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INDEX

Gen Z's voice must lead to a humane education system.....	2
A healthy tax: on taxing foods high in fat, sugar and salt	4
Western Ghats Conservation: Balancing Science and Dialogue.....	5
Shutting Down of Government Schools.....	8
Next conservation challenge lies beyond protected areas	9
Strong Health Systems for All with Better Public Spending	11
Welfare of Sex Workers in Light of Supreme Court Judgment.....	14
Critical minerals, the foundation of strategic power	17
Public Health Financing: The Key to Universal Health Systems	20
India Struggling to Retain Scientists	22
AI and Cyber, the Double Helix of Today's Security Threats	25
NATO enters a new strategic era of transformation	28
Top spot: On the new phase of the Khelo India Scheme.....	30
Strategic Transformation of NATO and Position of India	32
Curbing 'Paper Leaks' and Ensuring Institutional Accountability	36
Quantum shift: On private industry and national research spending.....	39
Service charge on UPI transactions makes sense	41
Fiscal Federalism, Efficiency versus Equity Concerns	42
The Road Ahead for the Asiatic Lion	46
Natural farming impetus	49
Access paradox: On medical education in India.....	51
Handloom — Weaving India's Heritage into Global Growth	52
Mining Around Ramsar Wetland Sites in light of SC Verdict	57

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

- The scheme aims to identify** sporting talent at an early age through a comprehensive grassroots development programme.
- 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](#)