** still lack substantial cooperation for managing the wider Himalayan ecosystem and related disaster risks.
3. **Limited real-time data sharing:** There is no clearly established public system for continuously sharing **river flow, reservoir operations and glacial-lake conditions from Tibet**.
4. **Existing mechanisms need expansion:** The **2002 India-China Memorandum of Understanding and 2005 expert-level mechanism** on transboundary rivers should also address GLOFs and wider Himalayan hazards.
5. **Transparency remains uneven:** Nepal provides relatively detailed project information, while **Chinese project information remains scattered** across different official documents and announcements.
6. **Warnings can fail without upstream information:** Gaps in cross-border data-sharing can delay early warnings when hazards originate in **upstream areas outside the affected country**.
7. **Joint monitoring can improve preparedness:** Countries can share **hydrological, weather and climate data**, while downstream countries can co-invest in upstream observation systems.
8. **Emergency cooperation is necessary:** **Automated warnings, joint scientific studies and regular emergency exercises** can strengthen preparedness for transboundary disasters.

9. **Landscape-level planning is essential:** Since Himalayan hazards affect connected landscapes, scientific research and infrastructure planning should move beyond a **nation-state-centric approach**.

What Should India Do? — Way Forward

1. **Create integrated Himalayan monitoring:** India should connect **ISRO, Geological Survey of India, Wadia Institute of Himalayan Geology, National Institute of Hydrology, universities, states and communities**.
2. **Map vulnerable locations:** Scientific monitoring should identify **dangerous glaciers, glacial lakes, unstable slopes and debris-blocked rivers** capable of producing cascading hazards.
3. **Combine remote sensing with field studies:** Satellites can detect changes and reconstruct disasters, but **ground assessments** remain necessary to assess local stability more accurately.
4. **Use advanced technology:** **Satellites, drones, thermal imaging, water-level sensors and weather stations** can improve hazard detection, monitoring and damage assessment.
5. **Address monitoring limitations:** India has nearly **7,500 glacial lakes and about 15,000 glaciers**, while difficult terrain and the short **July–September fieldwork window** make complete monitoring difficult.
6. **Strengthen downstream early warnings:** Warning systems should cover **entire river valleys**, ensuring communities receive alerts early enough to evacuate safely.
7. **Move beyond rainfall-based warnings:** Sudden glacier-related floods may occur without significant rainfall, so systems must also monitor **glacier movement, lake levels and river conditions**.
8. **Prepare for secondary hazards:** Disaster plans must include **barrier lakes, sudden breaches, debris flows and repeated downstream flooding**, rather than focusing only on the first event.
9. **Regulate high-risk development:** Major infrastructure should undergo **cumulative climate, cryosphere and disaster-risk assessments**, while construction in identified high-risk zones should be restricted.
10. **Strengthen infrastructure safety:** Appropriate **construction standards and regular safety reviews** are needed for roads, bridges, dams and hydropower projects.
11. **Shift from relief to prevention:** Long-term **monitoring, risk reduction and safer development** must replace the cycle of rebuilding vulnerable infrastructure after disasters.

Conclusion

Nepal's disaster is a warning that **Himalayan hazards are becoming increasingly interconnected with climate change and human exposure**. India cannot prevent every glacier collapse or flood, but it can reduce their impact through scientific monitoring, timely warnings, safer infrastructure and regulated development. **Cross-border cooperation and landscape-level planning** are equally necessary because Himalayan risks do not stop at national boundaries.

Question for practice:

Examine the increasing Himalayan disaster risks and suggest measures to strengthen India's preparedness and resilience.

Source: [The Hindu](#)

Adopt Policies for Reuse of Treated Water

UPSC Syllabus: Gs Paper 2 - Government policies and interventions for development in various sectors And **Paper 3- conservation**

Introduction

India faces growing water demand, freshwater stress and excessive groundwater extraction, while much treated wastewater remains unused or is discharged into water bodies. **Safe Reuse of Treated Water (SRTW)** can provide a reliable source for agriculture, industry and urban needs, reduce pollution loads and strengthen

water security. The emerging policy efforts of **Uttar Pradesh and Uttarakhand** show how State-specific approaches can shift wastewater management from disposal towards productive and accountable reuse.

Why India Needs to Mainstream Treated Water Reuse

1. **Rising water stress:** Growing water requirements and pressure on freshwater resources are increasing the need for alternative sources of water.
2. **NITI Aayog evidence:** The **Composite Water Management Index 2.0 (2019)** showed that **16 of 27 assessed States scored below 50 out of 100**, reflecting continuing gaps in water management.
3. **Low Beneficial Reuse:** Only **28% of sewage is effectively treated**, while just **3% of treated wastewater is beneficially used**, leaving substantial water resources untapped.
4. **Groundwater dependence:** Rampant groundwater extraction is increasing water stress, making treated wastewater important for reducing dependence on freshwater sources.
5. **Underused Treatment Infrastructure:** Discharging treated water into drains or rivers without productive reuse limits the value of the large investment made in sewage treatment infrastructure.
6. **Water Security and Resilience:** Reuse can provide an additional water source during scarcity and support cities facing drought, irregular rainfall and growing demand.
7. **Economic Opportunity:** Treated wastewater can support industrial and urban growth without placing equal pressure on existing freshwater supplies, while also creating opportunities for revenue and resource recovery.

Policy and Institutional Framework for Safe Reuse

1. **National Water Policy, 2012:** The policy treats recycling and reuse as a general norm and supports treatment to specified standards before wastewater reuse.
2. **National SRTW framework:** The **National Framework on Safe Reuse of Treated Water, 2022** guides States in preparing reuse policies and implementing them within a defined timeframe.
3. **Arth Ganga convergence:** Arth Ganga promotes monetisation and reuse of treated wastewater for irrigation and industry through cooperation with Ministries, Departments and public-sector undertakings.
4. **Thermal power mandate:** The **Power Tariff Policy, 2016** requires thermal power plants to use treated sewage water from STPs within 50 kilometres for non-potable purposes.
5. **National-level coordination:** Regular reviews through Empowered Task Force meetings support policy alignment, city action plans and sectoral reuse approaches across power, agriculture and industry.
6. **Institutional Support:** **Centre for Science and Environment (CSE)** provided technical support to Uttar Pradesh, while **National Mission for Clean Ganga (NMCG)** supported City-Level Reuse Action Plans for Agra and Prayagraj.

3. State and City-Level Implementation

1. **State-level policy progress:** Uttarakhand has notified its Safe Reuse of Treated Water (SRTW) policy, while Uttar Pradesh has approved its **Safe Reuse of Treated Water Policy, 2026**, with policies in Bihar and West Bengal at the final notification stage.
2. **Indo-German Cooperation:** German Agency for International Cooperation (GIZ) supported Uttar Pradesh in drafting and finalising its SRTW policy and supported development of the national reuse framework.
3. **Phased targets in Uttar Pradesh:** The policy targets **50% reuse by 2030 and 100% thereafter** where Sewage Treatment Plant (STPs) and collection and treatment capacity already exist, while areas without functioning STPs target 30% by 2030, 50% by 2035 and 100% by 2045.
4. **City-level planning:** **City-Level Reuse Action Plans (CLRAPs)** convert policy into local projects by identifying treated-water availability, demand centres, distribution systems, financing and monitoring mechanisms.

5. **Prayagraj model:** Four proposed projects identify **126.45 Million Litres per Day (MLD)** of reuse potential across power, railways, agriculture and landscaping, with an estimated investment of **₹1,625 crore**.
6. **Agra model:** Three proposed projects target **28 MLD** of reuse potential with an estimated investment of **₹93 crore**, addressing urban water stress and pressure on the Yamuna and groundwater.
7. **Industrial adoption:** Panki Thermal Power Plant uses **40 MLD** of treated water, while Jojobera Power Plant, Pragati Power Stations and IOCL Mathura Refinery also use treated wastewater.
8. **Kolar Reuse Model:** Treated wastewater is used for **agriculture and groundwater recharge** in Kolar, showing how city wastewater can serve productive water needs.

Benefits and Potential of Treated Water Reuse

1. **Groundwater Improvement:** The Kolar intervention improved groundwater levels and quality, showing the potential of treated wastewater to support groundwater recharge.
2. **Agricultural Productivity:** The same intervention increased agricultural productivity, livestock and fish production, linking water reuse with wider rural economic gains.
3. **Higher Land Values:** Land values in Kolar increased by 118%, while farmers' net income from cash crops doubled after the intervention.
4. **Industrial Water Savings:** Wastewater recycling and reuse in thermal power plants can generate an average ₹300 million annual monetary benefit and save nearly 10 million cubic metres of water.
5. **Utility Revenue:** The Bangalore Water Supply and Sewerage Board earns nearly ₹164 million annually by selling 18 MLD of treated water, covering its operations and maintenance costs.
6. **Nutrient Recovery:** Recovering nitrogen, phosphorus and potassium from wastewater can reduce dependence on synthetic fertilisers and add economic value to treated wastewater.
7. **Future Resource Potential:** More than 35,000 million cubic metres of treated wastewater could be available by 2050, creating substantial scope for large-scale reuse.

Key Challenges to Large-Scale Reuse

1. **Limited Treatment Capacity:** A large share of sewage remains untreated, restricting the amount of wastewater available for safe and organised reuse.
2. **Inadequate Reuse Infrastructure:** Treatment capacity alone is insufficient because effective reuse also needs suitable distribution systems and infrastructure connecting treated water with users.
3. **Lack of Quality Standards:** Sector-wise reuse guidelines remain inadequate because different uses require different treatment levels, ranging from biological treatment to reverse osmosis or ultrafiltration.
4. **High Technology Costs:** Advanced technologies such as zero liquid discharge can maximise water recovery but involve high costs that discourage industries and municipalities.
5. **Weak Financial Conditions:** Financial constraints and unclear incentives reduce the economic attractiveness of treated-water reuse for potential users.
6. **Technical and Private-Sector Gaps:** Limited research and development, private-sector participation and skilled personnel slow technological improvement and wider adoption.
7. **Public Acceptance:** Misconceptions about the safety of treated water create socio-cultural barriers, particularly where wider public acceptance is needed.

Way Forward

1. **Fit-for-Purpose Standards:** Reuse standards should match the quality required for each sector so that treated water can be safely used without unnecessary treatment costs.
2. **Research and Innovation:** Greater support for industries, universities and research institutions can promote new treatment technologies, water-efficiency practices, pilots and demonstrations.
3. **Infrastructure Development:** City-level roadmaps should connect treatment capacity with distribution networks and identified demand centres so that treated water reaches actual users.

4. **Incentives for Agriculture and Housing:** Farmers can be encouraged to use treated wastewater in water-scarce areas, while subsidies for dual plumbing or property-tax rebates can promote residential reuse.
5. **Volumetric Water Pricing:** Charging users according to consumption and applying higher tariffs to non-recycled water can encourage municipalities and housing societies to adopt treated water.
6. **Public-Private Partnerships:** Government financial support combined with private technical expertise can accelerate wastewater treatment and reuse infrastructure.
7. **Financial Convergence:** Reuse targets can gain financial momentum by linking existing schemes and programmes instead of depending only on new budget allocations.
8. **Water-Use Credits:** Entities using treated wastewater could receive **monetisable or tradable water-use credits**, creating an economic incentive for greater reuse.
9. **Institutional Coordination:** Utilities, urban departments, irrigation agencies and industries need to work together rather than operating in separate institutional silos.
10. **Public Awareness:** Clear communication on the safety and usefulness of treated water can address misconceptions and improve acceptance of reuse.

Conclusion

India needs to shift from “**treat-and-dispose**” to “**treat-and-reuse**” by linking sewage treatment with productive demand. National guidance, State policies, city-level plans, economic mechanisms and public acceptance can make this transition practical. Mainstreaming treated water can conserve freshwater, reduce groundwater pressure, lower river pollution, support economic activity and build a **resilient circular water economy**.

Question for practice:

Discuss the need for adopting policies to promote the safe reuse of treated water in India.

Source: [The Hindu](#)