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9 PM Current Affairs Monthly Compilation

For UPSC CSE mains examination

January
2026

Features :

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

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Housing Affordability in Urban India

UPSC Syllabus Topic: GS Paper 3 -Infrastructure

Introduction

Housing affordability in urban India has emerged as a serious urban challenge, with home ownership slipping beyond the reach of most city residents. Despite rising urbanisation, **housing prices are driven less by construction costs and more by land speculation, weak land policies, and real estate–led development**. As housing shifts from a **social necessity to a financial asset**, cities increasingly witness a **paradox of vacant homes alongside overcrowded settlements**, deepening inequality and urban exclusion.

Reasons for the Urban Housing Crisis in India

1. Land cost dominates housing prices: The selling price of urban housing is driven mainly by **land value and location advantage**. Construction costs form only a small share, while **high land prices and developer profits push final housing prices very high**.

2. **Speculative land holding:** Land is often purchased at low prices and held until cities expand. Owners then seek **higher FAR permissions** to build more and sell at **inflated prices**, increasing unaffordability.

3. Weak urban land policy: State and city land policies allow **speculation to shape housing supply**, turning affordable housing into a **high-value asset rather than a basic service**.

4. **Housing treated as a financial asset:** Urban housing increasingly functions as a **store of value rather than a place to live**. Apartments are parked, land is hoarded, and supply responds to **purchasing power instead of actual housing need**.

5. Paradox of vacancy and shortage: Cities show a clear contradiction where **lakhs of vacant houses coexist with overcrowded slums**, as housing is built in the **wrong location, form, and price range**.

6. **Real estate–led urban development model:** Urban growth over the last three decades has relied heavily on **real estate markets**, with the state acting largely as a **facilitator rather than a provider of affordable housing**.

Impact of the Urban Housing Crisis in India

1. Permanent insecurity for urban residents: When housing becomes unaffordable, **urban life turns unstable**. Families postpone **education, healthcare, and social mobility** merely to manage rent.

2. **Forced informality in cities:** Many migrants cannot afford formal housing and remain **unregistered, invisible, and excluded** from political and civic systems.

3. **Erosion of urban citizenship:** Housing exclusion weakens the **right to the city**, as people who cannot live securely lose the ability to **shape urban life and decision-making**.

4. Social segregation and ghettoisation: Urban housing patterns are creating **sharp social divisions**, with marginalised groups, including **Dalits and Muslims**, pushed into segregated settlements.

5. **Exclusion of essential workers:** Workers who build and sustain cities—such as **construction, sanitation, and care workers**—are systematically denied the **right to live within the cities they serve**.

6. **Intergenerational impact on children:** Children inherit not only **poverty but also housing instability**, limiting future opportunities and deepening **long-term inequality**.

What Should Be Done

1. **Bring vacant housing into use:** Vacant houses and underutilised land must be mobilised. **Anti-speculation measures** can reduce hoarding and increase effective housing supply.

2. **Reform land taxation systems: Higher taxes on unoccupied housing** and **lower taxes on occupied homes** can discourage speculative holding and promote actual use.

3. **Make land policy central to reform:** Land policy should focus on **social outcomes rather than only revenue**, curbing speculation while prioritising **access and affordability**.

4. **Expand affordable rental housing:** Ownership is not essential for stability. **Affordable rental housing in well-located areas** can support workers, migrants, and young families.

5. Learn from global public housing models:

- Large-scale public housing initiatives show how **land can be taken out of speculative markets and used for social outcomes**.

- In **Singapore**, the state preserved land at regulated prices and developed **mass affordable housing**, ensuring that **70–80% of the population** could access secure, well-located homes connected to jobs and urban services.

- Similarly, in **Dutch**, housing regulations require every private development to allocate a **mandatory share for social housing**, with prices capped well below market rates.

- India can adapt these models by **preserving land for public housing, mandating inclusionary zoning, and prioritising affordable rental housing in central locations** to integrate low- and middle-income groups into the urban economy.

Limits of Transit-Led Housing Solutions

1. **Transit works only with full services:** Transport links are effective only when new locations also provide **schools, healthcare, and jobs**. Transit alone cannot solve housing exclusion.

2. **Risk of pushing the poor outward:** New housing supply often shifts low-income groups to **city peripheries**, raising commuting costs and **breaking social networks**.

3. **Need for integrated town planning:** Successful urban expansion integrates **housing, employment, amenities, and transport**. Isolated housing developments worsen exclusion.

4. **Market-only logic is insufficient:** Viewing land primarily as a **revenue source** misses the true purpose of cities. Urban planning must aim for **shared growth and spatial justice**.

Conclusion

Urban housing unaffordability in India reflects **deep failures in land policy and city planning**. Housing has shifted from a **social need to a speculative asset**. Addressing this crisis requires **strong political will, firm regulation of land and housing markets**, and a clear commitment to **affordable, well-located homes** that promote stability, inclusion, and **equal urban citizenship for all**.

Question for practice:

Discuss how land policy, real estate–led urban development, and the financialisation of housing have contributed to housing unaffordability in urban India and examine their social consequences.

Source: The Hindu

India's need for Climate Resilient Agriculture

Context- With climate change a reality today, Indian agriculture needs to cope with the **increasing unpredictability of the weather, declining soil health**, and **growing air pollution**, for India to continue meeting domestic food demands.

What is Climate Resilient Agriculture (CRA)?

Climate-resilient agriculture uses a range of biotechnology and complementary technologies to guide farming practices and reduce dependence on chemical inputs, while maintaining or improving productivity.

Key Components of Climate Resilient Agriculture (CRA)

- Use of **biofertilizers** and **biopesticides** to reduce chemical dependence.
- **Soil microbiome analysis** to guide nutrient and crop management.
- Development of **genome-edited crops** tolerant to drought, heat, salinity, and pests.
- **AI-driven analytics** that combine climate, soil, and crop data to provide location-specific advisories.

Why Does India Need Climate Resilient Agriculture (CRA)?

Ensuring Food Security- India is an agricultural nation with a rapidly growing population. CRA ensures higher and more reliable farm productivity.

Climatic Vulnerability of India's agricultural land- 51% of India's net sown area is rainfed, and this land produces nearly 40% of the country's food. It makes these lands especially vulnerable to climate variability.

Climate resilience constraint of Conventional Farming- Conventional farming methods alone may not withstand the rising stresses of climate change. **For ex-** Recent modelling suggests that by the end of the century, **yields of staple crops like rice could fall by 3-22%**, and in worst-case scenarios by more than **30%**.

Reduction of Reliance of imports- CRA can reduce India's reliance on food imports and strengthen the country's strategic autonomy in the food sector.

Enhanced productivity and Environmental Health- Climate-resilient agriculture offers a suite of technologies that can enhance productivity while protecting environmental health.

What is India's Status of Climate Resilient Agriculture (CRA)?

National Innovations in Climate Resilient Agriculture	It was launched by the **Indian Council of Agricultural Research (ICAR)** in 2011. It aims to enhance the resilience and adaptive capacity of farmers to climate variability, location-specific climate resilient technologies such as system of rice intensification, aerobic rice, direct seeding of rice, zero till wheat sowing, cultivation of climate resilient varieties tolerant to extreme weather conditions, in-situ incorporation of rice residues.
National Mission for Sustainable Agriculture	It has been formulated to enhance agricultural productivity, especially in rainfed areas, focusing on integrated farming, water use efficiency, soil health management, and synergising resource conservation.
BioE3 policy	BioE3 policy has positioned CRA as a key thematic area for the development of biotechnology-led solutions. Several technologies relevant to CRA have already been commercialised, especially biofertilizers, biopesticides, and microbial soil enhancers.
Expansion of digital agriculture sector	India's agritech startups are offering AI-enabled advisories, precision irrigation, crop-health monitoring, and yield prediction tools.
Institutional Support for CRA	India has a strong scientific capacity for CRA, supported by ICAR, DBT, IARI, and a growing private-sector biotechnology ecosystem. Several technologies relevant to CRA have already commercialised, especially biofertilizers, biopesticides, and microbial soil enhancers.

What is the progress of other countries in Climate resilient Agriculture (CRA)?

U.S.	The U.S. has integrated CRA into federal policy through the USDA Climate-Smart Agriculture and Forestry (CSAF) initiative, investing billions in climate-smart practices.
E.U.	CRA is embedded in the EU Green Deal and Farm to Fork Strategy, both aiming to reduce chemical inputs and enhance sustainability.
China	China's CRA strategy centres on climate-tolerant crop breeding, large-scale water-saving irrigation, and agricultural digitalisation.
Brazil	Brazil leads in tropical climate-resilient crop development, driven by EMBRAPA's biotechnology research.

What are the key challenges in the adoption of CRA in India?

Scaling CRA in India faces multiple constraints such as:

- **Low adoption** among small and marginal farmers due to limited access, awareness, and affordability.
- **Quality inconsistencies** in biofertilizers and biopesticides reduce farmer trust.
- **Slow rollout** of climate-resilient and genome-edited seeds.
- **Uneven state-wise adoption** of advanced technologies.
- **Digital divide** limits access to AI-based and precision agriculture tools.
- **Persistent soil degradation**, water scarcity, and accelerating climate volatility.
- **Fragmented policy coordination** across institutions.

What should be the way forward for the adoption of CRA in India?

India's CRA transition must be accelerated and scaled by employing the following measures:

- Fast-track development and deployment of climate-tolerant and genome-edited crops.
- Strengthen quality standards, regulation, and supply chains for bio-inputs.
- Expand access to digital tools and climate advisories for smallholders.
- Provide financial incentives, climate insurance, and affordable credit.
- Ensure stronger coordination across ministries, states, and research bodies.

Conclusion

Climate-resilient agriculture is essential for safeguarding India's food security in an era of climate uncertainty. A coherent national CRA roadmap under the BioE3 framework, aligning biotechnology, climate adaptation, and agricultural policy, is critical to delivering resilience at scale and ensuring sustainable food systems for the future.

Source: The Hindu

India's AI Policy Needs to Get Global-Scale Ready

UPSC Syllabus Topic: GS Paper 3 -Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology.

Introduction

India's AI governance framework is gaining attention for its **responsible and inclusive approach**, built on **digital public infrastructure (DPI)** and **voluntary guardrails**, not heavy regulation. This has helped scale AI use across services. However, the core concern remains unresolved. India's policy support is still stronger for **AI deployment** than for **foundational AI creation**, which raises long-term issues of **sovereignty, resilience, and global competitiveness**.

Current status of India's AI ecosystem

1. Strong digital public infrastructure base: India's digital public infrastructure gives AI developers a **rare structural advantage**. Platforms such as **Aadhaar, UPI, DigiLocker, Bhashini, and DEPA** allow fast scaling of **identity, payments, data sharing, and service delivery**. This **integrated national architecture** supports **real-world AI use at population scale**, which few countries can replicate.

2. Rapid growth in AI adoption and industry size: India's technology sector is projected to cross **USD 280 billion** in annual revenue. Over **6 million people** are employed in the tech and AI ecosystem. Around **87% of enterprises** actively use AI solutions, with strong adoption in **BFSI, healthcare, manufacturing, retail, and automotive** sectors.

3. Expanding startup and developer ecosystem: India hosts around **1.8 lakh startups**, and nearly **89% of new startups** launched last year used AI in their products or services. The country has **1,800+ Global Capability Centres**, including **500+ AI-focused centres**. India is also the **second-largest contributor** to AI projects on **GitHub**, showing strong developer participation.

4.Global recognition and competitiveness: India ranks among the **top four countries** in AI skills and policy readiness and stands **third globally** in AI competitiveness. This reflects **talent depth, research output, startup activity, and digital infrastructure**, but the strength remains **skewed towards deployment rather than core model building**.

Challenges and Concerns Related to Pillars of India's AI Strategy

1. Foundational Gap: While AI applications are growing, support for building core AI models remains limited. Most developers rely on fine-tuning existing open models instead of training original ones. This creates a gap between application strength and core technological ownership.

2. Data Uncertainty: There is no legal clarity on whether publicly available data can be used for AI training. The Copyright Act is not updated and there is no text-and-data mining exemption, so developers cannot be sure they are within legal limits.

3. Liability Doubts: The policy does not clearly define responsibility when AI systems cause harm. It is unclear whether liability lies with the developer, deployer, or platform. This uncertainty increases risk, especially for small firms and those working in finance or healthcare.

4. Compute Bottleneck: India has strong academic talent in AI, but researchers lack easy access to compute resources. The AIRAWAT initiative is promising but remains opaque. Access rules are unclear and approvals are slow, which limits experimentation and delays research progress.

For detailed information on **AI Supercomputer 'AIRAWAT** read this article here

5. Foreign Dependence: Low domestic model building increases reliance on foreign models. This ties India to external licensing terms, design choices, and future support decisions, creating long-term dependency.

6. Sovereignty Risk: When public services and user experiences depend on systems built elsewhere, control reduces. This can weaken resilience and competitiveness over time.

Initiatives taken to strengthen India's AI strategy

1. IndiaAI Mission: The government launched the IndiaAI Mission in March 2024 with over ₹10,300 crore to build a strong indigenous AI ecosystem. It aims to democratise AI technology, improve data quality, and boost competitiveness.

2. INDIAai National Portal: INDIAai is India's national AI portal supporting knowledge sharing, research insights, industry news and resources to connect stakeholders across the ecosystem.

3. AI Governance Guidelines: Government has rolled out governance guidelines under IndiaAI that aim to make AI safe, inclusive and pro-innovation without heavy regulation that stifles growth.

4. Centres of Excellence (CoEs): The government set up **three CoEs** in **Healthcare, Agriculture, and Sustainable Cities**, and announced a **fourth CoE for Education** in **Budget 2025**, to support collaborative and scalable AI innovation.

5. Sarvam AI and BharatGen Models: Initiatives like Sarvam AI (for smarter public services) and BharatGen AI (multilingual, multimodal model) focus on homegrown capabilities that reflect India's linguistic and cultural diversity.

6. AI Impact Summit 2026: India will host the AI Impact Summit to showcase its AI capabilities, encourage innovation and build international collaborations.

What should be done?

1. Legal clarity: A targeted step is to confirm that training on publicly available data for AI research is legal in India. This would lower legal risk and unlock broader experimentation in academia and startups.

2. Create predictable safe harbours: Safe harbours, like those used for internet intermediaries, can protect developers from automatic liability for third-party misuse. Liability should be proportional, predictable, and linked to real control.

3. Make AIRAWAT truly usable: Publish clear access norms, create simple onboarding, and offer shared compute clusters with minimal approvals. Researchers and small firms should be able to start training jobs without long delays.

4. Run regulator-backed sandboxes: Structured sandboxes in sectors like finance and healthcare should be run with regulators and backed by legal guidance. This supports safe testing without informal or ad-hoc experimentation.

5. Light certification: A simple certification check for fairness, transparency, and robustness can create a clear incentive to build responsibly. If a model meets baseline tests, it should plug into DPI use cases by default.

6. Learn from enabling states:

- The UAE launched **Falcon**, an open-source language model, with clear government backing and high visibility.
- Singapore is building rules that push **explainability** and give users a path for **redress**.
- The EU, even with stricter regulation, offers clearer certainty and **research carve-outs**.

- The US still gives developers room to build under a broad **fair use** approach.
- The shared lesson is simple: policy clarity and trust rules can enable builders, not just control them.

Conclusion

India has a strong edge in AI deployment due to **DPI, talent, and market scale**. To become global-scale ready, it must close gaps in **core model building**, clarify **data legality**, ensure **predictable liability**, and make **AIRAWAT practically accessible**. These targeted steps can reduce dependency and position India as a **sovereign and trusted AI builder**.

Question for Practice

Discuss the key strengths and main gaps in India's AI strategy that must be fixed to achieve global-scale AI capability.

Source: Businessline

Transforming a Waste-Ridden Urban India

UPSC Syllabus Topic: GS Paper 3 - Conservation, environmental pollution and degradation.

Introduction

Urban India is struggling with a growing waste crisis that affects health, climate, and the quality of city life. Rapid urban expansion, rising consumption, and weak waste systems have turned waste into a daily urban challenge. Waste is no longer only about cleanliness. It is linked with pollution, greenhouse gas emissions, resource loss, and water stress. Global climate discussions and national missions now recognise that cities must treat waste as a resource and adopt circular systems to secure a cleaner and healthier urban future.

Current Status of Waste Management

1.Very high daily waste generation: Indian cities generate massive quantities of municipal solid waste every day. In 2021–22, average daily waste generation reached **170,338 tonnes per day**, showing the scale of the problem cities face.

2. Large treatment deficit: Out of the total waste generated, only about **91,512 tonnes per day** is formally treated. The remaining waste is dumped, landfilled, or left unmanaged, creating serious environmental risks.

3. Rapid growth expected in future: Urban waste generation is projected to rise sharply. Annual waste generation may reach **165 million tonnes by 2030** and could further rise to **436 million tonnes by 2050** as urban population increases to around **814 million**.

4. Pollution-intensive urban living: Many Indian cities, including the National Capital Region, rank among the world's most polluted. Waste burning, landfill emissions, and unprocessed garbage worsen air and water quality.

5. Public dissatisfaction and limited impact: Governments, regulators, and courts have intervened to address pollution and waste issues. However, the impact has been limited, and citizen grievance has continued to rise.

6. Cleanliness drives with mixed results: National cleanliness efforts have reduced open defecation and improved awareness. Yet, garbage-free cities remain difficult to achieve without systemic waste processing reforms.

Reasons for the Growing Waste Crisis in India

1. Rapid urban growth: Expanding cities and towns are increasing waste loads very quickly. Urban systems have not scaled at the same pace.

2. Consumerist lifestyle shift: Society is becoming more consumption-oriented. Frequent product replacement and packaging increase waste generation.

3. Weak segregation at source: Household segregation of wet and dry waste is still inconsistent. Mixed waste reduces recycling and increases landfill emissions.

4. Municipal capacity and finance gap: Urban local bodies face serious resource shortages. Funds, staff, and technical capacity are not sufficient to manage growing waste volumes.

5. Plastic-heavy dry waste: More than one-third of city waste is dry waste, with plastic as the most problematic component. Plastic threatens ecosystems and human health.

6. System gaps in circularity: Collection, processing, aggregation, and distribution systems are not well integrated. This weakens recycling and recovery outcomes.

7. Market and feasibility challenges: Recycled products face quality concerns and weak market demand. Financial feasibility remains a challenge for circular waste enterprises.

8. Weak accountability and enforcement: Extended Producer Responsibility does not yet cover all dry waste categories. Construction waste tracking and enforcement remain weak.

Challenges to Waste Management

1. Dominance of landfill disposal: Cities still depend heavily on dumpsites and landfills. This creates environmental, health, and safety risks.

2. Plastic waste complexity: Plastic waste is difficult to recycle without strict segregation. Low-value plastics often escape recovery systems.

3. Construction and demolition waste dumping: Cities generate around **12 million tonnes of construction and demolition waste annually**. Illegal dumping along roads and open spaces is common.

4. Insufficient recycling capacity: Recycling capacity is increasing but not fast enough to match rising construction and municipal waste generation.

5. Wastewater management gaps: Wastewater recycling remains limited. Poor used water and faecal sludge management weakens urban water security.

6. Testing and monitoring shortfalls: Facilities for testing recycled materials and monitoring compliance are inadequate. This affects quality and trust in recycled products.

7. Poor inter-departmental coordination: Multiple agencies are involved in waste management. Weak coordination reduces accountability and slows progress.

Impacts of the Waste Crisis in India

1. Public health damage: Open dumping and burning of waste cause respiratory illness, water contamination, and disease spread.

2. Methane and climate impact: Decomposing organic waste emits methane, a powerful greenhouse gas. This worsens climate change impacts.

3. Environmental degradation: Landfills pollute soil and groundwater through leachate. Plastic waste harms ecosystems and biodiversity.

4. Economic costs to cities: Cities lose valuable materials and energy when waste is not processed. Cleanup and health costs increase municipal spending.

5. Urban infrastructure pressure: Landfills are reaching capacity. Waste transport and disposal strain urban infrastructure systems.

6. Aesthetic and social decline: Waste-ridden cities affect quality of life. Poor urban environments discourage investment and social well-being.

Initiatives Taken for Waste Management

1. Global climate focus on waste: At COP30, waste was placed at the centre of the climate agenda. A global initiative, **No Organic Waste (NOW)**, was launched to cut methane emissions.

2. National cleanliness mission: The Swachh Bharat Mission aims to make cities clean and garbage-free. Under SBM Urban 2.0, around **1,100 cities** have been rated free of dumpsites.

3. Swachh Survekshan performance push: Cleanliness assessments have increased weightage for **source segregation** and for reducing waste inflow into dumpsites. This has made segregation and processing central to city performance measurement.

4. Garbage Free Cities target: The goal of achieving Garbage Free Cities by **2026** reflects the urgent need for sustainable waste systems.

5. Organic waste solutions: More than half of municipal waste is organic, so composting is promoted from household level to large bio-methanation plants. **Compressed Biogas (CBG) plants** are creating pathways to generate green fuel, and wet waste combustion can also yield power.

6. Compressed biogas potential: Compressed biogas plants enable the generation of green fuel and electricity from municipal wet waste.

7. Circular economy push and regional city coalition: India's initiative, **Cities Coalition for Circularity (C-3)**, was endorsed by Asia-Pacific nations in Jaipur. It supports sharing of knowledge and expertise among cities and institutions to improve circular solutions.

8. **Construction waste regulations:** The Construction and Demolition Waste Management Rules, 2016 provide a framework for accountability. New rules will take effect from **April 1, 2026**.

8. Wastewater reuse under urban missions: Urban missions such as **AMRUT** and SBM include used water and faecal sludge management as part of city water security. States are encouraged to recycle wastewater and reuse it in agriculture, horticulture, and industry.

What Should Be Done

1. Place waste at the centre of climate action: Waste must be treated as a climate priority. Methane reduction and waste management should align with climate goals.

2. Adopt circularity as the urban core: Cities must move fully from linear waste systems to circular models where waste is treated as a resource.

3. Scale Mission LiFE (Lifestyle for Environment) locally: Mission LiFE promotes deliberate use over mindless consumption. Cities must embed this idea into daily urban life.

4. Expand organic waste diversion: Composting and bio-methanation must expand from households to city scale to cut landfill load and emissions.

5. Strengthen dry waste recovery: Material recovery facilities must expand alongside rising waste volumes. Recycling systems must be strengthened.

6. Enforce construction waste accountability: Bulk waste generators must be charged and monitored. Strict rule enforcement can reduce illegal dumping.

7. Integrate wastewater into circular planning: Recycling and reuse of wastewater must become routine to meet growing urban water demand.

8. Fix governance and coordination gaps: Clear accountability, better monitoring, and improved inter-departmental coordination are essential.

9. Extend producer responsibility: Extended Producer Responsibility must cover all dry waste categories with better tracking and enforcement.

10. Support cities through cooperation: Municipal resource shortages must be addressed. Platforms like the **Cities Coalition for Circularity** support knowledge sharing and collaboration.

11. Make citizens active partners: People must see clear value in recycling. Recycling supported by policy, technology, and markets can anchor circularity.

Conclusion

Urban waste has become a defining challenge for India's cities. Rising volumes, weak systems, and climate risks demand urgent and coordinated action. Treating waste as a resource, strengthening circular systems, enforcing accountability, and engaging citizens can reverse current trends. Circularity is no longer optional. It is essential for clean cities, public health, climate stability, and sustainable urban growth.

Question for practice:

Examine why India's fast-growing urban waste crisis demands a shift from linear dumping to a circular economy model, and how this can reduce pollution and emissions while moving towards Garbage Free Cities by 2026.

Source: The Hindu

Recasting sanitation with urban-rural partnerships

UPSC Syllabus Topic: GS Paper 3 -Conservation, environmental pollution and degradation.

Introduction

The Swachh Bharat Mission, launched in 2014, aimed to ensure toilet access for every household in India. Within a decade, over 12 crore toilets were built in rural areas, and all villages declared themselves Open Defecation Free. This marked a major public health and dignity gain. However, sanitation does not end with toilets. Managing the growing volume of human waste has emerged as the next critical challenge. Without safe systems for treatment and disposal, sanitation gains risk erosion. This challenge demands not only infrastructure solutions but also institutional coordination, labour protection, and social equity.

Why Waste Management Matters

1. Toilets generate waste that must be managed: Toilets are only the starting point of sanitation. Every toilet produces faecal waste that must be safely handled to protect health and the environment.

2. Reliance on septic tanks and pits: In rural areas, septic tanks and pits are the main containment systems. These fill up over time and require desludging at regular intervals.

3. Risk of undermining ODF gains: Without safe systems for collection, transport, and treatment, faecal waste is often handled by informal operators. Unsafe disposal can reverse the gains achieved under ODF.

4. Shift to ODF Plus under SBM-G Phase II: This challenge led to Swachh Bharat Mission (Grameen) Phase II, with a focus on ODF Plus. The aim is to ensure sustainability, not just access.

5. Persistent gap in faecal sludge management: ODF Plus covers solid and liquid waste management, behaviour change, and sanitation service chains. Despite progress, faecal sludge management remains the weakest link, especially in peri-urban and rural areas.

Progress under ODF Plus

1. Broad national coverage: By October 2025, more than 5.68 lakh villages, nearly 97% of all villages, were declared ODF Plus. This reflects strong nationwide adoption.

2. Uneven service delivery: While toilet coverage is universal, access to safe desludging and treatment services remains uneven across regions**.**

3. Need for system-level solutions: The scale of the challenge shows that individual household solutions are insufficient. Area-wide and institutional approaches are required.

For detailed information on **Open Defecation Free (ODF)** **read this article here**

Success Stories of Waste Management

1. State-Led Infrastructure Model: Maharashtra

- Maharashtra invested in **over 200** faecal sludge treatment plants in urban areas and promoted co-treatment in **41** sewage treatment plants.

- This strengthened city treatment capacity, but many surrounding villages remained outside the service network, showing the need to link treatment infrastructure with rural service delivery.

2. Urban–Rural Partnership Model: Satara District: Satara city's faecal sludge treatment plant (**65 KLD**) was operating below capacity. Four villages were connected to this facility through scheduled desludging every **five years**, delivered by a private provider engaged by gram panchayats. Costs are recovered through a modest sanitation tax, while a formal agreement allows authorised rural vehicles to treat sludge at the city plant at **no cost**, making the arrangement sustainable and mutually beneficial.

3. Rural and Cluster Model: Mayani: Mayani adopted scheduled desludging every **five to seven years**, managed by private operators or local self-help groups. It was also selected for a cluster-level treatment plant to serve **around 80** surrounding villages, improving viability through pooled demand.

Social and Labour Dimensions of Waste Management

1. Rapid waste growth with shrinking workforce: Waste volumes have increased sharply over time, while the sanitation workforce has reduced by about 60%. This mismatch has deepened service gaps and worker stress.

2. Informalization of sanitation labour: Secure public sanitation jobs have declined. Many workers now operate under informal contracts with low pay, limited rights, and high occupational risk.

3. Caste-linked concentration of hazardous work: The informal waste economy remains dominated by Dalits and Adivasis. Social stigma and exclusion continue, especially in informal waste handling.

4. Health risks and lack of dignity: Sanitation work is dangerous and physically demanding. A large share of workers do not reach retirement age, highlighting severe health and safety failures.

5. Marginal political focus on workers: Despite sanitation missions, worker dignity and welfare remain low on the political agenda. Infrastructure gains have not translated into social protection.

Impact of Weak Waste Management Systems

1. Public health and environmental damage: Untreated faecal waste is dumped into lakes, rivers, drains, and dumpyards. This contaminates water sources and creates toxic living conditions.

2. Growth of unsafe informal practices: Lack of treatment facilities forces reliance on illegal dumping and burning. These practices increase health risks for workers and nearby communities.

3. Economic inefficiency and governance strain: Tax evasion and weak local finances limit system investment. Informal waste economies become indispensable but operate outside regulation.

4. Reinforcement of social inequality: The poorest and most vulnerable groups bear the heaviest burden of unsafe waste work. Social mobility and access to safety nets remain limited.

Way Forward

1. Institutionalising sanitation services: Faecal sludge management must be treated as a regular public service rather than an occasional activity.

2. Strengthening urban–rural cooperation: Shared use of treatment infrastructure can reduce costs and improve efficiency.

3. Scaling adaptable models: Urban–rural linkage and cluster-based approaches can be expanded across regions based on local needs

4. **Ensuring financial sustainability**: Sanitation taxes and formal service contracts can support long-term operations.

5. Upgrade technology, but customise scaling: There is no shortage of technologies to detoxify and recycle human waste. The challenge is how to scale up for towns and scale down for outskirts without creating new gaps in operation and access.

6. **Protect workers during technology and system shifts:** If upgraded systems reduce informal jobs, there must be plans for compensation and re-training. Workers should not lose livelihoods when sanitation systems become more formal or more mechanised.

7. **Create secure, caste-neutral livelihood pathways:** Waste work remains caste-marked, especially in the informal economy. Breaking this requires modern jobs that are caste-neutral, along with opportunities for education, migration, and self-employment that workers value for independence.

8. **Expanding private and community roles**: Private operators and self-help groups can improve service delivery under clear governance arrangements.

Conclusion

Sustaining sanitation gains requires moving beyond toilet construction to managing waste safely, fairly, and systematically. Urban–rural partnerships and cluster-based treatment models address infrastructure gaps, but

social and labour realities cannot be ignored. Without protecting workers and strengthening institutions, sanitation systems remain fragile. The real success of Swachh Bharat lies in durable systems that protect health, preserve the environment, and uphold dignity for both users and workers.

Question for practice

Discuss how urban–rural partnerships and faecal sludge management models are helping to sustain sanitation gains under the Swachh Bharat Mission in rural India.

Source: The Hindu

India's Artificial Intelligence Journey

Introduction

India is entering a new AI-driven development phase impacting healthcare, agriculture, education, governance, cities, and public services. Focus is on inclusive, affordable, and accessible AI, not limited to elite institutions. AI is positioned as a tool for societal upliftment and good governance, aligned with the vision of Viksit Bharat 2047.

What is Artificial Intelligence?

- AI enables machines to learn, adapt, reason, and make decisions using data, algorithms, and models.
- Large Language Models (LLMs) allow human-like interaction through chatbots, translation, and assistants.
- AI improves over time through experience and data.

What is the status of India's Current AI Ecosystem?

- Tech sector revenue: USD 280+ billion
- Employment: 6+ million in tech and AI
- 1,800+ Global Capability Centres, 500+ AI-focused
- 1.8 lakh startups, with around 89% using AI
- India scores 2.45/4 on NASSCOM AI Adoption Index
- Top AI-adopting sectors: BFSI, healthcare, manufacturing, retail
- India ranks among top 4 globally in AI skills and policies
- India is the second-largest contributor to AI projects on GitHub

What is the Inclusive AI Vision as presented by the NITI Aayog Report, 2025?

AI can empower 490 million informal workers by improving access to:

- Healthcare
- Education and skilling
- Financial inclusion

Emphasis should be on bridging social and economic divides using technology. AI Technology should amplify human skills, not replace them.

What is the India AI Mission? What are its main Pillars?

It was approved in March 2024 with a budget of ₹10,371.92 crore for 5 years. It's vision is "Making AI in India and Making AI Work for India".

7 Seven Pillars of the IndiaAI Mission

- **Computing Pillar –** Affordable high-end GPU access
- **Application Development –** AI solutions for India-specific problems
- **AIKosh –** Dataset and model platform (5,500+ datasets)
- **Foundation Models –** Indigenous multimodal LLMs in Indian languages
- **Future Skills –** Fellowships, AI labs, Tier 2–3 city focus
- **Startup Financing –** Global expansion support
- **Safe & Trusted AI –** Ethics, bias mitigation, explainability, governance

What are the Government's other key initiatives for AI?

- **BharatGen AI-** First government-funded multimodal LLM (22 languages)
- **Bhashini-** Language AI platform enabling digital inclusion
- **Sarvam AI-** Sovereign LLM ecosystem for governance (Aadhaar services)
- **AIKosh-** National AI dataset and model repository

What is the use of AI in everyday life?

- **Healthcare-** Early diagnosis, telemedicine, ethical AI collaborations
- **Agriculture-** Weather prediction, pest surveillance, Kisan e-Mitra
- **Education & Skilling-** AI modules in CBSE. DIKSHA, YUVAi programmes
- **Governance & Justice-** e-Courts, AI-based translation, vernacular judgments
- **Climate & Weather-** IMD AI models, MausamGPT, cyclone forecasting
- **Employment-** AI creates new jobs and skills demand. AI workforce projected to reach 12.5 lakh by 2027. Programs like FutureSkills PRIME driving reskilling.

What is the proposed Digital ShramSetu Mission?

Uses AI, IoT, blockchain for informal workers. It focuses on- Voice-first interfaces, Smart contracts and Micro-credentials. It is proposed to be rolled out in phases from 2025 to 2029. It's Goal is to make India attain global leadership in inclusive AI by 2035.

Conclusion

India is building a robust, inclusive, and sovereign AI ecosystem. It has a strong focus on- Indigenous innovation, Responsible AI, Skill development and Public good applications. AI is a key enabler of economic growth, social equity, and governance reform. The above mentioned government initiatives lay the foundation for India's leadership in the global AI landscape and Viksit Bharat 2047 vision.

Design Linked Incentive Scheme - Present and Future

Source: The post **"Design Linked Incentive Scheme - Present and Future" has** been created, based on **"Design Linked Incentive Scheme"** published in **"PIB" on 05th January 2026.**

UPSC Syllabus: GS Paper-3- Indian Economy

Context: Semiconductors are critical enablers of economic growth and national security in sectors such as defence, telecom, healthcare, space, and artificial intelligence. Semiconductor chip design contributes nearly 50 percent of value addition and accounts for 30–35 percent of global semiconductor revenues through the fabless segment. The Government of India launched the Design Linked Incentive (DLI) Scheme under the Semicon India Programme to build a self-reliant and globally competitive semiconductor design ecosystem.

Rationale for the DLI Scheme

- Chip design determines the intelligence, performance, efficiency, and security of electronic products.
- Fabless semiconductor companies generate high value addition with relatively low capital expenditure compared to fabrication facilities.
- Without indigenous chip design capability, India remains dependent on imported semiconductor intellectual property despite local electronics manufacturing.
- Strengthening domestic design capability enables India to retain intellectual property, reduce imports, and attract global manufacturing investments.

Objectives of the DLI Scheme

- The DLI Scheme aims to promote indigenous semiconductor design and intellectual property creation in India.
- The scheme seeks to strengthen India's position in the global semiconductor value chain by supporting fabless companies.
- The scheme aims to reduce import dependence and enhance supply chain resilience in critical sectors.

Eligibility under the DLI Scheme

- Start-ups recognised by the Department for Promotion of Industry and Internal Trade are eligible for incentives under the scheme.
- Micro, Small and Medium Enterprises defined under the MSME notification of 2020 are eligible for financial and infrastructure support.
- Domestic companies owned by resident Indian citizens are eligible for deployment-linked incentives.

Financial Incentives under the DLI Scheme

Product Design Linked Incentive

- The scheme provides reimbursement of up to 50 percent of eligible expenditure incurred on semiconductor design.
- The maximum financial support under this component is capped at ₹15 crore per application.
- The incentive covers the design of integrated circuits, chipsets, systems-on-chip, systems, and IP cores.

Deployment Linked Incentive

- The scheme provides incentives ranging from 4 percent to 6 percent of net sales turnover for a period of five years.
- The maximum incentive under this component is capped at ₹30 crore per application.
- The design must be successfully deployed in electronic products to qualify for incentives.
- The minimum cumulative net sales requirement is ₹1 crore for start-ups and MSMEs and ₹5 crore for other domestic companies.

Design Infrastructure Support

- The ChipIN Centre established by C-DAC provides centralized design infrastructure support under the DLI Scheme.
- Start-ups and MSMEs are provided remote access to advanced Electronic Design Automation tools through the National EDA Grid.
- The scheme provides access to a repository of semiconductor IP cores for SoC design activities.
- The scheme supports MPW prototyping for fabrication at global semiconductor foundries.
- Post-silicon validation, testing, and silicon bring-up support are provided to approved companies.

Achievements of the DLI Scheme

- The DLI Scheme has supported 24 chip design projects in strategic sectors such as surveillance, telecom, defence, and IoT.
- Supported companies have completed 16 chip design tape-outs and fabricated six semiconductor chips.
- Ten patents have been filed by DLI-supported companies, strengthening India's semiconductor IP base.
- More than 140 reusable semiconductor IP cores have been developed under the scheme.
- Over 1,000 specialised engineers have been trained or engaged through DLI-supported projects.
- Ninety-five start-ups have accessed the national EDA Grid with cumulative usage exceeding 54 lakh design hours.
- Around one lakh engineers and students across 400 institutions have benefited from shared chip design infrastructure.

Institutional Framework Supporting the DLI Scheme

- The M**inistry of Electronics and Information Technology** provides policy leadership and strategic direction to the semiconductor ecosystem.
- The **Semicon India Programme,** with an outlay of ₹76,000 crore, provides end-to-end support for design, fabrication, and productisation.
- The **Centre for Development of Advanced Computing acts as the nodal agency** for implementing the DLI Scheme.
- The **Chips to Startup Programme** supports capacity building by creating industry-ready manpower in semiconductor design.
- The **Microprocessor Development Programme** has enabled the development of indigenous processors such as SHAKTI, VEGA, and AJIT.

Future Direction of the DLI Scheme

- The DLI Scheme is **transitioning from design validation to large-scale productisation** and commercialization.

- **Indigenous chip designs are expected to move toward volume manufacturing** and system-level integration.
- The scheme **will enable wider deployment of Indian-designed chips** in defence, telecom, AI, mobility, and space sectors.
- The DLI Scheme **will strengthen India's position as a global hub** for fabless semiconductor design.
- Deeper integration with domestic semiconductor manufacturing units will further **enhance value addition in India.**

Way Forward:

- Establish a **national semiconductor innovation fund** to support next-generation chip research and early-stage startups.
- Promote **industry-academia collaboration**, connecting research institutions with startups to accelerate prototype development and commercialization.
- Expand **global collaboration programs** for IP licensing, technology transfer, and joint R&D projects.
- Develop a **robust domestic supply chain for semiconductor materials, EDA tools, and foundry services** to reduce dependency on imports.
- Encourage the adoption of **open-source microprocessor architectures** and promote standardization for interoperability across sectors.
- Implement a **mentorship and incubation network** for start-ups to navigate regulatory, financial, and manufacturing challenges.
- Strengthen **market linkages** for DLI-supported designs, including facilitating pilot projects with government departments and public sector undertakings.

Conclusion: The Design Linked Incentive Scheme anchors India in the most strategic segment of the semiconductor value chain, namely chip design. The scheme reduces dependence on imported semiconductor IP and enhances technological self-reliance. By fostering innovation, skilled manpower, and globally competitive products, the DLI Scheme supports long-term economic growth and strategic autonomy.

Question: Examine the significance of the Design Linked Incentive (DLI) Scheme in strengthening India's semiconductor design ecosystem. Discuss its achievements, future direction, and the way forward.

India's overlooked crisis: unsafe drinking water

Source: The post **"India's overlooked crisis: unsafe drinking water'' has** been created, based on **"India's overlooked crisis: unsafe drinking water"** published in **"BusinessLine" on 05th January 2026.**

UPSC Syllabus: GS Paper-2- Governance

Context: India faces a recurring crisis of unsafe drinking water, which causes widespread illness and deaths across the country. Recent incidents, such as the Bhagirathpura tragedy in Indore, where contaminated water led to multiple deaths, highlight a persistent governance failure. Similar outbreaks have been reported in Mahisagar, Gujarat, Tiruvallur, Tamil Nadu, and Sambhalpur, Odisha, indicating that unsafe water is a **national, not local, problem**.

Scale of the Crisis

- Between 2005 and 2022, over **20.98 crore cases of major water-borne diseases** — including Acute Diarrhoeal Disease, Typhoid, Viral Hepatitis, and Cholera — were reported, causing more than **50,000 deaths**.
- According to NITI Aayog, nearly **2 lakh people die annually** in India due to inadequate access to safe water.
- India ranks **120th out of 122 countries** on the global Water Quality Index, with approximately **70 percent of water sources contaminated**.

Economic and Social Impact

- Contaminated water leads to **lost workdays, higher medical expenses, and reduced labour productivity**.
- An estimated **37.7 million people are affected annually**, resulting in a loss of around **73 million working days**.
- The human and economic costs of unsafe water are closely linked and **affect national development and livelihoods**.

Root Causes of Unsafe Drinking Water

- The main problem is not always the source of water but its **journey through aging and poorly maintained infrastructure**.
- In many cities, **sewage contaminates drinking water pipes**, often due to poor coordination between municipal departments, road authorities, and utility agencies.
- Lack of **accurate underground utility mapping** causes accidental damage to water and sewer pipelines, allowing contamination during pressure drops.
- Urban programmes like **AMRUT 2.0** focus more on laying new pipelines rather than **maintaining existing networks, safety protocols, and monitoring systems**.

Governance and Institutional Challenges

- Municipal bodies often act as **provider, tester, and regulator** simultaneously, creating a **conflict of interest**.
- Absence of an **independent water regulator** prevents enforcement of standards and transparency of water quality data.
- Governance remains **reactive**, with interventions occurring only after outbreaks, rather than through **preventive measures**.

Way Forward

- There is a need for **better underground utility mapping** to prevent contamination from construction and pipeline damage.
- An **independent water regulator** should separate service provision from auditing and enforcement.
- Urban water programmes should shift from **coverage targets to "water safety at the tap"**, ensuring the quality of water delivered to households.
- Continuous monitoring, transparent reporting, and preventive governance mechanisms should be **prioritized over reactive emergency responses**.
- Safe drinking water should be treated as a **Constitutional obligation and foundational economic necessity**, not merely a welfare measure.

Conclusion

Unsafe drinking water is a **recurring public health and economic crisis** in India. Effective solutions require a combination of **preventive governance, independent regulation, accurate utility mapping, and robust monitoring**. Addressing these issues can save lives, improve productivity, and ensure India meets its **constitutional and developmental commitments**.

Question: Examine the challenges in providing safe drinking water in India. Suggest measures to ensure water quality at the tap.

Security camps, the game-changer in the Maoist fight

UPSC Syllabus Topic: GS Paper 3 -internal security

Introduction

Maoism in India has witnessed a sharp decline in recent years, with violence now confined to limited pockets of south Bastar in Chhattisgarh. This transformation is not accidental. It is closely linked to the expansion of security camps in remote and previously inaccessible areas. These camps have altered the security, governance, and development landscape, weakening Maoist influence and restoring the presence of the state.

Current status of Maoism in India

1. Decline in violence: Maoist-related violence declined by nearly 90% between 2010 and 2025, showing a sustained and not cyclical downturn.
2. Reduction in affected districts: LWE-affected districts fell from 126 in 2018 to just 11 by October 2025, indicating near-territorial collapse.
3. Geographical confinement: Maoist activity is now limited mainly to south Bastar, reflecting loss of influence across the Red Corridor.
4. Most affected districts: Only Bijapur, Narayanpur, and Sukma remain most affected, highlighting the shrinking core area.

Reasons behind Maoist expansion

1. Strategic relocation to Dandakaranya: Pressure in Andhra Pradesh pushed Maoists into DKR, whose forests and inter-State borders offered protection and mobility.
2. Administrative neglect: Remoteness and weak state presence created governance vacuums, which Maoists systematically exploited.
3. Governance deficit as enabler: Absence of justice, welfare, and administration enabled Maoists to establish parallel authority, not ideology alone.
4. Tribal alienation: Dispossession from land and forests weakened trust in the state, making Maoist promises attractive.
5. Failure of Fifth Schedule protections: Constitutional safeguards existed but were poorly enforced, rendering them ineffective on the ground.
6. Weak representation: Outsider-dominated administration deepened alienation, limiting tribal participation in governance.

Security-led turnaround and decline of Maoism

1. Expansion of security footprint: Security camps placed permanent forces inside remote Maoist areas, ending their uncontested control.

2. Improved police–population ratio: Higher force density deterred Maoists from operating with impunity, reducing open movement and coercion.

3. Faster reaction time: Emergency response time dropped sharply, pushing Maoists into a defensive position.

4. Psychological setback to Maoists: Visible security dominance convinced locals that the state, not Maoists, holds real power, weakening Maoist legitimacy.

5. Improved human intelligence (HUMINT): Local confidence in forces improved intelligence flow, directly degrading Maoist planning and survival.

6. Infrastructure and civil administration piggybacking: Roads, mobile towers, and entry of collectors, tehsildars, and patwaris followed camps, converting security gains into governance presence.

Emerging challenges in the post-conflict phase

1. Rights-based assertion: With violence declining, tribal communities are raising constitutional and land rights claims, shifting the conflict from arms to governance.
2. Democratic repositioning of ex-cadres: Surrendered Maoist leaders now seek democratic means, creating pressure for fair political engagement.
3. Weak justice delivery: Courts, policing, and grievance redressal remain thin, risking return to informal or parallel justice systems.
4. Fragile social services: Health and education systems remain inadequate, limiting trust despite improved security.
5. Governance deficit persistence: Development expanded faster than governance reform, creating uneven state presence.
6. Under-representation of locals: Administration remains outsider-dominated, sustaining alienation and low institutional trust.
7. Risk of post-security vacuum: Without governance consolidation, security gains may not translate into durable peace, risking relapse.

Way forward

1. Implement constitutional safeguards: Strict enforcement of PESA and the Forest Rights Act is essential to address long-standing tribal grievances.

2. Rebuild governance from scratch: Civil administration must be established in areas that earlier had minimal state presence, ensuring routine governance.

3. Strengthen justice institutions: Courts, policing, and grievance mechanisms must reach remote regions to prevent return to parallel justice.

4. Correct representation imbalance: Reducing outsider dominance in administration is vital to rebuild trust among adivasis.

5. Restore real self-governance: Gram Sabhas need autonomy and financial power, not symbolic participation.

6. Learn from Sixth Schedule regions: Autonomous council models offer lessons for deeper tribal self-rule.

7. Plan for long-term peace: A task force with a 2047 vision can convert security success into sustainable governance outcomes.

Conclusion

Security camps have **structurally weakened Maoism** by restoring state presence, confidence, and access in remote tribal regions. **Data shows near-territorial collapse**, but peace will last only if governance failures are corrected. **Implementing constitutional safeguards, strengthening representation, and rebuilding justice and service delivery systems** are essential to prevent relapse.

Question for practice:

Examine how the expansion of security camps has contributed to the decline of Maoism in India and discuss the governance challenges that must be addressed to ensure durable peace.

Source: The Hindu

The struggle to count women's labour

UPSC Syllabus Topic: GS Paper 3 -Inclusive Growth, GS 1 Women empowerment, GS 2 Vulnerable sections of the society.

Introduction

Women's labour remains deeply undervalued because large parts of their work are unpaid, invisible, and excluded from economic measures. Across societies, women spend more time than men on unpaid care, domestic, emotional, and mental labour. This work sustains families, communities, and economies, yet it is rarely counted as productive labour. The struggle lies not only in measurement, but in recognition, valuation, and policy response

Current status of India's women workforce

1. **Female labour force participation trend:** India's female labour force participation rate fell from 31.2% in 2011–12 to 23.3% in 2017–18, then rose sharply to 41.7% in 2023–24.

2. **Misleading signal of progress:** The rise in participation does not indicate better jobs, as women continue to face poor earnings and insecure employment.

3. **Decline in real earnings:** Real earnings declined for women in all worker categories except casual labour, in both rural and urban areas.

4. **Rural women driving participation:** The increase in participation is largely due to rural women, not urban employment expansion.

5. **Growing dependence on agriculture:** The share of rural women in agriculture increased from 71.1% in 2018–19 to 76.9% in 2023–24.

5. **Shrinking non-farm opportunities:** Women's participation in industry and services declined, showing limited structural transformation.

6. **Unpaid work hidden in statistics:** A large share of women are recorded under unpaid household work, which is excluded from employment counts.

7. **Helpers in household enterprises:** Many women are classified as helpers in family enterprises, which is unpaid and treated as employment.

8. **Shift from domestic duties:** Women reporting domestic duties fell from 57.8% in 2017–18 to 35.7% in 2023–24.

Concerns and challenges related to women's unpaid labour

1. **Exclusion from employment definition:** Unpaid domestic and care work is not recognised as employment in official labour statistics.

2. **Blurring of work boundaries:** In rural households, domestic labour overlaps with farm and enterprise work, making women's labour invisible.

3. **Emotional and mental labour ignored:** Relationship management, emotional support, and family coordination are critical but unmeasured forms of labour.

4. **Unpaid care sustains productivity:** This labour enables others to engage in paid work, yet receives no economic recognition.

5. **Self-employment without security:** Movement from domestic work to household enterprises increases workload without improving income.

6. **Double work burden:** Women combine unpaid household labour with paid or semi-paid work, increasing time poverty.

7. **Falling returns to labour:** Rising participation is accompanied by declining real wages, increasing vulnerability.

8. **Gendered classification bias:** Categories such as "helpers" mask unpaid family labour under the appearance of employment.

Concerns and challenges related to women's unpaid labour

1. **Exclusion from employment statistics:** Unpaid domestic and care work is not counted as employment, despite its economic importance.

2. **Blurring of work roles:** Domestic work and household enterprise work overlap, especially in rural areas, making women's labour invisible.

3. **Neglect of emotional and mental labour:** Relationship management, emotional support, and household coordination remain unmeasured.

4. **Unpaid work sustains productivity:** Women's unpaid labour enables others to engage in paid work without being recognised.

5. **Rising workload without income:** Movement into self-employment increases work burden without improving earnings.

6. **Double burden on women:** Women combine unpaid care with paid or semi-paid work, increasing time poverty.

7. **Falling returns to labour:** Increased participation coincides with declining real wages and rising vulnerability.

8. **Gender-biased labour categories:** Terms like "helpers" mask unpaid family labour under the appearance of employment.

Reasons why women's labour remains unrecognised

1. **Male breadwinner bias:** Economic systems privilege paid work traditionally done by men and undervalue care work.

2. **GDP-focused development:** Growth strategies prioritise output and infrastructure while ignoring social reproduction.

3. **Neglect of care infrastructure:** Public spending favours physical infrastructure over childcare, elder care, and mental health services.

4. **Production–reproduction divide:** Labour that produces goods is valued, while labour that sustains workers is ignored.

5. **Naturalisation of gender roles:** Biological differences are used to justify unequal labour divisions and hide power relations.

6. **Historical subordination:** Women's labour is treated as non-productive due to entrenched social hierarchies.

7. **Absence of emotional labour recognition:** No law or policy acknowledges emotional and mental labour performed by women.

Impact of non-recognition of women's labour

1. **Economic undervaluation:** Excluding unpaid labour distorts measures of productivity and national income.

2. **Policy neglect:** Lack of recognition leads to weak investment in care-related services and support systems.

3. **Restricted labour market access:** Heavy unpaid responsibilities limit women's access to secure and paid employment.

4. **Feminisation of vulnerability:** Poor and marginalised women bear the greatest unpaid care burden.

5. **Income inequality:** Women's indirect contributions are ignored in wage setting and earnings distribution.

6. **Asset and property exclusion:** Unpaid labour weakens women's claims over family wealth and assets.

7. **Workplace exploitation:** Women face wage gaps, unsafe conditions, discrimination, and fear of retaliation.

8. **Persistent gender gap:** India ranked 31st in the Global Gender Gap Index 2025, reflecting deep inequalities.

Way forward

1. **Legal recognition of unpaid work:** Unpaid care and domestic labour must be formally recognised as economic activity.

2. **Learning from global practices:** Bolivia legally recognises unpaid home work and provides social security, Trinidad and Tobago mandates statistical valuation of unpaid care work, while Argentina grants pension credits for unpaid childcare.

3. **Judicial acknowledgement in India:** In 2023, the Madras High Court held that a wife's household and caregiving work indirectly contributes to family assets, entitling her to an equal share.

4. **Policy inclusion:** National budgets and labour policies must account for unpaid and care labour.

5. Redistribution of care responsibilities: Men must actively share care work to reduce gendered burdens.

6. **Strengthening social services:** Investment in childcare, elder care, sanitation, and health reduces unpaid workloads.

7. **Workplace dignity and safety:** Equal pay, safe conditions, sanitation facilities, and law enforcement are essential.

Conclusion

Women's labour sustains families, economies, and societies, yet remains systematically undervalued. Rising participation without income security exposes deep labour market weaknesses. Recognition must extend beyond employment numbers to unpaid, emotional, and care work. Legal reform, social investment, and shared care responsibilities are essential to correct this long-standing gender injustice.

For detailed information on **Female Labour Force Participation Rate** read this article here

Question for practice

Discuss why women's unpaid, care, and emotional labour remains unrecognised in economic systems and examine its impact on women's work participation and income outcomes in India.

Source: The Hindu

After Maduro, the Future Way for Delhi

Source: The post **"After Maduro, the Future Way for Delhi'' has** been created, based on **"C Raja Mohan writes: On Maduro, there's a reason for Delhi's restraint — and a window of opportunity in the region"** published in **"Indian Express" on 06th January 2026.**

UPSC Syllabus: GS Paper-2- International Relations

Context: The capture of Venezuelan President Nicolás Maduro by the United States marks a dramatic intervention in Latin American politics. India's restrained response reflects a shift from ideological posturing to strategic realism, even as the episode opens a window for India to recalibrate its engagement with Latin America.

Reasons for India's Restraint on the Maduro Episode

1. India avoided strong condemnation because it no longer assumes that international law can effectively restrain the actions of major powers.
2. India has demonstrated similar restraint during Russia's invasion of Ukraine and US–Israeli strikes on Iran, indicating a consistent foreign policy approach.
3. India speaks most forcefully on violations of sovereignty only when its own territorial interests are involved, particularly in the case of China.
4. Venezuela is geographically distant and does not directly affect India's core strategic or security interests.
5. India has limited economic and political stakes in Latin America, which reduces the incentive for diplomatic activism.
6. The United States remains India's most important strategic partner, making overt criticism diplomatically counterproductive.
7. India does not share China and Russia's objective of challenging US dominance in the Western Hemisphere.
8. Latin American opinion itself is divided, with conservative parties supporting Maduro's removal while leftist leaders condemning it.

Geopolitical Implications of a Post-Maduro Venezuela

1. A strategic reorientation of Venezuela would reinforce American dominance in Latin America.
2. It would accelerate the continent's rightward political drift after decades of left-wing populism.
3. It would weaken the influence of Cuba, Russia, China, and Iran, which used Venezuela as a hub of anti-American activity.
4. The US strategy indicates a shift from regime change to co-opting existing power structures through negotiation.

Why Latin America Has Gained Importance for India

1. The imposition of Trump-era tariffs has compelled India to diversify its export markets beyond traditional partners.
2. Latin America has a combined GDP of around $5.5 trillion and a population exceeding 650 million, making it a major economic region.
3. India's annual trade with Latin America remains low at about $45 billion, highlighting untapped potential.
4. China's trade with the region stands at nearly $500 billion, demonstrating the scale of opportunity India has missed.
5. As the US pressures Latin American states to reduce dependence on China, many countries will seek diversified partnerships.
6. India is well-placed to emerge as an alternative economic partner in sectors such as pharmaceuticals, IT, energy, and manufacturing.

India's Historical Neglect of Latin America

1. India's engagement with Latin America has remained largely symbolic rather than strategic.
2. Cultural associations with figures like Fidel Castro and Che Guevara did not translate into concrete policies.
3. High-level political visits from India to Latin America have been infrequent.
4. India's commercial diplomacy and institutional presence in the region remain weak.
5. There is limited political and economic literacy about Latin America among Indian elites.

Way Forward for India

1. India must give sustained political attention to Latin America through regular high-level engagements.
2. India should pursue targeted trade diplomacy to expand exports and investments in the region.
3. India must strengthen its diplomatic and institutional presence across Latin American countries.
4. India should formulate an independent regional strategy rather than merely aligning with BRICS partners.
5. India needs a deeper understanding of Latin America's political, economic, and social realities.

Conclusion: India's restraint on the Maduro issue reflects strategic maturity, but continued neglect of Latin America would limit India's global influence. As South America undergoes political and geopolitical transformation, India must deepen and widen its footprint through purposeful diplomacy and economic engagement.

Question: Discuss the changing geopolitics of Latin America and its implications for India's foreign policy.

Source: Indian Express

The debate over economic data

Source: The post **"The debate over economic data'' has** been created, based on **"The debate over economic data"** published in **"BusinessLine" on 06th January 2026.**

UPSC Syllabus: GS Paper-3- Indian Economy

Context: The debate over India's GDP and employment data has intensified following methodological changes such as the 2011–12 base revision and the adoption of higher-frequency surveys. While criticisms have grown louder, many fail to account for the complexity of economic measurement in a large, diverse, and rapidly transforming economy.

Nature of Criticisms of India's Economic Data

1. Critics of India's national accounts fall into four broad categories based on the nature of their objections.
2. The first category resists methodological change due to concerns over loss of familiarity and historical comparability.
3. The second category selectively uses data to support preconceived narratives about economic performance.
4. The third category alleges systematic bias and imputes political motives to statistical agencies.
5. The fourth category recognises measurement challenges and offers feasible and constructive suggestions.
6. Only the fourth category of criticism contributes meaningfully to improving data quality.

Status Quo Bias and Resistance to Change

1. Resistance to methodological change often arises from professional comfort with older systems.
2. Economic evolution makes periodic updates in statistical methods unavoidable.
3. India's shift to the UN System of National Accounts 2008 required moving from factory-based to enterprise-based measurement.
4. This involved replacing a limited RBI firm sample with the much broader MCA-21 database.
5. Although concerns were raised about dummy firms, statutory filings and data cleaning improved the database over time.
6. A small and unrepresentative sample cannot capture the realities of an economy with millions of active firms.

Changes in Employment and Consumption Measurement

1. The transition from five-yearly employment surveys to the quarterly Periodic Labour Force Survey was criticised for reducing depth.
2. However, higher-frequency labour data is essential for timely macroeconomic decision-making.
3. Over time, the PLFS has allowed more detailed analysis and proved more reliable than private estimates.
4. Similar criticism followed improvements in consumer expenditure surveys due to reduced backward comparability.
5. Repeated surveys were conducted to verify and benchmark results, improving reliability.

Selective Use of Data and Misinterpretation

1. GDP measurement is inherently complex, especially in a heterogeneous economy like India.
2. Data limitations are often highlighted selectively when growth exceeds forecasts.
3. Factors that may cause overestimation in one period can cause underestimation in another, but only the former is emphasised.
4. Forecast models cannot replace comprehensive national accounting exercises.

Technical Critiques and Their Limitations

1. The absence of double deflation was criticised for overstating growth when WPI inflation was below CPI inflation.
2. During 2021 and 2022, WPI inflation exceeded CPI inflation, implying growth was underestimated.
3. The slowdown in credit growth during the 2010s was used to question GDP estimates without accounting for rising NPAs.
4. Structural shifts from corporate to retail credit were also ignored.
5. Positive discrepancies in expenditure estimates were highlighted while negative discrepancies were overlooked.

GDP, GVA, and Deflator-Based Arguments

1. High net taxes in Q3 FY24 were cited to argue that GDP growth was inflated relative to GVA growth.
2. In subsequent quarters, net taxes declined while both GDP and GVA growth remained strong.
3. Critics later attributed high real growth to low deflators, suggesting inflation was underestimated.
4. If inflation were indeed underestimated, nominal GDP growth would have appeared weaker, which did not occur.
5. The IMF's grading weakened overestimation claims, as inflation measurement received a higher score.

Informal Sector and Discrepancies

1. Concerns were raised that informal sector output is overstated using formal sector ratios.
2. Since 2011–12, labour skill-weighted estimates have replaced uniform productivity assumptions.
3. The production approach remains the controlling estimate, while expenditure estimates act as cross-checks.
4. Commodity flow methods capture informal sector consumption.
5. Persistent negative discrepancies indicate possible underestimation rather than overestimation of output.

Ongoing Reforms and Improvements

1. Constructive criticisms have led to ongoing reforms in data compilation.
2. These include rebasing GDP to a more recent year and expanding survey frequency.
3. Double deflation is being introduced where disaggregated price indices are available.
4. Regular ASUSE surveys will replace proxy-based estimates in services.
5. Reform proposals are communicated transparently and stakeholder feedback is encouraged.

Way Forward

1. India should ensure timely and regular rebasing of national accounts to reflect structural changes in the economy.
2. The coverage, frequency, and integration of surveys should be expanded to improve real-time economic assessment.
3. Greater use of administrative and big data sources should be made while ensuring data quality and privacy safeguards.
4. Capacity building within statistical institutions should be prioritised to handle complex estimation challenges.

5. Methodological changes and revisions should be communicated clearly to improve public understanding and trust.
6. Independent peer review mechanisms should be strengthened to enhance credibility without politicising statistics.
7. Constructive engagement with international institutions should continue while contextual challenges of emerging economies are recognised.

Conclusion

India's economic data systems are evolving to match the scale and complexity of its economy. While methodological improvements may reduce comparability in the short term, they enhance accuracy and relevance over time. Strengthening statistical credibility requires technical refinement and institutional support, not selective criticism or politicisation.

Question: India's GDP measurement faces challenges due to the size and heterogeneity of its economy. Analyse the measures adopted to improve accuracy and reliability.

Source: The Businessline

India-US Parallel tracks which are propelling the Relation Forward

Introduction

In 2025, India–U.S. relations face visible political strain, including U.S. trade sanctions on India and closer U.S. engagement with Pakistan. The postponement of the Quad Leaders' Summit hosted by India highlights diplomatic unease.

Despite these challenges, the foundational cooperation between the two countries remains intact and forward-moving.High-level visits by India's External Affairs Minister and Navy Chief to the U.S. signal continued engagement beneath the political surface.

Trade Tensions and Shifting Economic Alignments in Indo US Relations

- India's exports to the U.S. fell sharply in 2025, reflecting deteriorating trade relations. U.S. tariffs on Indian goods and penalties linked to India's purchase of Russian crude have exacerbated economic frictions.

- In contrast, China and Pakistan benefit from relatively lower tariffs and strengthened U.S. ties. Pakistan's economic concessions, including port access and critical mineral supplies, underline Washington's pragmatic, interest-based approach.

Quad Delays but Remains Operationally Relevant

The delay of the Quad Leaders' Summit reflects bilateral and geopolitical tensions, including perceptions of a U.S.–China "G-2" style rapprochement. However, Quad cooperation continues at the working level.

The July 2025 Quad Foreign Ministers' Meeting in Washington launched initiatives across maritime security, counterterrorism, critical technologies, and humanitarian assistance. The Quad Counterterrorism Working Group meeting in December 2025 reaffirmed the grouping's functional relevance beyond summit diplomacy.

The parallel tracks that keep the U.S.-India ties going

1. Defence Cooperation as the Backbone

- Defence and security cooperation remain the most resilient pillar of India–U.S. relations.
- A decade-long Defence Framework Agreement signed in October 2025 strengthens coordination, information sharing, and technological collaboration.
- Regular joint military exercises—**Yudh Abhyas**, **Tiger Claw**, and **Malabar**—continue to enhance interoperability and trust between armed forces.
- Defence ties are framed as central to maintaining **Indo-Pacific stability** and deterrence.

2. Institutionalised Defence and Technology Frameworks

- Since the 2008 civil nuclear deal, defence and technology agreements have steadily deepened bilateral ties.
- Key agreements include **LEMOA (2016)**, **COMCASA (2018)**, **BECA (2020)**, **INDUS-X (2023)**, and the **Initiative on Critical and Emerging Technologies (2023)**.
- The 2024 **Security of Supply Arrangement (SOSA)** further institutionalised defence logistics and industrial cooperation.
- These frameworks ensure continuity even during periods of political friction.

3. Expanding Technological and Industrial Collaboration

- **Hindustan Aeronautics Limited's** billion-dollar fighter jet engine deal with General Electric in November 2025 marks a major industrial milestone.
- The joint NASA–ISRO NISAR satellite, launched in July 2025, strengthens cooperation in disaster management, agriculture, and infrastructure planning.
- These projects demonstrate the growing depth of high-technology collaboration beyond defence.

Dual-Track Indo-US Relationship- Politics vs Institutions

- The India–U.S. partnership operates on a dual-track model- fluctuating political diplomacy alongside stable institutional cooperation.
- Bureaucratic and defence institutions continue collaboration despite leadership-level or trade-related tensions.
- While regulatory hurdles and technology interoperability issues remain, shared regional interests sustain momentum.

The Way Forward for Deepening Indo-US Institutional Understanding

- Looking toward 2026, deeper institutional engagement in the Indo-US relationship- across defence and non-defence sectors- is essential.
- Building understanding of each other's systems, processes, and institutions can strengthen trust.

- The long-term resilience of India–U.S. relations depends on these institutional channels, which quietly preserve strategic relevance despite political headwinds.

Source: The Hindu

A central law to protect Amaravati

Source: The post **"A central law to protect Amaravati" has** been created, based on **"A central law to protect Amaravati"** published in **"The Hindu" on 07th January 2026.**

UPSC Syllabus: GS Paper-2- Governance

Context: Amaravati, envisioned as the greenfield capital of Andhra Pradesh was declared the state capital under the Andhra Pradesh Reorganisation Act (APRA), 2014, following the bifurcation of the state. The city was planned to be a modern, well-designed administrative and economic hub, but its progress has been hampered by political instability, policy reversals, and legal disputes over the years. These issues highlight the urgent need for a central law to provide Amaravati with legal protection and ensure continuity of its development.

Challenges:

1. Political instability has posed a major challenge, as successive governments have had conflicting visions for the capital, including proposals to split the capital into three cities, which stalled Amaravati's growth.
2. Legal ambiguities exist regarding whether Amaravati's status should be recognized from 2014, when APRA came into force, or from the present date, creating uncertainty for governance and planning.
3. Financial losses have been incurred due to stalled projects and policy reversals, which discourages further investment in the city's infrastructure.
4. Regional equity concerns have also emerged, with districts like Rayalaseema and the north coastal region fearing neglect if Amaravati is developed extensively without inclusive planning.
5. Farmers' protests and ongoing litigation regarding land acquisition and project implementation have further delayed the city's progress.

Need for a Central Law:

1. A central law would provide Amaravati with formal legal sanctity and clearly designate it as the capital of Andhra Pradesh.
2. It would prevent political interference by ensuring that successive state governments cannot arbitrarily change the status of the capital.
3. Such legislation would safeguard public investment and guarantee continuity of ongoing infrastructure and administrative projects.
4. Legal recognition would remove administrative ambiguity and provide clarity for planning, governance, and future development.
5. It would also protect the interests of farmers, citizens, and investors by creating a secure and stable framework for the city's development.

Way Forward:

1. The Andhra Pradesh Reorganisation Act, 2014, particularly Section 5(2), should be amended to legally fortify Amaravati as the official state capital.
2. Stakeholder consultations must be conducted with farmers, regional representatives, civil society, and urban planners to prevent conflicts and ensure inclusive development.
3. Infrastructure and government projects should be resumed in a phased and transparent manner to make optimal use of resources.
4. Strong coordination between the Central and State governments is necessary for funding, monitoring, and implementing development projects.
5. Legal safeguards should be incorporated in the legislation to prevent any future state government from unilaterally altering the status or structure of the capital.

Conclusion: A central law is crucial to protect Amaravati from political, legal, and financial uncertainties, ensuring its status as the state capital is permanent and secure. With proper legal backing, inclusive planning, and phased development, Amaravati can fulfill its vision as a modern, planned capital and contribute significantly to Andhra Pradesh's administrative efficiency, economic growth, and regional balance.

Question: Examine the challenges faced in the development of Amaravati as the capital of Andhra Pradesh and analyze the need for legal safeguards to ensure its continuity.

Source - The Hindu

Water budgeting: An innovative approach

Source: The post **"Water budgeting: An innovative approach" has** been created, based on **"Water budgeting: An innovative approach"** published in **"BusinessLine" on 07th January 2026.**

UPSC Syllabus: GS Paper-3- Environment

Context: Water budgeting is a scientific and participatory approach to managing water resources by estimating availability, supply, demand, and consumption at multiple levels – State, district, Gram Panchayat (GP), and village. It ensures efficient allocation of water across sectors such as agriculture, domestic use, industry, livestock, and the environment, promoting **climate resilience** and **sustainable development**. In India, water budgeting has been implemented under schemes like **Atal Bhujal Yojna (2019)** and the **National Water Mission (2018)**. Recently, NITI Aayog piloted water budgeting in **18 Aspirational Blocks (2025)** using the **'Varuni App'**, integrating spatial and non-spatial data for precise assessment.

Need for Water Budgeting:

1. India's **per capita water availability** has dropped from **5177 m^3 in 1951 to 1545 m^3 in 2011**, and the number of over-exploited groundwater blocks rose from **839 in 2004 to 1034 in 2014**.
2. **Excessive groundwater extraction**, shrinking rivers, pollution, and erratic rainfall due to climate change have aggravated water scarcity.
3. Future projections suggest that by 2030, India's **water demand (1.5 trillion m^3)** may far exceed its current supply (**740 billion m^3**), affecting agriculture, industry, and livelihoods.
4. Water budgeting allows identification of **water surplus and deficit areas**, optimizes resource allocation, and supports planning for **infrastructure, irrigation efficiency, and water conservation measures**.

Methodology:

1. Water sources assessed include **rainfall, glaciers, rivers, springs, tanks, wetlands, groundwater, coastal water, and wastewater**.
2. Demand is calculated for **domestic, agricultural, livestock, industrial, tourism, and ecological needs**.
3. Tools like the **Varuni App** use advanced data analytics and remote sensing to generate block-level water budgets.
4. Blocks are categorized based on **geography and climate**, including coastal, arid, semi-arid, plateau, Himalayan cold desert, and reservoir-dominated regions.

Challenges:

1. **Data gaps** at local levels make accurate water budgeting difficult.
2. **Limited technical capacity** among local bodies and Gram Panchayats hampers adoption of tools like the Varuni App.
3. **Stakeholder coordination** among farmers, industries, local communities, and policymakers remains a challenge.
4. **Infrastructure deficiencies**, such as insufficient groundwater recharge and surface water storage, restrict effective implementation.
5. Integration of water budgeting into **Central and State Water Policies** is still incomplete, delaying systematic adoption.

Way Forward:

1. Expand water budgeting from pilot blocks to **village, GP, district, and State levels**, with public access to data for transparency.
2. Conduct **capacity-building programs** for local officials and community members to utilize digital tools efficiently.
3. Encourage **participatory decision-making** to align policies with local needs and ensure equitable water distribution.
4. Promote **efficient use of water** by maximizing rainwater harvesting, surface water utilization, and minimizing groundwater dependence.
5. Incorporate water budgeting into **central and state water policies** with a **time-bound action plan** to ensure nationwide implementation.

Conclusion: Water budgeting is essential for India to meet its future water demands, reduce scarcity, and maintain water quality. Effective implementation through technology, stakeholder engagement, and policy integration can ensure sustainable, equitable, and climate-resilient water management, supporting the country's broader objectives.

Question: Water budgeting is emerging as a key strategy for sustainable water management in India. Discuss its significance, methodology, challenges, and suggest measures to ensure its effective implementation at all administrative levels.

Source - The BusinessLine

The right to disconnect in an 'always-on' economy

UPSC Syllabus Topic: GS Paper 3 –Indian Economy – Employment and labour productivity.

Introduction

Digital tools have removed the clear boundary between work and personal life. Smartphones and laptops have turned evenings, weekends, and holidays into work time. Constant availability is now treated as commitment. This culture is harming health, productivity, and social stability. India needs a legal right to disconnect to protect workers from burnout and overwork.

Right to Disconnect

The **Right to Disconnect** is a proposed legal entitlement for employees to disengage from work-related digital communications—such as emails, calls, and messages—outside of their official working hours without facing professional repercussions.

In India, a Private Member's Bill has been proposed to amend the Occupational Safety, Health, and Working Conditions Code, 2020 to formally recognise this right and extend protection to all employees.

Why India needs the right to disconnect

1. Excessive working hours: India has extremely long working hours. Around 51% of workers work more than 49 hours a week. This places India among the highest globally for overwork. Such long hours are not sustainable.

2. Widespread job burnout: About 78% of employees report job burnout. Continuous work pressure causes physical and emotional exhaustion. Burnout reduces concentration and decision-making ability.

3. Serious health consequences: Poor work-life balance contributes to hypertension, diabetes, anxiety, and depression. Work-related stress linked to constant availability accounts for 10–12% of mental health cases. This increases pressure on public health systems.

4. Decline in work quality: Fatigued workers are more prone to mistakes. Long hours reduce creativity and efficiency. Measuring work by time instead of output harms productivity.

5. Gaps in India's current legal framework

- **Limited coverage of existing laws:** The Occupational Safety, Health, and Working Conditions Code, 2020, fixes working hours mainly for traditional workers. Many employees remain outside its protection.

- **Vulnerability of new-age workers:** Contractual, freelance, and gig workers often lack clear working hour limits. They face pressure to remain available at all times.

- **Unequal power relationship:** Employees fear punishment or job loss for ignoring after-hours communication. This fear prevents them from setting boundaries and worsens exploitation.

What the right to disconnect seeks to achieve

1. **After-hours protection:** Employees should not be compelled to answer work-related calls, messages, or emails beyond fixed working hours. Non-response during personal time should not be treated as misconduct.

2. **Non-discrimination safeguard:** Exercising the right to disconnect should not lead to disciplinary action, denial of promotion, adverse appraisal, or termination. Career progression must remain unaffected.

3. **Grievance mechanism:** A formal system is required to report violations of this right. Effective resolution ensures the provision is enforceable and meaningful.

4. **Workplace dignity:** The right to disconnect allows employees to rest without fear of professional consequences. It protects physical and mental health and preserves personal time.

Global best practices

1.,**Global recognition:** The 'always-on' work culture is recognised worldwide as a serious challenge. Many countries have responded through specific labour protections.

2.,**Early adopters:** France introduced the right to disconnect in 2017. Portugal, Italy, Ireland, and Australia later adopted similar safeguards for workers.

3. **Workplace protocols**Employers are required to define clear rules for after-hours communication. These rules ensure that employee downtime is respected.

4. **EU working-time test:** The European Union treats employer control as the key test for working time. Availability under employer direction is counted as work.

5. **French approach:** France clearly separates working time and rest time. Any period where the employee remains under employer control is treated as working time.

6. **German standards:** Germany strictly enforces limits on working hours and mandatory rest periods. These rules protect employees from excessive work demands.

7. **Lessons for India:** These global practices help clarify when employee time belongs to the employer. They provide guidance for setting clear work and rest boundaries.

Way forward

1. **Central amendment:** Amending the Occupational Safety, Health, and Working Conditions Code, 2020 can provide a clear legal basis for the right to disconnect. Uniform rules will reduce uneven enforcement.

2. **National uniformity:,**Kerala has introduced legislation for the local private sector to address after-hours work demands. This shows recognition of the problem but also underlines the need for national coverage.

3. **Inclusive scope:,**The amendment should cover contractual, freelance, and gig workers. This closes existing gaps in worker protection.

4. **Mental health integration:** The right to disconnect should be linked with mental health support at the workplace. This makes employee well-being part of occupational safety.

5. **Cultural shift:** Workplace norms must move away from valuing long hours and constant availability. Output and quality should be valued over presenteeism.

6. **Awareness building:** Employees and managers need training on healthy digital work practices. Sensitisation programmes can support effective implementation.

7. **Support systems:** Counselling and psychological services should become routine workplace provisions. These services help workers manage stress and recover effectively.

Conclusion

The right to disconnect is vital for India's workforce and economic future. Excessive work hours, burnout, and stress threaten public health and productivity. Legal protection, cultural change, and mental health support must work together. By safeguarding personal time, India can protect its demographic dividend and build a sustainable, resilient, and productive economy.

For detailed information on **Right to disconnect – Significance and Challenges** read this article here

Question for practice:

Examine how the 'right to disconnect' addresses the challenges of an always-on work culture in India and assess the need for a uniform legal framework in light of global best practices.

Source: The Hindu

Rethinking India's skilling outcomes

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

Introduction

Over the last decade, India has built one of the largest skilling systems in the world. Strong public funding and multiple schemes show serious intent. Yet skilling has not become an aspirational pathway for most youth. Employment outcomes remain weak, industry trust is low, and skills are poorly linked with education. This gap between effort and impact defines India's skilling challenge.

Current status of India's skilling ecosystem

1. Large-scale programme expansion: Between 2015 and 2025, the Pradhan Mantri Kaushal Vikas Yojana trained and certified around 1.40 crore candidates. This reflects sustained government focus on skill development.

2. Low formal vocational coverage:

- Only about 4.7% of India's workforce has received formal vocational training. This is only a small rise from nearly 2% a decade ago.

- In comparison, vocational participation exceeds 70% in Germany and Japan and crosses 90% in South Korea.

3.Weak employability outcomes:

- Skill assessments show that only 51.25% of Indian youth are employable.

- Formal vocational training covers just 4.4% of youth, while 16.6% depend on informal training.

4. Growing workforce pressure: Around 12 million new entrants join the workforce every year. Annual training capacity is about 4.3 million. This gap highlights the scale of unmet skill demand.

Concerns related to India's skilling ecosystem

1. Low aspiration: Despite training 1.40 crore candidates under Pradhan Mantri Kaushal Vikas Yojana (PMKVY), only about **4.7% of the workforce** has formal vocational training, showing weak preference for skilling.

2. Weak legitimacy: Degrees continue to dominate career mobility, while skilling lacks recognised qualification value. Only **2% of graduates pursue skilling certifications** after completing degrees.

3. Limited wage gains: Periodic Labour Force Survey (PLFS)-based observations indicate **modest and uneven wage benefits** from vocational training, especially in informal jobs where most trained workers are absorbed.

4. Education–skill divide: Higher education degrees are often viewed as **irrelevant by industry**, forcing graduates to unlearn academic knowledge and relearn workplace practices.

5. Low youth employability: Only **51.25% of Indian youth** are considered employable, despite years of skilling interventions, highlighting weak outcome quality.

6. Training capacity gap: Around **12 million new entrants** join the workforce annually, while training capacity is only **4.3 million**, creating a persistent skill deficit.

7. Industry disengagement: Most employers **do not use public skilling certificates** for hiring and rely on internal training, referrals, or private platforms instead.

8. High attrition: Attrition rates of **30–40%** in sectors like retail, logistics, hospitality, and manufacturing raise onboarding costs and productivity losses.

9. Uneven apprenticeships: National Apprenticeship Promotion Scheme (NAPS) participation has improved but remains **concentrated in large firms**, with limited penetration among smaller enterprises.

10. Fragmented accountability: Training, assessment, certification, and placement are handled by **separate entities**, leaving no institution accountable for employability outcomes.

11. Weak certification value: Employer surveys show that Sector Skill Council (**SSC) certificates carry limited signalling value** compared to degrees or prior work experience.

Initiatives taken to strengthen India's skilling ecosystem

1. Restructured Skill India Programme: The Union Cabinet approved continuation and restructuring of the Skill India Programme until 2026. An outlay of ₹8,800 crore supports PMKVY 4.0, NAPS, and Jan Shikshan Sansthan under one framework.

2. **Integration with higher education:** The National Credit Framework allows credit portability between vocational and mainstream education. This enables students to combine skills with degrees more easily.

3. Modernisation of training institutions: PM-SETU focuses on upgrading ITIs with better infrastructure and industry alignment. It aims to improve execution quality and shared responsibility.

Flagship Programs under Skill India Mission:

- **Pradhan Mantri Kaushal Vikas Yojana (PMKVY):** Offers outcome-based, short-term skill training, incentivizes enrollment, and focuses on future skills, gender inclusivity, and Recognition of Prior Learning (RPL).
- **Pradhan Mantri National Apprenticeship Promotion Scheme (PM-NAPS):** Encourages on-the-job training with financial support (DBT) for apprentices, broadening scope to contractual staff and UGC institutions.
- **Jan Shikshan Sansthan (JSS):** Community-based vocational training for non-literates, neo-literates, and school dropouts, promoting lifelong learning.

Integration & Modernization:

- **National Education Policy (NEP 2020):** NEP 2020 integrates vocational education aligned with the National Skill Qualification Framework into school education from Classes 9 to 12. This aims to expose students early to work-related skills and career pathways.
- **Skill India Digital (SID):** It Uses AI for job matching and continuous learning, introducing new-age courses (e.g., Drone Pilots).
- **Industrial Training Institutes (ITIs) Revamping:** ITI reforms under schemes such as STRIVE focus on increasing industry ownership and introducing contemporary skills. These measures aim to make training more responsive to current workplace requirements.

What should be done?

1. Embed skills within degree pathways: Skilling must move along with formal education. Degrees provide legitimacy, while skills add relevance. Integrating both can raise aspiration and participation.

2. Make industry a co-owner: Industry should help design curricula, certification standards, and assessments. Skilling must reflect real job roles and workplace practices.

3. Strengthen SSC accountability: Sector Skill Councils must be made answerable for employability and placement outcomes, not just standards creation. Their credibility should depend on labour-market results.

4. Align curricula with professional standards: Courses should map clearly to industry portfolios and roles. National Skill Qualification Framework standards can guide alignment.

5. Use Professors of Practice: Industry experts can bridge gaps between academia and work. They can support curriculum design, assessment, mentoring, and employer feedback.

6. Improve assessment and learner profiling: Skill modules should define clear performance indicators and workplace tasks. AI-enabled skill profiling can help students choose suitable pathways.

Conclusion

India's skilling challenge is rooted in weak accountability and poor integration, not lack of intent or funding. Skills must gain legitimacy through education, industry must become a co-owner, and institutions must own outcomes. This shift can turn skilling from fragmented welfare into a driver of productivity, dignity of labour, and sustained economic growth.

Question for practice:

Discuss the reasons behind weak skilling outcomes in India despite large public investment, and suggest measures to make the skilling ecosystem aspirational, industry-relevant, and employment-oriented.

Source: The Hindu

'Natgrid' - the search engine of digital authoritarianism

UPSC Syllabus Topic: GS Paper 3 - Internal and external security

Introduction

The Mumbai terror attacks of November 2008 exposed serious gaps in India's intelligence system. The failure was seen not as a lack of information, but as an inability to connect scattered data. This belief shaped the push for a technology-based solution. Over time, this response has expanded into a system of mass surveillance, raising concerns about legality, accountability, and democratic control.

What is NATGRID?

The National Intelligence Grid, better known as NATGRID, is an **integrated IT solution** which would allow user agencies to access data gathered from various databases such as credit and debit cards, tax, telecom, immigration, airlines and railway tickets, passports, driving licenses among others.

Aim: It is being developed as a measure to **help security agencies** such as the Central Bureau of Investigation (CBI), Research & Analysis Wing (RAW) etc. in tackling crime and terror threats in the country.

Evolution of NATGRID From Intelligence Tool to Mass Surveillance System

1.Origin in the 26/11 intelligence failure: The idea of National Intelligence Grid (NATGRID) emerged after the 2008 Mumbai terror attacks. The failure was defined as the inability to connect scattered intelligence inputs. NATGRID was proposed as a system to stitch together data points like travel, visas, and financial records.

2. Initial design and limited scope: NATGRID was announced publicly in December 2009. It was designed as a middleware platform allowing 11 central agencies to query 21 categories of databases. Its stated purpose was counter-terrorism and serious national security threats.

3. Approval without legislation: In June 2012, NATGRID was approved by executive order and the Cabinet Committee on Security. It was not backed by a law passed by Parliament. The first phase, Horizon–I, received ₹1,002.97 crore, despite unresolved concerns over safeguards and oversight.

4. Long delay and perception of inactivity: For several years, repeated delays led to the belief that NATGRID existed only on paper. It was widely seen as a response to public anger after 26/11 rather than a functioning system.

5. Operational revival and expansion of usage: By 2025, NATGRID became fully operational. States were asked to scale up its use after a national conference of Directors General of Police. The system began handling around 45,000 queries every month.

6. Expansion beyond central agencies: Access to NATGRID expanded from central intelligence agencies to State police units. Officers down to the rank of Superintendent of Police were allowed access, shifting NATGRID from exceptional intelligence use to routine policing.

7. Integration with population-wide databases: NATGRID was integrated with the National Population Register, which holds data on 1.19 billion residents. This marked a shift from tracking specific threats to mapping the entire population.

8. Shift to algorithm-driven surveillance: Advanced analytics like entity resolution and facial recognition were added. NATGRID moved from being a search platform to an inference system, where algorithms draw conclusions about individuals.

Concerns Related to NATGRID

1. Lack of legal foundation and independent oversight: NATGRID operates without a law passed by Parliament. It was approved through executive action, without any independent authority to supervise its functioning. This creates a system of surveillance without clear constitutional safeguards or democratic accountability.

2. Expansion beyond counter-terrorism: NATGRID was justified as a tool for counter-terrorism and serious national security threats. Its use has expanded into routine policing and has been integrated with the National Population Register, which holds data on 1.19 billion residents. This shifts surveillance from tracking specific threats to mapping the entire population, raising serious concerns about proportionality and purpose.

3. Algorithm-driven inference and loss of human judgment: With tools like entity resolution and facial recognition, NATGRID no longer works as a simple search system. Algorithms now infer identity and intent, increasing the risk of errors based on machine-generated conclusions.

4**. Bias and unequal impact of errors:** Analytical systems reflect existing distortions in policing data. Caste, religious, and regional biases can be reinforced and presented as objective outcomes. False matches affect citizens unequally, with marginalised groups facing harsher consequences.

5**. Tyranny of scale and weak safeguards:** Around 45,000 queries are processed every month. At this scale, safeguards such as logging and classification risk becoming routine formalities, especially in the absence of independent scrutiny**.**

7. Judicial and parliamentary silence: Despite strong privacy principles laid down in Justice K.S. Puttaswamy vs Union of India, the legality of large-scale intelligence programmes has not been squarely examined. Parliamentary oversight remains minimal.

Conclusion

The shock of 26/11 continues to shape India's security choices, but the remedy has been misdirected. Intelligence failures arise more from weak institutions and poor accountability than from lack of data. NATGRID has expanded from a counter-terror tool into a system of population-wide surveillance without legal backing or oversight. In the absence of parliamentary and judicial scrutiny, technology risks replacing judgment, and security risks sliding into digital authoritarianism.

Question for practice:

Examine how the creation and expansion of NATGRID, as a response to the 26/11 intelligence failure, has raised concerns about mass surveillance, legality, and democratic accountability in India.

Source: The Hindu

Ways to Reform Railway Finances

UPSC Syllabus Topic: GS Paper 3 -Infrastructure: Railways .

Introduction

Indian Railways is under financial stress due to weak passenger pricing, rising costs, and dependence on freight cross-subsidy. Recent fare hikes are marginal and politically cautious. Long delays in reform have reduced revenue strength while costs continue to rise. Sustainable finances now require pricing reform, role clarity, and stronger freight and operational strategy.

Concerns Related to Financial Sustainability of Indian Railways

1. Concerns Related to Pricing

• **Marginal fare hike:** The latest fare increase ranges from less than one paisa to two paise per kilometre across classes. The estimated annual gain is about ₹1,500 crore, which is only around 1.5 per cent of the ₹92,800 crore passenger revenue target for FY26.

• **Optimistic revenue claim:** Indian Railways projected ₹2,400 crore from the hike, but passenger kilometre estimates show ₹1,200 crore from Mail and Express trains and ₹300 crore from Ordinary Second Class, indicating clear overestimation.

• **Long fare freeze:** The last major passenger fare revision occurred in 2013. Since then, political reluctance has prevented regular fare correction, weakening passenger revenue growth over time.

• **Hidden financial strain:** The Operating Ratio appears to be kept just below 100 because part of the pension burden is absorbed through budgetary support. At the same time, only ₹800 crore is provided for depreciation, even though investments in railway assets have exceeded ₹15 lakh crore over the last decade. This masks the true financial stress.

2. Structural and Policy Gaps Affecting Railway Finances

• **Freight subsidy legacy:** Since the mid-2000s, higher wagon loadability increased freight earnings and allowed passenger fares to remain unchanged. This policy masked financial stress and later became unsustainable.

• **Suburban service burden:** Indian Railways increasingly serves suburban and commuter traffic, which is loss-making. Such services should largely be funded and managed by State and city governments, unlike inter-city travel.

• **Misplaced subsidies:** AC I and AC II classes receive subsidy despite being chosen for comfort. Only AC III and Chair Car services break even, showing weak targeting of subsidies.

• **Non-AC focus:** Continued emphasis on non-AC coaches leads to losses. Introducing affordable AC Chair Cars with over 100 seats can shift passengers and improve revenue.

3. Operational and Service Efficiency Gaps

• **Low train speeds:** Passenger trains suffer from congestion and inefficient operations, keeping average speeds low despite heavy capital investment and reducing service quality.

• **Excessive stoppages:** Many stoppages add little value and slow services. Data analytics can help remove unnecessary halts and improve efficiency.

• **Underused capacity:** Well-patronised trains are not extended to 24 coaches, limiting capacity expansion even where demand is high.

4. Freight Revenue Challenges

• **Revenue concentration:** Freight contributes about 65% of total railway earnings. Coal alone generates nearly 50% of freight revenue. This creates high revenue concentration risk.

• **Uneven zone growth:** Freight revenue growth varies sharply across zones. East-Central and South-East-Central zones doubled earnings since 2015–16, while others lagged. This reflects uneven freight strategy.

• **Outdated freight rates:** Freight rates were last revised in November 2018. Operational costs have increased since then. This reduces competitiveness with road transport.

• **Wagon shortages:** Indian Railways operates 4.27 lakh wagons and inducts around 30,000 annually. Large users like NTPC report rake shortages. This shows planning gaps.

• **Route congestion:** Average freight speed fell to 23.8 kmph in 2024–25. Passenger train priority and infrastructure works slow freight movement. Congestion affects reliability.

• **Weak terminals:** Many railway yards lack modern loading and storage facilities. Poor approach roads and platforms increase logistics costs. Terminal inefficiency discourages freight users.

Initiatives Taken for the Sustainability of Indian Railways

1. **Reservation system reform:** Indian Railways has upgraded its reservation system with advanced anti-bot technology. A Content Delivery Network blocks ultra-fast automated bookings by rogue agents. This improves fairness and access for genuine passengers.

2. **Waitlist rationalisation:** Caps on waitlists have been revised to reduce uncertainty. Reservation charts are now finalised eight hours in advance. This helps passengers plan travel better.

3. **Dynamic pricing use:** Dynamic pricing has been introduced to align fares with demand. However, it remains limited in scope. Further refinement is required to improve revenue outcomes.

4. **Fare differentiation:** Differential pricing is proposed based on berth type and seat position. Upper, middle, and lower berths, as well as aisle and window seats, can be priced differently. This follows airline-style pricing without across-the-board fare hikes.

5. **Train capacity expansion:** Well-patronised trains can be extended up to 24 coaches. This increases capacity on high-demand routes. It improves revenue without adding new trains.

6. **Freight rate review:** Freight rates have not been revised since November 2018. Annual and commodity-wise assessment is recommended. This helps align rates with costs and market demand.

7. **Terminal modernisation:** Modern loading, unloading, and storage facilities are being promoted at railway yards. Gati Shakti Cargo Terminals with private participation support this effort. This improves freight handling efficiency and regional connectivity.

8. **Freight diversification:** Railways are encouraged to diversify beyond coal and iron ore. Automobiles, FMCG, and e-commerce are identified as key growth areas. This supports long-term revenue sustainability.

Conclusion:

Indian Railways' financial stress reflects long-standing reluctance to reform passenger pricing, overreliance on freight cross-subsidy, and operational inefficiencies. Marginal fare hikes offer limited relief, while costs

continue to rise. Structural distortions in service focus, subsidy design, and freight dependence weaken sustainability. Without deeper pricing reform, efficiency gains, and balanced freight strategy, financial pressures will persist.

Question for practice:

Examine the key factors contributing to the financial stress of Indian Railways and assess how recent pricing and operational measures attempt to address them.

Source: Businessline

India's Battle against Antimicrobial Resistance (AMR)

Source: The post **"India's Battle against Antimicrobial Resistance (AMR)" has** been created, based on **"Fine-tune this signal to sharpen India's AMR battle"** published in **"The Hindu" on 08th January 2026.**

UPSC Syllabus: GS Paper-2- Governance

Context: Antimicrobial Resistance (AMR) poses a serious threat to public health in India, with common infections such as pneumonia, urinary tract infections, typhoid, and bloodstream infections increasingly showing resistance to standard antibiotics. The Prime Minister's reference to AMR in the December 2025 *Mann Ki Baat* broadcast marks a critical moment in India's fight against this growing crisis.

Significance of the Prime Minister's Intervention

1. **First-of-its-Kind Mass Communication:** Rarely has AMR been addressed directly by the head of government to the general public, giving the issue unprecedented visibility.
2. **Use of National Evidence:** The speech cited Indian Council of Medical Research (ICMR) data, lending scientific credibility to the message.
3. **Focus on Irrational Antibiotic Use:** It identified indiscriminate and self-medicated antibiotic consumption as the core driver of AMR in India.
4. **Clear Behavioural Advisory:** Citizens were urged to avoid over-the-counter antibiotics and self-prescription, particularly without medical advice.
5. **Mainstreaming a Technical Issue:** AMR was moved out of hospital corridors and policy discussions into everyday public awareness, linking personal behaviour to national health outcomes.
6. **Potential to Shift Outcomes:** By striking at the broadest population base, the intervention may influence AMR trends more effectively than earlier policy-only measures.

Why Awareness Alone Is Insufficient

1. **Advanced Stage of AMR Spread:** Experts describe AMR in India as a "hydra-headed" challenge, requiring multiple, coordinated interventions.
2. **One Health Imperative:** Human health, animal health, agriculture, water safety, and environmental contamination are deeply interconnected in the AMR pathway.
3. **Structural Drivers Persist:** Poor sanitation, unsafe drinking water, unregulated antibiotic sales, and agricultural antibiotic use continue to fuel resistance.

Critical Gaps in India's AMR Surveillance System

1. **Urban and Tertiary-Centric Surveillance:** Most sentinel sites are located in medical colleges and urban tertiary hospitals, skewing national averages.
2. **Exclusion of Non-Urban Centres:** Community-level prevalence in rural and semi-urban areas remains largely undocumented.
3. **Limited Site Coverage:** Although NARS-Net has 60 laboratories, recent WHO-GLASS reporting relied on data from only 41 sites across 31 States/UTs.
4. **Incomplete Pathogen Tracking:** Surveillance focuses on nine priority bacterial pathogens, potentially missing emerging resistance patterns.
5. **Absence of Private Sector Data:** Private hospitals, which handle a large share of healthcare delivery, are mostly excluded, limiting representativeness.
6. **Policy Blind Spots:** Without comprehensive data, antibiotic stewardship and targeted interventions remain weak.

Way Forward

1. **Expand Surveillance Footprint:** Include primary and secondary care facilities, rural health centres, and private hospitals.
2. **Strengthen One Health Surveillance:** Integrate data from human health, veterinary sectors, food systems, and the environment.
3. **Improve Data Quality and Timeliness:** Standardise reporting and strengthen laboratory capacities across regions.
4. **Enhance Regulatory Enforcement:** Strictly monitor over-the-counter antibiotic sales and misuse in agriculture.
5. **Invest in Research and Innovation:** Support development of new antimicrobials, diagnostics, and vaccines, as recommended by the WHO Global Action Plan.
6. **Sustain Public Communication:** Continue high-level messaging to reinforce responsible antibiotic use.

Conclusion: The Prime Minister's *Mann Ki Baat* reference to AMR represents a crucial turning point by transforming scientific warnings into a public call to action. However, for India to effectively combat AMR, awareness must be matched with a robust, decentralised, and inclusive surveillance system backed by a One Health approach and sustained political commitment.

Question: Discuss the significance of the Prime Minister's reference to antimicrobial resistance (AMR) in 'Mann Ki Baat'. Examine why strengthening AMR surveillance remains critical for India's public health response.

Worrying trends in economic inequality in India

Source: The post **"Worrying trends in economic inequality in India'' has** been created, based on **"Worrying trends in economic inequality in India"** published in **"BusinessLine" on 08th January 2026.**

UPSC Syllabus: GS Paper-3- Economy

Context: Economic inequality has been rising sharply across the world, and India is no exception to this trend. While the country has achieved sustained economic growth over the past decades, the distribution of the gains from this growth has been highly uneven. A significant concentration of income and wealth among higher-income groups has resulted in widening disparities, posing serious challenges to inclusive and sustainable development.

Trends in Income and Wealth Inequality in India

1. **High Income Inequality:** The income ratio of the top 10 per cent to the bottom 50 per cent in India stands at **3.87**, indicating that the top decile earns nearly four times the income of half the population. This reflects substantial income inequality, which is higher than in countries such as China and Russia, though lower than extremely unequal societies like Brazil and South Africa. Such a ratio signals stress on social mobility and fairness.
2. **Extreme Wealth Concentration:** Wealth inequality in India is far more severe than income inequality. The **top 1 per cent control nearly 40 per cent of total national wealth**, while the **bottom 50 per cent possess only about 6 per cent**. This concentration of assets enables higher-income groups to consolidate economic power and influence, further widening long-term disparities.
3. **Rising Income Gini:** The income Gini coefficient, a comprehensive measure of inequality, has increased from **around 0.47 in 2000 to about 0.61 in 2023**. This sharp rise indicates a worsening distribution of income over time and suggests that economic growth has disproportionately favoured the top segments of society.
4. **Misleading Consumption Equality:** Consumption-based inequality indicators show a relatively low and declining Gini of **0.255 in 2022–23**, leading some rankings to classify India as a low-inequality country. However, consumption data exclude savings, investments, and wealth accumulation, thereby masking the true depth of economic inequality, especially among higher-income groups.

Reasons Behind Rising Inequality

1. Uneven Growth Pattern: India's growth trajectory has favoured **urban regions, high-skill services, and capital-intensive sectors**, while agriculture and the informal sector—employing a majority of the workforce—have lagged behind. This sectoral imbalance has resulted in unequal income generation opportunities across regions and occupations.

2. Jobless and Precarious Growth: Economic growth has not translated into proportional job creation. Job losses, rising informalisation, and the expansion of the **gig economy** have increased employment insecurity. The lack of stable, well-paying jobs has widened wage gaps and reduced income security for large sections of the population.

3. Reinforcing Income–Wealth Cycle: Higher-income groups benefit more from policy changes and possess a greater capacity to save and invest. These higher saving rates translate into faster wealth accumulation, which further increases income through capital returns. This creates a self-reinforcing cycle where income inequality feeds into wealth inequality and vice versa.

4. Structural and Social Factors: Persistent inequalities in access to **quality education, healthcare, credit, and economic opportunities** limit upward mobility for disadvantaged groups. Social exclusion based on caste, gender, and region continues to perpetuate inequality across generations.

Policy-Related Contributors

1. **Regressive Taxation:** India's taxation and redistribution policies have not sufficiently offset inequality. Limited progressivity in direct taxes and greater reliance on indirect taxes have placed a disproportionate burden on lower-income groups, weakening redistributive outcomes.
2. **Declining Social Sector Priority:** Despite rising needs, social sector spending has declined as a share of total government expenditure, reaching **around 17 per cent in 2024–25**, with only a modest increase projected. This reflects a reduced emphasis on welfare and human development.

3. **Underinvestment in Health and Education:** Public spending on health and education has lagged behind requirements. Declining budgetary shares for these sectors weaken human capital formation, reduce productivity, and exacerbate long-term inequality.
4. **Weakened Employment Safety Nets:** The replacement of the demand-driven **MGNREGS** with the supply-driven *Viksit Bharat – Guarantee for Rozgar and Ajeevika Mission (Gramin)* shifts financial responsibility to fiscally constrained States. This reduces assured income support for rural households and disproportionately affects the most vulnerable sections.

Implications of Rising Inequality

1. Rising inequality weakens **domestic demand** as large sections of the population have low purchasing power.
2. It hampers **inclusive growth and job creation**, increases social and regional disparities, and threatens long-term economic stability in a **consumption-driven economy** like India.
3. Persistent inequality can also undermine social cohesion and democratic accountability.

Way Forward

1. **Adopt Demand-Driven Income Policies:** Strengthening wages, expanding public employment, and enhancing social protection can directly raise incomes at the bottom and stimulate demand.
2. **Revive and Strengthen Employment Guarantees:** Restoring demand-driven rural employment programmes can provide income security and act as an automatic stabiliser during economic downturns.
3. **Increase Social Sector Spending:** Greater investment in health, education, and nutrition is essential to address structural inequality and improve long-term productivity.
4. **Progressive Taxation and Redistribution:** More progressive taxation of income and wealth, combined with effective redistribution, can help reduce excessive concentration of resources.
5. **Support Labour-Intensive Industries:** Promoting MSMEs and labour-intensive manufacturing can generate large-scale employment and reduce income disparities.
6. **Boost Domestic Demand:** Raising incomes of the bottom and middle classes is critical for sustaining economic growth in a consumption-led economy.

Conclusion: India's rising income and wealth inequality is rooted in deep structural imbalances and policy choices that have favoured capital and high-income groups. Addressing this challenge requires a decisive shift towards inclusive, demand-driven growth, higher social investment, and effective redistribution. Without such corrective action, economic growth risks becoming socially and economically unsustainable.

Question: Economic growth in India has been accompanied by rising economic inequality. Examine the trends, causes, and policy-related factors behind increasing income and wealth inequality in India. Suggest measures to address the challenge.

GSDP Share as Criterion for Central–State Transfers

UPSC Syllabus Topic: GS Paper 2-Indian Polity – Issues and challenges pertaining to the federal structure.

Introduction

India's system of sharing central tax revenues with States has come under debate due to concerns over **fairness, autonomy, and efficiency**. After GST, States depend more on **central transfers decided by Finance**

Commissions. Many States argue that present criteria do not reflect **real economic contribution**. This has renewed focus on using **Gross State Domestic Product (GSDP)** as a key basis for central–State transfers.

India's Structure of Central Transfers

1. Role of the Finance Commission: The Finance Commission decides the **share of gross tax revenue** given to States and the **formula for distribution**. Recommendations of **15 Finance Commissions** have been implemented, while the **16th Finance Commission's report is pending**.

2. **Channels of Central Transfers:** States receive funds through **tax devolution, grants-in-aid, and centrally sponsored schemes (CSS)**. While tax devolution is formula-based, **grants and schemes are often tied** to central priorities.

3. **Post-GST Fiscal Stress:** GST reduced States' **taxation powers** and caused **revenue losses due to rate cuts**. At the same time, the rise of **cesses and surcharges reduced the divisible pool** shared with States.

4. **Equity-Focused Devolution Approach:** Most Finance Commissions have prioritised **equity** using **income distance and population** criteria. **Frequent changes in weights** and **large regional differences in fiscal capacity** continue to create dissatisfaction among States.

Concerns in India's Structure of Central Transfers

1. Shrinking Divisible Pool: Cesses and surcharges rose from **11.3% of gross tax revenue in 2009–10 to 16.3% in 2022–23**. These are **not shared with States**, reducing their fiscal space.

2. **Increase in Tied Transfers:** The expansion of **centrally sponsored schemes** has limited States' **freedom to allocate funds** based on local needs.

3. **Weak Compliance with Finance Commission Norms:** During the **15th Finance Commission period**, only **38.1% of gross tax revenue** was actually devolved, against the **recommended 41%**.

4. Equity Over Efficiency Bias: Most Finance Commissions relied heavily on **income distance and population**. These criteria prioritised redistribution but **weakened the link between contribution and transfers**.

Tax Collection versus Tax Contribution Problem

1. **Location-Based Tax Recording:** Direct tax data reflects the **place of collection**, not the place where **income is generated**, creating distortion in assessing State-wise contributions.

2. **Registered Office Bias:** Companies operating across India pay taxes where their **registered offices are located**, inflating tax contribution figures of some States.

3. Labour and Business Mobility: Labour migration and multi-location work arrangements weaken the accuracy of **PAN-based tax attribution**.

4. **Data Gaps in Inter-State Transactions:** Lack of detailed data on **inter-State transactions among associated enterprises** prevents accurate estimation of tax accrual.

Need for an Alternative Measure

1. Limits of Direct Tax Data: PAN-based jurisdiction fails to capture real economic contribution at the State level, weakening the credibility of **tax-based devolution claims**.

2.GST Attribution is Less Contested: GST is **destination-based** and reflects consumption across States, but it **cannot fully capture income generation patterns**.

3. Requirement of an Indirect Proxy: A **broader economic indicator** is required to estimate where **central taxes actually accrue**.

Gross State Domestic Product (GSDP) as an Alternative Criterion

1. Economic Base Indicator: GSDP reflects the **scale of economic activity** within a State and represents the **underlying tax base** where income is generated.

2. Limits of Direct Tax Attribution: Direct tax data records the **place of collection**, making it unsuitable for estimating **State-wise tax contribution**.

3. Assumption of Uniform Tax Efficiency: If tax administration efficiency and **tax-to-GSDP ratios do not vary sharply**, GSDP share can approximate contribution to central taxes.

4. Alignment with GST Structure: GST attribution across States is relatively clear. **GSDP complements GST** by capturing **production and income generation**.

5. Correlation with Direct Taxes: In **2023–24**, the correlation between States' GSDP and **direct tax collections was 0.75**, showing a strong relationship.

6. Correlation with GST Collections: The correlation between GSDP and **GST collections was 0.91**, indicating that GSDP closely tracks **taxable economic activity**.

7. Balance with Devolution Shares: GSDP shares showed a correlation of **0.58 with devolution shares**, reflecting a balance between **redistribution and contribution**.

Way Forward

1. **Higher Weight, Not Exclusive Use:** GSDP should be given a higher weight in devolution formulas, without replacing existing redistribution criteria.

2. **Balancing Equity and Efficiency:** GSDP can reflect economic contribution, while other criteria can continue to support redistribution to poorer States.

3. **Correcting Registered Office Bias:** Adjustments are needed where tax collections exceed GSDP due to concentration of registered offices of multi-State firms.

4. **Accounting for Production–Tax Location Mismatch:** GSDP can address cases where production occurs in one State but tax payments are recorded in another.

5. **Moderating Fiscal Impact:** A calibrated use of GSDP can ensure that gains and losses across States remain moderate.

6. **Strengthening Credibility of Transfers:** Closer alignment between economic activity and transfers can improve trust in the fiscal transfer system.

Conclusion

Using **GSDP as a stronger criterion** can improve fairness in central–State transfers by linking distribution to **real economic activity**. It balances **efficiency with equity** better than existing approaches. However, it should **complement, not replace**, redistribution criteria to address regional disparities and maintain **cooperative fiscal federalism**.

For detailed information on **Fiscal Federalism in India- Significance and Challenges** read this article here

Question for practice:

Examine the rationale for using **Gross State Domestic Product (GSDP)** as a criterion for central–State transfers in India, and assess how it balances **equity and efficiency** in the existing fiscal federal framework.

Source: The Hindu

Top court's green governance, cause for uncertainty

UPSC Syllabus Topic: GS Paper3-Conservation, environmental pollution and degradation

Introduction

Environmental governance in India has increasingly shifted from executive regulators to the **Supreme Court of India**. Over the last decade, the Court has moved beyond reviewing legality to issuing forward-looking directions that resemble regulation. This shift arose due to regulatory failure, but the Court has often continued to govern instead of restoring regulatory discipline. This has created instability for governments, regulated actors, and citizens.

Legal and Constitutional Basis of Environmental Governance in India

1. Constitutional Duties: Environmental protection has clear constitutional support. Article 48A places a duty on the State to protect and improve the environment. Article 51A(g) places a duty on citizens to safeguard nature. Together, they form the moral and legal base of environmental governance.

2. Right to Life: The right to life under Article 21 has been interpreted to include the right to a clean and healthy environment. In *M.C. Mehta (1986)*, environmental quality was linked to life and dignity. In *M.K. Ranjitsinh*, this was expanded to include a right against the adverse effects of climate change.

3. Statutory Framework: Environmental governance is implemented through laws such as the Environment (Protection) Act, 1986, the Forest (Conservation) Act, 1980, and pollution control laws. These statutes assign duties to executive authorities for regulation, enforcement, and monitoring.

4. Regulatory Failure: Judicial intervention occurs when regulators fail to perform statutory duties. Fragmented enforcement, delayed notifications, weak monitoring, and selective exemptions create governance gaps. These gaps provide the constitutional space for judicial involvement.

Indian Judiciary's Expanding Role in Environmental Governance

1. Role Expansion: The Court has shifted from checking legality to shaping future conduct. It now issues directions that apply across sectors and regions, moving closer to regulatory governance.

2. Continuing Mandamus: Environmental cases often run through continuing mandamus. The Court issues serial interim orders, seeks affidavits, appoints committees, and modifies directions over time.

3. Regulatory Substitution: Instead of correcting regulatory processes and stepping back, the Court often substitutes for regulators. This keeps the Court involved in governance beyond immediate correction.

4. Cross-Domain Reach: Single cases frequently expand across forests, pollution, mining, transport, and urban development. This broad reach increases institutional complexity and uncertainty.

Expansion and Contradictions of Environmental Jurisprudence

1. ESZ Orders: In June 2022, the Court mandated a minimum one-kilometre eco-sensitive zone around protected areas. In April 2023, this was diluted where prior notifications existed, after States argued that the rule was difficult to implement.

2. Vehicle Rules: In December 2015, diesel vehicles above 2000 cc were banned in the Delhi-NCR. In August 2016, the ban was replaced with a compensation charge. In 2025, broad protection against coercive action was narrowed to vehicles below Bharat Stage-IV norms.

3. Firecracker Bans: The Court imposed near-total firecracker bans in the NCR due to air pollution. These were later relaxed for festivals and limited categories such as green crackers, citing enforcement limits and public order concerns.

4. Doctrinal Shifts: In May 2025, ex post facto environmental clearances were held to violate core principles. In November, this position was recalled due to concerns about disrupting ongoing commercial activity.

Expertise and Public Challenge

1. Expert Committees: The Court relies on expert committees to address technical limits. Expert input supports decision-making but does not guarantee stability.

2. **Contested Expertise:** In the Aravalli mining matter, a unified definition was adopted based on committee findings. It was later placed in abeyance and a new committee was formed due to unintended legal effects.

3. **Uniform Rules:** Uniform environmental rules initially appear decisive. Resistance arises when ecological variation and feasibility differ across landscapes, as seen in the ESZ issue.

4. **Approval Role:** Governments and project proponents approach the Court for permissions before statutory scrutiny is complete. This shifts approval authority away from regulators.

5. **Public Impact:** Early judicial approval discourages later contestation. When rules are modified, it reshapes who can be heard and what evidence matters.

Need for Judicial Restraint and Regulatory Discipline

1. Uncertainty Harm: The core problem is not intervention itself. It is uncertainty. Environmental rules become negotiable rather than enforceable.

2. Regulatory Discipline: The Court should discipline regulators back into action. It should insist on time-bound decisions, reasons, and public data.

3. Clear Thresholds: Judicial management should be limited to defined situations. Sweeping rules that invite exceptions should be avoided.

4. Stable Governance: Stability helps governments govern, regulated actors comply, and citizens challenge harm in proper forums.

Conclusion

Environmental protection requires strong regulation, not permanent judicial governance. Courts should correct regulatory failure without replacing executive decision-making. Clear limits on intervention, predictable standards, and time-bound regulatory action can reduce uncertainty. A restrained judicial role can protect the environment while preserving institutional balance, public participation, and legal certainty.

Question for practice

Discuss how the Supreme Court's expanding role in environmental governance has contributed to regulatory uncertainty in India, and why judicial restraint is suggested as a way forward.

Source: The Hindu

Bal Vivah Mukt Bharat (A Pledge Towards Child Marriage-Free India)

News- Despite being legally prohibited, child marriage remains a pervasive social challenge in India, impacting millions of young girls and boys across the country. In India, despite progress, 23% of women aged 20–24 were married before they turned 18 (National Family Health Survey-5, 2019–21).

What Is Child Marriage?

Child marriage, defined under **Prohibition of Child Marriage Act** is any union where the female/girl party is under 18 years and a male below 21 years of age, perpetuates cycles of poverty, gender inequality, and health risks, particularly in rural and tribal areas. Furthermore, child marriage directly amounts to child rape under Indian law.

As per the **Bharatiya Nyaya Sanhita, 2023**, any sexual act by a man with his wife who is below 18 years of age amounts to rape. The Supreme Court of India has further clarified that when the husband of a child bride commits penetrative sexual assault on her, it amounts to aggravated penetrative sexual assault, an offence punishable under the **Protection of Children from Sexual Offences (POCSO) Act, 2012.**

What has been the history of India's fight against Child Marriage?

Pre-Independence Efforts- Efforts to curb child marriage in India began as early as the 19th century with social reformers like Raja Rammohan Roy, Ishwar Chandra Vidyasagar, and Mahatma Jyotirao Phule leading campaigns against the practice, resulting in the **Age of Consent Act, 1891** and later the **Child Marriage Restraint Act (Sarda Act) of 1929**, which set the minimum marriage age at 14 for girls and 18 for boys.

Post-Independence Measures- Post-independence, the government raised these limits through the 1948 amendment (15 for girls), 1978 amendment (18 years for girls and 21 years for boys) and finally the Prohibition of Child Marriage Act, 2006 (18 for women, 21 for men).

Prohibition of Child Marriage Act, 2006 (PCMA)- The Prohibition of Child Marriage Act, 2006 replaced the Child Marriage Restraint Act, 1929 (Sarda Act), with the aim to prohibit rather than merely restrain child marriages while providing stronger protection and relief for victims. The Act clearly states that a "child" is a male under 21 years or female under 18 years. Child marriage involves either party being a child.

Bal Vivah Mukt Bharat (BVMB)- Launched on November 27, 2024, the Bal Vivah Mukt Bharat (BVMB), also known as Child Marriage Free India, represents a bold national commitment by the Ministry of Women and Child Development (MWCD) to eradicate child marriages across the country. This mission is deeply aligned with Sustainable Development Goal (SDG) 5.3, which aims to eliminate all harmful practices, including child, early, and forced marriages, by 2030.

The 100-Day Campaign: A Momentum-Building Drive Against Child Marriage- On December 4, 2025, a high-intensity 100-day special drive has been rolled out across all States and Union Territories, dedicating each month to a specific outreach.

What are the harmful impacts of Child Marriage?

1. **Violation of Child Rights:** Child marriage violates the **right to education, right to health** and **right to be safe from physical and mental violence, sexual abuse, rape**, and **sexual exploitation**. It also robs the children of their **right to freedom to choose their partner and life path**.
2. **Social marginalisation and isolation:** Early marriages deprive girls of their childhood and force them into social isolation. Similarly, boys who marry early are pressured to take on family responsibilities prematurely.
3. **Increases Illiteracy:** Child brides are often taken out of school and not allowed to get further education. This increases the illiteracy in India.
4. **Breeds Intergenerational Cycle of Poverty:** Child marriage **negatively affects the economy** and can lead to an intergenerational cycle of poverty. Girls and boys married as children more likely lack the **skills, knowledge**, and **job prospects** needed to lift their families out of poverty. Early marriage

leads girls to have children earlier and more children over their lifetime, **increasing economic burden on the household**.

5. Health Issues:
    a. **Stunted Children:** Children born to adolescent mothers have a greater **possibility of seeing stunted growth** (According to NFHS-5, prevalence of child stunting is 35.5%.).
    b. **Premature Pregnancy:** Child marriage leads to **pregnancy at a younger age**, with women having more than one child before their mind and bodies are ready.
    c. **Maternal Mortality:** Girls under 15 are **five times more likely to die** during childbirth or pregnancy. The leading cause of death for girls ages 15 to 19 around the world is pregnancy-related deaths
    d. **Infant Mortality:** Babies born to mothers younger than 20 have almost **75% higher death rates** than babies born to mothers older than 20 years. The children who do make it are more likely to be born pre-mature and with a low birth weight.
    e. **Mental health:** Abuse and violence can lead to **PTSD (Post-Traumatic Stress Disorder)** and depression.

What are the reasons for prevalence of Child Marriage?

Child marriage has strong roots in culture, economics, and religion.

1. **Poverty:** Poor Families **'sell' their children** through marriage to pay off debts or to get out of the cycle of poverty.
2. **"Protecting" the Girl's Sexuality:** In some cultures, marrying a girl young is thought to "protect" the girl's sexuality and the **family's honour**.
3. **Customs and Traditions**: The prevalence of customary practices like **dowry** also leads to an increase in child marriage. Generally, the amount of dowry rises with age of the girl (beyond a certain limit). So families prefer to marry their girls young.
4. **Security:** Parents often marry their daughters off young to "secure" a **good future for them**. Abuse, rape, and other crimes against girls, also makes parents turn to child marriage as a way to protect their daughters.
5. **Discrimination based on gender:** Child marriage is a manifestation of discrimination against girls and women. According to a **UNICEF report** on '**Child Marriage and the Law**', child marriage a major manifestation of gender based discrimination.
6. **Laxity in Implementation of Laws:** Laxity in implementation of laws like the Prevention of Child Marriage Act, 2006, non-registration of marriages, also increase the child marriage in India.

Conclusion

As millions participate in pledges, crucial efforts not only challenge deep-rooted social norms but also align with Sustainable Development Goal 5.3 and the vision of a Viksit Bharat. Sustained collective action, from government, communities, NGOs, and citizens, holds the promise of breaking cycles of inequality, ensuring every child's right to education, health, and autonomy. With unwavering commitment, India can achieve a truly child marriage-free future, empowering generations of girls and boys to thrive.

Building legal and judicial capacity

Source: The post **"Building legal and judicial capacity" has** been created, based on **"Building legal and judicial capacity"** published in **"BusinessLine" on 10th January 2026.**

UPSC Syllabus: GS Paper-2- Governance

Context: India has emerged as the world's fourth-largest economy with a GDP of about $4.18 trillion and is projected to reach $7.3 trillion by 2030. As India's role in the global economy expands, strengthening legal and judicial capacity has become a critical component of economic governance.

Changing Nature of Economic Governance

The economic reforms of 1991 marked a shift from a state-controlled economy to a market-driven model with greater private sector participation. This transition led to a surge in foreign direct investment, infrastructure development, corporate restructuring, banking disputes, and the growth of the digital economy. However, the judiciary remains largely structured around a 20th-century dispute resolution model, while facing complex 21st-century commercial realities.

Judicial Pendency and Economic Impact

1. There are approximately 4.78 crore cases pending across all levels of the Indian judiciary.
2. Government entities are involved in nearly 50 per cent of litigation, much of which relates to taxation, regulation, infrastructure, and contractual disputes.
3. More than one crore cases are civil in nature, and over 57 per cent of these have been pending for more than one year.
4. Such delays increase uncertainty in the corporate and commercial environment.

Rise in Commercial and Regulatory Litigation

1. Institutional reforms such as the Insolvency and Bankruptcy Code (IBC) have led to exponential growth in specialised commercial litigation.
2. As of March 31, 2025, the National Company Law Tribunal (NCLT) alone had over 14,961 pending cases.
3. This reflects the growing burden of complex economic adjudication on courts.

Global Rankings and Enforcement of Contracts

1. India significantly improved its Ease of Doing Business ranking to 63 in 2020 due to policy reforms. However, **India ranks poorly at 163rd in enforcing contracts.**
2. On average, **it takes nearly 1,500 days to resolve a standard commercial dispute at the trial court level.** This undermines investor confidence and hampers economic growth.
3. **Need for Judicial Capacity Building:** Judges must be intellectually and institutionally equipped to handle complex economic and regulatory disputes. Long-term, structured judicial education is essential to improve the quality, speed, and consistency of adjudication.

Key Areas Requiring Judicial Training

1. **Corporate Governance and Company Law:** Judges need training in board structures, fiduciary duties, shareholder agreements, mergers and acquisitions, and related-party transactions. Emerging areas such as ESG norms, shareholder activism, and digital corporate governance must be included in judicial education. Judicial academies should collaborate with academics, industry experts, regulators, and law firms.
2. **Commercial Contracts and Complex Transactions:** Judges must understand infrastructure contracts, public–private partnership models, project finance, and construction contracts. Knowledge of risk allocation, indemnities, warranties, and financial covenants must be strengthened. Exposure to international and cross-border commercial disputes is increasingly necessary.
3. **Financial, Banking, Insurance, and Insolvency Law:** Judges should be trained in insolvency frameworks, restructuring mechanisms, and valuation methodologies. Law-and-economics-based analysis is critical for effective adjudication in financial disputes.Global best practices, such as specialised judicial education programmes in US bankruptcy courts, provide useful models.
4. **Competition Law and Market Economics:** Judges need foundational understanding of market definition, dominance, cartel behaviour, and economic assessment tools. Training in industrial economics and competition analysis is essential for adjudicating antitrust matters.
5. **Technology, Digital Economy, and Data Governanc**e: Rapid technological change requires judges to understand IT contracts, intellectual property, fintech, crypto-assets, and data protection. Issues of cyber security, artificial intelligence, and algorithmic accountability are becoming central to commercial disputes. International examples such as Singapore and Estonia highlight the importance of structured judicial training in AI and technology law.

Way Forward

1. Judicial capacity building must be treated as an institutional reform linked to India's economic ambitions.
2. Specialisation, continuous training, and interdisciplinary learning should be integrated into judicial education.
3. Reimagining court processes for commercial and economic disputes will help reduce pendency and improve contract enforcement.
4. Addressing judicial delays will strengthen investor confidence and support sustainable economic growth.

Conclusion: As India transitions into a major global economic power, the effectiveness of its judiciary in handling complex economic matters will be decisive. Building legal and judicial capacity is not merely a judicial reform but an economic necessity.

Question: "India's growing economic complexity requires a corresponding strengthening of legal and judicial capacity." Discuss the challenges faced by the Indian judiciary in adjudicating commercial and economic disputes and suggest measures to address them.

Pesticides Management Bill, 2025: Revised draft but old gaps remain

Source: The post **"Pesticides Management Bill, 2025: Revised draft but old gaps remain" has** been created, based on **"Pesticides Management Bill, 2025: Revised draft but old gaps remain"** published in **"Down to Earth" on 10th January 2026.**

UPSC Syllabus: GS Paper-3- Indian Economy

Context: The Union Ministry of Agriculture and Farmers Welfare released the draft of the **Pesticides Management Bill, 2025** on 7 January 2026. The Bill aims to regulate the manufacture, import, sale, and use of pesticides in India and seeks to replace the **Insecticides Act of 1968**, which has been in force for over five decades.

Objective of the Bill

1. The draft legislation is intended to ensure effective regulation of the pesticide sector, minimise risks to humans, animals, non-target organisms, and the environment, and promote the use of **biological pesticides and traditional knowledge-based solutions**.
2. It also aims to improve transparency, traceability, and service delivery to farmers, thereby promoting ease of living.

Key Features of the Draft Bill

1. **Quality and Transparency:**
    a. Mandatory printing of QR codes or labels on seed packets to disclose seed health, expected performance, and producer certification.
    b. Centralised Seed Traceability Portal to track production and distribution.
    c. Value for Cultivation and Use (VCU) trials to assess varietal traits and performance, with results disclosed to farmers.
2. **Institutional Architecture**
    a. Central Seed Committee (CSC) with 27 members and State Seed Committees (SSC) with 15 members per state.
    b. Seed price regulation during emergencies is the responsibility of the Union government, with limited state involvement.
3. **Definition of Farmer:** The Bill defines a farmer as a person who cultivates or supervises land or conserves wild species.
4. **Punishment and Penalties**
    a. Graded penalties for offences such as the sale of non-registered seeds, ranging from written notices to fines up to ₹30 lakh and cancellation of registration.
    b. Lack of compensation provisions for farmers; experts propose a Seed Compensation Fund to channel penalties for farmer relief.
5. The Bill regulates the entire lifecycle of pesticides, from **manufacture to use**. It provides for the **constitution of a Central Pesticides Board**, which will recommend pesticides for inclusion in the Act, define good manufacturing practices, set guidelines for pesticide disposal, and frame protocols for handling poisoning incidents.
    a. State governments can issue notifications to prohibit the **sale, distribution, or use of pesticides or specific batches** for a period not exceeding one year, which are then reviewed by a **Registration Committee** formed by the Union government.
    b. The Registration Committee includes members from **ICAR, Drugs Controller General of India, Ministry of Environment, Chemicals and Fertilizers**, and a Plant Protection Advisor.

Major Gaps and Concerns

1. **Limited Powers for State Governments:** State governments do not have regulatory or punitive powers, which limits their ability to effectively act against unsafe or banned pesticides.

2. **Weak Language on Risk Minimisation:** The Bill uses the phrase "strive to minimise risk" instead of mandating actual risk minimisation, weakening enforceability.
3. **Absence of Criminal Liability:** There is no provision to hold manufacturers, distributors, or marketers criminally liable in cases of misuse, poisoning of water bodies, or suicides linked to pesticide use.
4. **Missing Provisions for Price Regulation and Redressal Mechanisms:** The draft does not address pricing of pesticides or mechanisms for compensating affected parties.
5. **Delayed Legislative Reform:** The Bill has faced repeated delays since 2008, with previous drafts introduced in 2018 and 2020, indicating slow progress in updating India's pesticide regulatory framework.
6. **Centralised Decision-making:** The Central Pesticides Board functions in an advisory capacity, and state governments are excluded from key decision-making processes, affecting accountability.

Way Forward

1. State governments should be granted **greater regulatory and enforcement powers**, including the ability to impose penalties.
2. Clear **criminal liability provisions** should be included to ensure accountability of manufacturers, distributors, and marketers.
3. Stronger legal language should mandate **actual risk minimisation** rather than aspirational targets.
4. Price regulation and grievance redressal mechanisms for farmers should be incorporated.
5. Central and state coordination should be strengthened to ensure timely and effective implementation.

Conclusion: The Pesticides Management Bill, 2025 is a step towards modernising India's pesticide regulatory system. However, its current draft leaves critical gaps in **state powers, enforcement, accountability, and criminal liability**. Addressing these gaps is essential to protect **farmers, public health, and the environment**.

Question: Examine the key features of the Pesticides Management Bill, 2025. Discuss the gaps in the draft legislation and suggest measures to make it more effective in regulating pesticides in India.

The Phaltan case is also about a victim's dignity

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

Introduction

The suicide of a young woman doctor in Phaltan exposes deep failures in India's gender justice system. Despite new criminal laws claiming to be women-centric, the case shows how victims continue to face administrative neglect, institutional insensitivity, and public character assassination. The core issue is not only sexual crime but also the destruction of a victim's dignity after the offence.

Major concerns in the criminal justice response to crimes against women

1. Administrative failure to protect victims: The victim's repeated pleas for help were allegedly ignored by authorities. This institutional inaction became the first injustice, as protection mechanisms failed at the most critical stage.

2. Secondary victimisation: After the victim's death, her personal life became subject to public scrutiny. This shifted attention from the alleged crime to her conduct, causing fresh harm to her dignity.

3. Institutional victim-blaming: Public statements by a women's commission authority revealed private communications. Such conduct reinforced the culture of questioning victims instead of supporting them.

4. Extra-judicial creation of a social verdict: Public commentary created moral judgments outside legal processes. This "social verdict" effectively tried the victim's character without due process.

5. Violation of dignity: Although criminal law prohibits character attacks during trials, similar harm occurred outside courtrooms. This defeated the purpose of victim-protection laws.

6. Gap between progressive law and patriarchal mindset: Legal reforms have advanced, but social attitudes remain rooted in patriarchy. This disconnect weakens the real impact of gender-justice legislation.

7. Lack of institutional empathy: Institutions failed to respond with sensitivity to trauma. The absence of empathy worsened the victim's psychological distress.

8. Power imbalance in professional environments: Women professionals, especially doctors, face harassment within hierarchical systems. Unequal power relations silence complaints and increase vulnerability.

9. Denial of procedural fairness to families: The victim's family was denied access to investigation reports. This deepened their trauma and eroded trust in the justice process.

Initiatives taken to address gender-based crime

1. End of character assassination in sexual offence cases: The Criminal Law (Amendment) Act, 2013 marked a shift towards protecting the dignity of sexual offence victims. It was enacted to dismantle the long-standing practice of attacking a victim's character during investigation and trial.

2. Ban on character evidence to imply consent: Section 53A of the Indian Evidence Act, now Section 50 of the Bharatiya Sakshya Adhiniyam, clearly states that a woman's personal life is irrelevant to consent. Friendships, messages, habits, or lifestyle cannot be used to justify or excuse sexual violence.

3. Restriction on humiliating cross-examination: Section 146 of the Indian Evidence Act, now Section 48 of the Bharatiya Sakshya Adhiniyam, prohibits questions on a victim's general immoral character or past sexual experience. Cross-examination must remain limited to facts directly related to the alleged offence.

4. Judicial rejection of victim-blaming: In *State of Punjab vs Gurmit Singh & Ors. (1996)*, the Court held that a woman's testimony cannot be doubted based on perceived morality. It warned against dismissing evidence on

notions of "loose morals" and affirmed that every woman, regardless of character, has the right to refuse sexual intercourse. The Court also condemned excessive scrutiny and character attacks as adding insult to injury.

5. Protection of victim identity: Section 228A of the Indian Penal Code, now Section 72 of the Bharatiya Nyaya Sanhita, prohibits disclosure of a sexual assault victim's identity. This protection extends even after death, unless permitted by a competent authority, to prevent public shaming.

6. **Key Existing Acts**: Important legislation includes the Protection of Women from Domestic Violence Act, 2005; the Sexual Harassment of Women at Workplace Act, 2013; the Criminal Law (Amendment) Act, 2018; and the POCSO Act, 2012

7. **Fast Track Special Courts (FTSCs)**: Financial support is provided for FTSCs to expedite cases related to rape and the POCSO Act, with over 750 courts operating nationwide.

8. **Witness Protection Schemes**: Provisions exist within the BNSS to protect witnesses from intimidation.

9. Institutional Support Mechanisms

- **One Stop Centres (OSCs)**: Under the 'Sambal' scheme, these centers offer comprehensive support for women affected by violence, including medical, legal, and psycho-social aid, police facilitation, and temporary shelter.
- **Women Helplines (181)**: A 24/7 toll-free helpline provides support to women in distress and is integrated with the ERSS-112 system.
- **Women Help Desks (WHDs)**: Located in police stations, these desks make the police more accessible to women and connect them with experts and NGOs.
- **SHe-Box Portal**: An online platform for reporting and tracking workplace sexual harassment complaints.

Way forward

1. Training and sensitisation: Police, prosecutors, and judges require regular sensitisation on trauma and dignity. Empathy must guide responses to sexual crimes.

2. Ending tolerance of victim-blaming: Society must reject narratives that question victims. Investigation culture must become truly victim-friendly.

3. Strengthening institutional capacity: Forensic infrastructure, women's desks, and legal aid need expansion. This will support safeguards under new criminal laws.

4. Accountability of public institutions: Authorities must avoid public commentary that harms dignity or prejudices cases. Restraint is essential.

Conclusion

The Phaltan case shows that gender justice fails when dignity is ignored. Laws already prohibit character assassination, but institutions and society violate their spirit. Justice requires empathy, restraint, and accountability. Until secondary victimisation ends, women-centric laws will remain ineffective, and victims will continue to suffer beyond the original crime.

Question for practice:

Examine how the Phaltan case reveals the gap between women-centric criminal laws and their actual implementation, particularly in protecting a victim's dignity after a sexual offence.

Source: The Hindu

Why Trump's Russia sanctions Bill could effectively end India's exports to US

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

Introduction

Why Trump's Russia sanctions Bill could effectively end India's exports to US is rooted in the scale of penalties proposed and the legal strategy behind them. The Bill proposes a **500 per cent tariff on all goods and services** imported from countries that continue trading in Russian-origin uranium and petroleum products. India, which imports Russian oil and already faces steep US tariffs, stands directly exposed. The timing of the Bill, alongside legal scrutiny of US tariff powers under IEEPA, further increases the risk for India's trade, investments, and negotiating position.

About International Emergency Economic Powers Act (IEEPA)

1. Nature and scope of IEEPA: IEEPA is a US federal law enacted in 1977 that allows the President to regulate international trade after declaring a national emergency. It has been used to impose sanctions, restrict trade, and freeze foreign assets.

2. Evolution of US sanction powers: IEEPA replaced the Trading with the Enemy Act (TWEA)(1917) , which was meant for wartime use but continued during peacetime. Over time, IEEPA became the backbone of US economic sanctions against foreign states and entities.

3. Judicial challenge to tariff use: The Trump administration's use of IEEPA to impose reciprocal tariffs is under legal challenge. Three US courts have already ruled against the administration, questioning whether such tariff powers fall within IEEPA.

4. New Bill changes the legal position: The Russia sanctions Bill provides direct legislative authority for tariffs. This bypasses judicial risks linked to IEEPA and strengthens the legal foundation for imposing extreme trade penalties.

India's Concerns related to IEEPA and the Russia Sanctions Bill

1. Scale of tariff escalation: The Bill mandates a **minimum 500 per cent duty** on all imports from countries trading Russian oil and uranium. This level of tariff goes far beyond existing US trade actions.

2. Risk of export collapse: India's exports to the US are valued at **over $85 billion annually**. Trade experts state that a 500 per cent tariff would make Indian goods commercially unviable and effectively end exports to the US.

3. Existing tariff pressure already high: India already faces **50 per cent US tariffs**, which are hurting labour-intensive sectors. **Textiles, footwear, and marine products** are among the most affected.

4. Absence of trade agreement protection: India has not signed a trade deal with the US. This leaves New Delhi without exemptions or safeguards against unilateral US tariff actions.

5. Uncertainty over product coverage: The scope of the Bill is unclear and may include products currently excluded from reciprocal tariffs. Items such as **electronics, pharmaceuticals, coffee, and tea** face fresh uncertainty.

6. Threat to fast-growing export segments: India has continued exporting mobile phones due to earlier exclusions. A broader interpretation of the Bill could disrupt this fastest-growing export category.

7. Weakening of negotiating leverage: As access to the US market shrinks, India comes under pressure to diversify exports quickly. This weakens India's bargaining power in trade negotiations with other partners.

8. Impact on ongoing trade talks: India is negotiating trade deals with the European Union, ASEAN, GCC, EAEU, Canada, SACU, Australia, Chile, Peru, and Bahrain. A weaker position can lead to steeper demands from partners.

8. Pressure on sensitive sectors: India has maintained firm red lines on agriculture and dairy in trade talks. A weaker negotiating position increases pressure to dilute these protections.

9. Investment uncertainty beyond trade: US tariffs have affected not only goods exports but also investment flows. Investors are delaying decisions due to uncertainty around the India–US trade relationship.

10. Stress on capital flows: A 2025 Bank of America research note states that US tariffs have stalled **FDI, FPI, and debt inflows**. Capital flows remain a key vulnerability for India.

11. Rupee and macroeconomic pressure: The rupee has weakened nearly **7 per cent in one year**, leading to over **9 per cent real effective exchange rate depreciation**. This weakness is linked to capital flow pressure and trade uncertainty.

Comparative Disadvantage vis-à-vis China

1. Lower export diversification: India's exports are not as diversified as China's. This limits India's ability to redirect trade when faced with US tariffs.

2. China's resilience under tariffs: Despite US tariffs, China recorded a **$1 trillion trade surplus in 2025**. Its strength in sunrise sectors and control over critical minerals provides resilience.

3. Technology gap in exports: Indian exporters state that Indian goods are being replaced by foreign products due to lower technology intensity. This weakens India's ability to withstand tariff shocks.

4. Strategic leverage difference: China, the largest buyer of Russian oil, has multiple economic and strategic tools to counter US pressure. India lacks similar leverage.

Way Forward

1. **Pursue a trade agreement with the US immediately:** India should urgently negotiate a trade deal or interim trade arrangement with the US to secure tariff relief and exemptions. The Russia sanctions Bill gives clear legal backing to extreme tariffs, leaving little scope for judicial reversal.

2. **Reduce dependence on the US market:**India must deliberately diversify its export markets to limit vulnerability to unilateral US trade actions. Heavy reliance on the US has magnified the impact of tariff shocks.

3. **Restore investor confidence through trade clarity:** Uncertainty over tariffs has stalled FDI, FPI, and debt inflows and weakened the rupee. A clear trade framework with the US is necessary to stabilise capital flows and macroeconomic conditions.

4. **Actively promote multipolar economic arrangements:** India should push for a multipolar global economic order to counter unilateral coercive trade practices. This is necessary in a context of weak multilateral institutions and concentrated economic power.

5. **Address domestic structural weaknesses:** Low manufacturing share, high unemployment, weak private investment, poor research output, and under-utilised PSUs have increased India's exposure to external shocks. Structural reform is essential to reduce trade dependence.

6. **Build durable domestic and international coalitions:** India should move beyond transactional diplomacy and build bipartisan consensus at home and collective platforms with the Global South. Coordinated positions strengthen resistance to external economic pressure.

Conclusion

The Russia sanctions Bill turns US trade policy into a powerful economic weapon with serious spillovers for India. A 500 per cent tariff threatens exports, investments, and currency stability. With limited diversification and no trade agreement with the US, India faces high vulnerability. The episode exposes deep structural weaknesses in export competitiveness and negotiating capacity.

Question for practice:

Discuss how Trump's Russia sanctions Bill could affect India's exports and trade position with the United States.

Source: Indian Express

Lowering of the Age of Consent

News- On January 10, the Supreme Court (SC), in *State of Uttar Pradesh vs Anurudh & Anr.*, formally acknowledged the growing misuse of the POCSO Act, 2012 in cases involving **consensual romantic relationships** between adolescents, where one party is a minor. The Court urged the Union government to **consider corrective measures to prevent the harsh application of POCSO** in genuine adolescent relationships. This judgment has revived the national debate on the age of consent in India.

What is the Legal Framework Governing Age of Consent in India?

Current Position

- The age of consent in India is 18 years, as set by the gender-neutral POCSO Act, 2012.
- Anyone below 18 is legally classified as a "child", rendering their consent to sexual activity legally irrelevant.
- Sexual activity involving a minor is treated as statutory rape, irrespective of consent.
- Section 19 of POCSO mandates compulsory reporting of suspected or known offences.

Integration with Criminal Law

- The Criminal Law (Amendment) Act, 2013 **amended Section 375 IPC**, raising the age of consent from **16 to 18**, aligning it with POCSO.
- **The Bharatiya Nyaya Sanhita (BNS), 2023, retained this position**: Section 63 defines rape to include sexual acts with a woman under 18, with or without consent.

What are the arguments for Revisiting the Age of Consent?

1. **Rise in Consensual Relationship-** There has been a **significant rise in POCSO cases involving adolescents aged 16–18**, where girls often testify that the relationship was consensual.

2. **Lowering age of sexual experience-** According to the **NHFS-4 data**, **11% of girls had their first sexual experience before age 15**. **39% of girls** had their first sexual experience **before age 18**.

3. **Rise in false POCSO Cases-** According to the Enfold Study (2016–2020) of 7,064 POCSO judgments, 24.3% involved romantic relationships. In 82% of such cases, victims refused to testify against the accused.

4. **Lack of acknowledgement of sexual autonomy-** The law **fails to acknowledge adolescent sexual autonomy** among **16–18-year-olds capable** of informed consent.

5. **Misuse of the intent of the law-** POCSO was intended to combat sexual abuse, not criminalise consensual adolescent romance. Blanket criminalisation leads to misuse by disapproving parents, clogging courts and harming adolescents.

6. **Does not align with Developed countries Standard-** Many Western democracies (e.g., U.K., Canada, EU countries) set the age of consent at 16, with safeguards such as 'close-in-age' or 'Romeo–Juliet' exemptions.

What are the arguments Against Lowering the Age of Consent?

1. **Increase in exploitation-** A lower age risks weakening deterrence, facilitating trafficking, grooming, and exploitation under the guise of consent.
2. **Present laws provide clear criterion-** The current "**bright-line rule**" under POCSO and BNS provides a clear, objective standard, avoiding subjective assessments of maturity or willingness.
3. **Lack of emotional independence-** Children often lack the **emotional independence to resist coercion or report abuse**, making consent illusory. Child abuse often involves persons in positions of

trust: A 2007 Ministry of Women and Child Development study found over 50% of abusers were known to the child.

4. **Encouragement to premature sexual activity-** Lowering the age could encourage premature sexual activity **without emotional maturity**.

What has been the stand of the legislature and Judiciary on the issue?

Legislative consistency of opposing the lowering of age

Parliament has repeatedly rejected lowering the age of consent. **Justice Verma Committee** recommended 16 years, but Parliament raised it to 18 in 2013. **240th Parliamentary Standing Committee Report (2011) rejected** recognising minor consent in POCSO.

Law Commission's 283rd Report (2023) warned that lowering the age would make POCSO a "paper law" and undermine efforts against child marriage, prostitution, and trafficking.

Stand of the Judiciary

High Court Perspectives	Delhi HC in ***State vs Hitesh, 2025***, called for recognition of consensual adolescent relationships free from coercion. Bombay HC in **Ashik Ramjaii Ansari, 2023**, emphasised sexual autonomy as both the right to engage in consensual activity and the right to protection. Delhi HC in the ***Mohd. Rafayat Ali***, took a strict statutory interpretative stance and reaffirmed that consent is legally irrelevant under POCSO if the victim is under 18.
Supreme Court	Overturned a Calcutta HC acquittal involving a 14-year-old. Reaffirmed that POCSO does not recognise consensual sex with minors. August 19, 2025, Justice B.V. Nagarathna observed that romantic relationships near the age of majority deserve differential consideration, noting the trauma caused when boys are jailed following parental POCSO complaints over elopement.

What should be the Way forward?

While **only Parliament can amend the age of consent**, the SC must clarify inconsistencies between statutory law and High Court rulings to ensure uniform application.

Avoid blanket ban- Avoid a blanket reduction to 16, which risks diluting child protection.

Introduce 'close-in-age' exemptions- Introduce 'close-in-age' exemptions for 16–18-year-olds, within a 3–4 year age gap, with: mandatory judicial scrutiny to detect coercion or abuse and strong safeguards against exploitation.

Strengthening consent education- Strengthen education on consent, healthy relationships, and emotional resilience.

Accompany Legal reform by positive measures- Provide Comprehensive sex education, Accessible sexual and reproductive health services, Gender-sensitive law enforcement and Social support systems for adolescents, especially girls.

Conclusion

The core challenge is not merely deciding whether the age of consent should be 18 or 16, but how the law can differentiate consensual adolescent relationships from exploitative ones. A nuanced, calibrated reform—rather than an all-or-nothing approach—can protect children while preventing the unjust criminalisation of adolescents navigating consensual intimacy.

Source: The Hindu

Design Linked Incentive Scheme

Context- Semiconductor chips are critical for healthcare, transport, communications, defence, space, AI, and digital infrastructure. Global demand is rising rapidly due to digitalisation and automation.

However, Semiconductor manufacturing is concentrated in a few geographies, making global supply chains fragile and disruption-prone. India aims to emerge as a strategic, reliable semiconductor hub through- **Semicon India Programme** and **India Semiconductor Mission (ISM).**

What is the Strategic Importance of Fabless Chip Design?

Fabless semiconductor design represents the highest-value segment of the semiconductor value chain. Fabless semiconductor design represents the highest-value segment of the semiconductor value chain.

A robust fabless model offers the following advantages:

- High value addition
- Lower capital expenditure compared to fabs
- Ownership of IP
- Reduced imports
- Attraction of manufacturing
- Long-term technological leadership

What is the Design Linked Incentive (DLI) Scheme?

It was launched in December 2021 under the **Semicon India Programme**. It is implemented by **MeitY**, with **C-DAC** as the nodal agency.

Its objective is to **build a self-reliant, indigenous semiconductor design ecosystem** and **support startups and MSMEs from idea to silicon to productisation**.

Eligibility under DLI Scheme- Startups (as per DPIIT, 2019), MSMEs (as per MSME Ministry notification, 2020) and Domestic companies owned by resident Indian citizens (FDI Policy, 2017).

Scope of support covers the full design lifecycle of Integrated Circuits (ICs), Chipsets, Systems-on-Chip (SoCs) and Systems and IP cores.

DLI aims to - Increase indigenous semiconductor content, Reduce import dependence, and Strengthen supply-chain resilience.

Financial Incentives under DLI

Product Design Linked Incentive	**Reimbursement** up to 50% of eligible expenditure **Cap:** ₹15 crore per application Applicable to ICs, chipsets, SoCs, systems, and IP cores
Deployment Linked Incentive	**Incentive of 6%–4%** of net sales turnover for 5 years **Cap:** ₹30 crore per application Minimum cumulative net sales (Years 1–5): ₹1 crore for startups/MSMEs and ₹5 crore for other domestic companies Design must be successfully deployed in electronic products

What are the Institutional Frameworks Supporting Semiconductor Design?

Ministry of Electronics and IT (MeitY)	• Policy leadership and coordination • Anchors national semiconductor initiatives • Introduced DLI to help Indian firms move up the value chain
Semicon India Programme (SIM)	• Total outlay: ₹76,000 crore • Supports manufacturing, design, and display ecosystems • Provides end-to-end support from design to productisation
Chips to Startup (C2S) Programme	• Capacity-building initiative across academic institutions • Target: 85,000 industry-ready professionals • Covers B.Tech, M.Tech, and PhD levels in chip design
Microprocessor Development Programme	• Implemented by C-DAC, IIT Madras, IIT Bombay • Delivered indigenous open-source processors: VEGA, SHAKTI and AJIT • Strengthens self-reliance in CPU architectures

What are the success stories under the DLI Scheme?

24 chip-design projects sanctioned (e.g., video surveillance, drones, energy meters, microprocessors, satellite communications, IoT SoCs). 95 companies provided access to industry-grade EDA tools

Notable Beneficiaries

Vervesemi Microelectronics- 110+ IPs, 25 IC variants, 10 patents. Motor-control chips for consumer appliances and EVs. Pilot-lot sampling completed; global customers engaged

InCore Semiconductors- Indigenous RISC-V processor IPs. Silicon-proven across 180 nm to 16 nm nodes. Targeting entry-level smartphones and edge AI.

Netrasemi- Designed India's first indigenous AI SoC at 12 nm. Applications in surveillance, robotics, drones. Strong VC backing; multiple tape-outs planned.

Conclusion

There has been a Strategic Impact of the DLI Scheme. It anchors India in the most value-intensive segment of semiconductors design, reduces dependence on imported IPs and chips and enhances resilience against geopolitical and supply-chain disruptions.

With silicon-validated designs moving toward mass manufacturing and deployment, India is emerging as a credible global semiconductor design player and strengthening its self-reliant ecosystem.

Source: PIB

Faster is not fairer in POCSO case clearance numbers

UPSC Syllabus GS-2: Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; Mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections.

Introduction

India achieved a 109% disposal rate in POCSO cases in 2025 through fast track special courts, closing more cases than were newly registered. This achievement is widely projected as progress against child sexual abuse. However, the experience on the ground shows that faster disposal has coincided with falling conviction rates, weak investigations, delayed support systems, and sustained hardship for child survivors and their families.

POCSO Framework

The POCSO Framework was established by the POCSO Act, 2012 to protect children below 18 years from sexual abuse, assault, harassment, and pornography. It provides child-friendly and gender-neutral procedures for reporting, investigation, and trial of offences.

The framework also ensures strict punishment for offenders, institutional responsibility, victim support, and a dignity-based, trauma-free justice process through Special Courts..

Key Components of the POCSO Framework

1. **Clear Definition of Child:** The Act defines a child as **any person below 18 years**, creating a uniform and non-negotiable protection threshold.

2. Wide Spectrum of Offences: It criminalises **penetrative sexual assault, non-penetrative sexual assault, sexual harassment, and use of children for pornography**, including aggravated forms.

3. **Enhanced Punishments (2019 Amendment):** Minimum punishment for penetrative sexual assault increased to **10 years**; for victims below **16 years**, punishment ranges from **20 years to life imprisonment**. **Death penalty** introduced for extreme aggravated offences.

4. **Mandatory Reporting Obligation:** All persons, including teachers, doctors, and institutions, must report suspected offences. **Failure to report is punishable**.

5. **Child-Friendly Investigation Procedures:** Statements must be recorded in a **non-intimidating environment**, preferably at the child's residence, ensuring dignity and emotional safety.

6. Special Courts for Speedy Justice: Dedicated **Special POCSO Courts** are mandated to ensure **time-bound and sensitive trials**.

7. **Protection of Child's Identity:** Strict **confidentiality provisions** prohibit disclosure of the child's identity by media or authorities.

8. **Gender-Neutral Protection:** The law applies **equally to all children**, irrespective of gender, recognising diverse victim profiles.

9. **Time-Bound Trial Framework:,**Evidence recording should occur within **30 days**, and trials should ideally conclude within **one year** to reduce secondary trauma.

What are the shortcomings in the working of the POCSO Act?

1. **At the Trial Stage**: The challenges at this stage include:

- Lack of Special Courts in all districts.
- Lack of Special Public Prosecutors for Special Courts.
- Non-compliance with the timelines prescribed by the Act.

2. **At the Post-Trial Stage**: While final compensation may find a mention in the sentence order, interim compensation finds no mention in any orders of the Special Courts. Often the disbursal of compensation is delayed.

3. Hurdles in implementation: There are several hurdles:

- The slow pace of designation of Special Courts.
- Delay in investigation and filing of chargesheets.

- Non-appointment of support persons for child victims.

- Delay in disposal of POCSO Cases.

4. **Pendency of Cases:** The pendency of POCSO cases has reached 85% in 2020.

5. **Legal Aids Create Nuisance**: Many legal aids add extra information to make the case stronger. Many times false information is added in the complaint. This only creates issues in the moving forward of the case.

6. **Inadequate awareness about the POCSO Act**: A 2020 study on Child Sexual Abuse Awareness and Attitudes by World Vision India found that only 35% children and 32% caregivers were aware about the POCSO Act. The awareness varied across urban, rural and tribal areas with tribal areas being the least aware.

7. **Inadequate Training of Various Stakeholders**: Child Protection System involves a lot of stakeholders like Private and Government Medical Practitioners, Juvenile Justice Boards, Law Enforcement Officials (Police), Judges, Public Prosecutors etc. All stakeholders should be aware of their own as well other stakeholders' responsibilities. At present, there is lack of adequate training for many stakeholders e.g., Private medical practitioners are usually the first point of contact for child victims but no mandatory training is provided to enable them to handle cases of child sexual abuse effectively.

Expansion of Fast Track Courts For POCSO case

1. Growth of fast track courts: India currently operates 773 fast track special courts, with 400 dedicated to POCSO cases. These courts were launched in October 2019 with ₹1,952 crore from the Nirbhaya Fund.

2. Disposal performance: By September 2025, these courts disposed of 3,50,685 cases. They handle an average of 9.51 cases per month, compared to 3.26 cases in regular courts.

3. Perception of backlog reduction: Higher disposal rates have created the impression that pendency is being resolved. This perception focuses on numbers closed rather than quality of outcomes delivered.

Major concern related to Expansion of Fast Track Courts For POCSO case

1. Decline in conviction rates: Conviction rates fell from 35% in 2019 to 29% by 2023. With rising disposal rates, convictions should have increased, but they instead dropped sharply.

2. Fast track courts underperform on outcomes: Fast track courts record an average conviction rate of only 19%. In several States, acquittals exceed convictions, showing that speed has weakened case strength.

3. Hasty investigations and delayed forensics: Investigations are rushed, charge sheets remain incomplete, and forensic reports are delayed. These weaknesses are prominent in heavily burdened courts.

4. Lack of child-specific support during trials: Children require trained support persons, sensitive police handling, and continuous care during trials. When these systems remain absent, cases weaken and survivors disengage.

5. Non-implementation of support person system: Section 39 of the POCSO Act requires support persons for child survivors. The Supreme Court mandated their appointment in 2021, and detailed guidelines were

issued in 2024 by the National Commission for Protection of Child Rights, yet several States have not empanelled them, causing cases to collapse before trial.

6. Absence of para-legal volunteers at police stations: Most police stations still lack para-legal volunteers for POCSO cases. Andhra Pradesh has PLVs in only 42 of 919 police stations, while Tamil Nadu has none across 1,577 stations. As a result, in many cases families approach police stations alone, face pressure, and struggle to register cases promptly.

7. Problematic judicial practices: Courts have sometimes diluted convictions after accused offered marriage to survivors once they became adults. Such practices push survivors into lifelong ties with abusers.

8. Delayed and ineffective compensation: Although interim compensation is legally allowed, courts often wait for final verdicts. Survivors receive support years later, when education and income losses are already irreversible.

9. Economic burden on families: Marginalised families borrow money for travel and legal expenses. Daily wage earners lose work, and caregivers leave jobs, while state relief remains inadequate.

Conclusion

The expansion of fast track courts has improved disposal numbers but weakened justice outcomes under the POCSO framework. Falling convictions, poor investigations, missing support systems, delayed compensation, and high family costs show that speed alone cannot protect children. Justice must be measured by accountability, care, and outcomes, not by clearance statistics.

Question for practice:

Examine how the expansion of fast track courts under the POCSO Act has increased case disposal rates but weakened conviction outcomes and child protection support mechanisms.

Source: The Hindu

The year gone by, the Quad's year of interregnum

UPSC Syllabus- GS Paper 2- International Organisations- Their structure and Mandate

Introduction

The year 2025 marked a phase of pause and recalibration for the Quad amid deep global geopolitical churn. The return of Donald Trump as U.S. President reshaped American priorities, while the Indo-Pacific emerged as the most contested region due to rising U.S.–China competition. In this context, the Quad continued to matter, even as it entered a clear phase of interregnum marked by strategic uncertainty and leadership transition.

What is the Quad Grouping?

Quadrilateral Security Dialogue (QSD) or Quad: It is an informal strategic forum among like-minded democracies across the Indian and the Pacific Ocean, which is aimed to ensure and support a 'free, open and prosperous' Indo-Pacific region. It comprises of the USA, India, Japan, and Australia.

Evolution of the Quad

1. **Humanitarian origins:** The Quad emerged in 2004 after the Indian Ocean tsunami as a coordination platform for humanitarian assistance and disaster relief.

2. **Early withdrawal:** Member states stepped back due to domestic priorities and fears of being perceived as containing China, leading to loss of momentum.

3. **Strategic revival:** In 2007, Shinzo Abe articulated an Indo-Pacific vision, which gained substance in 2017 as the Quad was revived to support a rules-based order amid China's growing regional presence.

4. **Institutional deepening:** Between 2021 and 2024, the Quad held six leader-level summits and multiple ministerial meetings, transforming it into an action-oriented cooperation framework.

Importance of the Quad

1. **Strategic balance:** The Quadrilateral Security Dialogue acts as a counterbalance to China's growing influence by promoting a free, open, and inclusive Indo-Pacific grounded in shared rules and norms.

2. **Rules-based order:** The Quad consistently supports ASEAN centrality, UNCLOS, and peaceful dispute resolution, reinforcing stability in contested regions such as the South China Sea.

3. **Maritime security:** The grouping strengthens maritime security through coordinated initiatives like maritime domain awareness and joint naval exercises, improving monitoring and response capacity across the Indo-Pacific.

4. **Operational cooperation:** Mechanisms such as the Indo-Pacific Partnership for Maritime Domain Awareness and the annual Malabar naval exercise enhance interoperability and protect sea lanes.

5. **Economic cooperation:** The Quad promotes resilient economic growth through infrastructure development and coordination, offering credible alternatives to debt-driven development models in the region.

6. **Infrastructure alternatives:** Platforms like the Quad Infrastructure Coordination Group help design and finance transparent and sustainable infrastructure projects across Indo-Pacific states.

7. **Supply chain resilience:** The Quad works to reduce over-dependence on China in critical minerals, semiconductors, and emerging technologies to prevent economic coercion and supply disruptions.

8. **Technology security:** Initiatives on semiconductor supply chains and cable connectivity aim to secure critical digital and industrial infrastructure vital for economic and national security.

9. **Public goods delivery:** The Quad has expanded beyond security to provide public goods such as vaccines and health cooperation through initiatives like the Quad Vaccine Partnership.

10. **Humanitarian response:** The grouping plays a key role in humanitarian assistance and disaster relief through logistics coordination and timely support during regional disasters..

Evaluation of the Quad in 2025

1. **Leadership pause:** The Quad failed to convene a leader-level summit in 2025 despite India being scheduled to host it, breaking the earlier rhythm of engagement.

2. **Policy transition:** Leadership changes in the United States and Japan introduced uncertainty, with new leaders yet to participate in Quad summits.

3. **Diplomatic continuity:** U.S. Secretary of State Marco Rubio hosted Quad Foreign Ministers in January and July 2025, signalling continued political priority.

4. **Operational resilience:** Initiatives such as Quad-at-Sea and port infrastructure cooperation continued, showing that collaboration had moved beyond symbolism.

5. **Strategic interregnum:** Developments in 2025 reflected recalibration rather than weakening, shaped by leadership change and regional uncertainty.

Challenges Faced by the Quad

1. **Anti-China perception:** The Quad is widely viewed as an anti-China alignment, with China calling it an "Asian NATO" and accusing it of promoting regional discord.

2. **Divergent priorities:** Quad members differ in threat perception and commitment levels, as seen during the 2020 Galwan Valley clashes when support for India did not translate into direct involvement.

3. **U.S. recalibration:** The Trump administration's 'America First' approach created uncertainty among partners about the consistency of U.S. strategic commitment.

4. **India–U.S. frictions:** U.S. positions on India–Pakistan issues, Kashmir, and tariffs related to India's oil purchases from Russia strained trust within the grouping.

5. **Institutional deficit:** The absence of a formal secretariat or treaty framework limits long-term planning, policy continuity, and execution capacity.

6. **China dependence:** Strong economic ties with China constrain Quad members' strategic choices, highlighted by trade retaliation against Australia and China's export embargoes on rare earths and critical minerals.

7. **Security divergence:** India's preference for strategic autonomy and reluctance toward formal military alliances slows deeper security cooperation.

8. **Expansion dilemma:** Including new members risks diluting cohesion and focus, raising concerns over effectiveness and internal consensus.

9. **ASEAN unease:** Some ASEAN states fear the Quad could increase regional polarization and weaken ASEAN's central role in Indo-Pacific dialogue.

Way Forward

1. **Summit urgency:** An early leader-level summit is essential to restore political momentum and reaffirm shared strategic priorities.

2. **Institutionalisation:** The Quad should move towards a more formal structure through a light secretariat and regularised meetings at working, ministerial, and leaders' levels.

3. **Security deepening:** Military cooperation should be strengthened by expanding the Malabar naval exercise to include advanced operations such as anti-submarine and amphibious warfare.

4. **Operational expansion:** Existing initiatives on maritime security, ports, and logistics should be scaled up to deliver visible outcomes across the Indo-Pacific.

5. **ASEAN engagement:** A structured Quad–ASEAN dialogue can align efforts on maritime security, infrastructure development, and regional economic resilience.

6. **Economic framework:** A Quad economic framework should be established to support digital trade, high-tech investment, and coordination on standards for emerging technologies.

7. **Quad Plus outreach:** A 'Quad Plus' dialogue on infrastructure and development can include partners like South Korea, Vietnam, and Singapore to widen regional cooperation.

8. **Strategic reassurance:** Clear communication among Quad members is needed to manage bilateral frictions and sustain trust during periods of political transition.

Conclusion

Resilient relevance: The year 2025 tested the Quad's cohesion but did not erode its strategic value. Despite diplomatic strain and summit absence, cooperation continued through active initiatives. This interregnum reflects adjustment, not erosion, reaffirming the Quad's enduring role in strengthening Indo-Pacific security and collective action amid growing regional instability.

For detailed information on **QUAD Grouping- Significance and Challenges** read this article here

Question for practice:

Discuss how the Quad evolved and remained relevant during 2025 despite leadership transitions, diplomatic frictions, and the absence of a leader-level summit in an increasingly contested Indo-Pacific region.

Source: **The Hindu**

Article 6 of Paris Agreement as a powerful tool for India

Introduction- To strengthen the delivery and efficiency of climate finance, the carbon markets under Article 6 (A6) of the Paris Agreement were made fully operational at COP29.

Operationalisation of Article 6 at COP29

- 89 cooperation arrangements under Article 6.2 now exist across 58 Parties, indicating rapid growth in bilateral and plurilateral carbon market collaborations.

- Adoption of the Paris Agreement Crediting Mechanism (Article 6.4) marked the transition from the Clean Development Mechanism to a more rigorous, transparent, and globally aligned framework.

India's Entry into Article 6 Mechanisms

- In August 2025, India signed the Joint Crediting Mechanism (JCM), operationalising Article 6.2.

- This move represents a new phase of international climate cooperation and India's formal entry into global carbon markets under the Paris Agreement.

Why does Article 6 matter for India?

Benefits in terms of access- Participation in Article 6 enables Transfer of advanced technologies, Support for R&D, Stronger bilateral relations and Inflow of climate finance.

Drive socio-economic transformation- A6 can drive **socio-economic transformation** aligned with India's development and climate goals.

Driver of economic growth- It will help in accelerating low-carbon industrial and technological transformation and building resilient trade relationships.

What are India's identified eligible activities under Article 6?

India has identified 13 eligible activities balancing climate and development priorities. Its Focus is on high-end, emerging technologies with strong emissions reduction and growth potential.

The Key sectors for the next three years include:

- Renewable energy with storage
- Solar thermal and offshore wind
- Green hydrogen and compressed bio-gas
- Advanced mobility solutions (e.g., fuel cells)
- High-end energy efficiency technologies
- Sustainable aviation fuel

Article 6 also aligns with long-term decarbonisation goals:

- Offshore wind, energy storage, and marine energy to diversify beyond coal
- Green hydrogen for industrial decarbonisation (e.g., steel)
- Carbon capture, utilisation, and storage (CCUS) for hard-to-abate sectors like cement

What should be the way forward for realising the full benefit of Article 6?

Strengthen domestic framework- Clarify the role of the Designated National Authority. Define rules for Letters of Authorisation, corresponding adjustments, and carbon trading regulation

Streamline project clearances- Create a Cabinet-level steering committee. Establish a single-window clearance system. Address long approval timelines (over 1,600 days in India vs <400 days elsewhere in Asia)

Build the carbon removals market- Leverage rising global demand. Promote activities like Biochar and Enhanced Rock Weathering.

Strengthen South–South collaboration- Develop shared systems, knowledge networks, and financing models among developing countries.

Conclusion

India's engagement under Article 6 is more than procedural. It offers a pathway to advanced technologies, climate-aligned finance, and deeper international partnerships, supporting long-term economic and climate objectives.

Question for Practice
How can Article 6 of the Paris Agreement enable countries like India to accelerate low-carbon development while ensuring environmental integrity and avoiding double counting of emissions reductions?

Source- TH

Early investment in children, the key to India's future

Source: The post **"Early investment in children, the key to India's future" has** been created, based on **"Early investment in children, the key to India's future"** published in **"The Hindu" on 13th January 2026.**

UPSC Syllabus: GS Paper-2- Governance

Context: India aims to become a **Viksit Bharat and a $30 trillion economy by 2047**. Achieving this requires **long-term, evidence-based investment in human capital**, not merely infrastructure, manufacturing, or macroeconomic targets. While health and education are discussed, **Early Childhood Care and Development (ECCD)** lacks a concrete, focused national roadmap.

Importance of the First 3,000 Days of Life

- The **first 3,000 days of life, from conception to eight years of age**, are the most critical period for human development.
- The **first 1,000 days are recognised by the World Health Organization and UNICEF** as a **crucial window for physical growth, brain development, and long-term health.**
- The following 2,000 days significantly shape cognitive abilities, emotional regulation, social skills, and learning capacity.
- **Nearly 80–85% of brain development occurs during early childhood**, making this phase decisive and largely irreversible if neglected.

Early Childhood Care and Development (ECCD) as a Strategic Economic Investment

- Investment in early childhood care and development should be viewed as a **strategic economic investment** rather than a welfare measure.
- Children **who are well-nourished, emotionally secure, and cognitively stimulated are more likely to complete education** and participate productively in the workforce.
- Such investments **lead to higher lifetime earnings, increased tax contributions, and reduced intergenerational poverty.**
- At the national level, **ECCD reduces future expenditure on healthcare**, remedial education, and social protection.
- Evidence from countries such as **Finland, South Korea, and the United States demonstrates** the high long-term returns of early childhood investments.

India's Experience and Existing Interventions

- India has **made significant progress in child and newborn survival through programmes** such as the National Health Mission and ICDS.
- Initiatives like **Mission Saksham Anganwadi and POSHAN 2.0** have strengthened nutritional support, particularly for disadvantaged groups. However, most interventions have focused on child survival rather than holistic development.
- ECCD **efforts remain fragmented and insufficiently integrated** across sectors.

Limitations of a Targeted Approach

- Early childhood development interventions in India are **largely targeted at children within government safety nets.** This approach excludes large sections of middle- and higher-income families.
- **Children from non-poor households increasingly face challenges** such as obesity, physical inactivity, excessive screen exposure, and emotional difficulties. Therefore, early childhood care and development must be universal rather than limited to poverty alleviation programmes.

Scientific Basis for Early Intervention

- Advances in epigenetics show that **parental health, nutrition, stress, and lifestyle** before conception influence a child's long-term outcomes.
- **Parental obesity, substance use, and chronic stress** increase the risk of non-communicable diseases and developmental delays in children.
- During the **first 1,000 days, most neural connections are formed**, making early deprivation particularly damaging. Despite this, children spend most of this period within families with minimal formal developmental support.

Gaps in Current Systems

- **Formal developmental interventions** typically begin only at 30–36 months through Anganwadi centres or preschools. This **delay results in the neglect of the most critical early developmental window.**
- Parents **often rely on commercially driven or poorly informed social media** content for guidance on child development.
- **Credible and structured support** for early stimulation and responsive caregiving remains limited.

Key Measures Required for Strengthening ECCD

- India must **introduce structured premarital and pre-conception counselling** focusing on nutrition, mental health, and healthy lifestyles.
- Parents **should be empowered with knowledge of early stimulation** through talking, reading, singing, playing, and emotional engagement from infancy.
- Families should be **trained in basic growth monitoring** and identification of age-appropriate developmental milestones.
- **Early detection of developmental delays** should be prioritised as a **cost-effective intervention.**
- **Greater investment is required in quality care** and learning systems for children aged two to five years.
- **Health, nutrition, and education systems must be integrated** to move beyond silo-based functioning.
- **Schools should evolve into hubs** that promote learning, health, nutrition, and overall well-being.
- **Teachers should be trained in child growth** and development beyond academic instruction.
- Early childhood development **should become part of a nationwide social conversation** involving families, communities, NGOs, philanthropy, and CSR initiatives.
- **Institutional and Governance Framework**
    - **Effective coordination is required** among the Ministries of Health and Family Welfare, Education, and Women and Child Development.
    - A **national, inter-ministerial mission on early childhood care and development** should be established to ensure a clear roadmap and accountability.

Conclusion: India's future development will depend not on policy promises but on concrete investments in children during their earliest years. A citizen-led and state-supported movement for child growth, learning, and development is essential for achieving inclusive and sustainable national progress.

Question: Early Childhood Care and Development (ECCD) is a strategic economic investment rather than a welfare measure. Discuss the significance of focusing on the first 3,000 days of life for India's aspiration of becoming a developed nation by 2047.

Revisiting the bail norm

Source: The post **"Revisiting the bail norm" has** been created, based on **"Revisiting the bail norm"** published in **"BusinessLine" on 13th January 2026.**

UPSC Syllabus: GS Paper-2- Polity

Context: The Supreme Court in *State of Rajasthan v Balchand (1977)*, through Justice V.R. Krishna Iyer, established that **bail is the rule and jail is the exception**. The ruling emphasized **humaneness in criminal justice** while upholding the rule of law. Despite this, current practices show that bail jurisprudence is often **obfuscated and inconsistent**, leading to unnecessary escalation to higher courts.

Challenges in Bail Jurisprudence:

1. **Escalation to Higher Courts:** Bail applications are often taken to the **Supreme Court**, consuming its precious time. Many applications are **registered but not heard**, or only a few get judicial attention.

2. **Inconsistency in Court Decisions:** Recent Delhi riots case (*Umar Khalid and Sharjeel Imam*) highlighted perceptions of **inconsistent bail rulings**. Courts differentiate based on the role of the accused, e.g., **principal conspirators vs. subsidiary actors**, but public perception often sees this as arbitrariness.
3. **Prosecution's Role:** Many prosecutors adopt a **mechanical and aggressive approach**, opposing bail regardless of merit. Political pressures and fear of criticism discourage prosecutors from exercising discretion.
4. **Delay in Disposal of Cases:** Under-trial prisoners often remain in jail for **years**, violating basic human rights. In the Delhi riots case, some accused were in **jail for five years** before bail was considered.
5. **Human Rights Concerns:** Routine incarceration of suspects, especially for minor or subsidiary roles, undermines **human rights and presumption of innocence**. High numbers of **under-trial prisoners** in India's jails is a shame and strains the criminal justice system.

Way Forward:

1. Strengthen **lower court capacity** to decide bail quickly and reduce unnecessary escalation to higher courts.
2. Promote **consistent and transparent standards** for bail, with guidelines differentiating roles of accused and nature of offenses.
3. Encourage **prosecutors** to adopt a balanced approach considering humanitarian grounds.
4. Implement **fast-track procedures** for under-trials to ensure timely justice.
5. Educate public and judiciary about **human rights and presumption of innocence**, reinforcing that bail is the norm.

Conclusion: Bail should remain the **rule, not the exception**, balancing crime control with human rights. Judicial reforms, better prosecution conduct, and timely disposal of cases are essential to uphold **justice, fairness, and the integrity of India's criminal justice system**.

Question: The principle of 'Bail is the rule and jail is the exception' is often ignored in practice. Discuss the challenges in bail jurisprudence in India and suggest reforms to ensure timely and humane dispensation of justice.

Rupee depreciation: Is RBI intervention deferring the inevitable?

Source: The post **"Rupee depreciation: Is RBI intervention deferring the inevitable?"** has been created, based on **"Rupee depreciation: Is RBI intervention deferring the inevitable?"** published in **"BusinessLine" on 14th January 2026.**

UPSC Syllabus: GS Paper-2- Economy

Context: The Reserve Bank of India (RBI) has used dollar/rupee buy–sell swap auctions as part of its strategy to manage excess volatility in the foreign exchange market, especially as the rupee faces persistent depreciation pressures around the 90/$ level.

Role of swaps in RBI's intervention strategy

RBI follows a **two-pronged approach** to currency management:

1. **Spot market intervention**:
   RBI sells dollars in the spot market to arrest sharp or disorderly depreciation of the rupee. While this helps stabilise the exchange rate, it leads to a withdrawal of rupee liquidity from the domestic financial system.
2. **Forward market intervention through swaps**:
   To offset the liquidity tightening caused by spot dollar sales, RBI conducts dollar/rupee buy–sell swaps. By buying dollars in the present, RBI injects rupee liquidity into the system. The commitment to sell dollars in the future increases forward dollar supply and helps compress forward premiums. Thus, swaps stabilise both domestic liquidity conditions and market expectations.

Through this mechanism, RBI aligns with its stated objective of curbing "excessive volatility" without explicitly targeting the exchange rate level.

Costs and limitations of continued intervention

Despite its advantages, sustained intervention entails significant costs:

1. **Forward liability build-up**: Repeated buy–sell swaps lead to net forward dollar sales, particularly at longer maturities, creating future obligations and shifting the cost of intervention to a later date.
2. **Reserve dependence**: Continuous spot intervention increases reliance on foreign exchange reserves and forward positions.
3. **Reduced exchange rate flexibility**: Persistent intervention has drawn IMF criticism, with the rupee classified as a crawl-like arrangement, limiting the currency's ability to absorb external shocks.
4. **Moral hazard**: Corporates may under-hedge foreign exchange risks, expecting RBI to maintain currency stability.

Challenges

1. **Rising forward liabilities**: Repeated use of buy–sell swaps leads to accumulation of net forward dollar sales, pushing exchange rate risks and costs into the future.
2. **Dependence on reserves**: Persistent spot dollar sales increase reliance on forex reserves and forward commitments, reducing policy buffers.
3. **Limited exchange rate flexibility**: Continuous intervention suppresses natural price discovery, weakening the rupee's ability to absorb external shocks.
4. **Liquidity–inflation trade-off**: Rupee liquidity injected through swaps may complicate domestic liquidity management and inflation control.
5. **Market moral hazard**: Corporates and importers may hedge inadequately, assuming RBI will cap volatility.
6. **Inability to offset fundamentals**: Structural pressures from weak exports, adverse capital flows, and narrow interest differentials cannot be fully countered by intervention.

Way Forward

1. **Allow greater exchange rate flexibility** to absorb external shocks and reduce repeated intervention.
2. **Strengthen export competitiveness** through diversification of markets and products, and reduced trade concentration risks.
3. **Improve fiscal discipline and growth conditions** to support durable capital inflows and currency confidence.

4. **Encourage prudent corporate hedging**, especially for large importers, to reduce reliance on RBI for stability.
5. **Deepen forex and derivatives markets** to improve risk-sharing, liquidity, and price discovery.
6. **Use intervention selectively**, focusing only on disorderly volatility rather than defending implicit exchange rate levels.
7. **Coordinate monetary, fiscal, and trade policies** to address the root causes of persistent rupee depreciation.

Conclusion: Dollar/rupee swaps are an effective short-term tool for managing volatility and liquidity. However, durable currency stability requires strengthening domestic growth, improving fiscal management, diversifying exports, and encouraging prudent hedging by firms, rather than relying excessively on central bank intervention.

Question: How do RBI's dollar/rupee swap auctions fit into its currency stabilisation strategy? Are there costs to such intervention?

Source: Business Line

India-EU FTA

Source: The post "India-EU FTA" has been created, based on "Explained | FTA with EU to help boost India's exports to the 27-nation bloc" published in "DeccanHerald" on 14th January 2026.

UPSC Syllabus: GS Paper-2- International Relations

Context: India and the European Union (EU) are in the final stages of negotiating a Free Trade Agreement (FTA), which, if concluded, will be India's **19th trade pact**. The agreement is significant given current global trade disruptions and rising protectionism.

Significance of the India–EU FTA

1. The EU is India's **largest trading partner for goods** and a key destination for services exports.
2. Bilateral trade in goods stood at **USD 136.5 billion (2024–25)**, with the EU accounting for **~17% of India's total exports**.
3. The FTA is crucial amid **high US tariffs (up to 50%)**, enabling India to diversify export markets and reduce dependence on China and the US.
4. The EU is a large, high-income market (GDP ~USD 19.5 trillion), offering stable long-term export demand.

Benefits for India

1. **Tariff reduction and elimination**: Current EU tariffs of **12–16% on Indian textiles** will be reduced, improving competitiveness.
2. **Boost to labour-intensive sectors**: Textiles, garments, leather, pharmaceuticals, auto components, and electronics are expected to gain.
3. **Expansion of services exports**: Business services, IT, telecom, and transportation services are likely to see higher market access.
4. **Supply chain diversification**: Helps Indian firms integrate into EU value chains in automobiles, machinery, chemicals, and green technologies.

5. **FDI inflows**: EU is already a major investor (USD 117.4 billion cumulative FDI); the FTA can further enhance investment flows.

Benefits for the EU

1. Improved access to India's fast-growing market of **1.4 billion people**.
2. Increased exports of **aircraft, electrical machinery, diamonds, chemicals**, and intellectual property–intensive services.
3. Stronger presence in India's services sector, including IT and business services.

Key Challenges

1. **Differences on tariffs** for sensitive sectors such as automobiles, wine, and spirits.
2. **Regulatory and standards issues**, including labour, environment, and sustainability norms.
3. **Intellectual property rights and data protection concerns**.
4. **Public procurement access** and services liberalisation remain contentious.
5. Risk of **adjustment pressures on MSMEs** due to increased competition.

Way Forward

1. **Balanced tariff liberalisation**: Adopt a phased and calibrated reduction of tariffs in sensitive sectors such as automobiles, wines, and spirits to protect domestic industry while ensuring market access.
2. **Regulatory preparedness**: Align domestic standards with EU norms on labour, environment, and sustainability to avoid non-tariff barriers.
3. **Strengthen MSME competitiveness**: Provide credit, technology upgradation, and skilling support to help MSMEs adjust to increased competition.
4. **Focus on services mobility**: Secure greater market access for Indian professionals through easier visa regimes and mutual recognition of qualifications.
5. **Leverage supply chain integration**: Encourage Indian firms to integrate into EU value chains, especially in green technologies, electronics, and pharmaceuticals.
6. **Enhance trade facilitation**: Improve logistics, customs efficiency, and digital trade infrastructure to fully utilise FTA benefits.
7. **Policy coordination**: Align trade policy with industrial, investment, and export promotion strategies to maximise gains from the FTA.

Conclusion: The India–EU FTA has the potential to significantly boost India's exports, enhance services trade, and strengthen economic resilience amid global uncertainty. However, its success will depend on balancing market access with domestic sensitivities, regulatory preparedness, and complementary reforms to enhance export competitiveness.

Question: The India–EU Free Trade Agreement is strategically significant in the context of rising protectionism and global trade fragmentation. Discuss the geopolitical and economic relevance of the India–EU FTA for India.

Source: Deccan Herald

India must focus on AI and its environmental impact

UPSC Syllabus Topic: GS Paper 3– Science and Technology – Developments and their applications and effects in everyday life.

Introduction

India must focus on AI and its environmental impact as AI adoption expands rapidly across sectors such as health care, agriculture, and industry. While AI-driven growth promises efficiency and innovation, its hidden environmental costs receive limited attention. The development and deployment of AI systems increase energy demand, carbon emissions, water use, and pressure on natural resources. Without recognising and addressing these costs, large-scale AI expansion risks undermining climate goals, water security, and long-term environmental sustainability.

What is the current status of AI use in India?

1. High Adoption Rate: India shows a strong AI adoption with **70% of its firms already running AI projects**, compared to the **US at 53%**.

2. Data Utilization for AI: 91% of Indian companies plan to use their data for training AI models, which is higher than the **global average of 62%**.

Environmental consequences and sustainability challenges of AI

1. Rising carbon emissions from AI systems: AI development increases carbon emissions due to heavy computing needs during training and deployment. Studies show that training a single large language model can emit nearly **300,000 kg of carbon**, adding pressure to climate mitigation efforts.

2. Energy-intensive data centres: Most AI systems operate through large data centres that consume vast amounts of electricity. A single ChatGPT query uses **10 times more energy than a Google search**, and in tech hubs like Ireland, data centres may account for **35% of total energy use by 2026**.

3. Dependence on fossil fuels: In many regions, data centres still rely on fossil-fuel-based electricity. This links AI expansion directly to greenhouse gas emissions, worsening global warming and undermining climate goals.

4. Power Fluctuations: Unlike conventional computing, AI training involves sudden spikes and drops in electricity use across different phases. These volatile power loads are difficult for grids to absorb and often require diesel-based backup generators, worsening emissions and air pollution.

5. Model Obsolescence: Generative AI models have a short life-cycle, with frequent releases of newer versions. This makes energy spent on training older models largely redundant, while newer models generally require even greater computational and energy inputs.

6. High water consumption: AI infrastructure uses water for construction and cooling. According to United Nations Environment Programme, AI servers could consume **4.2–6.6 billion cubic metres of water by 2027**, increasing water scarcity risks in already stressed regions.

7. Electronic waste generation: Data centres generate large volumes of e-waste containing hazardous substances such as mercury and lead. Improper disposal of this waste threatens soil, water, and human health.

8. Resource-intensive hardware production: Producing AI hardware requires huge raw material inputs. Manufacturing a **2 kg computer needs about 800 kg of raw materials**, while microchips depend on rare earth elements mined through environmentally destructive practices.

9. Ecological Pressure: Data centres are physical infrastructures embedded in local environments. Their combined electricity use, water consumption, and resource extraction exert indirect but lasting pressures on biodiversity and surrounding ecosystems.

Data gaps and under-reporting of AI impacts

1. Lack of reliable emissions data: Accurate data on AI's environmental footprint is limited. Estimates vary widely, with the ICT sector contributing **1.8%–3.9% of global GHG emissions**, making informed policy difficult.

2. Misleading efficiency claims: Some corporate disclosures understate AI's environmental costs. For example, a claim that one AI text prompt uses only **0.24 watt-hours of electricity** has been criticised for ignoring cumulative and lifecycle impacts.

3. Absence of lifecycle assessment: Most assessments focus only on **energy use during operation**. Impacts from **mining, hardware manufacturing, water use, and disposal remain poorly measured and reported**.

Global policy responses and ethical frameworks

1. Ethical recognition of environmental harm: In 2021, UNESCO adopted recommendations recognising AI's negative environmental and social impacts. Around **190 countries** endorsed these non-binding principles.

2. Legislative steps in advanced economies: The European Union and the United States have proposed laws to regulate AI's environmental effects, including rules on emissions from high-compute activities.

3. Limited global enforcement: Despite ethical guidelines, binding environmental guardrails for AI remain rare. Governments often prioritise innovation and competitiveness over sustainability concerns.

India's current approach and missing focus

1. Focus on AI as a climate solution: Current discussions in India emphasise how AI can help fight climate change. However, they overlook the environmental costs of building and running large AI models.

2. No dedicated AI impact assessment: India mandates Environmental Impact Assessments under the **EIA Notification, 2006**, but AI systems are not included. This creates a regulatory gap despite their growing environmental footprint.

3. Need for policy alignment: AI policies are largely disconnected from environmental regulation. This weakens India's ability to manage long-term ecological risks from digital infrastructure.

What should be done?

A. UNEP recommendations

The United Nations Environment Programme has **proposed five measures to limit the environmental impact of artificial intelligence.**

1. Impact measurement: UNEP recommends standardised frameworks to assess AI's environmental footprint across its life cycle. This covers emissions, energy use, water consumption, and material use.

2. Mandatory disclosure: UNEP suggests requiring companies to disclose the direct environmental impacts of AI-based products and services. This improves transparency and policy credibility.

3. System efficiency: UNEP advises improving the energy efficiency of AI algorithms. It also supports water recycling and reuse of hardware components where feasible.

4. Green data centres: UNEP recommends powering data centres with renewable energy and using carbon offset mechanisms. This reduces emissions from high-compute AI activities.

5. Policy integration: UNEP stresses that AI policies should be integrated with existing environmental regulations. This aligns AI development with climate governance.

B. India-specific measures

1. EIA inclusion: The article proposes extending India's Environmental Impact Assessment framework to AI development. This enables formal scrutiny of environmental risks from AI training and deployment.

2. National standards: India should develop common assessment standards for AI impacts. This requires collaboration between tech firms, think tanks, and civil society groups.

3. Regulatory metrics: India needs consistent sustainability indicators for regulatory use. These metrics should support monitoring, compliance, and informed decision-making.

4. ESG (Environmental, Social, and Governance) reporting: AI-related environmental impacts should be included under ESG disclosure norms. This strengthens corporate accountability in high-compute operations.

Conclusion

AI growth brings clear environmental risks through emissions, energy use, water stress, and resource depletion. India must measure these costs, integrate AI into environmental regulation, and enforce disclosure standards. Without such steps, AI expansion may deepen climate, water, and sustainability challenges instead of supporting long-term development and global environmental goals.

Question for practice:

Discuss how the rapid expansion of artificial intelligence in India is creating environmental challenges and what measures are needed to address its sustainability impacts.

Source: The Hindu

Are India's small towns being increasingly urbanised?

UPSC Syllabus Topic: GS Paper 1 -urbanisation, their problems and their remedies.

Introduction

India's urban future is often seen through megacities, but a deeper change is happening in small towns. Out of nearly 9,000 towns, most have populations below one lakh. Their rapid growth is not accidental. It reflects changes in capitalism, migration, labour markets, and policy choices. These towns are becoming key sites of economic activity, labour absorption, and consumption, even as they face serious governance, infrastructure, and inequality challenges.

Factors responsible for the growth of small towns in India

1. Crisis of metro-led growth: Large cities earlier absorbed labour, capital, and consumption, but now face over-accumulation. High land prices, broken infrastructure, and rising living costs are pushing people and firms out.

2. **Search for cheaper spaces:** Small towns offer cheaper land, flexible labour, and weaker regulation. These conditions attract logistics, warehousing, agro-processing, construction, and service activities.

3. **Changing migration patterns:** Migrant workers pushed out of metros and rural youth with limited farm options are moving into small towns. This makes small towns active parts of the urban process.

4. **Economic restructuring:** Older industries are declining or moving away from big cities. New activities shift to smaller centres, changing the size and spread of urban settlements.

Structure of urbanisation in small towns

1. Functional economic roles: Small towns act as logistics nodes, service centres, consumption markets, and agro-linked hubs. They support regional economies rather than operating as isolated spaces.

2. **Urbanisation under stress:** Urban growth happens under capitalist pressure, not planned inclusion. Development relies on low costs rather than strong public investment or regulation.

3. Polycentric urban spread: Large cities are no longer single-centred. Multiple centres emerge around them, while smaller towns grow alongside, connected through transport and markets.

4. Market-driven spatial patterns: Investment decisions are guided mainly by market forces. Planning no longer directs where economic activities should locate.

Concerns related to urbanised small towns

1. Urbanisation of rural poverty: Growth does not mean better living conditions. Informal labour dominates, with insecure jobs in construction, home-based work, and platform services.

2. **New local power hierarchies:** Control over land and labour shifts to real estate brokers, contractors, financiers, and political intermediaries. Inequality deepens within towns.

3. **Infrastructure exclusion:** Urban missions remain metro-centric. Most small towns are excluded from reliable water, sewerage, and transport systems.

4. **Ecological stress:** Dependence on tanker water, unchecked groundwater use, and weak waste systems increase environmental damage.

5. **Weak local governance:** Municipalities lack funds, staff, and authority. Planning is outsourced and local participation remains limited to formal procedures.

Policy gaps and planning limitations

1. Limits of city size control: Attempts to manage optimal city sizes remained theoretical. Policymakers could not develop tools to control urban distribution effectively.

2. **Supply-side planning failures:** Restricting land supply through height limits or low FSI raises prices. It harms affordability and pushes economic activity elsewhere.

3. **Incomplete decentralisation efforts:** Earlier recommendations for balanced growth and support to small towns were only partly implemented. Liberalisation weakened state-led spatial control.

4. **Uneven infrastructure services:** The real divide lies in unequal access to services between large cities and smaller towns, not just city size.

Way forward

1. Political recognition: Small towns must be accepted as the main frontier of India's urban future, not as secondary or transitional spaces.

2. **Context-based planning:** Town plans should integrate housing, livelihoods, transport, and ecology. Metropolitan templates should not be copied blindly.

3. **Empowered municipalities:** Local governments need funds, staff, and decision-making power. Transparency and local accountability must improve.

4. **Inclusive institutional spaces:** Workers' collectives, cooperatives, and environmental groups need a role in urban decision-making.

5. **Regulation of capital and platforms:** Digital and platform economies must ensure labour rights, local value retention, and accountability.

Conclusion

Small towns are now central to India's urban story. They absorb labour, capital, and economic change, but also reproduce inequality and stress. Their future depends on political will, better planning, stronger local

governance, and fair regulation. They can deepen exclusion or become spaces of democratic and balanced urban transformation.

Question for practice:

Examine how the growth of small towns reflects changes in India's urbanisation pattern and discuss the key challenges and policy responses associated with this shift.

Source: The Hindu

An exploration of India's minerals diplomacy

UPSC Syllabus- GS paper2-international relations-Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests **and GS Paper-3–** Infrastructure.

Introduction

India's clean energy transition and industrial growth depend increasingly on secure access to critical minerals. However, global supply chains are fragile, highly concentrated, and dominated by a few players, especially China. India faces high import dependence, weak processing capacity, and geopolitical risks. In response, India is pursuing a two-pronged strategy that combines domestic capability building with diversified global partnerships to ensure long-term mineral security.

Understanding Critical Minerals

Critical Minerals: Critical minerals are a category of non-fuel minerals and elements which satisfy 2 conditions:

1. **Economic development & National Security** = Essential for economic development and national security as they are vital for development of materials for defense, aerospace, nuclear, and space applications.

2. **Supply chain vulnerability** = There are associated risk of supply chain vulnerability and disruption with these minerals, due to their lack of availability, and concentration of existence, extraction or processing of these minerals in few geographical locations.

Major Concerns and Structural Gaps in Critical Minerals

1. Highly concentrated global distribution: At least **55% of each identified critical mineral is located in only 15 countries**, making global supply chains fragile and disruption-prone.

2. **China's dominance in mineral supply chains:** China controls **55% of global rare earth mining and 85% of refining**, with a strong hold over the midstream segment, creating global dependence risks.

3. **India High import dependence:** India is **100% import-dependent for 10 critical minerals**, with 60–80% reliance for several others, exposing it to price and geopolitical shocks.

4. **India's weak processing and manufacturing base:** India has upstream mining potential, but **midstream processing and downstream manufacturing remain underdeveloped**. This forces continued dependence on imported refined minerals and finished components.

5. **Processing as the key choke point:** The main vulnerability lies not in access to ore but in **lack of domestic refining and processing capacity**. Without this, India remains exposed even when mining access is secured abroad.

6. **Uncertain and uneven global partnerships:** Several partnerships have progressed unevenly. Cooperation with the U.S. remains affected by tariffs, shifting trade rules, and policy volatility, while other regions lack institutional depth and long-term frameworks.

7. Domestic governance and implementation gaps: Challenges include **bureaucratic delays, inefficient auctioning, reliance on foreign investment, and limited ESG and transparency frameworks**. These gaps weaken India's credibility and effectiveness in global mineral partnerships.

India's Initiatives on Critical Minerals

1. **National Critical Mineral Mission (NCMM):** India launched the **NCMM in January 2025** with an outlay of **₹34,300 crore over seven years**. It aims to secure supply chains, reduce import dependence, and promote self-reliance.

2. Identification of priority minerals: A committee formed by the Ministry of Mines in November 2022 **identified 30 critical minerals, with 24included in Part D of Schedule I of Mines and Minerals Development and Regulation Act, 1957 (MMDR Act, 1957).** The focus is on boosting domestic production and ensuring long-term availability.

3. Strengthening exploration and research capacity: The **Geological Survey of India** has been assigned **1,200 exploration projects**, including offshore mining. Over the last three years, **368 critical mineral exploration projects** have been undertaken.

4. Role of KABIL in overseas assets: Khanij Bidesh India Limited is central to India's overseas strategy. It supports exploration, asset acquisition, and long-term supply agreements in mineral-rich countries.

An Assessment of India's Global Partnerships in Critical Minerals

1. Australia as a reliable upstream partner: Australia offers political stability and large reserves. Under the **India–Australia Critical Minerals Investment Partnership**, five lithium and cobalt projects were identified in 2022 for potential investment.

2. Japan's institutional and resilience-based model: Japan follows long-term planning through diversification, stockpiling, recycling, and research. Cooperation now extends to joint extraction, processing, and stockpiling, including in third countries.

3. **Africa's resource base and value-creation demand:** Agreements with **Namibia for lithium, rare earths, and uranium**, and talks with **Zambia for copper and cobalt**, show India's shift towards Africa. Long-term industrial engagement is necessary to stay competitive.

4. United States as a technology but unstable partner: Cooperation with the U.S. remains limited due to tariffs, shifting trade rules, and incentives under the Inflation Reduction Act. Initiatives such as the **Transforming the Relationship Utilizing Strategic Technology (TRUST)** and the **Strategic Minerals Recovery** Initiative propose frameworks for joint work on rare-earth processing, **battery recycling, and clean separation technologies**, but policy volatility remains a challenge.

5. European Union's standards-driven approach: The EU's Critical Raw Materials Act links regulation, sustainability, and industry. India must align with **transparency, lifecycle standards, and environmental norms** to deepen cooperation.

6. West Asia's midstream potential: The UAE and Saudi Arabia are investing in refining, battery materials, and green hydrogen. West Asia can serve as a **processing hub** for minerals sourced elsewhere.

7. Russia as a diversification option: Russia has large reserves of rare earths, cobalt, and lithium. Sanctions, financing issues, and logistics limit reliability, making Russia a hedge rather than a base partner.

8. Latin America and Canada as emerging frontiers: India has expanded engagement with **Argentina, Chile, Peru, Brazil, and Canada**. KABIL signed a **₹200 crore agreement with Argentina**. Competition is intense, and long-term presence needs value-chain integration.

Way Forward

1. Value-chain based partner mapping: India should clearly assign roles across the value chain. **Africa, Australia, Canada, and Latin America** for upstream extraction; **Japan and West Asia** for processing; **EU and U.S.** for downstream technology; and **Russia** for diversification.

2. **Implementation of the recommendations of expert committee on critical minerals:** Setting up of the **Centre of Excellence for Critical Minerals** (CECM) as a dedicated wing in the Ministry of Mines. This can be on the lines of CSIRO which is an Australian government corporate entity. The centre of excellence can collaborate with international agencies or Khanij Bidesh India Ltd (KABIL) for the strategic acquisition of foreign assets of these minerals.

3. **Push for expansion of Mineral Security Partnership (MSP):** Along with India, more countries in the Global South can be part of the alliance, especially critical mineral-rich African countries. The MSP can become an international platform that reports on the status and future of critical mineral markets.

4. **Encourage FDI in domestic mining:** Rising Foreign Direct Investment (FDI) will not just support businesses like battery and EV manufacturing. It will also bring the expertise of international mining firms to aid in exploring critical minerals for the country's benefit.

5. **Investment in beneficiation and processing facilities:** India should invest in beneficiation and processing facilities in Africa to promote local economies and sustainable relationships.

6. **Path to global leadership:** India can emulate Indonesia's success in nickel to become a global leader in these minerals, utilizing access to both domestic and international raw materials.

7. **Alignment of mineral incentives:** The Production-Linked Incentive (PLI) scheme for minerals should align with global aspirations, creating employment opportunities.

Conclusion

Critical minerals have emerged as a strategic pillar for India's energy transition, economic security, and geopolitical positioning. While India has initiated strong domestic reforms and built a wide network of partnerships, gaps in processing capacity and governance remain. Sustained focus on implementation, value-chain integration, and stable partnerships will determine India's long-term mineral security.

Question for practice:

Discuss how India is addressing critical mineral supply vulnerabilities through domestic initiatives and diversified global partnerships.

Source: The Hindu

India and the next Kondratiev wave

UPSC Syllabus Topic: GS Paper 3 -Growth and development

Introduction

Long phases of economic change shape global power, production systems, and technology leadership. These phases are driven by clusters of breakthrough technologies that transform how economies function. As the digital economy matures and new frontier technologies converge, another long wave of growth is emerging. India enters this phase with stronger platforms, policy intent, and scale than in previous transitions.

What are Kondratiev Waves?

Kondratiev Waves are long-term cycles of economic growth and slowdown, named after the economist **Nikolai Kondratiev**, who first identified this pattern in the early 20th century. He observed that capitalist economies do not grow in a straight line. Instead, they move in long phases lasting about **40–60 years**, shaped by major technological changes.

Each wave begins when a new set of technologies spreads across the economy, raising investment, jobs, and productivity. As these technologies mature, growth slows, and the economy waits for the next breakthrough.

The **first wave (1780–1830)** was driven by steam power and textile mechanisation.
The **second wave (1830–1880)** centred on railways, coal, and iron.
The **third wave (1880–1930)** grew around electricity, chemicals, and mass production.
The **fourth wave (1930–1980)** was led by automobiles, oil, and petrochemicals.
The **fifth wave (1980–2030)** is based on information technology, computers, and automation.

Countries that adapt early to each wave grow faster and gain economic leadership.

India's Historical Engagement with Kondratiev Waves

1. Limited role in early waves: India remained peripheral during the first three waves driven by steam, railways, electrification, and chemicals. Colonial constraints limited industrial and technological participation.

2. Marginal presence in the fourth wave: The automobile and petrochemical wave reshaped mobility and geopolitics, but India played a limited role and depended on imports and licensed production.

3. Partial gains in the fifth wave: During the IT-led wave, India benefited from software and services exports. However, it did not shape core digital platforms or frontier technologies.

The Sixth Kondratiev Wave

1. Deep technologies as the core: The sixth wave is expected to be driven by artificial intelligence, quantum computing, biotechnology, advanced materials, space systems, and clean energy. These technologies are science-intensive and capital-heavy.

2. **Convergence across sectors:** Unlike earlier waves, technologies now reinforce each other. AI accelerates drug discovery, materials design, manufacturing optimisation, and climate modelling.

3. **Mission-led innovation:** This wave is shaped by global challenges such as climate change, health security, and supply-chain resilience. Public platforms, regulation, and long-term coordination matter as much as private enterprise.

India's Emerging Position in the Sixth Wave

1. Digital public infrastructure as a platform: By 2024, the Unified Payments Interface processed about 172 billion transactions, rising to around 228 billion in 2025. It functions as a general-purpose economic rail for payments, credit, and data-driven services.

2. **Transformation in the space sector:** India's space ecosystem has moved beyond a purely state-led model. With reforms involving ISRO and IN-SPACe, private firms now participate in launches, satellites, and downstream analytics.

3. **Clean energy and green hydrogen:** Mission-led coordination has accelerated green hydrogen pilots in manufacturing and mobility. Projects such as electrolyser-based plants and hydrogen-powered train prototypes show movement from policy to execution.

Way Forward

1. Mission-mode coordination across sectors: The sixth wave demands mission-led outcomes rather than isolated innovation. Climate action, health security, energy transition, and supply-chain resilience require coordinated action by the state, science agencies, and industry.

2. **Strengthening digital public infrastructure as economic rails:** Digital platforms must function like railways and electricity did in earlier waves. India's digital public infrastructure should continue to support payments, data flows, analytics, and AI-driven services across sectors.

3. Institutional alignment of research, capital, and industry: Deep technologies need platforms that translate research into production. The Anusandhan National Research Foundation and the ₹1 lakh crore RDI Fund aim to align frontier science, public funding, and private participation at scale.

4. Ensuring patient capital for long innovation cycles: The sixth wave requires financing that matches long development timelines. Capital must support sustained experimentation rather than seek short-term commercial returns.

5. Building convergence across frontier technologies: Success depends on linking technologies, not treating them separately. AI must accelerate materials discovery, clean energy must integrate with digital grids, and biotechnology must combine data, automation, and manufacturing.

6. Rule-making, standards, and global integration: Leadership in this wave depends on shaping norms. AI safety rules, hydrogen certification standards, quantum security protocols, and medical technology regulations will decide who sets markets and who follows.

Conclusion

The sixth Kondratiev wave is taking shape around deep technologies and mission-led innovation. India now has scale, talent, data, and policy alignment that were absent earlier. If institutions, capital, and regulation stay focused on long cycles, deep technology can become part of national economic infrastructure and strengthen productivity, sovereignty, and global economic influence by 2047.

Question for practice:

Examine how the emergence of the sixth Kondratiev wave creates a structural opportunity for India, and assess the factors that will determine whether India can successfully ride this long phase of technology-led growth.

Source: Businessline

Most road accidents occur in known zones, solutions lie in focused effort

UPSC Syllabus Topic: GS Paper 3 -Infrastructure (Roads).

Introduction- Findings from a **joint road safety assessment by the Ministry of Road Transport and Highways and the SaveLIFE Foundation** reveal that road accident deaths in India follow clear patterns. A majority of fatalities occur **without traffic violations**, at **identified locations**, and during **specific time hours**. These patterns show that road deaths are predictable and preventable through focused action on known problem areas.

Current Status of India's Road Safety

1. India's global position in road fatalities: India ranks **first globally in annual road accident fatalities**. Its road deaths are far higher than China, which records only **36% of India's total**, and the United States, which records **25%**.

2. Deaths concentrated in limited districts: In **2023 and 2024**, about **3.5 lakh people died** in **9.68 lakh road accidents** across India. Of these, **89,085 deaths occurred in just 100 districts**, accounting for **over one-fourth of total fatalities**.

3. **Time of accidents and emergency response gap:** About **53% of all deaths occur between 6 pm and 12 am**. After accidents, **eight out of ten victims are hospitalised without using the 108 ambulance service**, showing weak emergency coverage.

4. **Road network and fatality distribution:** India has the **second-largest road network in the world**, covering **about 63.45 lakh km**. However, **63% of road crash fatalities occur outside National Highways**, showing that local roads drive most deaths.

5. Limited enforcement impact: Among violations, **speeding accounts for 19% of deaths**, followed by **rash driving (7%)** and **dangerous overtaking (3%)**. Enforcement remains weak at the local level.

What Are India's Road Safety Challenges

1. Engineering defects

- **Road engineering as the main contributor:** Around **59% of fatalities do not involve any traffic violation**, clearly pointing to **poor road design and engineering failures** as major causes of deaths.

- **Frequent engineering defects on roads:** Common issues include **damaged crash barriers, faded or missing pavement markings, unprotected hard structures, wrong or damaged signage, and inadequate illumination**. These defects appear repeatedly across districts.

2. **Accidents occur in known locations:** Most crashes are concentrated in **specific road stretches, crash-prone spots, and police station areas**. These locations repeatedly report fatalities every year.

3. Crash patterns causing maximum deaths: Rear-end, head-on, and pedestrian crashes account for 72% of all fatalities. These crashes are closely linked to design flaws, visibility issues, and poor separation of traffic.

4. **Weak Vehicle Safety Standards in India-** Crash tests carried out by the Global New Car Assessment Programme (NCAP) in 2014 revealed that some of India's top-selling car models failed the UN (United Nations)'s frontal impact crash test.

5. **Lack of Golden Hour Treatment-** Lack of rapid trauma care on highways leads to high fatalities.

Evidence from High-Risk Districts

1. State-wise spread of severe districts: Uttar Pradesh accounts for most of the top 20 districts with high fatalities. **Tamil Nadu has 19 severe districts**, followed by **Maharashtra (11)**, **Karnataka (9)**, and **Rajasthan (8)**.

2. Critical corridors and hotspots: About **54% of all fatalities occur on 18 identified corridors** managed by the National Highways Authority of India and state PWDs. These corridors include **379 critical locations**.

3. Intensity of deaths in severe districts: Each of the 100 severe districts records an **average of 455 deaths every year**. **58% of deaths occur at crash-prone locations**, while **42% occur on critical corridors**.

Initiatives Taken

1. Formulation of National Road Safety Policy (NRSP), 2010- The policy was formulated based on the recommendations of S Sundar Committee. Some important highlights are-
(a) Establishment of a Road Safety Information Database.
(b) Periodical review of road design standards and Vehicle safety standards.
(c) Creation of a National Road Safety Council to supervise matters related to road safety.

2. Establishment of District Road Safety Committees (DRSC)- Established under the Section 215 of the Motor Vehicle Act of 1988. These have been entrusted with creation of a district road safety plan and an emergency medical plan.

3. Passage of Motor Vehicles (Amendment) Act 2019- GOI has tried to enhance the road safety measures through this act.
(a) Creating a National Road Safety Board to advise the government on traffic management.

(b) Higher fines for traffic rule violations.
(c) Recalling defective vehicles which are dangerous for the environment and people.
(d) Creation of a 'Solatium Fund' for victims of hit-and-run accidents.
(e) Punishment to the owner for violations committed by Juvenile.
(f) Automated testing for driver's licence and fitness certificate (FC).
(g) Protection of Good Samaritans from civil and criminal liability.

4. Focused national assessment: The Ministry of Road Transport and Highways and SaveLIFE Foundation jointly identified and ranked the **100 most severe districts**, highlighting where deaths occur and why.

5. Global commitment to reduction: India is a signatory to the Stockholm Declaration on Road Safety, which sets a target to **reduce road deaths and injuries by 50% by 2030**.

7. Some global initiatives for Road Safety

Brasilia Declaration on Road Safety (2015)- India is a signatory to the Declaration.
The countries plan to achieve Sustainable Development Goal 3.6 i.e., to halve the number of global deaths and injuries from road traffic accidents by 2030.
Decade of Action for Road Safety 2021-2030- The UN General Assembly adopted resolution "Improving global road safety" with the ambitious target of preventing at least 50% of road traffic deaths and injuries by 2030.

Way Forward

1. Corridor-wise road safety surveys: NHAI and state PWDs should conduct **comprehensive road safety surveys** on each critical corridor to identify repeated engineering defects.

2. Site-specific engineering correction: Crash-prone locations need **location-specific fixes** based on existing IRC and MoRTH guidelines rather than broad solutions.

3. Strengthening enforcement capacity: Critical police stations must be upgraded with **adequate manpower** to improve enforcement at high-fatality locations.

4. Improving ambulance coverage: All **108 ambulances should be audited** for compliance, with a clear target to handle **75% of hospitalisations** after crashes.

5. Better coordination using existing schemes: No new schemes are required. **Current budgets must align engineering repair, enforcement, and hospital readiness** through better coordination.

6. **Implementation of the important recommendations of the KS Radhakrishnan panel on Road Safety–**
The important ones are
(a) Compulsory Audit on road safety by the state governments
(b) Creating awareness among people on road safety rules, insurance policies
(c) Providing enough compensation to victims on time.

Conclusion

Road deaths in India follow clear patterns. **Over one-fourth of fatalities occur in just 100 districts**, many at fixed locations and times. **Engineering failures, weak emergency response, and local enforcement gaps** drive outcomes more than violations. Using existing schemes, fixing known road defects, strengthening police stations, and improving ambulance reach can sharply reduce deaths without new policies or budgets.

Question for Practice:

Despite multiple policy interventions, road accidents in India continue to rise. Examine the major causes behind increasing road accidents and suggest effective measures to improve road safety.

Source- The Indian Express

India needs a new foreign policy plan

UPSC Syllabus Topic: GS Paper 2 -Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests. .

Introduction

India's foreign policy is facing a serious test as the long upward trend in India–U.S. relations has stalled. Changes in U.S. priorities, declining respect for partnerships, and weakening multilateralism show that earlier assumptions no longer work. The shifting balance of power, especially the U.S.–China equation, makes it necessary for India to rethink its foreign policy approach. A new plan must be based on realism, national strength, and diversified partnerships rather than expectations of special treatment.

Changing U.S. Strategic Priorities under Trump

1. Transactional mindset: The U.S. President treats foreign relations as deals driven by immediate gains. Strategic trust and long-term partnership have been replaced by bargaining and pressure.

2. **Power hierarchy:** Countries are judged by how much leverage they possess. Those seen as weak or eager face public disregard rather than diplomatic respect.

3. **China leverage:**

- China holds a strong hand because of its control over rare earths and magnets. This economic dominance shapes U.S. caution and restraint toward Beijing.

- The U.S. seeks a "grand bargain" with China instead of sustained confrontation. This shows a willingness to compromise even on sensitive strategic issues.

4. Ally restraint:

- When Japan faced Chinese pressure over Taiwan-related remarks, the U.S. warned Japan not to provoke China. This signals reduced commitment to protecting allies' concerns.

- Statements suggesting China may decide Taiwan's future weaken deterrence. Such ambiguity signals a retreat from earlier security assurances in the region.

5. Trade pressure: Trade negotiations are used as tools of coercion rather than cooperation. India faces threats of extreme tariffs despite being ready to conclude a trade agreement.

Erosion of the Indo-Pacific and the Quad Framework

1. Strategic dilution: Unclear U.S. signals on China and Taiwan weaken the Indo-Pacific concept. The strategy lacks a firm security and political foundation.

2. India marginalisation: India's role as a central Indo-Pacific partner has weakened. The U.S. no longer treats India as a key pillar of its regional strategy.

3. Quad downgrade: Delayed engagement and reduced urgency show the Quad is no longer a U.S. priority. Even the timing of high-level visits reflects this decline.

4. Rhetoric gap: Positive statements from U.S. officials are not supported by policy action. Diplomatic reassurance has replaced strategic commitment.

5. Partner uncertainty: Unpredictable U.S. behaviour creates doubts among Quad members. Trust in long-term coordination has weakened.

6. Multilateral retreat: U.S. withdrawal from international organisations reduces platforms for joint action. This limits India–U.S. cooperation in global governance.

India–U.S. Relations: From Confidence to Disillusionment

1. Initial confidence: India believed ideological affinity and personal rapport with the U.S. leadership would strengthen bilateral ties. Early high-level meetings reinforced the belief that relations would continue on an upward path.

2. **Trade optimism:** India expected to be among the first countries to conclude a bilateral trade agreement with the United States. This expectation was based on early diplomatic signals and positive engagement.

3. **Strategic continuity:** Early meetings of Quad foreign ministers suggested continuity in the Indo-Pacific strategy. These signals created confidence that U.S.–China competition would remain central.

4. **Policy reversal:** Later actions showed that earlier assumptions were incorrect. The U.S. shifted toward accommodation with China alongside selective confrontation.

5. **Personal friction:** Ties were strained by Trump's claim of brokering a ceasefire during Operation Sindoor without Indian acknowledgment. The issue worsened sentiment but did not determine policy direction.

6. **Structural drivers:** The deeper cause lies in changing geopolitics and the decline of U.S. power relative to China. This shift explains America's reassessment of alliances and global commitments.

7. Status downgrade: India has been treated as a second-tier partner despite personal praise. Evidence includes stalled trade talks, tariff threats, and U.S. withdrawal from forums like the International Solar Alliance.

India's Strategic Recalibration and Diversification

1. Appeasement limits: India's repeated phone calls, lobbying efforts, and attempts to secure early engagement produced no outcomes. Instead, they enabled public claims by the U.S. President without yielding trade or strategic gains.

2. Strategic restraint: India has stopped chasing reconciliation at any cost. This is visible in ignoring advice to place a call to seal the trade deal and skipping chances for face-to-face meetings.

3. Diplomatic silence: India has avoided reacting to threats of a 500 percent tariff and incorrect claims on Apache helicopter deliveries. Silence is used to deny political leverage and public misrepresentation.

4. Selective alignment: India endorsed U.S. positions on Gaza and Ukraine and issued vague calls for dialogue after U.S. actions in Venezuela. These choices broke ranks with BRICS partners during India's chairmanship.

5. Trade diversification: India redirected diplomatic energy toward trade agreements with the UK, New Zealand, and the EFTA bloc. This aimed to reduce dependence on an uncertain U.S. market.

6. Diplomatic outreach: Since June 2025, India's leadership has visited 21 countries to strengthen ties across regions. This outreach supports a broader multi-alignment strategy.

7. Leverage retention: India continues defence, counter-terrorism, and technology cooperation with the U.S. At the same time, its large market and supply of high-end manpower remain its strongest bargaining assets.

Conclusion

The trajectory of India–U.S. relations reflects deeper shifts in global power and U.S. strategic priorities. As frameworks weaken and assumptions collapse, India has begun recalibrating through restraint, diversification, and multi-alignment. Going ahead, sustaining economic strength and strategic autonomy will be crucial for India to manage great-power rivalry without overdependence on any single partner.

Question for practice:

Examine how changing U.S. strategic priorities under Donald Trump have altered the trajectory of India–U.S. relations and compelled India to recalibrate its foreign policy approach.
Source: Indian Express

India's Small Towns and the Shifting Urbanisation Landscape

Source: The post **"India's Small Towns and the Shifting Urbanisation Landscape"** has been created, based on **"Are India's small towns being increasingly urbanised? | Explained"** published in **"The Hindu" on 16th January 2026.**

UPSC Syllabus: GS Paper-2- G

Context: India's urbanisation is no longer driven only by metropolitan cities. A significant but less visible transformation is occurring through the rapid proliferation and urbanisation of small towns (population below 1 lakh), which now constitute the bulk of India's nearly 9,000 towns.

Reasons for the proliferation and urbanisation of small towns

1. **Crisis of metropolitan accumulation**: Indian metros face over-accumulation marked by inflated land prices, stressed infrastructure, and high living costs.
2. **Capital relocation**: Capital is shifting to small towns due to cheaper land, lower wages, weaker regulation, and minimal political scrutiny.
3. **Economic functions of small towns**: They are emerging as logistics hubs, agro-processing centres, warehouse towns, construction economies, service and consumption markets.
4. **Labour absorption**: Small towns absorb migrants pushed out of metros and rural youth facing agrarian distress.
5. **Structural outcome of capitalism**: Small towns are fully embedded in the urban process, not peripheral to it.

Are small towns a better alternative to metros?

1. **No inherent inclusivity**: Growth is characterised by the urbanisation of rural poverty rather than equitable development.
2. **Dominance of informality**: Informal labour, home-based women workers, and insecure platform-based employment prevail.
3. **New power hierarchies**: Local elites such as real estate brokers, contractors, micro-financiers, and political intermediaries control land and labour.
4. **Ecological stress**: Unregulated groundwater extraction, tanker economies, and weak environmental oversight are common.

Policy and governance failures

1. **Metro-centric urban missions**: Schemes like AMRUT largely exclude small towns from substantial infrastructure investment.
2. **Weak municipal capacity**: Small-town local bodies are underfunded, understaffed, and lack planning autonomy.
3. **Inappropriate planning models**: Metropolitan templates are replicated without accounting for local socio-economic realities.
4. **Token participation**: Citizen engagement is limited to procedural formalities.

Way Forward

1. **Political recognition** of small towns as the main frontier of India's urban future.
2. **Context-specific planning** integrating housing, livelihoods, transport, and ecology.
3. **Empowered municipalities** with transparent finances and administrative capacity.
4. **Democratic institutional space** for workers' collectives, cooperatives, and environmental groups.
5. **Regulation of capital and platforms** to ensure labour rights, local value retention, and data accountability.

Conclusion: India's small towns are central to its urban trajectory. Without policy correction and political will, they risk becoming sites of deepened inequality. With democratic planning and regulation, they can evolve into engines of balanced and sustainable urbanisation.

Question for Practice: "Small towns, rather than metropolitan cities, are emerging as the primary sites of India's urban transformation." Critically examine the causes, nature, and implications of this shift.

Source: The Hindu

India–EU FTA: Need for Faster Progress

Source: The post **"India–EU FTA: Need for Faster Progress"** has been created, based on **"In a year of unpredictability, India needs to accelerate EU FTA"** published in **"Indian Express" on 16th January 2026.**

UPSC Syllabus: GS Paper-3- Economy

Context: The global economy in 2026 is characterised by uncertainty arising from slowing growth in China and policy-induced disruptions in the United States. Rising protectionism, geopolitical tensions, and fragile global supply chains have reduced the reliability of traditional trade partners. In this context, accelerating the India–European Union Free Trade Agreement has become strategically essential for India to ensure export stability, attract long-term investment, and sustain economic growth.

Global economic context: Rising uncertainty

United States

1. The US economy recorded strong growth of 4.3 per cent in late 2025, largely driven by consumer spending.
2. However, this growth is structurally weak as investment is heavily concentrated in artificial intelligence infrastructure, with uncertain future consumption demand and high energy requirements.
3. Corporate hiring has slowed, and AI-related equity markets show signs of overvaluation.
4. The Trump administration's tariff-led revenue strategy is likely to increase domestic inflation, weaken consumption demand, raise public debt, and eventually slow overall economic growth.

China

1. China's economic growth has been on a long-term secular decline, falling from 8–10 per cent in earlier decades to below 4 per cent.
2. The continuing real estate crisis has reduced household wealth and domestic demand.
3. Ageing demographics further constrain consumption and labour supply.
4. Recent export growth is largely driven by trade diversion and tariff arbitrage, which is unlikely to be sustainable as partner countries raise tariff and non-tariff barriers.

Implications for India's trade prospects

1. Slowing growth in the world's two largest economies has reduced the scope for broad-based global trade expansion in 2026.

2. The commodity trade surge witnessed in late 2025 was largely temporary and driven by pre-emptive imports ahead of the US tariff regime.
3. India's services exports remain relatively resilient, but their performance continues to depend heavily on economic conditions in the United States.
4. As a result, trade diversion away from the US market presents the most realistic opportunity for India to expand exports in the near term.

Strategic importance of the India–EU Free Trade Agreement

1. The European Union is India's fourth-largest trading partner and a major destination for both goods and services exports.
2. Despite its importance, EU markets have received comparatively less attention than the US in India's trade strategy.
3. Growing trade and political frictions between the EU and the US, as well as concerns over Chinese trade practices, are pushing the EU to seek alternative partnerships.
4. The successful conclusion of the India–UK FTA strengthens India's negotiating credibility and sets a precedent for deeper engagement with the EU.
5. An India–EU FTA would help India diversify export destinations, reduce excessive dependence on the US market, and improve trade resilience.

Germany's pivotal role in advancing the FTA

1. Germany is the largest economy in the European Union and plays a dominant role in shaping EU trade and industrial policy.
2. Recent India–Germany cooperation agreements signal renewed momentum toward a broader India–EU trade framework.
3. Germany's Skilled Immigration Act creates an opportunity for India to negotiate Mode 4 provisions related to the movement of skilled professionals.
4. Inclusion of labour mobility would be a major gain for India, particularly in IT, engineering, healthcare, and research services.
5. Germany can act as an anchor for cooperation in advanced manufacturing, green technologies, industrial infrastructure, and defence production.

Investment and technology dimension

1. By 2024, cumulative foreign direct investment from the European Union into India had reached approximately 120 billion dollars, indicating strong existing economic ties.
2. Significant untapped potential remains, particularly in high-technology and infrastructure sectors.
3. Empirical studies show that trade and FDI are complementary, with FDI being the most reliable channel for long-term technology transfer.
4. Priority sectors such as electronics, infrastructure, renewable energy, and advanced manufacturing align closely with India's development objectives.
5. A combined framework comprising an FTA, a services agreement, and an investment pact would maximise economic gains for India.

Way Forward

1. India should fast-track negotiations for a comprehensive and balanced India–EU Free Trade Agreement.

2. Greater emphasis must be placed on services trade, especially mobility of skilled professionals under Mode 4.
3. The agreement should include strong provisions for technology transfer, investment protection, and industrial collaboration.
4. Strategic engagement with Germany should be leveraged as a gateway to broader and deeper EU economic integration.

Conclusion: In an environment of slowing global demand, rising protectionism, and geopolitical uncertainty, accelerating the India–EU Free Trade Agreement is both an economic and strategic necessity. A well-structured agreement can strengthen India's trade resilience, boost services exports, attract technology-intensive foreign investment, and provide a stable foundation for long-term growth.

Question for Practice: In the backdrop of slowing global demand and rising protectionism, regional trade agreements are becoming central to India's economic strategy."
Discuss this statement with special reference to the proposed India–EU Free Trade Agreement.

Source: Indian Express

India must widen, and deepen, its export pool to offset US tariffs

UPSC Syllabus Topic: GS Paper 2 -Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests. .

Introduction

India's trade data for December 2025 shows that export growth has slowed at a time when imports remain high. This change has gained importance after the United States imposed a 50% tariff on Indian goods from August 2025. While headline export numbers appear stable, deeper trends reveal weakening momentum, rising trade imbalance, and limited market diversification, raising concerns for India's external trade stability.

India's Recent Trade Performance

1. Slow growth in exports: India exported goods worth $38.5 billion in December 2025, compared to $37.8 billion in December 2024. This reflects a modest 1.8% annual growth, showing limited expansion in external demand.

2. **Sharp rise in imports:** Goods imports stood at $63.55 billion in December 2025. This was nearly 9% higher than imports in December 2024, indicating strong import dependence.

3. **Widening trade deficit:** The large gap between exports and imports resulted in a trade deficit of $25 billion. This level of deficit increases vulnerability to external shocks.

Emerging Export Trends in the Post-Tariff Period

1. Sequential momentum has weakened

Slow growth: Month-on-month export growth slowed sharply after the tariff hike. Sequential momentum declined from an average of **0.7% during January–July 2025** to just **0.1% during August–December 2025**, after adjusting for seasonal variation.

Sector-wide export slowdown: The weakening trend was visible across major sectors. Growth slowed in electronics, engineering goods, petroleum, and textiles, while exports of pharma, chemicals, and gems and jewellery declined on a sequential basis.

2. India's exports to the US fell: Exports to the US declined both annually and sequentially after the tariffs. Average sequential growth dropped from 1.9% before August to –1.4% between August and December 2025, reflecting reduced competitiveness due to higher prices.

3. Marginal rise in exports to China: Exports to China recorded a small increase of about $2 billion per month. However, this gain was insufficient to compensate for the around $7 billion monthly decline in exports to the US.

4. Exports to the rest of the world remained flat: Exports to countries other than the US and China showed no meaningful growth. This indicates limited diversification and weak alternative demand during the tariff period.

Major Concerns

1. Pressure on the rupee: Lower export earnings reduce demand for the rupee. This places downward pressure on the exchange rate and adds to external sector stress.

2. Loss of competitiveness for exporters: Indian exporters are unable to absorb the full cost of US tariffs. Higher prices reduce competitiveness and lower bilateral trade volumes.

3. Breakdown of trade predictability: Unpredictable tariffs weaken confidence among businesses and policymakers. Such uncertainty moves trade away from rules-based systems toward fragmented trading blocs.

4. Sectoral exposure to tariffs: The tariffs affect electronics, machinery, textiles, gems and jewellery, and auto components. Only pharmaceuticals and energy products remain exempt at present.

5. **Impact on MSMEs and investment sentiment:** Export-linked MSMEs face immediate pressure. Some multinational firms may reassess short-term plans, though long-term investment decisions remain largely unchanged.

6. Tariffs driven by US domestic economic pressures: The US faces a worsening fiscal position, a persistent trade deficit, and a rising debt-to-GDP ratio. It is using bilateral tariffs to seek favourable trade terms, but this approach raises input costs, pushes consumer prices higher, and has begun feeding into inflation, as acknowledged by the US Federal Reserve.

India's Way Forward

1. Reducing dependence on a single market: India cannot remain exposed to policy shifts in one country. Export concentration in the US increases vulnerability during trade disruptions.

2. Expanding markets in the Global South: Broadening exports across the Global South is essential. Engagement with 32 countries under Operation Sindoor must be followed by deeper trade integration.

3. Strengthening domestic demand as support: Rising rural incomes are creating new demand for goods. Redirecting export capacity toward domestic markets can help absorb external shocks.

4. Balanced trade strategy: India must defend employment and growth without moving toward protectionism. Diversification, market expansion, and risk reduction offer more stable long-term solutions.

Conclusion

The US tariff hike has weakened India's export momentum and exposed the risks of limited market diversification. While the immediate impact is visible through slower growth and a widening trade deficit, the long-term damage can be contained. By widening export destinations, deepening trade partnerships beyond the US, and strengthening domestic demand, India can protect its growth path and build a more resilient export ecosystem.

Source - Indian Express

A Decade of Startup India

UPSC Syllabus Topic: GS Paper 3 -Economy-Indian Economy and issues relating to planning, mobilisation of resources, growth, development and employment.

Introduction

National Startup Day on 16 January 2026 marks ten years of the Startup India Initiative. What began in 2016 as a policy push has grown into one of the world's largest startup ecosystems. The initiative has reshaped entrepreneurship, strengthened innovation capacity, and supported inclusive development. It aligns closely with the vision of Viksit Bharat 2047 by combining economic modernisation with regional and social uplift.

Evolution of India's Startup Ecosystem (2016–2025)

1. Rapid Expansion of Startups: India has more than 2 lakh startups as of December 2025, placing it among the largest startup ecosystems in the world. This growth has spread across technology, services, and manufacturing sectors, making startups a key driver of economic transformation.

2. **Rise of Startup Hubs:** Cities such as Bengaluru, Hyderabad, Mumbai, and Delhi-NCR have emerged as major innovation centres. These hubs attract investment, skilled talent, incubators, and global partnerships, strengthening India's startup competitiveness.

3. **Growth Beyond Metro Cities:** Nearly 50% of startups now originate from Tier II and Tier III cities, reflecting the widening reach of entrepreneurship. This shift highlights the role of Startup India in decentralising innovation and promoting balanced regional development.

4. **Bridging the Rural–Urban Divide:** Startups are addressing development gaps through solutions in agri-tech, telemedicine, microfinance, tourism, and ed-tech. These innovations support rural livelihoods, improve service delivery, and connect local economies with national markets.

5. **Women-Led Entrepreneurship:** More than 45% of recognised startups have at least one woman Director or Partner as of December 2025. This trend reflects growing gender inclusion and the emergence of entrepreneurship as a tool for social equity.

6. **Economic and Developmental Significance:** Startups play a critical role in driving innovation, improving productivity, and accelerating technology adoption across sectors. They generate large-scale employment, strengthen digital and financial inclusion, and promote grassroots entrepreneurship, making Startup India a central pillar of India's long-term growth strategy.

Key Flagship Schemes Under Startup India

1. Fund of Funds for Startups (FFS): The Fund of Funds for Startups is managed by SIDBI with a total corpus of ₹10,000 crore. It provides capital support to SEBI-registered Alternative Investment Funds. More than 140 AIFs have together invested over ₹25,500 crore in 1,370+ startups.

2. **Credit Guarantee Scheme for Startups (CGSS):** This scheme facilitates collateral-free loans for startups through eligible financial institutions. Under CGSS, more than 330 loans amounting to over ₹800 crore have been guaranteed.

3. **Startup India Seed Fund Scheme (SISFS):** With a corpus of ₹945 crore, SISFS supports early-stage startups. It provides financial assistance for proof of concept, product development, prototyping, trials, market entry, and commercialisation through 215+ approved incubators.

4. **Startup India Hub:** The Startup India Hub functions as a national digital platform for the startup ecosystem. It enables interaction among startups, investors, mentors, incubators, corporates, academic institutions, and government bodies.

5. **States' Startup Ranking Framework (SRF):** The SRF evaluates states and Union Territories based on startup-friendly policies and their implementation. The framework promotes competitive federalism and encourages continuous improvement in startup governance.

6. **National Mentorship Portal (MAARG):** MAARG provides startups with access to experienced mentors across sectors. It supports strategic guidance, resilience building, and long-term growth.

7. **Startup India Investor Connect Portal:** Developed in collaboration with SIDBI, this digital portal links startups with venture capital funds and investors. It allows entrepreneurs to reach multiple investors through a single application and pitch process.

Complementary Schemes Strengthening the Ecosystem

1. Atal Innovation Mission (AIM): Launched in 2016 with an outlay of ₹2,750 crore till March 2028, AIM promotes innovation across schools, universities, startups, and industry. AIM 2.0 focuses on scaling proven models and strengthening Atal Tinkering Labs.

2. GENESIS (Gen-Next Support for Innovative Startups) Scheme: Launched in 2022 by MeitY, GENESIS supports 1,600 technology startups in Tier II and Tier III cities with an outlay of ₹490 crore.

3. MeitY Startup Hub (MSH): Established in 2016, the MeitY Startup Hub acts as a central platform for technology-led entrepreneurship. As of December 2025, it supports over 6,148 startups, 517 incubators, and 329 laboratories across the country.

4. Technology Incubation and Development of Entrepreneurs (TIDE) 2.0 Scheme: Introduced in 2019, it supports Information and Communication Technology (ICT) startups in areas such as AI, IoT, blockchain, robotics, healthcare, agriculture, and clean tech through 51 incubators.

5. National Initiative for Developing and Harnessing Innovations (NIDHI) Programme: Launched by DST in 2016, NIDHI has supported 12,000+ startups, created 1,30,000+ jobs, backed 175+ incubators, and generated 1,100+ intellectual property assets.

6. Startup Village Entrepreneurship Programme (SVEP): It is implemented under the Deendayal Antyodaya Yojana–National Rural Livelihoods Mission (DAY–NRLM). It promotes rural entrepreneurship by enabling households to establish and expand local enterprises.

7. ASPIRE Scheme: ASPIRE stands for A Scheme for Promotion of Innovation, Rural Industries and Entrepreneurship. Launched in 2015 by the Ministry of Micro, Small and Medium Enterprises (MSME), it supports innovation and enterprise creation in rural and underserved areas through Livelihood Business Incubators.

8. Prime Minister's Employment Generation Programme (PMEGP): The Prime Minister's Employment Generation Programme (PMEGP) is implemented by the Khadi and Village Industries Commission (KVIC). It promotes self-employment and grassroots enterprise creation by ensuring financial support and effective last-mile delivery.

Challenges Faced by Startup India

1. Limited Access to Funding: Early-stage funding remains uneven and metro-centric. There is a significant reliance on foreign venture capital, and deep tech startups, which require long-term investment, struggle with the typical short fund lifecycles of venture capital (VCs).

2. Regulatory & Compliance Burdens: Complex tax structures (like frequent changes in GST regulations), bureaucratic delays, and an overall high compliance burden raise the cost and difficulty of doing business. Inconsistent policy enforcement also creates friction.

3. High Failure and Closure Rates: By October 2025, 6,385 DPIIT-recognised startups had closed due to funding gaps, cash flow issues, and scaling problems.

4. Market Saturation and Intense Competition: Overcrowding in sectors like fintech, e-commerce, and food delivery leads to high cash burn and low margins.

5. Talent Shortage and Retention Issues: Startups face difficulty attracting skilled workers in AI, data science, cybersecurity, and semiconductor design.

6. Weak Deep-Tech Ecosystem: The ecosystem remains dominated by service-based models, with limited progress in advanced manufacturing and core technology.

7. **Infrastructure and Geographic Disparity**: Startups in Tier II and III cities often face greater challenges due to inadequate infrastructure, such as unreliable internet and power, and a lack of local support systems like incubators and mentors.

8. **Corporate Governance Issues**: Incidents of corporate mismanagement in high-profile startups have raised concerns among investors, leading to increased scrutiny and potentially tighter regulations, which can deter investment and innovation.

9. **Cultural and Societal Barriers**: A traditional cultural preference for job security can make entrepreneurship less appealing due to the inherent risk aversion and potential social stigma associated with business failure.

Way Forward

1. **Strengthen Early-Stage Domestic Funding:,**India needs deeper domestic capital pools to reduce dependence on foreign venture capital and ensure stable long-term funding for startups.

2. **Promote Long-Gestation Deep-Tech Startups:** Dedicated patient capital, research infrastructure, and policy support are required for sectors such as artificial intelligence, robotics, and advanced manufacturing.

3. **Simplify Regulatory and Compliance Frameworks:** Reducing licences, harmonising state-level rules, and easing tax compliance can lower operational burden for early-stage startups.

4. **Expand Startup Infrastructure Beyond Metros:** Improved internet connectivity, incubation centres, testing labs, and logistics facilities are essential in Tier II and Tier III cities.

5. **Strengthen Mentor and Industry Linkages:** Deeper engagement between startups, corporates, academia, and global firms can support technology transfer and market access.

6. **Improve Governance and Transparency Standards:** Strong corporate governance norms are needed to build investor confidence and ensure sustainable ecosystem growth.

7. **Encourage Risk-Taking Culture and Entrepreneurial Mindset:** Awareness programmes and academic integration can reduce fear of failure and promote entrepreneurship as a viable career path.

Conclusion

After a decade, Startup India represents a structural shift in India's economic model. With strong institutional support, expanding regional participation, and growing innovation capacity, startups have become central to employment generation and inclusive growth. Addressing funding, infrastructure, and governance gaps will be essential to sustain momentum and realise the vision of Viksit Bharat 2047.

Question for practice

Discuss the impact of the Startup India Initiative on India's startup ecosystem over the past decade.

Source: PIB

Uttarakhand to Himachal to J&K, why this winter feels snowless

Source: The post **"Uttarakhand to Himachal to J&K, why this winter feels snowless"** has been created, based on **"Uttarakhand to Himachal to J&K, why this winter feels snowless"** published in **"Indian Express" on 17th January 2026.**

UPSC Syllabus: GS Paper-3- Environment

Context: The winter of 2024–25 has been characterised by an acute deficiency of rainfall and snowfall in the western Himalayan states of Uttarakhand, Himachal Pradesh and Jammu & Kashmir. The northwest region received only **8 per cent of the normal rainfall**, resulting in bare mountain peaks and raising serious concerns about climate variability and environmental security.

Causes of the Snowless and Dry Winter

1. **Weak Western Disturbances:** Western disturbances that crossed northern India during December and January were moisture-deficient and shallow in nature, which reduced their capacity to generate precipitation.
2. **Altered Trajectory of Weather Systems:** The western disturbances propagated at higher latitudes, causing limited precipitation over Kashmir and parts of Himachal Pradesh while largely bypassing Uttarakhand.
3. **Reduced Wind Confluence:** The usual interaction between western disturbances and moisture-laden easterly or westerly winds from the Bay of Bengal or the Arabian Sea was weak, preventing cloud formation and rainfall.
4. **Short Residence Time of Systems:** Weak atmospheric circulation reduced the duration for which western disturbances remained over the region, limiting rainfall intensity and coverage.
5. **Long-term Climatic Trends:** IMD data shows that dry winters have become increasingly frequent over the last decade, indicating a broader trend of climatic unpredictability in the Himalayan region.

Implications of Reduced Winter Precipitation

1. **Water Security Stress:** Reduced snowfall has limited groundwater recharge and spring rejuvenation, thereby affecting drinking water availability and river flows during summer months.
2. **Agricultural Impact:** Rabi crops have been adversely affected due to insufficient soil moisture, as early winter precipitation is crucial for sustained crop growth.
3. **Glacial and Hydrological Risks:** Lower snow persistence accelerates glacier melt, shifts the Equilibrium Line Altitude upward, reduces long-term river discharge and increases the risk of glacial lake outburst floods.
4. **Forest Fires and Ecological Degradation:** Dry forest floors have triggered widespread forest fires, with thousands of fire alerts reported, even in ecologically sensitive protected areas.

Way Forward

1. **Strengthening Climate Monitoring and Forecasting:** There is a need to improve high-resolution forecasting of western disturbances and enhance regional climate models for better early warning and planning.

2. **Sustainable Water Resource Management:** Artificial recharge of aquifers, revival of springs and promotion of rainwater harvesting must be prioritised in the Himalayan states.
3. **Climate-Resilient Agriculture:** Farmers should be encouraged to adopt drought-resistant crop varieties, improved irrigation efficiency and revised cropping calendars.
4. **Glacier and Disaster Risk Management:** Regular monitoring of glaciers and glacial lakes using satellite data should be strengthened to reduce the risks of glacial lake outburst floods.
5. **Forest Fire Preparedness:** Improved forest moisture conservation, early fire detection systems and community-based fire management are essential to mitigate fire risks.

Conclusion: The snowless winter of the western Himalayas is a clear indicator of evolving climate patterns. Addressing its impacts requires integrated climate adaptation strategies, scientific monitoring and sustainable resource governance to protect both mountain ecosystems and downstream populations.

Question: The winter of 2024–25 witnessed unusually low snowfall and rainfall in the western Himalayan states. Discuss the causes behind the snowless winter in Uttarakhand, Himachal Pradesh and Jammu & Kashmir, and analyse its implications for ecology, agriculture and water security.

Source: Indian Express

Circularity has a hidden price: Who pays for fair and compliant recycling?

Source: The post **"Circularity has a hidden price: Who pays for fair and compliant recycling?"** has been created, based on **"Circularity has a hidden price: Who pays for fair and compliant recycling?"** published in **"Down to Earth" on 17th January 2026.**

UPSC Syllabus: GS Paper-3- Indian Economy

Context: The circular economy is promoted as a sustainable solution to plastic waste, but in practice, fair and compliant recycling in India often operates at a financial loss. Project Protoprint in Pune exposes the hidden social, environmental, and economic costs of recycling that are not reflected in market prices.

About Project Protoprint

1. Project Protoprint was established by SWaCH, India's first waste picker–owned cooperative, to enable waste pickers to move up the plastic recycling value chain.
2. The project aimed to create a fully compliant, waste picker–owned recycling unit that processed mixed post-consumer rigid plastics such as HDPE and polypropylene.
3. The unit prioritised fair wages, formal employment benefits, pollution control compliance, and integrated collection, aggregation, and recycling.

Key Economic Findings

1. The recycling unit incurred a loss of approximately ₹14.5 per kilogram of plastic processed, making financial self-sufficiency impossible.
2. In contrast, conventional recycling units that procured ready-made flakes and avoided full compliance showed marginal profits of around ₹0.7 per kilogram.
3. This difference demonstrates that profitability in the recycling sector is achieved primarily by externalising costs rather than through operational efficiency.

Hidden Costs of Recycling and Who Bears the True Cost

1. Many recycling units reduce costs by underpaying labour and failing to provide safe working conditions.
2. Environmental costs are externalised through untreated effluents, improper waste disposal, and residual waste burning.
3. Financial compliance is avoided by evading the 18 percent GST on plastic scrap, which keeps the sector largely informal.
4. Waste pickers and informal workers bear the cost through low incomes, job insecurity, and hazardous working conditions.
5. The environment bears the cost through pollution and ecological degradation caused by non-compliant recycling practices.
6. Responsible recycling units bear financial losses due to compliance becoming a first-mover disadvantage.

Structural Problems in the Recycling Economy

1. Recycling margins remain tied to the fluctuating prices of virgin plastics rather than the actual cost of fair and safe recycling.
2. Extended Producer Responsibility has functioned largely as a symbolic compliance tool instead of a financing mechanism.
3. Poor material design, including multilayered plastics and harmful additives, significantly reduces recyclability and increases processing costs.

Policy Reforms Required

1. **Financing the True Cost of Recycling:** Extended Producer Responsibility must be strengthened to finance the real costs of compliant recycling, including fair wages and environmental safeguards. Producer contributions should cover difficult-to-recycle plastics and be linked to demand creation for recycled content.
2. **Rationalising Taxation and Formalisation:** The 18 percent GST on plastic scrap discourages formalisation and forces transactions into informal channels. Rationalising GST rates would lower entry barriers, improve compliance, and integrate informal actors into the formal economy.
3. **Improving Material Design:** Material design must prioritise mono-material and recyclable packaging to improve recycling efficiency. Producers must be held responsible for the full life-cycle impacts of plastic products.
4. **Simplifying Compliance:** The regulatory approval process for recycling units must be simplified and expedited. Recycling should be recognised as a priority environmental service rather than being treated as a regulatory burden.

Conclusion: Project Protoprint demonstrates that circularity has a real cost that is currently borne by waste pickers, responsible recyclers, and the environment. A just and viable circular economy requires that these costs be internalised through producer responsibility, fiscal reform, and regulatory support.

Question: "The circular economy often masks the true social and environmental costs of recycling." Discuss this statement in the context of India's plastic recycling sector. Examine the challenges faced in ensuring fair, compliant, and economically viable recycling, and suggest policy measures to address them.

Source: Down to Earth

How should India tackle child trafficking

Source: The post **"How should India tackle child trafficking"** has been created, based on **"How should India tackle child trafficking"** published in **"The Hindu" on 19th January 2026.**

UPSC Syllabus: GS Paper-3- Governance

Context: Child trafficking is a serious **violation of human rights and infringes upon a child's right to life, dignity and development under Article 21 of the Constitution.** Despite multiple laws and judicial interventions, child trafficking continues due to socio-economic vulnerabilities and weak enforcement.

Meaning of Child Trafficking

1. The **Palermo Protocol, 2000** defines child trafficking as the recruitment, transportation, transfer, harbouring or receipt of a child for the purpose of exploitation.
2. **Section 143 of the Bharatiya Nyaya Sanhita, 2023** defines trafficking broadly and includes physical and sexual exploitation, slavery, servitude, forced labour and organ removal.
3. Consent of the victim is irrelevant in determining the offence of trafficking.

Constitutional and Legal Protection of Children

1. Article 23 of the Constitution prohibits human trafficking, forced labour and begar.
2. Article 24 prohibits employment of children in hazardous industries.
3. Article 39(e) and 39(f) direct the State to protect children from abuse, exploitation and moral and material abandonment.
4. Sections 98 and 99 of the BNS criminalise the selling and buying of minors.
5. The Immoral Traffic (Prevention) Act, 1956 addresses trafficking for sexual exploitation.
6. The Juvenile Justice (Care and Protection of Children) Act, 2015 provides for care, protection, rehabilitation and reintegration of trafficked children.
7. The POCSO Act, 2012 provides gender-neutral definitions of sexual offences against children and prescribes stringent punishments. Fast Track POCSO Courts have been established to ensure speedy justice.

Judicial Response

1. In Vishal Jeet v. Union of India (1990), the Supreme Court held that child trafficking requires a preventive and humanistic approach.
2. In M.C. Mehta v. State of Tamil Nadu (1996), the Court prohibited child labour in hazardous industries.
3. In Bachpan Bachao Andolan v. Union of India (2011), the Court issued directions to address child trafficking and exploitation.
4. In K.P. Kiran Kumar v. State (2025), the Supreme Court held that trafficking violates children's fundamental rights and issued strict preventive guidelines.

Challenges

1. Poverty, unemployment and migration increase children's vulnerability to trafficking.
2. Family breakdown, disasters and lack of awareness make children easy targets.
3. Social media and online platforms are increasingly misused for recruitment.
4. Weak investigation, low conviction rates and trial delays reduce deterrence.

5. Poor Centre–State coordination and inadequate rehabilitation increase the risk of re-trafficking.

Way Forward

1. The government must strengthen Centre-State coordination as police and law and order are State subjects.
2. Investigation and prosecution mechanisms must be improved to increase conviction rates.
3. Social and economic rights of children must be ensured through education, nutrition and social security schemes.
4. Online platforms must be regulated to prevent digital recruitment of children.
5. A victim-centric approach focusing on rehabilitation and reintegration must be prioritised.

Conclusion: Child trafficking is a serious human rights violation that undermines children's dignity and constitutional protections. Despite strong laws, gaps in enforcement, coordination and rehabilitation persist. A holistic approach involving strict enforcement, Centre–State cooperation and social welfare measures is essential to combat child trafficking effectively.

Question: How should India tackle the problem of child trafficking? Discuss the constitutional, legal and judicial measures along with the way forward.

Source: The Hindu

Patent rights and public health: What are Bharat's options?

Source: The post **"Patent rights and public health: What are Bharat's options?"** has been created, based on **"J Sai Deepak writes | Patent rights and public health: What are Bharat's options?"** published in **"Indian Express" on 19th January 2026.**

UPSC Syllabus: GS Paper-3- Governance

Context: India is obligated under the TRIPS Agreement to protect patent rights, while simultaneously retaining the sovereign right to safeguard public health. The key challenge lies in preventing abuse of patent monopolies, particularly through evergreening, without discouraging genuine innovation.

Patent Rights and Prevention of Evergreening

1. India's patent regime prevents the grant of patents for minor modifications that do not enhance therapeutic efficacy.
2. This ensures that pharmaceutical companies do not obtain repeated monopolies over substantially the same invention.
3. Such measures are TRIPS-compliant and do not amount to protectionism.

Legal Options Available to India

1. **Section 47(4)** of the Patents Act allows governments to import patented medicines without the patentee's consent for public use.
2. **Section 66** empowers the Central Government to revoke patents in public interest if they are prejudicial to the public.

3. **Section 92A** enables compulsory licensing for manufacture and export of medicines to countries lacking manufacturing capacity.
4. **Section 102** permits acquisition of patents by the government for public purposes under eminent domain.
5. Abusive patentees can also be proceeded against under the **Competition Act, 2002** for abuse of dominant position.

Challenges in Using These Options

1. Political and diplomatic pressures from developed countries discourage aggressive use of TRIPS flexibilities.
2. Concerns over foreign investment and trade retaliation create policy hesitation.
3. Limited institutional capacity and lack of proactive patent scrutiny reduce effective enforcement.
4. Lengthy administrative and legal processes delay timely intervention.
5. Balancing innovation incentives with affordability remains a persistent policy dilemma.

Way Forward

1. The **Central and State Governments should formulate clear, transparent patent policies** that integrate public health objectives with intellectual property enforcement.
2. **Patent authorities must proactively scrutinise patents in critical sectors** such as pharmaceuticals and agriculture to detect evergreening and abusive practices at an early stage.
3. The government **should use TRIPS-compliant tools** such as compulsory licensing, government use and patent revocation in a timely and calibrated manner to ensure affordable access to essential medicines.
4. **Institutional capacity of patent offices, competition authorities and enforcement agencies** should be strengthened through specialised training and coordination.
5. **India should continue engaging diplomatically** to defend its public health-oriented patent framework while reassuring investors that genuine innovation will be protected.

Conclusion: Patent protection and public health are not competing goals but complementary obligations under India's constitutional framework and international commitments. While India has incorporated several TRIPS-compliant safeguards within its patent regime, their underutilisation has limited the country's ability to ensure timely and affordable access to essential medicines. A calibrated and transparent use of these legal tools, combined with strong institutional capacity and policy clarity, can deter abusive patent practices without undermining genuine innovation. By aligning intellectual property governance with public health priorities, India can uphold its role as the pharmacy of the Global South while remaining a credible destination for innovation and investment.

Question: Patent rights must be balanced with public health imperatives. Discuss India's legal options under the Patents Act, 1970 and the challenges in using them effectively.

Source: Indian Express

Electricity Amendment Bill: Centre signals course correction after stakeholder pushback

Source: The post **"Electricity Amendment Bill: Centre signals course correction after stakeholder pushback"** has been created, based on **"Electricity Amendment Bill: Centre signals course correction after stakeholder pushback"** published in **"Down To Earth" on 20th January 2026.**

UPSC Syllabus: GS Paper-3- Governance

Context: The Union government is revising the Electricity (Amendment) Bill, 2025, aimed at overhauling the Electricity Act, 2003. The Bill seeks to improve efficiency, financial viability, and consumer choice in India's power distribution sector, while addressing long-standing issues like discom losses, subsidy burden, and regulatory inefficiencies.

Key Objectives of the Bill:

1. The Bill seeks to enhance competition in the power distribution sector by introducing **distribution sub-licensing or multiple supply licensees**, which will allow more than one company to operate in the same area using a common distribution network.
2. It aims to strengthen regulation by providing greater autonomy to **State Electricity Regulatory Commissions (SERCs)** in tariff-setting, reducing the influence of discoms, and enforcing strict timelines and contractual discipline.
3. The Bill intends to improve financial discipline and reduce subsidies by phasing out **cross-subsidies**, delivering subsidies directly to consumers through **direct benefit transfers**, and implementing tighter payment security mechanisms for discoms.
4. It seeks to align power sector reforms with broader national objectives by promoting **renewable energy targets**, ensuring grid discipline, and rationalising regulations to reduce litigation in the sector.
5. The Bill also plans to address discom debt issues in accordance with **16th Finance Commission** recommendations, including the possibility of states taking over certain liabilities, while maintaining alignment with fiscal devolution frameworks.

Challenges and Stakeholder Concerns:

1. Several states have expressed concerns that the reforms could **erode their powers** under the **Concurrent List** of the Constitution.
2. Consumer groups have cautioned that competition could initially benefit **urban and high-paying consumers**, while rural and low-income users may continue to rely on financially stressed public utilities.
3. Regulatory oversight needs to ensure that **competition does not compromise affordability or service equity** for vulnerable consumers.

Way Forward:

1. The government should adopt a **phased and calibrated implementation** of reforms to ensure a smooth transition for states and discoms.
2. It is essential to conduct **continuous stakeholder consultations** with state governments, consumer groups, and regulators to address concerns and incorporate workable suggestions.
3. Strengthening **financial restructuring mechanisms** for discoms will be critical to maintain fiscal sustainability and prevent recurrence of losses.

4. Promoting **consumer awareness and transparency** in subsidy delivery will help build trust and ensure that benefits reach intended beneficiaries efficiently.
5. Monitoring and enforcing **performance standards for multiple supply licensees** will be necessary to improve service quality and protect consumer interests.
6. The government should ensure that reforms are aligned with **India's renewable energy and climate goals**, while maintaining grid stability and operational efficiency.

Conclusion: The Electricity (Amendment) Bill, 2025, represents a significant step towards modernising India's power distribution sector by introducing competition, enhancing regulatory autonomy, and improving financial discipline. Its successful implementation will depend on a **balanced, consultative, and phased approach** that addresses the concerns of states, consumers, and regulators while supporting the country's broader energy transition objectives.

Question: Discuss the key objectives and proposed reforms under the Electricity (Amendment) Bill, 2025. How does the government plan to balance competition, consumer interests, and financial sustainability of discoms?

Textiles sector driving growth, jobs

Source: The post **"Textiles sector driving growth, jobs"** has been created, based on **"Textiles sector driving growth, jobs"** published in **"Business Line" on 20th January 2026.**

UPSC Syllabus: GS Paper-3- Economy

Context: India's textile sector has evolved from a legacy industry into a powerful engine of growth, employment, and inclusive development. It supports domestic demand, generates export earnings, and provides livelihood opportunities to women, rural youth, and first-generation entrepreneurs, reflecting the spirit of **Atmanirbhar Bharat**.

Key Highlights of the Sector:

1. The domestic textile market grew from about ₹8.4 lakh crore to ₹13 lakh crore in five years, driven by rising consumption, with per capita textile expenditure increasing from ₹3,000 in 2014-15 to over ₹6,000 in 2024-25, and projected to reach ₹12,000 by 2030.
2. Textile and apparel exports rose from ₹2.49 lakh crore in 2019-20 to nearly ₹3.5 lakh crore in 2024-25, showing a 28 per cent growth in the post-Covid period, underlining India's global competitiveness.
3. The sector is the **second largest employer** in India after agriculture, directly supporting around 5.6 crore people by 2023-24, with export-led growth creating an estimated 1.5 crore new jobs in the organised sector.
4. Employment has been boosted by **capacity expansion**, facilitated by the import of over 1.8 crore sewing machines since Covid, each supporting approximately 1.7 workers, creating over three crore jobs across the textile value chain.
5. The decentralised expansion allows older machines to move into smaller enterprises, tailoring units, and home-based businesses, **creating inclusive employment** for women, rural youth, and first-generation entrepreneurs.
6. Government initiatives such as the **District Led Textiles Transformation (DLTT)** aim to formalise the workforce, improve skill levels, and provide social security for long-term employment stability.

7. New **Free Trade Agreements**, including the upcoming India-EU FTA, are expected to expand markets, enhance competitiveness, and create additional jobs.
8. Industrial initiatives such as **PM MITRA Parks** and the **PLI scheme** are projected to generate over 23 lakh direct and indirect jobs, while the wider textile value chain may provide an additional 50 lakh livelihoods by 2030.
9. The **handloom and handicraft sector** supports over 65 lakh artisans and weavers, with exports currently at ₹50,000 crore and a target to double to ₹1 lakh crore by 2032, promoting sustainable and inclusive employment.

Challenges:

1. A significant portion of the workforce remains in the **unorganised sector**, making formalisation, skill development, and social security provision challenging.
2. **Infrastructure gaps**, especially in smaller towns and rural areas, limit the full potential of decentralised and home-based textile enterprises.
3. Ensuring **equitable employment opportunities** for women, rural youth, and first-generation entrepreneurs across regions remains a concern.
4. Global competition and changing fashion trends require continuous **upgradation of technology, quality standards, and compliance**, which can be challenging for smaller players.
5. Environmental concerns and the need for **sustainable and eco-friendly production** are increasingly important to maintain global market competitiveness.

Way Forward:

1. The government should continue to support **capacity expansion** through modern technology, machinery, and industrial parks to enhance production efficiency and employment generation.
2. Expanding and leveraging **Free Trade Agreements** will open new markets, boost exports, and create additional jobs in both organised and unorganised segments.
3. Initiatives like **DLTT** should be strengthened to formalise employment, provide skill development, and ensure social security benefits for workers.
4. Special focus should be placed on **inclusive growth** by targeting women, rural youth, and first-generation entrepreneurs with training, credit, and market support.
5. Promoting **sustainable textile production** aligned with global demand for eco-friendly products will benefit artisans, small enterprises, and the overall sector.
6. Encouraging **fast fashion and agile manufacturing** through policy support, incentives, and infrastructure will ensure India remains competitive in the global textile market.

Conclusion: India's textile sector is a **major driver of economic growth, exports, and inclusive employment**. By addressing challenges in formalisation, skill development, technology, and sustainability, the sector can generate over **five crore new jobs by 2030**, strengthen India's global competitiveness, and contribute to the vision of **Viksit Bharat 2047**.

Question: Examine how India's textile sector is driving growth and employment. What are the challenges it faces and the way forward to enhance inclusive development?

What is T.N.'s new hybrid pension model?

UPSC Syllabus Topic: GS Paper 3 -Indian Economy.

Introduction

Tamil Nadu has replaced its 23-year-old pension system with a new hybrid pension model called the Tamil Nadu Assured Pension Scheme (TAPS). The scheme was introduced to balance employee demands for assured pension and the State's concern over rising pension liabilities. TAPS combines features of the Old Pension Scheme, the Contributory Pension Scheme, and newer assured pension models introduced by the Centre and other States.

Old Pension Scheme (OPS): Structure

Coverage and eligibility: Employees who joined State government service or government-aided institutions before April 1, 2003 are covered under OPS.

Funding pattern: OPS is fully funded by the State government. Employees do not make any pension contribution.

Nature of the scheme: OPS is a defined benefit system. Pension is guaranteed for life and does not depend on market returns.

Pension revision mechanism: Pension is revised whenever a new Pay Commission is implemented, usually once every ten years.

Dearness Allowance linkage: Dearness Allowance is paid at the same rate as serving government employees.

Old Pension Scheme (OPS): Benefits

High pension growth over time: Long-serving pensioners have seen major increases due to repeated pay revisions and DA hikes.

Inflation protection: Regular DA increases protect pension value from rising prices.

Income certainty: Pension amount is fixed by salary structure, not affected by market fluctuations.

Lifetime security: Employees receive pension automatically after retirement without investment decisions.

Family pension support: Family members continue to receive pension after the pensioner's death.

Old Pension Scheme (OPS): Concerns

1. Rapid rise in pension burden: Pension liabilities grew at an average annual rate of about 30%, which became unsustainable.

2. **Increasing share in State revenue:** Pension payments rose from 3.8% of revenue receipts in the 1980s to around 16% by 2001–02.

3. **Long-term fiscal stress:** Rising life expectancy extended pension payments, contributing to pension liabilities growing at about 30% annually.

4. **White Paper findings:** According to the State's White Paper, pension and retirement benefit expenditure recorded double-digit growth in eight out of fifteen years between 2006–07 and 2020–21.

5. Impossibility of full rollback: Due to rising pension liabilities and repeated high growth rates, a complete return to the Old Pension Scheme became financially unviable for the State government.

What is Tamil Nadu Assured Pension Scheme (TAPS)?

Tamil Nadu Assured Pension Scheme (TAPS) is a new hybrid pension model introduced by the Tamil Nadu government to replace the 23-year-old Contributory Pension Scheme. The scheme came into effect from **January 1, 2026**.

It was designed to provide **assured monthly pension** to government employees while avoiding the heavy fiscal burden created by the Old Pension Scheme.

TAPS combines features of the **Old Pension Scheme**, the **Andhra Pradesh Guaranteed Pension Scheme**, and the **Unified Pension Scheme** of the Union government.

The decision was taken after a committee headed by **Gagandeep Singh Bedi** submitted its report in **December 2025**.

The scheme aims to provide income security to employees while keeping long-term pension liabilities under control.

Features of Tamil Nadu Assured Pension Scheme (TAPS)

1. **Hybrid design:** The scheme blends assured pension benefits of OPS with the contributory structure of CPS.

2. **Employee contribution:** Employees contribute **10% of their monthly salary**, similar to the earlier CPS.

3. **Government support:** The State provides at least a matching contribution and bears additional financial requirements.

4. **Assured pension:** Pension is fixed at **50% of the last-drawn basic pay**, not an average of previous months.

5. **Difference from UPS:** Unlike UPS, which uses the average of the last 12 months, TAPS uses **last-month salary**.

6. Service condition: Assured pension is provided **irrespective of length of qualifying service**.

7. **Dearness allowance:** Pensioners receive **DA increases on par with serving employees**, ensuring inflation protection.

8. **Family pension:** After the pensioner's death, the family receives **60% of the last pension drawn**.

9. **Gratuity benefit:** Death-cum-retirement gratuity is allowed up to a maximum of **₹25 lakh**.

10. **Compassionate pension:** CPS employees who retired before TAPS implementation are eligible for **special compassionate pension**.

Major Concerns Related to Tamil Nadu Assured Pension Scheme (TAPS)

1. **Short-term fiscal stress:** For the next seven years, the scheme will strain State finances due to parallel funding of OPS retirees and TAPS beneficiaries.

2. **High budget commitment:** The scheme involves a one-time expenditure of **₹13,000 crore** and an annual contribution of about **₹11,000 crore**.

3. **Absence of pension reset:** Unlike the Old Pension Scheme, TAPS does not allow pension revision after every Pay Commission.

4. **Dual pension burden:** The government must fund existing OPS pensioners while supporting assured pensions under TAPS.

5. **Employee dissatisfaction:** Sections of government employees are unhappy as the scheme does not restore OPS fully.

6. **Uncertain acceptance:** It remains unclear whether TAPS will attract wide support, similar to the limited response received by the Unified Pension Scheme.

Conclusion

Tamil Nadu Assured Pension Scheme attempts to balance fiscal discipline with employee security. It provides assured pension and inflation protection without returning to the costly OPS model. While TAPS reduces long-term pension risk compared to OPS, its success will depend on implementation clarity, employee confidence, and the State's ability to manage short-term financial stress effectively.

For detailed information on **Indian Pension System- Significance and Challenges** read this article here

Question for practice:

Discuss the rationale behind the introduction of the Tamil Nadu Assured Pension Scheme (TAPS) and examine its key features and associated concerns in comparison with the Old Pension Scheme.

Source: The Hindu

Trump's 'Board of Peace' for Gaza Transition and Role of India

UPSC Syllabus Topic: GS Paper 2 -International relation

Introduction

The United States has invited India to join the Donald Trump–led Board of Peace, created to guide the peace process in Gaza. The body was originally approved by the United Nations with a limited mandate. However, within four months, its role expanded through a new charter into a wider international organisation. This change has raised several questions for India and other invited countries.

Background: Origin of the Board of Peace

1. **Trump's 20-point peace plan:** In September last year, Donald Trump proposed a 20-point peace plan for Gaza.

2. **Temporary transitional governance:** The plan proposed placing Gaza under a temporary transitional governance system.

3. **Technocratic Palestinian committee:** A technocratic and apolitical Palestinian committee was to manage the day-to-day running of public services.

4. **Creation of the Board of Peace:** This committee was to be supervised by a new international body called the Board of Peace, to be headed by Trump.

5. **Early concerns:** Many observers pointed out that the arrangement effectively placed the US President in charge of Gaza.

Shift from UN-Approved Mandate to the New Charter

1. **Purpose and nature:** Under the UN-approved plan, the Board was created only to supervise Gaza's transitional governance. Under the new charter, it is described as a new international organisation and transitional governing administration.

2. **Geographical scope:** The UN-approved mandate limited the Board's role strictly to Gaza. The new charter expands its role beyond Gaza.

3. **Time duration:** The original mandate was to operate only until the end of 2027. The new charter does not specify any time limit.

4. **Membership system:** The UN-approved version did not include a formal membership structure. The new charter introduces three-year membership terms.

5. **Permanent membership provision:** Permanent membership was not part of the original mandate. The new charter allows permanent membership on payment of $1 billion in the first year.

6. **Reference to Gaza:** Gaza was central to the UN-approved mandate. The new charter does not mention Gaza at all.

7. **Scope of action:** Earlier, the Board's role was limited to Gaza's transition. The new charter states that it will work to secure peace in areas "affected or threatened by conflict," without defining "threatened."

8. **Approach to institutions:** The UN-approved framework functioned within the UN system. The new charter emphasises departing from institutions that have "too often failed."

Structure, Membership and Governance Framework

1. **Charter design:** The charter contains 13 articles covering membership rules, financial contributions, and dispute redressal.

2. **Three-year membership:** Countries accepting the invitation receive membership for three years.

3. **Permanent membership option:** A country can become a permanent member by paying $1 billion in the first year.

4. **Countries invited:** Invitations were sent to states across different geopolitical camps, including Hungary, Albania, Greece, Poland, Belarus, Germany, Canada, Turkey, Cyprus, Egypt, Jordan, Uzbekistan, Kazakhstan, Paraguay, Argentina, Pakistan, and India.

5. **Confirmed acceptances:** Hungary, Uzbekistan, and Kazakhstan have announced definite acceptance.

6. **Chairmanship:** The charter states that Donald J. Trump shall serve as the inaugural Chairman of the Board of Peace.

7. **Separate US role:** Trump will also serve separately as the inaugural representative of the United States.

8. **Removal conditions:** The chairman can be removed only if he resigns voluntarily or is unanimously declared incapable by the Executive Board.

9. **Binding obligation:** Membership requires a country to consent to be bound by the charter.

Operational Mechanism and Gaza Governance Framework

1. **International Stabilization Force:** The peace plan also envisaged an international force to establish security in Gaza, with appointments announced by the White House.

2. **Executive Board members:** Founding members include Marco Rubio, Steve Witkoff, Jared Kushner, Tony Blair, Marc Rowan, Ajay Banga, and Robert Gabriel.

3. National Committee for the Administration of Gaza (NCAG):

Leadership: The NCAG is to be led by Gaza-born technocrat Dr. Ali Sha'ath.

Functions: It will oversee restoration of core public services, rebuilding of civil institutions, and stabilisation of daily life in Gaza.

Governance objective: The committee is intended to lay the foundation for long-term, self-sustaining governance.

4. High Representative for Gaza:

Appointment: Bulgarian diplomat Nickolay Mladenov has been appointed High Representative for Gaza.

Role: He will act as the on-the-ground link between the Board of Peace and the NCAG.

5. Gaza Executive Board:

Composition: Members include representatives from the US, UK, Turkey, Qatar, Egypt, the UAE, Cyprus, and the Netherlands.

Absence of Palestinians: No Palestinian representative is included on this board.

Israeli concerns: Israel is reportedly unhappy with the inclusion of figures from Qatar and Turkey.

India's Invitation and Related Questions

1. Strategic Rationale: India is viewed as a key partner due to its historic ties and credibility with both Israel and Palestine, as well as its strategic partnership with the U.S..

2. **India's official position:** India has not yet taken a decision and has made no public statement on whether it will accept the invitation.

3. **Consistency with India's policy:** India has repeatedly reaffirmed its support for a two-state solution, calling for a sovereign Palestinian state alongside Israel as the basis for lasting peace.

4. **Strategic assessment:** Policy experts note that India must balance humanitarian concerns and global ambitions against reputational, legal, and strategic risks, and may support relief and reconstruction without formally joining the Board.

Conclusion

The Board of Peace has undergone a major transformation from a UN-approved Gaza-specific mechanism into a broader international organisation with global ambitions. Its new charter, governance structure, and membership rules differ sharply from the original mandate. These changes have created uncertainty for countries, including India, that are considering whether to join the body.

Question for practice:

Examine how the transformation of the Trump-led Board of Peace from a UN-approved Gaza-specific mechanism into a broader international organisation has raised institutional and policy challenges for India.

Source: NDTV

The EV boom is accelerating a copper crunch

UPSC Syllabus Topic: GS Paper 3 – Science and Technology

Introduction

The rapid global shift toward electric vehicles is increasing copper demand at an unprecedented scale. Copper is essential for electrification and forms the backbone of EV batteries, motors, wiring systems, charging infrastructure, and power grids. As EV adoption expands rapidly, copper demand is rising much faster than supply. Years of mining underinvestment, declining ore quality, and long project timelines are creating a structural shortage that may affect EV affordability, energy transition targets, and global trade dynamics.

Importance of Copper in the EV Transition

1. **Central role in EV systems:** Copper is required in EV batteries, electric motors, inverters, wiring harnesses, charging stations, and supporting power grids.

2. **Higher copper intensity in EVs:** Electric vehicles use four to five times more copper than internal combustion engine vehicles, making electrification highly copper-intensive.

3. **No effective substitute available:** There is currently no viable large-scale alternative material that can replace copper's conductivity and efficiency.

4. **Rapid expansion of EV sales:** Global EV sales increased from about 0.55 million units in 2015 to nearly 20 million units by 2025.

5. **Sharp rise in copper consumption:** Copper demand linked to EVs rose from around 27.5 thousand tonnes in 2015 to over 1.28 million tonnes by 2025.

6. **Strong demand linkage:** Between 2016 and 2024, copper demand elasticity mostly remained above 1.0, showing demand grew faster than EV sales.

7. **Peak copper usage phase:** In 2019, elasticity reached 1.76 due to larger battery packs, increased power electronics, and rapid charging infrastructure expansion.

8. **Efficiency gains insufficient:** Although elasticity may fall to around 0.90 by 2025, total copper demand will continue rising due to large EV volumes.

Emerging Global Copper Supply Constraints

1. **Decades of underinvestment:** Copper mining received limited investment for many years, restricting the industry's ability to expand supply quickly.

2. **Declining ore quality:** Existing mines are producing lower-grade ore, which reduces output efficiency and increases production costs.

3. **Long project development cycle:** New copper mines require 10–15 years from discovery to commercial production, delaying supply response.

4. **Environmental and regulatory barriers:** Mining expansion faces strong environmental opposition and regulatory delays in Chile, Peru, and the United States.

5. **Stagnation of global supply growth:** These factors together have caused global copper supply growth to plateau despite rising demand.

6. **Transition from surplus to deficit:** In 2024, global copper supply exceeded demand by about 0.3 million tonnes, but this balance is reversing.

7. **Large projected supply gap:** By 2026, demand is expected to reach nearly 30 million tonnes, while supply may remain near 28 million tonnes.

8. **Widening long-term shortage:** The deficit could increase to 4.5 million tonnes by 2028 and almost 8 million tonnes by 2030.

9. **Scale of the shortfall:** The projected gap equals the combined output of the world's ten largest copper mines.

10. **Rising cost pressures:** Copper shortages may increase EV production costs and slow adoption.

11. **Infrastructure development risks:** Limited copper availability could delay charging infrastructure and power grid expansion.

12. **Threat to climate transition:** Copper scarcity may become a major bottleneck for global decarbonisation efforts.

Geopolitical and Market Implications

1. **China's dominant demand position:**

- China's EV-related copper demand rose from about 78,000 tonnes in 2020 to nearly 678,000 tonnes in 2024.
- By 2025, China is expected to account for nearly 60% of global EV-based copper consumption.
- China controls over 70% of global battery cell manufacturing and maintains deeply integrated supply chains.

2. **Regional imbalance in consumption:** By 2025, EV-related copper demand is expected to reach around 210,000 tonnes in the European Union and 114,000 tonnes in the United States.

3. **Limited role of India:** India's EV-based copper demand remains modest at about 7,200 tonnes.

4. **Strategic leverage risks:** High concentration of demand and processing gives China pricing power and leverage over copper-rich regions.

5. **Copper as a strategic resource:** As electrification expands, access to copper is becoming as important as battery technology itself.

Way Forward

1. **Increase mining investment:** Large-scale investment is needed to develop new copper projects and expand existing ones.

2. **Accelerate recycling capacity:** Copper recycling must grow rapidly to reduce pressure on primary mining supply.

3. **Improve material efficiency:** Technological innovation should focus on lowering copper intensity without compromising performance.

4. **Strengthen supply diversification:** Countries must secure long-term contracts and diversify sourcing regions.

5. **Align mineral and climate planning:** Energy transition strategies must integrate resource availability with decarbonisation goals.

Conclusion

The global EV transition is driving copper demand beyond current supply limits. Rapid sales growth, stagnant mining output, and rising geopolitical competition are creating a structural copper crunch. Without urgent expansion of supply, recycling, and strategic planning, electrification goals may slow. The pace of the energy transition will depend not only on technology, but on copper availability.

Question for practice:

Examine how the rapid expansion of electric vehicles is intensifying global copper demand, creating supply constraints and reshaping market and geopolitical dynamics.

Source: The Hindu

The 'Donroe doctrine', a broken international order

UPSC Syllabus Topic: GS Paper 2 -International Relation.

Introduction

The year 2026 opened with a strong signal that the **post-1945 international order is weakening**. The U.S. military capture of Venezuelan President Nicolás Maduro marked a return to **power-based geopolitics**. This action, termed the **'Donroe Doctrine'**, reflects declining respect for sovereignty, international law, and multilateral institutions.

What is Donroe Doctrine?

Origin and meaning: The "Donroe Doctrine" (a blend of "Donald" and "Monroe") is a modern interpretation of the 1823 Monroe Doctrine, shaped by President Donald Trump's foreign policy approach. Unlike the original doctrine, which was defensive in nature, the Donroe Doctrine openly supports coercive intervention and regime enforcement.

Core principle: The doctrine asserts that the **United States is the sole security guarantor of the Western Hemisphere**. It rejects interference by non-Hemispheric powers such as China and Russia.

- **Tactics:** It involves a mix of policies, including:
  - **Economic Tools:** Sanctions, tariffs, and economic bailouts.
  - **Military Posturing:** Threats and interventions, notably in Venezuela.
  - **Pressure Campaigns:** Against governments seen as violating U.S. interests or aligning with rivals.

Triggering event: U.S. airborne forces abducted **Venezuelan President Nicolás Maduro and his wife** in a swift operation. They were incarcerated in the U.S. on charges of threatening American security.

Policy foundation: The **U.S. National Security Strategy (November 2025)** clearly states Washington's intent to **reassert pre-eminence in the Western Hemisphere** after years of neglect.

Strategic objective: The strategy seeks to **deny rival powers the ability to deploy forces or control vital assets** in the Hemisphere, treating regional dominance as a core U.S. interest.

Signals of expansion: Implicit threats were issued toward **Cuba, Colombia, and Mexico**, while **Greenland** was described as a security necessity due to its strategic location.

Concern of Donroe Doctrine?

Violation of sovereignty: The forcible detention of a sitting head of state represents a **direct breach of national sovereignty** and diplomatic norms.

Muted global response: Worldwide protests remained limited, indicating **declining faith in collective international resistance**.

Breakdown of rules-based order: The episode reinforces the belief that the **post-Second World War system is no longer effective** in restraining major powers.

Normalisation of force: Military abduction is now projected as a legitimate policy tool, encouraging **coercive regime change**.

Precedent for other powers: Such actions risk encouraging **China and Russia to enforce dominance** within their own zones of influence.

Taiwan implication: China's claim over **Taiwan gains indirect justification** in an environment where force replaces law.

Global Implications of the Donroe Doctrine

United States: The doctrine marks a formal return to **military interventionism and hemispheric dominance**. It places **national power above international law**, reviving coercive "shock and awe" tactics as legitimate policy.

Venezuela: The capture of its President shows the **complete erosion of sovereignty for smaller states**. It establishes regime change through force as an acceptable international practice.

Europe: The doctrine shifts U.S. strategic focus away from Europe and demands that it **assume primary responsibility for its defence**. This weakens security assurances built after 1945.

Ukraine: U.S. pursuit of strategic stability with Russia increases pressure for a negotiated settlement. Any outcome may remain **unsatisfactory to both sides**, risking future escalation.

Russia: The doctrine enables **transactional engagement** between Washington and Moscow. Russia gains leverage as U.S. priorities move from Europe to hemispheric control.

Israel: Strong U.S. interventionism provides political and military backing. It creates conditions to **complete the unfinished conflict of 2025** under favourable circumstances.

Iran: The doctrine emboldens U.S.–Israel action amid Iran's internal unrest. It increases risks of **sanctions, destabilisation, and external intervention**.

Afghanistan: The weakening of global restraint allows extremist groups to **regain operational space**. Regional instability expands under reduced international accountability.

Pakistan: Renewed U.S. strategic interest strengthens the military establishment. **Arms supplies and diplomatic support reinforce military dominance** over democratic institutions.

China: The doctrine legitimises **zone-of-influence politics**, strengthening China's argument for coercive regional control. It reinforces Beijing's strategic confidence.

Taiwan: A permissive global environment increases coercion risks. China may interpret U.S. actions as validation of **force-based territorial claims**.

Indo-Pacific Region: U.S. concentration on the Western Hemisphere reduces exclusive dominance. The **Eastern Pacific and Indian Ocean witness rising multipolar competition**.

India: The doctrine deepens India's strategic squeeze. **U.S. pressure on Russian oil, renewed U.S.–Pakistan alignment, and China's trade leverage** narrow India's diplomatic and economic space.

India at the Crossroads

Strained India–U.S. relations: The U.S. continues to criticise India for importing subsidised Russian oil despite India supporting Washington on most global issues. This has created visible friction in bilateral ties.

Diplomatic isolation in conflict regions: The cooling of India–U.S. relations has affected India's engagement with other countries. This has reduced India's influence in conflict zones such as West Asia.

Pakistan's renewed U.S. backing: The U.S. endorsement of Field Marshal Asim Munir and removal of restrictions on arms supplies have strengthened Pakistan's military position. This directly worsens India's security environment.

China-related economic pressure: China's advantage in trade and tariff disputes leaves India little room to hedge against possible U.S. tariff escalation. This increases India's economic vulnerability.

Conclusion

The Donroe Doctrine reflects a decisive shift from rules-based cooperation to power-driven geopolitics. Sovereignty and international law are steadily weakening. Regional instability is rising across continents. For India, 2026 offers limited strategic comfort, demanding cautious diplomacy, balanced partnerships, and sustained strategic autonomy in an increasingly uncertain global order.

Question for practice:

Discuss how the 'Donroe Doctrine' reflects the breakdown of the post-1945 international order and examine its implications for global geopolitics and India's strategic position.

Source: The Hindu

Judicial removal — tough law with a loophole

Syllabus: GS 2- Polity- Appointment to various Constitutional Posts, Powers, Functions and Responsibilities of various Constitutional Bodies.

Introduction:

The issue of judicial removal came into focus in December 2025 when **107 Lok Sabha Members of Parliament** submitted a motion seeking the removal of a Madras High Court judge. The notice contained **13 charges**, including allegations of acting against **secular constitutional principles**. While the Constitution provides a strict mechanism for removing judges to protect independence, the present case exposes a serious procedural weakness that can block accountability at the very beginning.

Constitutional Framework for Removal of Judges

1.Relevant constitutional provisions: Removal of Supreme Court judges is provided under **Articles 124(4) and 124(5)**, while High Court judges are governed by **Articles 217(1)(b) and 218**.

2. Uniform removal procedure: The procedure prescribed under Article 124 applies equally to both Supreme Court and High Court judges.

3. Use of constitutional terminology: The Constitution does not use the term impeachment for judges. It uses **"removal"**, while impeachment is used only for the **President of India under Article 61**.

3. Parliament's authority under Article 124(5): Article 124(5) empowers Parliament to make law for regulating **investigation of charges** and **presentation of an address**for removal.

4. Judges (Inquiry) Act, 1968: Based on Article 124(5), Parliament enacted the **Judges (Inquiry) Act, 1968**, along with the Judges Inquiry Rules, to regulate the complete procedure.

Grounds for Removal of a Judge

1. Permissible grounds: A judge can be removed only on grounds of proved misbehaviour or incapacity.

2. **Absence of constitutional definition:** The Constitution does not define misbehaviour.

3. **Judicial interpretation:** Courts have explained misbehaviour as conduct that brings dishonour to the judiciary, including wilful misconduct, corruption, lack of integrity, moral turpitude, and abuse of judicial office.

4. **Standard of conduct:** In *K. Veeraswami v. Union of India (1991)*, the Court stated that judicial honesty and impartiality must be absolute.

5. **Requirement of intent:** In *M. Krishna Swami v. Union of India (1992)*, the Court clarified that misbehaviour requires wilful conduct and not mere error of judgment or negligence.

Procedure for Removal of a Judge

Step 1: Notice of Motion: A removal motion must be submitted to the Speaker of the Lok Sabha or the Chairman of the Rajya Sabha. It requires signatures of at least 100 Lok Sabha members or 50 Rajya Sabha members.

Step 2: Admission of Motion: The Speaker or Chairman examines the notice at the initial stage and may admit or disallow the motion. **If the motion is disallowed, the entire process ends and no further action is taken.**

Step 3: Investigation Committee: After admission, a committee is constituted consisting of a Supreme Court judge, a Chief Justice of a High Court, and a distinguished jurist. **The committee conducts a detailed investigation into the charges.**

Step 4: Parliamentary Approval: If the committee finds the charges proved, an address must be passed by each House of Parliament. The address must be supported by a majority of total membership and two-thirds of members present and voting, after which it is sent to the President for removal of the judge.

Major Flaw Related to Removal of a Judge

1. Threshold rejection power: The law allows the Speaker or Chairman to disallow the motion even before investigation begins.

2. No admissibility criteria: The Judges (Inquiry) Act does not specify any criteria for admitting or rejecting a motion.

3. Statutory character of decision: While deciding admission, the Speaker or Chairman acts as a **statutory authority**, not merely as the presiding officer of the House.

4. Risk of arbitrariness: Since reasons for rejection are not mandatory, the process may attract charges of **arbitrariness**.

5. Comparison with President's removal: Under **Article 61**, a resolution for removal of the President must be moved mandatorily. The Speaker or Chairman has **no power to refuse it**.

6. Conflict with Article 124(5): Article 124(5) allows regulation of investigation and proof of misbehaviour. It does **not permit rejection before investigation**.

7. Unclear purpose of preliminary scrutiny: The law does not explain what examination the Speaker or Chairman must conduct at the first stage.

8. Core constitutional defect: A motion supported by **more than 100 elected MPs** can lapse without inquiry, making the constitutional remedy ineffective.

Consequences of the Existing Flaw

1. Parliamentary process becomes infructuous: If the motion is rejected initially, the entire constitutional mechanism collapses.

2. **Investigation never takes place: The** expert committee does not get an opportunity to examine the charges.

3. **Judicial accountability weakens:** A system meant to ensure accountability fails to function effectively when serious allegations cannot even reach the investigation stage.

4. **Possibility of political influence:** If the government does not support the motion, rejection at the threshold becomes likely.

5. **Dilution of constitutional intent:** A serious constitutional provision can be defeated by procedural discretion.

6. **Impact on public confidence:** When accountability mechanisms cannot operate, trust in constitutional institutions declines.

Conclusion:

The law governing removal of judges is intentionally strict to protect judicial independence. However, the power given to the Speaker or Chairman to disallow a motion at the threshold creates a **major loophole**. Article 124(5) does not support such rejection without investigation. When a motion signed by elected representatives can lapse without inquiry, accountability suffers. **This provision requires reconsideration to ensure balance between judicial independence and constitutional responsibility.**

Question for practice:

Discuss how the existing procedure for removal of judges in India, despite being constitutionally strict, contains a loophole that allows a motion to lapse at the threshold stage, thereby weakening judicial accountability.

Source: The Hindu

Lowering the age of juvenility for crimes is a step back

UPSC Syllabus Topic: GS Paper 2 - Laws, Institutions and Bodies constituted for the protection of vulnerable sections

Introduction

Lowering the age of juvenility weakens the core philosophy of child justice. The Juvenile Justice (Care and Protection of Children) Act, 2015 introduced the transfer system, changing India's reform-oriented juvenile framework. In December 2025, a Private Member's Bill proposed reducing the age threshold from **16 to 14 years** for heinous offences, defined as crimes carrying a **minimum punishment of seven years or more**. If enacted, this would expose younger children to adult criminal trials and prisons, eroding principles of care, rehabilitation, and reintegration while prioritising punishment.

Understanding the 'Transfer System' under the JJ Act, 2015

Developmental philosophy of juvenile justice: The juvenile justice system is based on the belief that children are developmentally different from adults and are capable of reform, rehabilitation, and reintegration.

Punitive shift under the JJ Act, 2015: After the 2012 Delhi gang rape case, the Act introduced the transfer system, marking a move away from a welfare-based approach toward punishment.

Scope and application of the system: The mechanism allows children aged **16–18 years**, accused of **heinous offences carrying a minimum seven-year punishment**, to be considered for adult criminal trials.

Arguments in Favour of the Transfer System

1. **Criminal accountability:** Supporters argue that children aged **16–18 years** possess sufficient maturity to understand the consequences of heinous crimes like murder or rape. Extending adult trial ensures they are not shielded by the **maximum three-year reformative limit**.

2. **Deterrent effect:** The provision aims to discourage serious juvenile delinquency by removing the assumption of light punishment. It seeks to prevent intentional misuse of juvenile protection.

3. **Victim justice:** The system attempts to balance the rights of the offender with the rights of the victim. It emphasises proportional punishment in cases involving grave harm.

4. **Capacity assessment:** The Act mandates a **preliminary assessment** by the Juvenile Justice Board. This includes evaluating mental and physical capacity, understanding of consequences, and surrounding circumstances.

5. **Balanced approach:** The transfer system combines retributive and reformative justice. It retains safeguards by prohibiting the death penalty and mandatory life imprisonment without release.

6. **Place of safety:** Transferred children are sent to a **place of safety** instead of adult prisons. A further evaluation after the age of **21 years** decides continued incarceration or release.

Arguments against the "Transfer System"

1. **Absence of empirical foundation:** The transfer system was introduced **without empirical evidence** showing that adult trials deter juvenile crime.

2. **Lack of scientific assessment tools:** There are **no reliable psychological or medical tools** to measure adult-level mental capacity in children.

3. **Impossibility of retrospective evaluation:** Mental capacity at the time of offence cannot be accurately assessed later, making such judgments unreliable.

4. **Shift from development to blame:** The framework diverts attention from developmental stage and lived circumstances toward abstract criminal culpability.

5. **Weak behavioural indicators:** Decisions rely on factors such as fear, repentance, or awareness of right and wrong, which do not reflect maturity.

6. **High subjectivity:** Juvenile Justice Boards exercise wide discretion without uniform national standards.

7. **Unequal outcomes:** Similarly placed children face different results due to procedure, discretion, and personal background.

8. **Artificial classification of childhood:** The system divides children based on assessment outcomes rather than actual conduct, weakening rehabilitation.

9. **Risk of expansion to younger age:** Lowering the threshold to **14 years** institutionalises arbitrariness at a more vulnerable stage of childhood.

Way Forward

1. **Fix institutional failure instead of lowering age:** Reforms should address gaps in the juvenile justice system rather than withdrawing legal protection from children.

2. **Use evidence-based policymaking: NCRB 2023 data** shows only **31,365 cases** against children in conflict with law, forming just **0.5% of total crimes**, weakening the justification for age reduction.

3. **Strengthen early intervention mechanisms:** Timely support can prevent children from entering the criminal justice system.

4. **Address structural vulnerability:** Many children come into conflict with law due to poverty, neglect, and inequality rather than criminal intent.

5. **Invest in family, education, and mental health support:** Strengthening these systems reduces long-term vulnerability and repeat offending.

6. **Preserve rehabilitation and reintegration:** Reform, not punishment, must remain the central objective of juvenile justice.

7. **Ensure enforcement of safeguards:** Illegal detention in police stations and adult prisons must be prevented through strict accountability.

8. **Uphold child rights principles:** The **best interests of the child** and **equality before law** must guide all legislative reform.

Conclusion

Lowering the age of juvenility expands punishment without supporting evidence. It deepens arbitrariness, weakens rehabilitation, and ignores crime data showing limited juvenile involvement. The real failure lies in institutions, not in childhood protection. Strengthening welfare systems, enforcing safeguards, and investing in early support offer a more just and sustainable response to serious harm.

For detailed information on **JUVENILE JUSTICE LAW** read this article here

Question for practice:

Examine whether lowering the age of juvenility for heinous crimes under the Juvenile Justice Act, 2015 strengthens accountability or undermines the principles of child justice.

Source: The Hindu

Why AI infrastructure matters more

Source: The post **"Why AI infrastructure matters more"** has been created, based on **"Why AI infrastructure matters more"** published in **"The Hindu" on 22nd January 2026.**

UPSC Syllabus: GS Paper-3- Science and technology

Context: Artificial Intelligence is no longer only a technological tool but a **strategic economic and governance resource**. India's white paper *"Democratising Access to AI Infrastructure"* highlights that AI outcomes are determined by access to **compute power, data, and platforms**, making AI infrastructure a key determinant of innovation, inclusion, and sovereignty.

Why AI Infrastructure Matters

1. **Foundation of Innovation and Governance:** AI infrastructure enables the development, training, and deployment of AI systems. Without affordable compute and datasets, innovation remains confined to a few large players, limiting start-ups, academia, and public sector applications.
2. **Structural Data–Compute Imbalance:** Although India generates nearly **20% of global data**, it hosts only **around 3% of global data centre capacity**. This mismatch forces Indian innovators to rely on foreign infrastructure, increasing costs and reducing control.
3. **Global Concentration of AI Power:** A handful of global firms dominate advanced chips, large-scale compute, and frontier AI models. This concentration raises entry barriers, restricts competition, and weakens India's strategic autonomy.
4. **Role of Digital Public Infrastructure (DPI):** Platforms such as **AI Kosh, Bhashini, and TGDeX** provide shared, standards-based access to datasets and models, enabling interoperability, accountability, and equitable innovation.
5. **Inclusive Sectoral Transformation:** Democratised AI access can extend benefits beyond IT and finance to **agriculture, healthcare, education, and public services**, particularly through regional and vernacular language solutions.
6. **Sustainability and Resource Efficiency:** AI infrastructure is energy- and water-intensive. Integrating renewable energy, efficient cooling, and green architectures is essential to prevent environmental stress.

Challenges

1. **High Capital and Energy Requirements:** Data centres, GPUs, and HPC systems demand heavy investment, stable electricity, and advanced cooling, posing fiscal and logistical constraints.
2. **Risk of Infrastructure Centralisation:** AI capacity may remain concentrated in metropolitan or corporate hubs, excluding smaller States, institutions, and start-ups.
3. **Dependence on Foreign Technology:** Limited domestic capability in semiconductor manufacturing and cloud platforms increases vulnerability to external supply disruptions.
4. **Governance, Privacy, and Trust Issues:** Weak data protection, unclear accountability, and ethical concerns can erode public confidence in AI systems.
5. **Skills and Access Divide:** Smaller firms, academic institutions, and local governments often lack technical expertise and affordable access to compute.

Way Forward

1. **Recognise AI Infrastructure as a Public Good:** Expand sovereign GPU clouds, national supercomputing capacity, and open model ecosystems under public oversight.
2. **Strengthen Digital Public Infrastructure:** Scale DPI platforms with transparent access rules, interoperability standards, and sector-specific use cases.
3. **Leverage Public–Private Partnerships (PPPs):** Use PPPs to expand regional data centres and AI compute while ensuring public interest safeguards.
4. **Embed Sustainability by Design:** Mandate renewable energy use, energy-efficient chips, and water-sensitive cooling systems.
5. **Adopt Trust-Centric Governance:** Implement phased regulation, strong data protection norms, and ethical AI frameworks.
6. **Invest in Capacity Building:** Provide subsidised compute, training, and research grants to start-ups, MSMEs, academia, and States.

Conclusion: The white paper's central message is clear: **AI access is destiny**. By democratising AI infrastructure through DPI, sustainability, partnerships, and trust-based governance, India can ensure inclusive growth, digital sovereignty, and long-term global competitiveness. The real determinant of India's AI future lies not in code, but in infrastructure.

Question: In light of India's AI policy discourse, examine why democratising AI infrastructure is critical for India. Discuss the challenges involved and suggest a way forward.

Should corruption charges need prior sanction?

Source: The post **"Should corruption charges need prior sanction?"** has been created, based on **"Should corruption charges need prior sanction? | Explained"** published in **"The Hindu" on 22nd January 2026.**

UPSC Syllabus: GS Paper-2- Governance

Context: Corruption undermines public trust, weakens institutions, and affects the quality of governance. The Prevention of Corruption Act, 1988, is India's principal anti-corruption legislation. The constitutional validity of Section 17A of the Act, which mandates prior approval before investigating public servants for decisions taken in official capacity, has recently come under scrutiny following a split verdict of the Supreme Court, thereby reviving the debate between accountability and administrative protection.

Prevention of Corruption Act, 1988

1. The Prevention of Corruption Act, 1988, was enacted following the recommendations of the Santhanam Committee of 1964 to consolidate laws dealing with bribery and criminal misconduct.
2. The Act applies to government officials, judges, and other persons performing public duties. It criminalises offences such as bribery, abuse of official position, and obtaining undue advantage.

Section 17A: Mandate and Rationale

1. Section 17A was inserted into the Act in 2018 and requires prior approval from the appropriate government before initiating any inquiry or investigation into offences related to decisions taken by a public servant in the discharge of official duties.
2. The primary objective of this provision is to protect honest officers from vexatious and frivolous complaints.

3. The provision seeks to encourage fearless and timely decision-making by distinguishing bona fide administrative actions from intentional acts of corruption.

Earlier Supreme Court Rulings

1. In Vineet Narain versus Union of India (1998), the Supreme Court struck down the "Single Directive" that required prior sanction for investigating certain public servants, holding it to be violative of the principle of equality before law.
2. In Subramaniam Swamy versus Director, CBI (2014), the Court invalidated Section 6A of the Delhi Special Police Establishment Act for creating an unjustified classification among public servants, thereby violating Article 14 of the Constitution.

The Supreme Court's Split Verdict (2026)

Justice K. V. Viswanathan

1. Justice Viswanathan upheld the constitutional validity of Section 17A subject to conditions.
2. He observed that the absence of such protection could lead to a "play-it-safe syndrome" in the bureaucracy.
3. He held that prior approval should be granted by an independent mechanism and recommended that it be based on a binding opinion of the Lokpal or Lokayuktas rather than the government alone.

Justice B. V. Nagarathna

1. Justice Nagarathna declared Section 17A to be unconstitutional. She held that the provision was merely a reintroduction of mechanisms earlier struck down by the Court.
2. She found that Section 17A failed the test of intelligible differentia and rational nexus under Article 14.
3. She also noted that adequate protection to honest officers already exists under Section 19 of the Act, which requires prior sanction before prosecution.

Challenges with Prior Sanction Requirement

1. The requirement of prior sanction can lead to delays and executive interference in corruption investigations.
2. It can dilute the deterrent effect of anti-corruption laws by delaying accountability.
3. The provision carries the risk of shielding powerful officials from scrutiny.
4. It may undermine the functional independence of investigative agencies.

Way Forward

1. **Independent Approval Mechanism:** The power to grant prior approval should be vested in independent constitutional or statutory bodies such as the Lokpal and Lokayuktas instead of political executives.
2. **Time-bound Sanction and Trials:** Statutory timelines should be prescribed for granting sanction and fast-track courts should be established for corruption cases.
3. **Penalty for Malicious Complaints:** Penal provisions should be introduced to deter false, frivolous, and motivated complaints.
4. **Strengthening Institutional Autonomy:** Investigative agencies such as the CBI and vigilance bodies should be granted greater functional independence.

5. **Balancing Accountability and Protection:** Legal frameworks should protect honest decision-making while ensuring zero tolerance for corruption.

Conclusion: The constitutional debate surrounding Section 17A reflects the tension between administrative efficiency and anti-corruption accountability. While honest public servants require safeguards against harassment, corruption investigations must remain independent, prompt, and effective. A balanced framework based on institutional independence, speedy justice, and proportional safeguards is essential to uphold constitutional values, governance integrity, and public trust.

Question: Examine the constitutional debate surrounding Section 17A of the Prevention of Corruption Act, 1988, the Supreme Court's split verdict, and suggest systemic reforms to tackle corruption effectively.

A Dangerous March Towards a Himalayan Ecocide

UPSC Syllabus Topic: GS Paper 3 -Environment

Introduction:

In 2025, India experienced nearly **331 days of climate impacts**, exposing the growing vulnerability of the Himalayan region. More than **4,000 deaths** were reported as cloudbursts, landslides, avalanches and flash floods struck repeatedly. Despite these warnings, large infrastructure projects continue in fragile mountain zones, accelerating ecological damage and increasing long-term disaster risks.

Why Are Himalayan Disasters Increasing?

1. **Rapid climate warming:** High-altitude Himalayan regions have warmed **50% faster than the global average since 1950**, leading to snowless winters and unstable mountain systems.

2. **Frequent extreme weather events:** Scorching heat, intense rainfall, cloudbursts and avalanches are occurring more often and with greater intensity.

3. **Accelerated glacial retreat:** The Gangotri Glacier, one of the world's fastest receding glaciers, feeds unstable moraine-rich glaciers that increase flood and avalanche risks.

4. **Construction in critical geological zones:** Areas north of the **Main Central Thrust (MCT)** are highly fragile, yet major infrastructure continues where it is officially discouraged.

5. **Unsafe land-use practices:** Wide highways, steep hill cutting, tunnel drilling and hydropower construction disturb natural slope stability.

Governance and Infrastructure Failures

1. **Flawed project design:** The Char Dham project relies on the **12-metre DL-PS road standard**, unsuitable for fragile terrain.

2. **Forest diversion approval:** On **November 12**, **43 hectares of forest land** were diverted, including **10 hectares for muck dumping**.

3. **Avoidance of environmental assessment:** Environmental Impact Assessment was bypassed through project fragmentation.
4. **Unsafe hill cutting:** Vertical slope cutting violated the natural **angle of repose** of Himalayan geology.
5. **Unscientific muck dumping:** Debris was dumped into rivers and drainage channels.
6. **Infrastructure failure:** Border routes face repeated closures, and locals call the road an **"all-paidal road."**

What Are the Ecological and Human Implications?

1. **Large-scale human losses:** More than **4,000 people died in 2025**, with Himachal Pradesh and Uttarakhand facing the heaviest toll.
2. **Destruction of settlements:** Towns such as **Dharali, Harsil, Uttarkashi, Chamoli, Kullu, Mandi and Kishtwar** suffered repeated flash floods and landslides.
3. **Loss of livelihoods:** Homes, agriculture, roads and local economies were wiped out by sudden disasters.
4. **Felling of Devdar forests:** Nearly **7,000 Devdar trees** are approved for removal for road widening.
5. **Weakening of natural slope protection:** Devdar root systems bind soil, stabilise slopes and reduce landslides and avalanches.
6. **Increased disaster vulnerability:** Forest clearance removes natural barriers against glacial debris flows and flash floods.

Why Are Devdar Forests Ecologically Critical?

1. **Natural disaster shields:** Devdar forests act as buffers against landslides, avalanches and debris movement.
2. **Protection of river systems:** These forests lie within the **Bhagirathi Eco-Sensitive Zone**, a **4,000 sq km buffer** protecting the Ganga's last pristine stretch.
3. **Water quality regulation:** Organic matter from Devdar trees supports healthy microbial activity in mountain streams.
4. **Antimicrobial properties:** Terpenoids, essential oils and phenolic compounds inhibit harmful bacteria and support river ecology.
5. **Maintenance of microclimate:** These forests keep air and water temperatures low and sustain dissolved oxygen levels.
6. **Irreversible ecological loss:** Deforestation leads to warmer water, lower oxygen, reduced bacteriophage activity and permanent ecological change.

Way Forward

1. **Prioritise disaster-resilient development:** Infrastructure must focus on safety and slope stability instead of excessive road widening in fragile zones.
2. **Follow science-based planning:** Road design, slope cutting and construction must respect geological limits and the natural angle of repose.
3. **Strengthen implementation of NMSHE:** The **National Mission for Sustaining the Himalayan Ecosystem (2014)** must guide all development in the Himalayas.
4. **Protect old-growth Devdar forests**: Devdar forests must be preserved as natural stabilisers of slopes and protectors of river systems.
5. **Reject unscientific tree translocation:** Centuries-old Devdar trees cannot be relocated because their ecological functions are site-specific.
6. **Regulate unsafe land use:** Construction on unstable slopes, large tunnels and hydropower projects must be strictly controlled.
7. **Integrate climate risk into development planning:** Climate change must be treated as a risk multiplier that intensifies floods, landslides and glacial disasters.
8. **Manage human pressure in fragile zones:** Tourism, vehicular movement and waste management must follow carrying-capacity limits.
9. **Shift from disaster-prone to disaster-resilient infrastructure:** Connectivity and national interest must be secured through stability, not through ecological destruction.

Conclusion

The Himalayas are the ecological foundation of India. Repeated disasters show that ignoring geology, forests and climate science turns development into destruction. Infrastructure built without resilience weakens national security and livelihoods. Sustainable, science-based planning is not a choice but a necessity, because without the Himalayas, there is no India.

Question for practice:

Discuss how unsafe infrastructure development and climate change together are increasing disaster risks in the Himalayan region.

Source: The Hindu

How India Can Turn AI into Foreign Policy

UPSC Syllabus Topic: GS Paper 3– Science and Technology – Developments and their applications and effects in everyday life.

Introduction

India's Global AI Summit marks a shift from symbolism to statecraft. The focus is not on displaying technological power but on building credibility. As trust becomes central to global AI adoption, India is positioning itself as a reliable partner through governance-first policy, real-world deployment, and AI diplomacy. By developing AI systems under real constraints such as low bandwidth, multiple languages, and uneven infrastructure, India is turning complexity into a strategic advantage that strengthens its foreign policy ambitions.

Current Status of India's Artificial Intelligence Ecosystem

1. **Governance-first AI vision:** India follows a governance-led model instead of fear-based regulation. The **seven-pillar AI Chakras framework** focuses on **safe and trusted AI, democratized access, and inclusion by design**.

2. **Enablement over restriction:** Unlike Western regulatory caution or Chinese techno-nationalism, India supports innovation through enablement. The approach shows that safety and scale can coexist.

3. **Population-scale deployment:** AI is already in active use. **Millions of farmers receive AI advisories**, hospitals use AI tools to screen **TB and stroke**, and the **Supreme Court uses AI for multilingual translation**.

4. **From pilots to rollout:** While many countries remain at experimental stages, India has reached nationwide deployment, proving that AI can work for large populations.

5. **Digital Public Infrastructure foundation:** Platforms such as **Aadhaar, UPI, DigiLocker, and DEPA (Data Empowerment and Protection Architecture)** form an interoperable public stack. These systems are built openly and function at national scale.

6. **Trust-based credibility advantage:** India relies on transparent institutions and political legitimacy rather than competing on raw compute power.

What Are the Challenges of India's Artificial Intelligence Ecosystem?

1. **Trust without capacity risk:** Trust alone cannot sustain leadership. Without infrastructure support, credibility may weaken over time.

2. **Limited compute accessibility:** AIRAWAT national compute infrastructure remains difficult to access. Opaque processes restrict use by startups and academic institutions.

3. **Slow scaling of indigenous models: Bharat GenAI efforts remain confined to pilots**, limiting large-scale model development.

4. **Weak safety research ecosystem:** AI safety research lacks dedicated institutional funding, despite increasing deployment risks.

5. **Data constraints:** Public datasets, especially for **low-resource Indian languages and regulated sectors**, are limited and often not audit-ready.

6. **Institutional guardrails lag:** Governance systems are not evolving at the same speed as deployment, creating regulatory gaps.

7. **Unclear liability framework:** There is no clarity on responsibility when AI systems fail. **Developer, deployer, and data custodian roles remain undefined**, raising risks for industry.

8. **Absence of strong sandboxes:** India lacks sector-specific, regulator-backed AI sandboxes with legal protection for testing high-risk systems.

India's 'Third Path' for the Global South

1. **Global governance dilemma:** Developing countries face limited choices. Western AI systems are costly and compliance-heavy. Chinese systems come with strategic dependencies.

2. **India's alternative model:** India offers a **third path based on openness, interoperability, and inclusion**, avoiding both restriction and control.

3. **Growing global interest:** Countries across Asia, Africa, and Latin America are studying India's DPI architecture.

4. **Adoption of Indian systems:** Some nations are adopting **UPI-based payment models**, while others test **Aadhaar-like digital identity systems**.

5. **From technology export to capacity export:** India's approach shifts focus from selling tools to building national capabilities.

6. **From follower to framer:** By shaping governance models, India moves from being an AI user to a rule-setting contributor.

AI as an Instrument of Foreign Policy

1. **Emergence of AI diplomacy:** India is using the Global AI Summit as a diplomatic platform to extend cooperation beyond national borders. Through this platform, it brings Global South researchers together, invites global impact challenges, and co-creates AI solutions with multilateral institutions.

2. **Alignment without coercion:** India does not demand ideological alignment. It offers cooperation on mutually acceptable terms.

3. **Ecosystem-building strategy:** The focus is not on winning markets but on shaping long-term AI ecosystems.

4. **Soft power expansion:** AI becomes a tool of diplomacy, strengthening influence through shared governance and joint capacity building.

5. **Replacing dependency with partnership:** India's model emphasizes **mutual capacity instead of technological dependence**, enhancing global trust.

Way Forward

1. **Compute access reform:** AIRAWAT must move from concept to access, with transparent procedures so startups, researchers, and academic institutions can use national compute easily.
2. **Scale Bharat GenAI:** Model development efforts under Bharat GenAI must expand beyond pilot projects to build domestic AI capability at meaningful scale.
3. **Fund safety research:** AI safety research requires dedicated institutional funding to manage risks as deployment expands into governance and public services.
4. **Open public datasets:** Public datasets, especially for low-resource languages and regulated sectors, must be made open, usable, and audit-ready.
5. **Clear liability norms:** A clear framework is needed to define accountability among developers, deployers, and data custodians when AI systems fail.
6. **Regulatory sandboxes:** Sector-specific, regulator-backed sandboxes with legal cover must be created to test high-risk AI systems before formal regulation.

Conclusion

India's AI strategy blends trust, deployment, and diplomacy into foreign policy. The summit places India at the center of the global trust debate. Yet credibility depends on delivery. With stronger coordination, infrastructure, and governance, India can show that **democratic AI at scale is not a contradiction, but a workable global model**.

Question for practice:

Examine how India is using artificial intelligence as a tool of foreign policy by leveraging trust-based governance, large-scale deployment, and cooperation with the Global South.

Source: Businessline

U.S. Greenland Claim and Its Impact on Arctic Politics

Source: The post **"U.S. Greenland Claim and Its Impact on Arctic Politics"** has been created, based on **"U.S. Greenland Claim and Its Impact on Arctic Politics"** published in **"Indian Express" on 23rd January 2026.**

UPSC Syllabus: GS Paper-3- International Relations

Context: Greenland is an autonomous territory under Danish administration and has significant strategic importance in the Arctic region. Recent indications of possible American control over Greenland have raised serious geopolitical concerns. Such a development can affect NATO unity, strengthen Russia and China, and alter Canada's security outlook.

Impact on NATO

1. NATO functions on the principle of collective security under Article 5 and mutual respect for sovereignty.
2. A US takeover of Greenland would violate these foundational principles of the alliance.
3. Denmark may invoke Article 5, which would lead to an unprecedented internal conflict within NATO.
4. Such a situation may weaken trust and cooperation among member states.
5. The credibility and effectiveness of NATO may be seriously undermined.

Strategic Gains for Russia and China

1. Internal divisions within NATO would directly benefit Russia, especially during the ongoing Ukraine conflict.
2. A weakened alliance would reduce strategic pressure on Russia in Europe and the Arctic region.
3. China is expanding its Arctic presence through economic investments and military cooperation with Russia.
4. Joint military exercises near Alaska indicate growing strategic coordination between the two countries.
5. Therefore, American action may unintentionally strengthen its major rivals.

Existing US Presence in Greenland

1. The United States already operates in Greenland under the 1951 defence agreement with Denmark.
2. It earlier maintained several military bases in the region.
3. These facilities can be revived if required for security purposes.
4. Existing arrangements are sufficient to safeguard American strategic interests.
5. Therefore, territorial takeover is unnecessary and unjustified.

Domestic Political and Economic Drivers in U.S.A

1. Some influential business leaders view Greenland as an important economic opportunity.
2. They are interested in rare earth minerals, real estate, and strategic projects.
3. President Trump's background as a real estate developer influences his expansionist approach.
4. As a result, strategic decisions may be influenced by commercial considerations.

Implications for Canada

1. US control of Greenland would geographically surround Canada.
2. This situation would increase Canada's strategic vulnerability in the Arctic region.
3. Canada has begun debating the need for stronger defence capabilities.
4. Some experts have suggested reconsidering the country's nuclear policy.
5. Canada's traditional security posture may therefore undergo major changes.

Risk of Nuclear Proliferation

1. Weakening of NATO may encourage countries to seek independent nuclear deterrence.
2. Germany and Poland may reconsider their dependence on collective security.
3. Japan and South Korea may also rethink their nuclear policies.
4. Such developments would weaken the Nuclear Non-Proliferation Treaty.
5. This situation may trigger a global nuclear arms race.

Challenges

1. Challenge of Alliance Fragmentation: A conflict between NATO members would weaken the institutional unity of the alliance. It would significantly reduce confidence in collective security mechanisms.

2. Challenge of Legal and Diplomatic Disputes: A territorial takeover would violate international law and established sovereignty norms. It would lead to prolonged diplomatic tensions and the possibility of economic and political sanctions.

3. Challenge of Strategic Instability in the Arctic: Increased militarisation in the Arctic region would raise the risk of military confrontation. Competition over natural resources and strategic sea routes would intensify.

4. Challenge of Arms Race and Militarisation: Countries may increase defence spending and expand their nuclear and conventional military programmes. Arms control and disarmament agreements may weaken over time.

5. Challenge of Marginalisation of Smaller States: Denmark and Greenland's political autonomy may be seriously undermined. Smaller NATO members may feel insecure and politically marginalised within the alliance.

Way Forward

1. Strengthening Diplomatic Engagement: U.S.A, Denmark, and other NATO members must prioritise continuous diplomatic dialogue. All disputes should be resolved through peaceful negotiations and mutual consultation.

2. Upholding International Law: Territorial integrity and sovereignty must be respected by all countries without exception. The United Nations Charter and international conventions should guide state behaviour.

3. Reforming and Reinforcing NATO: NATO must strengthen its internal consultation and dispute-resolution mechanisms. Clear and transparent protocols should be developed for managing internal disagreements.

4. Promoting Cooperative Arctic Governance: Arctic states should strengthen multilateral platforms such as the Arctic Council. Environmental protection and sustainable development should be given high priority.

5. Implementing Confidence-Building Measures: Transparency in military activities and deployments should be ensured. Joint exercises, data sharing, and communication channels can reduce mutual mistrust.

6. Strengthening the Non-Proliferation Regime: Major powers must reaffirm their commitment to the Nuclear Non-Proliferation Treaty. Diplomatic initiatives should be strengthened to discourage the spread of nuclear weapons.

Conclusion: A US takeover of Greenland would undermine NATO unity, strengthen adversaries, and destabilise regional security. It would also increase nuclear proliferation risks and weaken international norms. Long-term stability can be ensured only through diplomacy, cooperation, and respect for sovereignty.

Question: What are the implications of a possible US takeover of Greenland for NATO, Russia, and Canada? Discuss the challenges and suggest a way forward.

Reforms needed to make agriculture more viable

Source: The post **"Reforms needed to make agriculture more viable"** has been created, based on **"Reforms needed to make agriculture more viable"** published in **"Business Line" on 23rd January 2026.**

UPSC Syllabus: GS Paper-3- Economy

Context: Agriculture continues to remain a vital sector of the Indian economy despite its declining share in Gross Value Added. In 2023–24, the sector contributed nearly 18 per cent to GVA and employed about 46 per cent of the workforce. The average growth rate of agriculture during 2011–2025 was around 4 per cent, which was lower than the overall GVA growth. There exist wide inter-State disparities in agricultural productivity, income, and access to resources. The Agriculture Development Index has been developed to analyse these regional variations.

Agriculture Development Index: Framework

1. The Agriculture Development Index is based o**n six major parameters** that reflect income, productivity, and input use.
    a. It includes **the average annual income of agricultural households** as per the Situation Assessment Survey 2019.
    b. It **considers the value of crop output per hectare** reported by the Ministry of Statistics and Programme Implementation.
    c. It **incorporates cropping intensity** as an indicator of land use efficiency.
    d. It **measures fertiliser consumption per hectare** to assess input usage.
    e. It **includes institutional credit advanced per hectare to** reflect financial access.
    f. It **takes into account gross value added per agricultural worker** to measure labour productivity.
2. All indicators are normalised and given near-equal weights to ensure comparability across States.

Key Findings from the ADI

Overall Performance

1. Punjab and Haryana rank highest on the Agriculture Development Index.
2. Tamil Nadu and Andhra Pradesh occupy middle positions.
3. Nagaland, Odisha, Chhattisgarh, and Manipur rank at the bottom.
4. These rankings indicate serious structural and institutional weaknesses in low-performing States.

Farm Household Income

1. The average annual income of agricultural households varies widely across States.
2. It ranges from about ₹58,470 to more than ₹3 lakh in Punjab and Meghalaya.
3. Haryana, Kerala, Mizoram, and Arunachal Pradesh also report high farm incomes.
4. Bihar, West Bengal, Jharkhand, Odisha, and Uttarakhand record comparatively low incomes.
5. Farm income growth between 2012 and 2019 was only around 8 per cent.

6. This low growth rate is insufficient to achieve the target of doubling farmers' income.

Value of Crop Output per Hectare

1. The national average value of crop output is about ₹1.39 lakh per hectare.
2. Tripura records the highest value, exceeding ₹3 lakh per hectare.
3. Andhra Pradesh, Tamil Nadu, West Bengal, and Sikkim also show strong performance.
4. Rajasthan, Punjab, Haryana, Madhya Pradesh, and Maharashtra show relatively low output values. This indicates inefficient utilisation of land and agricultural inputs in several States.

Cropping Intensity

1. The national average cropping intensity is about 155.
2. Punjab, West Bengal, Tripura, Madhya Pradesh, and Haryana record higher cropping intensity.
3. Cropping intensity does not show a strong relationship with household income.
4. It also does not have a strong correlation with fertiliser use. Therefore, increasing cropping intensity alone is not sufficient to improve farmers' income.

Fertiliser Use

1. The average fertiliser consumption in India is about 137 kilograms per hectare.
2. Punjab, Haryana, and Telangana record the highest fertiliser usage.
3. Sikkim and several North-Eastern States show negligible fertiliser use due to organic farming practices.
4. The weak correlation between fertiliser use and crop output indicates excessive and imbalanced application. This results in declining soil health and lower input efficiency.

Credit per Hectare

1. The average outstanding agricultural credit per hectare is around ₹0.88 lakh.
2. Credit availability varies widely from ₹0.07 lakh in Nagaland to ₹4.5 lakh in Tamil Nadu.
3. States with better access to institutional credit generally show superior agricultural performance.
4. This highlights the importance of financial inclusion in rural areas.

Labour Productivity

1. Haryana records the highest gross value added per agricultural worker at about ₹5.69 lakh.
2. Punjab, Tamil Nadu, Andhra Pradesh, Tripura, and Mizoram also demonstrate high labour productivity.
3. Several eastern and central Indian States continue to exhibit low labour productivity.
4. Low productivity reflects disguised unemployment and limited mechanisation.

Major Issues

1. There is widespread inefficiency in fertiliser use across many States.
2. High fertiliser consumption does not always translate into higher agricultural output.
3. Farm household income does not always correspond with crop productivity.
4. Non-crop activities such as dairying, fisheries, and poultry play a significant role in income generation.

5. Access to institutional credit remains highly uneven across regions.
6. Small and fragmented landholdings restrict mechanisation and economies of scale.
7. Inadequate marketing infrastructure reduces farmers' share in consumer prices.
8. Structural and policy constraints continue to hinder balanced agricultural development.

Way Forward

1. Fertiliser subsidies should be rationalised by promoting soil health cards and balanced nutrient application.
2. Direct benefit transfer and income support through PM-KISAN should be strengthened.
3. Agricultural market reforms should be accelerated to create a unified national market.
4. Inter-State trade barriers should be removed and logistics infrastructure should be improved.
5. Institutional credit systems should be reformed to reduce regional disparities.
6. Cooperative banks and regional rural banks should be strengthened.
7. Precision farming, mechanisation, and digital agriculture should be promoted for small farmers.
8. Farmer Producer Organisations should be strengthened for collective input purchase and marketing.
9. Land consolidation and collective farming models should be encouraged through legal support.
10. Farm reforms should be promoted through fiscal incentives and cooperative federalism.

Conclusion

Agriculture continues to play a crucial role in employment generation and social stability. The Agriculture Development Index highlights deep inter-State disparities in income, productivity, and institutions. These disparities can be addressed through efficient input use, market integration, and credit expansion. Technological adoption and institutional reforms are essential for sustainable agricultural growth. Coordinated efforts by the Centre and the States are necessary to ensure higher and stable farm incomes.

Question: *"Regional disparities in agricultural development continue to hinder inclusive growth in India."* In this context, analyse the factors responsible for inter-State differences in farm productivity and income. Suggest suitable policy measures to promote balanced and sustainable agricultural development.

One District One Product (ODOP)

Source: The post **"One District One Product (ODOP)"** has been created, based on **"One District One Product (ODOP)"** published in **"PIB" on 24th January 2026.**

UPSC Syllabus: GS Paper-3- Economy

Context: One District One Product (ODOP) initiative was launched in **Uttar Pradesh in 2018**. It identifies one unique product from each district and provides it with **branding, market access, institutional support, and visibility**. It aims to empower local artisans, revive traditional skills, create livelihoods, and promote **district-specific economic growth**. Moradabad's brassware was the first product recognized, which **later reached international markets.**

Objectives of ODOP

1. **Balanced Regional Development:** Reduce regional disparities by leveraging local resources and skills.

2. **Empowerment of Artisans and Producers:** Provide **training, modern toolkits**, and institutional support to artisans, farmers, and weavers.
3. **Promotion of Exports:** Integrate districts with global markets, enhancing **India's export portfolio**.
4. **Preservation of Heritage:** Protect traditional crafts and cultural identity.
5. **Job Creation & Rural Entrepreneurship:** Generate livelihoods under **Aatmanirbhar Bharat** initiative.
6. **Alignment with National Missions:** Supports **Make in India, Vocal for Local, and Districts as Export Hub**.

Key Features

1. It is governed collaboratively by **DPIIT, state governments, and district administrations**.
2. Products are selected based on **existing local ecosystem**.
3. **Over 1,200 products listed** across sectors like textiles, handicrafts, minerals, and food.
4. **Digital Market Access:** Products showcased through **GeM-ODOP Bazaar** and state e-commerce portals.
5. **PM Ekta Malls:** National hubs to promote ODOP and GI-tagged products, with **₹5,000 crore support**, experience zones, and retail spaces for every state/UT.

Impact of ODOP:

In Uttar Pradesh (Pioneer State):

1. Exports rose by **76% (₹88,967 Cr in 2017-18 → ₹1.71 Lakh Cr in 2023-24)**.
2. **₹6,000 crore projects sanctioned** under ODOP Margin Money Scheme.
3. Over **1.25 crore artisans trained** with modern toolkits.
4. **UPITS 2025 & Mahakumbh 2025:** Boosted **national and global visibility** for 466 ODOP stalls, GI-tagged products, and regional crafts.

National Level:

1. Scaled to **770+ districts**, impacting millions of entrepreneurs, artisans, and farmers.
2. **Global Recognition:** ODOP products promoted through **80+ Indian missions**, G-20 gifting, and stores in **Singapore and Kuwait**.

Significance:

1. It converts **traditional skills into sustainable economic engines**.
2. It promotes **inclusive growth, rural employment, and international trade**.
3. It strengthens **India's cultural identity and global brand**.
4. It bridges **local heritage with modern development goals**, supporting Aatmanirbhar Bharat.

Challenges in Implementing ODOP:

1. **Awareness and Outreach Deficit:** Many local communities, including artisans, farmers, and producers, are unaware of their district-specific products or the economic opportunities under ODOP. Limited marketing skills and exposure restrict participation.
2. **Infrastructure Gaps:** Poor transport networks, inadequate storage, lack of processing units, and weak logistics hamper efficient production, distribution, and market access.

3. **Limited Market Access:** ODOP products often struggle to reach regional, national, and international markets due to weak supply chains, absence of dedicated marketing platforms, and lack of e-commerce integration.
4. **Skill and Quality Constraints:** Artisans may lack modern design, production, packaging, and marketing skills, affecting product quality and competitiveness.
5. **Resource and Funding Challenges:** Unequal or insufficient allocation of financial and technical resources can delay implementation and reduce the scheme's effectiveness.
6. **Sustainability Issues:** ODOP initiatives may face difficulties in scaling successful products, maintaining momentum, and ensuring long-term viability.
7. **Competition and Differentiation:** ODOP products face competition from mass-produced or similar items from other regions, making branding and differentiation crucial.

Way Forward:

1. **Awareness and Capacity Building:** Conduct campaigns and workshops at district levels to educate communities about ODOP benefits, cultural significance, and entrepreneurship opportunities.
2. **Infrastructure Development:** Invest in transportation, storage, packaging, and processing facilities to strengthen supply chains and enable efficient distribution.
3. **Market Access and Digital Integration:** Facilitate linkages with domestic and international markets, establish e-commerce platforms, and promote ODOP products through trade fairs, exhibitions, and Government e-Marketplace (GeM).
4. **Skill Development and Quality Enhancement:** Provide training in modern design, craftsmanship, quality control, branding, and sustainable production practices to improve competitiveness.
5. **Transparent Resource Allocation:** Ensure equitable distribution of financial and technical support, coupled with monitoring and evaluation mechanisms.
6. **Branding and Promotion:** Develop a strong national and global brand identity for district-specific products to differentiate them from competitors.
7. **Sustainability and Scaling:** Encourage long-term planning, integration with tourism, exports, and entrepreneurship programs to sustain and scale successful ODOP initiatives.
8. **Stakeholder Collaboration:** Promote coordination among central/state governments, local authorities, trade bodies, and artisans for smooth implementation and monitoring.

Conclusion: ODOP has transformed local streets into **global shelves**, turning artisan aspirations into economic opportunities. From Moradabad's brassware to PM Ekta Malls and international stores, the initiative exemplifies how **district-level products can achieve national pride and global outreach.**

Question: One District One Product (ODOP) initiative has transformed India's local economies and traditional crafts. Discuss its objectives, impact, and global outreach.

Source: PIB

Merits of user tax on infra services

Source: The post **"Merits of user tax on infra services"** has been created, based on **"Merits of user tax on infra services"** published in **"BusinessLine" on 24th January 2026.**

UPSC Syllabus: GS Paper-3- Economy

Context: Raising government revenue is challenging because **direct taxes are politically sensitive**, and GST rates have recently been lowered. A **user-based tax** on infrastructure-related goods and services like vehicles, telecom, railways, airlines, and freight can generate **significant revenue** without being a burden, as these goods are **price inelastic**, meaning demand is unaffected by small cost increases.

Merits of User Tax on Infra Services

1. **Revenue Generation:** Even a **small tax or cess** on high-volume goods and services can raise **substantial revenue**, estimated at ₹20,000 crore. Given the large number of users for telecom, travel, and vehicle purchases, revenue accrues steadily over time.
2. **Minimal Consumer Impact:** For a ₹75,000 two-wheeler, a ₹1,000 tax is only **1.3%**, barely noticeable to the buyer. Similarly, ₹10 per mobile connection or per rail ticket is insignificant relative to the **average revenue per user or ticket price**, ensuring affordability.
3. **Price Inelastic Demand:** Services like railways, airlines, and telecom continue to see **stable demand** despite price hikes, as evidenced by **dynamic pricing in railways**. Freight transport must happen irrespective of minor cost increases, ensuring predictable revenue.
4. **Limited Inflationary Impact:** Components such as rail, air, or vehicles have **low CPI weights** (rail 0.18%, air 0.077%, vehicles 0.48–0.79%), so adding small taxes will **barely affect overall inflation**. This ensures the tax is **non-disruptive to the broader economy**.
5. **Sustainable and Flexible:** Taxes can be **graded** by usage, class, or capacity (e.g., higher for cars, lower for two-wheelers). Periodic revisions are possible to **stabilise revenue** as demand patterns and infrastructure needs evolve.
6. **Encourages Efficient Usage:** Small user charges may encourage **judicious consumption**, e.g., choosing an appropriate travel class or mobile plans. At the same time, essential services remain accessible due to low tax incidence.

Challenges

1. **Equity Concerns:** Even small taxes can impact **low-income users**, especially for frequent users of public transport or mobile services.
2. **Implementation Complexity:** Efficient collection across millions of transactions, especially for rail freight or telecom connections, requires **robust digital systems**.
3. **Resistance from Industry:** Transport, telecom, and vehicle sectors may **oppose additional charges**, fearing reduced demand or administrative burden.
4. **Indirect Inflation Risk:** Freight and transport taxes can **increase goods costs**, which might be passed on to consumers indirectly.

Way Forward

1. **Graded and Fair Taxation:** Scale the tax based on **vehicle type, travel class, or usage**, so low-income users are minimally affected.
2. **Digital Collection Mechanism:** Implement e-payment and **automatic collection** to reduce leakages and ensure transparency.
3. **Periodic Revision:** Adjust charges periodically to **match revenue needs and inflation trends** without disrupting demand.
4. **Awareness and Communication:** Publicise that funds will be used for **infrastructure improvements** to gain citizen support.

5. **Direct Link to Infrastructure Investment:** Allocate revenue to **roads, railways, airports, and telecom upgrades**, ensuring transparency and accountability.

Conclusion: A **user-based tax on infrastructure services** leverages **price-inelastic demand** to generate **sustainable revenue**, minimally impacts consumers, and supports long-term infrastructure development. With **grading, digital collection, and transparency**, it can provide a stable funding source while remaining affordable.

Question: Discuss the merits of imposing a user-based tax on infrastructure-related goods and services. How can such a tax help in revenue generation without affecting consumption? Also, highlight its challenges and suggest ways forward.

Source: BusinessLine

Delimitation after 2027, Redrawing Power in India

UPSC Syllabus Topic: GS paper2- Polity- issues and challenges pertaining to the federal structure.

Introduction

Delimitation is the constitutional process of adjusting electoral boundaries according to population change. Although routine in principle, the delimitation due after Census 2027 will be the most decisive redistribution of political power since Independence. It will determine Lok Sabha seat allocation, influence women's reservation, reshape coalition politics, and raise difficult questions on fairness, federalism, and democratic balance among Indian States.

What is Delimitation?

Delimitation refers to the process of redrawing the boundaries of electoral constituencies to ensure fair representation based on population changes.

Delimitation Commission:

• The Delimitation Commission is a statutory body responsible for determining the boundaries of various constituencies in the country for the purpose of elections.

• It is governed by the Delimitation Act, 2002 and is conducted by the Delimitation Commission under Articles 82and 170 of the Indian Constitution.

• The objective is to provide equitable representation to all regions while maintaining the principle of one person, one vote.

Freeze on seat redistribution since 1976:

• Inter-State distribution of Lok Sabha seats has remained unchanged since 1976, based on the 1971 Census. The freeze was introduced to prevent States that adopted population control measures from losing political representation.

- **Extension through the 84th Constitutional Amendment:** In 2001, the freeze was extended until the first Census conducted after 2026.

- **Present representational mismatch:** India's parliamentary representation still reflects a population of 548 million, while the actual population has crossed 1.47 billion.

Why the Upcoming Delimitation Is Unprecedented

1. End of constitutional suspension: With Census 2027, the legal protection against seat redistribution expires, making delimitation unavoidable.

2. First inter-State redistribution since 1976:

- The next Delimitation Commission will reallocate Lok Sabha seats among States after nearly five decades.

- Complete redrawing of constituencies: Unlike the 2002–08 exercise, all parliamentary constituencies will be redrawn, not merely internal boundaries.

- Integration of women's reservation: The Commission must also create reserved constituencies for the 33% women's quota.

3. Delay in execution:

- Even if Census data is released in 2028, delimitation before 2031–32 appears unlikely.

- Impact on women's reservation rollout: Due to these delays, women's reservation may not be implemented before the 2034 general election.

What are the concerns associated with Delimitation Exercise?

1. Population vs. Development- Southern states argue that delimitation based solely on population would penalize them for Try successful family planning and economic development. **E.g.**Tamil Nadu's fertility rate is 1.6, while Bihar's is 3.0.

2. Federalism at Risk- States with low population growth may feel politically marginalized, leading to North-South divide concerns. There are concerns that the Delimitation Exercise can create federal Imbalance as states with better governance may feel punished for controlling population. **E.g.** Sarkaria Commission (1983) warned against excessive centralization of power.

3. Manipulation- There are concerns that political parties may influence constituency boundaries for electoral gains. **E.g.**Allegations of bias in the J&K delimitation process (2022).

4. Delays and Political Resistance- There are instances of increased political resistance as seen in the case of Justice Kuldip Singh-led Commission (2002) facing pushback from political parties unwilling to lose seats.

5. Economic Disparities- Southern states argue that higher revenue generation (GST collections, per capita income) should be factored into representation.

6. Moral Contradiction: The exercise conflicts with decades of national policy that promoted population control, as States following the policy now risk political loss.

7. **Constitutional Uncertainty:** Extending the seat freeze or modifying redistribution may invite legal challenges because unequal representation undermines the principle of equal suffrage under Article 14.

8. **Reservation Concerns:** While the number of SC and ST seats follows population share, the choice of constituency locations depends on Commission discretion.

Possible Approaches and Reform Options

1. Extend the freeze beyond 2026: The current freeze on inter-State seat redistribution may be extended until fertility rates across States converge. This protects the existing political balance but denies fair representation to fast-growing States and may face constitutional challenge under Article 14 due to unequal suffrage.

2. Expand the size of the Lok Sabha: The Lok Sabha may be expanded from 543 to around 750 or 888 seats so that no State loses its existing seats. However, population-based allocation would still give larger States a much bigger share, leaving southern concerns unresolved.

3. Adopt a weighted population–development formula: Seat allocation could follow a composite formula giving 70–80% weight to population and 20–30% weight to development indicators such as literacy, health, and fertility control. This approach rewards governance outcomes instead of population growth alone.

4. Strengthen the Rajya Sabha as a federal chamber: The Rajya Sabha's federal role can be restored by reintroducing domicile requirements and reforming seat distribution. A tier-based system with equal seats within large, medium, and small State groups can reduce population dominance and balance federal power.

5. Bifurcate Uttar Pradesh to reduce concentration of power: Uttar Pradesh may be divided into three or four States to prevent excessive political dominance. If its projected 151 Lok Sabha seats are distributed among smaller States, no single State would command disproportionate influence.

6. Implement phased redistribution of seats: Seat reallocation may be carried out in two stages, with half implemented in 2034 and the remainder in 2039. This gradual approach reduces political shock while still complying with constitutional requirements.

Conclusion

Delimitation after 2027 will redefine India's political balance for decades. The challenge lies in reconciling population-based equality with governance fairness and federal stability. Transparent procedures, expert participation, and political consensus are essential. If guided by justice and dialogue, delimitation can strengthen democracy; if driven by numbers alone, it risks deepening regional distrust.

Question for practice:

Discuss how the delimitation exercise due after Census 2027 is likely to reshape political representation in India, and examine the constitutional, federal, and governance-related concerns associated with it.

Source: The Hindu

Walkouts by Governors test constitutional limits

UPSC Syllabus GS2-**Indian Polity**

Introduction

The walkouts by Governors during inaugural sessions of State Legislatures in Karnataka, Tamil Nadu, and Kerala have raised serious constitutional questions. These actions challenge the limits of discretion allowed to Governors. The issue has brought renewed focus on Articles related to the Governor's address, the role of the elected Cabinet, and the balance between constitutional duty and political neutrality.

Constitutional Role of the Governor (gubernatorial powers)?

Gubernatorial powers are the constitutional, legal, administrative, legislative, executive, judicial, and discretionary powers vested in the **Governor** of a state.

These powers are derived mainly from **Articles 153 to 167 and 200–213** of the Constitution.

These powers enable the **Governor to act as the *constitutional head* of the state,** oversee its governance, and safeguard the Constitution while working with the state government.

Constitutional Provisions:

- **Article 153:** Provides for a Governor for one or more than one states.
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- **Article 155:** Provides for the appointment of the Governor by the President by warrant under his hand and seal.
- **Article 156:** Provides the term of office of Governor- Appointed for a period of five years and holds office during the pleasure of the President. Pleasure of the President means that he can be removed anytime by the President, even before the expiry of five years.
- **Article 157:** Qualifications- He should be a citizen of India and must have completed the age of thirty-five years

3. Aid and advice principle: Under Article 163, the Governor must act on the aid and advice of the Council of Ministers except in areas where discretion is expressly provided.

4. **Discretionary Powers** = Governor has two types of discretion in the execution of his work:

- **Constitutional discretion** which is discretion mentioned directly in the Constitution. This is exercised in matters such as reserving a bill for the consideration of the President, recommendation of the President's rule under Article 356.

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- **Representative role:** Dr. B.R. Ambedkar stated that the Governor has no independent governing function. He acts as a representative of the people as a whole, not of any political party.

Judicial Interpretation on Governor Conduct

1. Shamsher Singh judgment (1974):

• A **seven-judge Bench ruled** that **Governors cannot publicly oppose Cabinet policy.** Such conduct violates the parliamentary system.

• **Warning against constitutional overreach:**The court said free discretion in every function would weaken democracy and elevate the Governor beyond constitutional limits.

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• A **five-judge Constitution Bench** held that the **Governor's discretionary powers are strictly limited and clearly stated in the Constitution.**

• **Interpretation on legislative functions:** The Court ruled that **summoning the House under Article 174 cannot be done at the Governor's discretion and must follow Cabinet advice.**

• **Interpretation on Governor's address:** The Court stated that addressing the **House under Article 175(1) or delivering the special address** under **Article 176(1) are** executive functions performed only on the aid and advice of the Council of Ministers.

Governor's Address and Legal Precedents

1. **Mandatory constitutional duty:** Article 176(1) requires the Governor to address the Legislature at the first session each year and after Assembly elections.

2. **Purpose of the address:** The address informs the Legislature of the reasons for its summons and outlines the policies of the elected State government.

3. **Executive nature of the address:** The Supreme Court clarified that Articles 175 and 176 involve executive functions performed on Cabinet advice.

4. **No authority to alter content:** The speech reflects government policy. Any unilateral change by the Governor can make the speech politically indefensible.

5. **Rajasthan High Court ruling (1966):** A partial speech was held sufficient as long as the Governor communicated directly with elected representatives.

6. **Calcutta High Court view:** The address is mandatory, but partial delivery is only an irregularity, not illegality. Legislative proceedings remain valid.

Recent Crisis and Its Impacts

1. **Walkouts from Assembly sessions:** Governors in Karnataka, Tamil Nadu, and Kerala either skipped portions of the address or walked out during delivery.

2. **Departure from constitutional practice:** Such actions go beyond the "limited freewheeling" allowed under the Constitution.

3. **Cabinet authority questioned:** State leaders argue Governors cannot skip paragraphs approved by the Council of Ministers.

4. **Possible judicial intervention:** The Karnataka government may approach the Supreme Court seeking clarity on the constitutionality of such walkouts.

5. **Risk of constitutional crisis:** Selective reading or refusal to read the speech disrupts legislative accountability and undermines federal balance.

6. **Budget session exception:** In 2022, Telangana began its Budget Session without the Governor's address as the session was treated as a continuation, not a new one.

Conclusion

The recent walkouts highlight growing strain between Governors and elected governments. Constitutional provisions, judicial rulings, and Assembly debates clearly limit gubernatorial discretion. Ignoring Cabinet advice weakens parliamentary democracy and federal balance. Clear judicial guidance and strict adherence to constitutional roles are essential to prevent recurring institutional conflict.

Question for practice:

Examine how recent walkouts by Governors during State Legislative Assembly sessions have tested constitutional limits on gubernatorial discretion and affected the balance between elected governments and constitutional authority in India.

Source: **The Hindu** and **Deccan Herald**

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• **Interpretation on Governor's address:** The Court stated that addressing the **House under Article 175(1) or delivering the special address** under **Article 176(1) are** executive functions performed only on the aid and advice of the Council of Ministers.

Governor's Address and Legal Precedents

1. **Mandatory constitutional duty:** Article 176(1) requires the Governor to address the Legislature at the first session each year and after Assembly elections.
2. **Purpose of the address:** The address informs the Legislature of the reasons for its summons and outlines the policies of the elected State government.
3. **Executive nature of the address:** The Supreme Court clarified that Articles 175 and 176 involve executive functions performed on Cabinet advice.
4. **No authority to alter content:** The speech reflects government policy. Any unilateral change by the Governor can make the speech politically indefensible.
5. **Rajasthan High Court ruling (1966):** A partial speech was held sufficient as long as the Governor communicated directly with elected representatives.
6. **Calcutta High Court view:** The address is mandatory, but partial delivery is only an irregularity, not illegality. Legislative proceedings remain valid.

Recent Crisis and Its Impacts

1. **Walkouts from Assembly sessions:** Governors in Karnataka, Tamil Nadu, and Kerala either skipped portions of the address or walked out during delivery.

2. **Departure from constitutional practice:** Such actions go beyond the "limited freewheeling" allowed under the Constitution.

3. **Cabinet authority questioned:** State leaders argue Governors cannot skip paragraphs approved by the Council of Ministers.

4. **Possible judicial intervention:** The Karnataka government may approach the Supreme Court seeking clarity on the constitutionality of such walkouts.

5. **Risk of constitutional crisis:** Selective reading or refusal to read the speech disrupts legislative accountability and undermines federal balance.

6. **Budget session exception:** In 2022, Telangana began its Budget Session without the Governor's address as the session was treated as a continuation, not a new one.

Conclusion

The recent walkouts highlight growing strain between Governors and elected governments. Constitutional provisions, judicial rulings, and Assembly debates clearly limit gubernatorial discretion. Ignoring Cabinet advice weakens parliamentary democracy and federal balance. Clear judicial guidance and strict adherence to constitutional roles are essential to prevent recurring institutional conflict.

Question for practice:

Examine how recent walkouts by Governors during State Legislative Assembly sessions have tested constitutional limits on gubernatorial discretion and affected the balance between elected governments and constitutional authority in India.

Source: **The Hindu** and **Deccan Herald**

One District One Product (ODOP)

Source: The post **"One District One Product (ODOP)"** has been created, based on **"One District One Product (ODOP)"** published in **"PIB" on 24th January 2026.**

UPSC Syllabus: GS Paper-3- Economy

Context: One District One Product (ODOP) initiative was launched in **Uttar Pradesh in 2018**. It identifies one unique product from each district and provides it with **branding, market access, institutional support, and visibility**. It aims to empower local artisans, revive traditional skills, create livelihoods, and promote **district-specific economic growth**. Moradabad's brassware was the first product recognized, which **later reached international markets.**

Objectives of ODOP

1. **Balanced Regional Development:** Reduce regional disparities by leveraging local resources and skills.
2. **Empowerment of Artisans and Producers:** Provide **training, modern toolkits**, and institutional support to artisans, farmers, and weavers.
3. **Promotion of Exports:** Integrate districts with global markets, enhancing **India's export portfolio**.
4. **Preservation of Heritage:** Protect traditional crafts and cultural identity.
5. **Job Creation & Rural Entrepreneurship:** Generate livelihoods under **Aatmanirbhar Bharat** initiative.
6. **Alignment with National Missions:** Supports **Make in India, Vocal for Local, and Districts as Export Hub**.

Key Features

1. It is governed collaboratively by **DPIIT, state governments, and district administrations**.
2. Products are selected based on **existing local ecosystem**.
3. **Over 1,200 products listed** across sectors like textiles, handicrafts, minerals, and food.
4. **Digital Market Access:** Products showcased through **GeM-ODOP Bazaar** and state e-commerce portals.
5. **PM Ekta Malls:** National hubs to promote ODOP and GI-tagged products, with **₹5,000 crore support**, experience zones, and retail spaces for every state/UT.

Impact of ODOP:

In Uttar Pradesh (Pioneer State):

1. Exports rose by **76% (₹88,967 Cr in 2017-18 → ₹1.71 Lakh Cr in 2023-24)**.
2. **₹6,000 crore projects sanctioned** under ODOP Margin Money Scheme.
3. Over **1.25 crore artisans trained** with modern toolkits.
4. **UPITS 2025 & Mahakumbh 2025:** Boosted **national and global visibility** for 466 ODOP stalls, GI-tagged products, and regional crafts.

National Level:

1. Scaled to **770+ districts**, impacting millions of entrepreneurs, artisans, and farmers.
2. **Global Recognition:** ODOP products promoted through **80+ Indian missions**, G-20 gifting, and stores in **Singapore and Kuwait**.

Significance:

1. It converts **traditional skills into sustainable economic engines**.
2. It promotes **inclusive growth, rural employment, and international trade**.
3. It strengthens **India's cultural identity and global brand**.
4. It bridges **local heritage with modern development goals**, supporting Aatmanirbhar Bharat.

Challenges in Implementing ODOP:

1. **Awareness and Outreach Deficit:** Many local communities, including artisans, farmers, and producers, are unaware of their district-specific products or the economic opportunities under ODOP. Limited marketing skills and exposure restrict participation.

2. **Infrastructure Gaps:** Poor transport networks, inadequate storage, lack of processing units, and weak logistics hamper efficient production, distribution, and market access.
3. **Limited Market Access:** ODOP products often struggle to reach regional, national, and international markets due to weak supply chains, absence of dedicated marketing platforms, and lack of e-commerce integration.
4. **Skill and Quality Constraints:** Artisans may lack modern design, production, packaging, and marketing skills, affecting product quality and competitiveness.
5. **Resource and Funding Challenges:** Unequal or insufficient allocation of financial and technical resources can delay implementation and reduce the scheme's effectiveness.
6. **Sustainability Issues:** ODOP initiatives may face difficulties in scaling successful products, maintaining momentum, and ensuring long-term viability.
7. **Competition and Differentiation:** ODOP products face competition from mass-produced or similar items from other regions, making branding and differentiation crucial.

Way Forward:

1. **Awareness and Capacity Building:** Conduct campaigns and workshops at district levels to educate communities about ODOP benefits, cultural significance, and entrepreneurship opportunities.
2. **Infrastructure Development:** Invest in transportation, storage, packaging, and processing facilities to strengthen supply chains and enable efficient distribution.
3. **Market Access and Digital Integration:** Facilitate linkages with domestic and international markets, establish e-commerce platforms, and promote ODOP products through trade fairs, exhibitions, and Government e-Marketplace (GeM).
4. **Skill Development and Quality Enhancement:** Provide training in modern design, craftsmanship, quality control, branding, and sustainable production practices to improve competitiveness.
5. **Transparent Resource Allocation:** Ensure equitable distribution of financial and technical support, coupled with monitoring and evaluation mechanisms.
6. **Branding and Promotion:** Develop a strong national and global brand identity for district-specific products to differentiate them from competitors.
7. **Sustainability and Scaling:** Encourage long-term planning, integration with tourism, exports, and entrepreneurship programs to sustain and scale successful ODOP initiatives.
8. **Stakeholder Collaboration:** Promote coordination among central/state governments, local authorities, trade bodies, and artisans for smooth implementation and monitoring.

Conclusion: ODOP has transformed local streets into **global shelves**, turning artisan aspirations into economic opportunities. From Moradabad's brassware to PM Ekta Malls and international stores, the initiative exemplifies how **district-level products can achieve national pride and global outreach.**

Question: One District One Product (ODOP) initiative has transformed India's local economies and traditional crafts. Discuss its objectives, impact, and global outreach.

Source: PIB

Merits of user tax on infra services

Source: The post **"Merits of user tax on infra services"** has been created, based on **"Merits of user tax on infra services"** published in **"BusinessLine" on 24th January 2026.**

UPSC Syllabus: GS Paper-3- Economy

Context: Raising government revenue is challenging because **direct taxes are politically sensitive**, and GST rates have recently been lowered. A **user-based tax** on infrastructure-related goods and services like vehicles, telecom, railways, airlines, and freight can generate **significant revenue** without being a burden, as these goods are **price inelastic**, meaning demand is unaffected by small cost increases.

Merits of User Tax on Infra Services

1. **Revenue Generation:** Even a **small tax or cess** on high-volume goods and services can raise **substantial revenue**, estimated at ₹20,000 crore. Given the large number of users for telecom, travel, and vehicle purchases, revenue accrues steadily over time.
2. **Minimal Consumer Impact:** For a ₹75,000 two-wheeler, a ₹1,000 tax is only **1.3%**, barely noticeable to the buyer. Similarly, ₹10 per mobile connection or per rail ticket is insignificant relative to the **average revenue per user or ticket price**, ensuring affordability.
3. **Price Inelastic Demand:** Services like railways, airlines, and telecom continue to see **stable demand** despite price hikes, as evidenced by **dynamic pricing in railways**. Freight transport must happen irrespective of minor cost increases, ensuring predictable revenue.
4. **Limited Inflationary Impact:** Components such as rail, air, or vehicles have **low CPI weights** (rail 0.18%, air 0.077%, vehicles 0.48–0.79%), so adding small taxes will **barely affect overall inflation**. This ensures the tax is **non-disruptive to the broader economy**.
5. **Sustainable and Flexible:** Taxes can be **graded** by usage, class, or capacity (e.g., higher for cars, lower for two-wheelers). Periodic revisions are possible to **stabilise revenue** as demand patterns and infrastructure needs evolve.
6. **Encourages Efficient Usage:** Small user charges may encourage **judicious consumption**, e.g., choosing an appropriate travel class or mobile plans. At the same time, essential services remain accessible due to low tax incidence.

Challenges

1. **Equity Concerns:** Even small taxes can impact **low-income users**, especially for frequent users of public transport or mobile services.
2. **Implementation Complexity:** Efficient collection across millions of transactions, especially for rail freight or telecom connections, requires **robust digital systems**.
3. **Resistance from Industry:** Transport, telecom, and vehicle sectors may **oppose additional charges**, fearing reduced demand or administrative burden.
4. **Indirect Inflation Risk:** Freight and transport taxes can **increase goods costs**, which might be passed on to consumers indirectly.

Way Forward

1. **Graded and Fair Taxation:** Scale the tax based on **vehicle type, travel class, or usage**, so low-income users are minimally affected.
2. **Digital Collection Mechanism:** Implement e-payment and **automatic collection** to reduce leakages and ensure transparency.
3. **Periodic Revision:** Adjust charges periodically to **match revenue needs and inflation trends** without disrupting demand.

4. **Awareness and Communication:** Publicise that funds will be used for **infrastructure improvements** to gain citizen support.
5. **Direct Link to Infrastructure Investment:** Allocate revenue to **roads, railways, airports, and telecom upgrades**, ensuring transparency and accountability.

Conclusion: A **user-based tax on infrastructure services** leverages **price-inelastic demand** to generate **sustainable revenue**, minimally impacts consumers, and supports long-term infrastructure development. With **grading, digital collection, and transparency**, it can provide a stable funding source while remaining affordable.

Question: Discuss the merits of imposing a user-based tax on infrastructure-related goods and services. How can such a tax help in revenue generation without affecting consumption? Also, highlight its challenges and suggest ways forward.

Source: BusinessLine

Delimitation after 2027, Redrawing Power in India

UPSC Syllabus Topic: GS paper2- Polity- issues and challenges pertaining to the federal structure.

Introduction

Delimitation is the constitutional process of adjusting electoral boundaries according to population change. Although routine in principle, the delimitation due after Census 2027 will be the most decisive redistribution of political power since Independence. It will determine Lok Sabha seat allocation, influence women's reservation, reshape coalition politics, and raise difficult questions on fairness, federalism, and democratic balance among Indian States.

What is Delimitation?

Delimitation refers to the process of redrawing the boundaries of electoral constituencies to ensure fair representation based on population changes.

Delimitation Commission:

- The Delimitation Commission is a statutory body responsible for determining the boundaries of various constituencies in the country for the purpose of elections.
- It is governed by the Delimitation Act, 2002 and is conducted by the Delimitation Commission under Articles 82and 170 of the Indian Constitution.
- The objective is to provide equitable representation to all regions while maintaining the principle of one person, one vote.

Freeze on seat redistribution since 1976:

- Inter-State distribution of Lok Sabha seats has remained unchanged since 1976, based on the 1971 Census. The freeze was introduced to prevent States that adopted population control measures from losing political representation.

- **Extension through the 84th Constitutional Amendment:** In 2001, the freeze was extended until the first Census conducted after 2026.

- **Present representational mismatch:** India's parliamentary representation still reflects a population of 548 million, while the actual population has crossed 1.47 billion.

Why the Upcoming Delimitation Is Unprecedented

1. End of constitutional suspension: With Census 2027, the legal protection against seat redistribution expires, making delimitation unavoidable.

2. First inter-State redistribution since 1976:

- The next Delimitation Commission will reallocate Lok Sabha seats among States after nearly five decades.

- Complete redrawing of constituencies: Unlike the 2002–08 exercise, all parliamentary constituencies will be redrawn, not merely internal boundaries.

- Integration of women's reservation: The Commission must also create reserved constituencies for the 33% women's quota.

3. Delay in execution:

- Even if Census data is released in 2028, delimitation before 2031–32 appears unlikely.

- Impact on women's reservation rollout: Due to these delays, women's reservation may not be implemented before the 2034 general election.

What are the concerns associated with Delimitation Exercise?

1. Population vs. Development- Southern states argue that delimitation based solely on population would penalize them for Try successful family planning and economic development. **E.g.**Tamil Nadu's fertility rate is 1.6, while Bihar's is 3.0.

2. Federalism at Risk- States with low population growth may feel politically marginalized, leading to North-South divide concerns. There are concerns that the Delimitation Exercise can create federal Imbalance as states with better governance may feel punished for controlling population. **E.g.** Sarkaria Commission (1983) warned against excessive centralization of power.

3. Manipulation- There are concerns that political parties may influence constituency boundaries for electoral gains. **E.g.**Allegations of bias in the J&K delimitation process (2022).

4. Delays and Political Resistance- There are instances of increased political resistance as seen in the case of Justice Kuldip Singh-led Commission (2002) facing pushback from political parties unwilling to lose seats.

5. Economic Disparities- Southern states argue that higher revenue generation (GST collections, per capita income) should be factored into representation.

6. Moral Contradiction: The exercise conflicts with decades of national policy that promoted population control, as States following the policy now risk political loss.

7. **Constitutional Uncertainty:** Extending the seat freeze or modifying redistribution may invite legal challenges because unequal representation undermines the principle of equal suffrage under Article 14.

8. **Reservation Concerns:** While the number of SC and ST seats follows population share, the choice of constituency locations depends on Commission discretion.

Possible Approaches and Reform Options

1. Extend the freeze beyond 2026: The current freeze on inter-State seat redistribution may be extended until fertility rates across States converge. This protects the existing political balance but denies fair representation to fast-growing States and may face constitutional challenge under Article 14 due to unequal suffrage.

2. Expand the size of the Lok Sabha: The Lok Sabha may be expanded from 543 to around 750 or 888 seats so that no State loses its existing seats. However, population-based allocation would still give larger States a much bigger share, leaving southern concerns unresolved.

3. Adopt a weighted population–development formula: Seat allocation could follow a composite formula giving 70–80% weight to population and 20–30% weight to development indicators such as literacy, health, and fertility control. This approach rewards governance outcomes instead of population growth alone.

4. Strengthen the Rajya Sabha as a federal chamber: The Rajya Sabha's federal role can be restored by reintroducing domicile requirements and reforming seat distribution. A tier-based system with equal seats within large, medium, and small State groups can reduce population dominance and balance federal power.

5. Bifurcate Uttar Pradesh to reduce concentration of power: Uttar Pradesh may be divided into three or four States to prevent excessive political dominance. If its projected 151 Lok Sabha seats are distributed among smaller States, no single State would command disproportionate influence.

6. Implement phased redistribution of seats: Seat reallocation may be carried out in two stages, with half implemented in 2034 and the remainder in 2039. This gradual approach reduces political shock while still complying with constitutional requirements.

Conclusion

Delimitation after 2027 will redefine India's political balance for decades. The challenge lies in reconciling population-based equality with governance fairness and federal stability. Transparent procedures, expert participation, and political consensus are essential. If guided by justice and dialogue, delimitation can strengthen democracy; if driven by numbers alone, it risks deepening regional distrust.

Question for practice:

Discuss how the delimitation exercise due after Census 2027 is likely to reshape political representation in India, and examine the constitutional, federal, and governance-related concerns associated with it.

Source: The Hindu

Walkouts by Governors test constitutional limits

UPSC Syllabus GS2-**Indian Polity**

Introduction

The walkouts by Governors during inaugural sessions of State Legislatures in Karnataka, Tamil Nadu, and Kerala have raised serious constitutional questions. These actions challenge the limits of discretion allowed to Governors. The issue has brought renewed focus on Articles related to the Governor's address, the role of the elected Cabinet, and the balance between constitutional duty and political neutrality.

Constitutional Role of the Governor (gubernatorial powers)?

Gubernatorial powers are the constitutional, legal, administrative, legislative, executive, judicial, and discretionary powers vested in the **Governor** of a state.

These powers are derived mainly from **Articles 153 to 167 and 200–213** of the Constitution.

These powers enable the **Governor to act as the *constitutional head* of the state,** oversee its governance, and safeguard the Constitution while working with the state government.

Constitutional Provisions:

- **Article 153:** Provides for a Governor for one or more than one states.
- **Article 154:** The executive powers of the state are vested in the Governor and can be exercised directly or through subordinate officers in accordance with the Constitution.
- **Article 155:** Provides for the appointment of the Governor by the President by warrant under his hand and seal.
- **Article 156:** Provides the term of office of Governor- Appointed for a period of five years and holds office during the pleasure of the President. Pleasure of the President means that he can be removed anytime by the President, even before the expiry of five years.
- **Article 157:** Qualifications- He should be a citizen of India and must have completed the age of thirty-five years

3. Aid and advice principle: Under Article 163, the Governor must act on the aid and advice of the Council of Ministers except in areas where discretion is expressly provided.

4. **Discretionary Powers** = Governor has two types of discretion in the execution of his work:

- **Constitutional discretion** which is discretion mentioned directly in the Constitution. This is exercised in matters such as reserving a bill for the consideration of the President, recommendation of the President's rule under Article 356.

- **Situational discretion** which means hidden discretion that is derived from the exigencies of political situations. For instance, the appointment of Chief Minister of a state when no party has a clear cut majority in the state legislative assembly or when the chief minister in office dies suddenly and there is no obvious successor, dissolution of the state legislative assembly if the council of ministers has lost its majority etc.
- **Representative role:** Dr. B.R. Ambedkar stated that the Governor has no independent governing function. He acts as a representative of the people as a whole, not of any political party.

Judicial Interpretation on Governor Conduct

1. Shamsher Singh judgment (1974):

• A **seven-judge Bench ruled** that **Governors cannot publicly oppose Cabinet policy.** Such conduct violates the parliamentary system.

• **Warning against constitutional overreach:**The court said free discretion in every function would weaken democracy and elevate the Governor beyond constitutional limits.

• **Remote control principle:** Even the limited freedom of the Governor is controlled by the Union Council of Ministers, which is accountable to Parliament.

2. Tamil Nadu Governor case (Supreme Court judgment):

• The Supreme Court ruled that **gubernatorial discretion cannot have the effect of negating the powers of an elected and responsible State government.**

• The Governor was **described as a "guide, philosopher, and friend" of the government and the people, not an alternative power centre.**

3. Nabam Rebia vs Deputy Speaker (2016):

• A **five-judge Constitution Bench** held that the **Governor's discretionary powers are strictly limited and clearly stated in the Constitution.**

• **Interpretation on legislative functions:** The Court ruled that **summoning the House under Article 174 cannot be done at the Governor's discretion and must follow Cabinet advice.**

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4. **Possible judicial intervention:** The Karnataka government may approach the Supreme Court seeking clarity on the constitutionality of such walkouts.

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The recent walkouts highlight growing strain between Governors and elected governments. Constitutional provisions, judicial rulings, and Assembly debates clearly limit gubernatorial discretion. Ignoring Cabinet advice weakens parliamentary democracy and federal balance. Clear judicial guidance and strict adherence to constitutional roles are essential to prevent recurring institutional conflict.

Question for practice:

Examine how recent walkouts by Governors during State Legislative Assembly sessions have tested constitutional limits on gubernatorial discretion and affected the balance between elected governments and constitutional authority in India.

Source: **The Hindu** and **Deccan Herald**

India's biggest climate gap could be language

Source: The post **"India's biggest climate gap could be language"** has been created, based on **"India's biggest climate gap could be language"** published in **"The Hindu" on 27th January 2026.**

UPSC Syllabus: GS Paper-3- Environment

Context: India has developed advanced climate data, including district-level heat projections, flood models, crop yield simulations, and climate attribution studies. However, this scientific progress has not translated into widespread public understanding because climate information is often communicated in complex, technical, and inaccessible language.

Communication Gap in Climate Discourse

1. Climate information is frequently conveyed using scientific and policy-related terminology that is difficult for ordinary citizens to understand.
2. Key policy terms such as "Loss and Damage," "mitigation," and "adaptation" are widely used but are rarely explained in simple and relatable language.
3. Scientific findings often remain confined to official reports, expert meetings, and international forums instead of reaching affected communities.
4. There is a significant disconnect between global climate negotiations and local realities, which reduces the practical relevance of policies.
5. The lack of contextualised communication prevents people from linking climate change with agriculture, health, water availability, and livelihoods.

Challenges in Climate Communication

1. **Excessive Use of Technical Jargon:** Climate science depends on specialised terms such as projections, simulations, scenarios, and attribution studies. These terms are rarely translated into everyday language, making climate information difficult to understand. This limits meaningful participation of citizens in climate-related decision-making.
2. **Language Barriers:** Most climate-related communication takes place in English. Regional, tribal, and local languages are inadequately used. This excludes large sections of rural and marginalised populations from climate discourse.
3. **Low Climate Literacy:** Climate change is not adequately integrated into formal and informal education systems. Many people lack basic understanding of climate processes and long-term risks. This makes them dependent on external sources for information.
4. **Weak Institutional Capacity:** Local governments and administrative bodies often lack trained staff for climate communication. There are limited institutional mechanisms to simplify and disseminate scientific knowledge. Coordination between scientists, policymakers, and field officials remains weak.
5. **Urban-Centric and Elite Discourse:** Climate debates are dominated by urban experts, researchers, and policymakers. Rural communities, farmers, fisherfolk, and indigenous groups are rarely consulted. Their traditional knowledge and lived experiences remain underutilised.
6. **Inadequate Media Communication:** Media coverage tends to focus on disasters such as floods and heatwaves without explaining climate linkages. Long-term trends and structural causes receive limited attention. This results in fragmented and event-based understanding.

Impact on Society and Governance

1. Poor communication reduces public awareness about climate risks related to health, food security, and housing.
2. Vulnerable communities remain unaware of early warning systems, insurance schemes, and adaptation programmes.
3. Policies often fail to address local priorities due to lack of feedback from communities.
4. Non-economic losses such as displacement, cultural erosion, and psychological stress remain poorly recognised.
5. Limited transparency weakens public trust in climate institutions and **governance systems.**

Way Forward

1. Climate information should be communicated in simple, precise, and locally relevant language.
2. Technical concepts should be explained using examples from agriculture, water management, and daily life.
3. Communication materials should be systematically prepared in regional and local languages.
4. Climate education should be strengthened through curricula, community training, and public campaigns.
5. Scientists and policymakers should engage in regular consultations with local communities.
6. Journalists, teachers, and officials should receive specialised training in science communication.
7. Digital platforms, mobile applications, community radio, and visual tools should be used for outreach.
8. Civil society organisations and local institutions should act as bridges between experts and citizens.

Conclusion: India possesses strong scientific capacity and extensive climate data, but weak communication limits their social impact. Bridging the language gap through inclusive, transparent, and participatory communication is essential for empowering citizens, strengthening governance, and ensuring sustainable and equitable climate action.

Question: Despite having advanced climate data and scientific capacity, India faces a major communication gap in its climate discourse. Discuss the challenges associated with climate communication and suggest measures to bridge this gap.

Cybercrime and a global governance crisis

Source: The post **"Cybercrime and a global governance crisis"** has been created, based on **"Cybercrime and a global governance crisis"** published in **"The Hindu" on 27th January 2026.**

UPSC Syllabus: GS Paper-2- Governance

Context: Cybercrime governance has become a central issue of global governance in the digital era, as digital dependence grows and cyber threats escalate. The adoption of the UN Convention against Cybercrime (2024) has exposed deep geopolitical divisions, showing how difficult it is to achieve global consensus. For India, this poses challenges in protecting **digital sovereignty**, upholding **human rights**, and maintaining **institutional autonomy** while participating effectively in global rule-making. The crisis reflects the limitations of traditional multilateral frameworks in responding to emerging technologies and cross-border cyber threats.

Global Governance Crisis in Cyberspace

1. The UN Cybercrime Convention (2024) is the first major multilateral criminal justice treaty in over two decades, marking a significant attempt to set international cyber norms.
2. It was proposed by Russia in 2017 and strongly supported by China, aiming to challenge the status quo of Western-led cyber governance frameworks like the Budapest Convention (2001).
3. Key powers including India, the US, Japan, and Canada did not sign, reflecting mistrust of the Convention's intentions and divergent national priorities.
4. The lack of universal adoption underscores **fragmentation in global governance**, weakening the ability to create enforceable, uniform standards for cyberspace.

Competing Power Blocs and Interests

1. **Russia-China:** Advocate for stronger state control over the internet, legitimising national cyber laws and authoritarian regulatory approaches.
2. **Europe:** Signed to retain influence in shaping global norms and ensure an early voice in the implementation process.
3. **USA:** Skeptical of the broad definitions, concerned that the Convention could be used to suppress free speech and target journalists or activists.
4. **India:** Chose not to sign to protect control over citizen data and ensure regulatory sovereignty, while still actively participating in negotiations.
5. The divisions highlight how cyber governance is a reflection of **geopolitical competition**, making unified global solutions extremely difficult.

Gap Between Principles and Practice

1. While the Convention addresses urgent issues such as child sexual abuse material and online fraud, its **broad definitions** allow states to stretch "cybercrime" to suppress dissent or political opposition.
2. Procedural safeguards like judicial oversight are tied to domestic law, resulting in **inconsistent human rights protections** across countries.
3. Similar patterns are visible in **AI governance**, where countries agree on high-level principles like safety, security, and human-centric design, but implementation becomes highly prescriptive, e.g., India's draft AI watermarking rules covering 10% of content.
4. This shows a **recurrent global challenge**: consensus on principles does not automatically translate to consensus on practical enforcement.

Rise of Polycentric Governance

1. Traditional multilateral institutions are weakening:
    a. UN faces financial and political constraints.
    b. Security Council is ineffective in modern conflicts (e.g., Ukraine, Gaza).
    c. WTO dispute settlement system is paralyzed since 2019.
2. Governance is increasingly handled through **plurilateral, bilateral, or regional forums**, creating overlapping rules and fragmented enforcement.
3. This **polycentric system** places additional pressure on states, requiring them to navigate multiple, sometimes conflicting, regulatory regimes.

Implications for India

1. India's proposals for protecting citizen data and retaining control over cyber regulation were largely ignored, showing **declining influence** in global rule-making.
2. Staying outside major frameworks risks isolation in cyber cooperation, cross-border investigations, and international data-sharing agreements.
3. Over time, this may weaken India's **strategic autonomy**, affect regulatory control, and reduce leverage in shaping global cyber norms.

Capacity Deficit in India

1. India lacks sufficient skilled professionals in **cyber law, digital forensics, and cyber diplomacy**.
2. Regulatory institutions are fragmented across ministries and agencies, leading to poor policy coordination.
3. Limited collaboration with private sector and civil society reduces innovation and enforcement efficiency.
4. Insufficient investment in technical infrastructure and research undermines India's ability to respond to sophisticated cyber threats and participate effectively in global governance forums.

Way Forward

1. Build specialised cadres in **cyber law, digital diplomacy, and technical cybersecurity**.
2. Strengthen institutional coordination between the **MEA, IT Ministry, Home Ministry, and security agencies**.
3. Develop robust **domestic cybersecurity and data protection frameworks**.
4. Promote **public-private partnerships** to enhance threat intelligence sharing and response capabilities.
5. Ensure policies balance **national security, innovation, and human rights**.
6. Invest in **AI, cyber infrastructure, and research**, as well as training human resources.
7. Engage proactively in **plurilateral and multilateral forums** to influence the drafting of international cyber norms.

Conclusion: The UN Cybercrime Convention reflects the broader **breakdown of global consensus** in digital governance. In a polycentric, fragmented world, India must strengthen **technical capacity, institutional coherence, and diplomatic engagement**. Enhancing these capacities is critical to safeguard sovereignty, protect citizen rights, and remain an influential player in global digital governance.

The solution to the falling rupee lies in diplomacy

UPSC GS-3: Indian Economy

Introduction

The recent fall in the value of the rupee has unsettled people and markets. This decline appears unusual because India's economy is performing well, with strong growth, low inflation, and a manageable current account deficit. The situation has raised concerns about the real causes behind the rupee's weakness and whether economic tools alone can address the problem.

India's Macroeconomic Fundamentals

1. Strong economic growth: India's growth rate for the current year is estimated at 7.4%, showing stable economic expansion.

2. Low inflation environment: CPI inflation ended 2025 at 1.33%, remaining below the RBI's lower target band for four consecutive months.

3. Comfortable external balance: The current account deficit in the first half of 2025–26 stood at 0.76% of GDP, lower than 1.35% in the previous year.

4. Contradiction in currency movement: Despite strong indicators, the rupee has fallen by nearly 6% since April 2025, creating confusion in the markets.

Reason for Rupee Depreciation

1. Trade deficit not the main reason: The combined merchandise and services trade deficit rose from $88.43 billion to $96.58 billion, which is not large enough to trigger sharp depreciation.

2. **Capital outflows as the core issue:** The major reason behind the rupee fall is persistent capital outflows rather than trade imbalance. **For example**, net capital inflows of $10,615 million in April–December 2024 turned into a net outflow of $3,900 million during the same period in 2025.

3. **Impact of U.S. tariff actions:**

The U.S. imposed a 25% reciprocal tariff on Indian exports and an additional 25% tariff due to India's crude oil imports from Russia.

4. **Threat of further tariffs:** The U.S. has warned of another 25% tariff on countries trading with Iran, even though such trade forms only 0.15% of India's total trade.

5. **Unresolved trade negotiations:** Despite months of discussions, no agreement has been reached between India and the U.S., increasing market uncertainty.

6. **Strengthening of USA Dollar:** Despite the US Fed Reserve beginning its rate-cut cycle, the US Dollar has maintained persistent strength, reflecting its status as global reserve currency & a safe haven asset during a period of geopolitical uncertainty. Strengthening of US dollar against major currencies puts pressure on INR.

7. **High Crude Oil Demand & Import Bill:** India imports almost 80-85% of its crude oil. The rise in the crude oil prices & that of the important commodities imported by India like gold – lead to widening of India's trade deficit & weakening of INR.

8. Monetary Policy Factors:

- **Unfavourable Interest Rate Differentials:** Even though the US Fed Reserve has begun its rate-cut cycle at a modest rate (e.g. 25 basis point cut in the late 2025), the cumulative interest rate differential remains attractive for the US Dollar relative to Rupee's real yield – driving the capital away from India.

• **RBI's Stance:** The RBI has chosen a **Neutral Policy Stance** & kept the repo rate unchanged for most part of the year 2025 – prioritizing domestic liquidity management & growth oven an aggressive defense of the Rupee.

Impacts of Rupee Depreciation

1. Impact on Consumers:

a. **Inflationary Pressure:** As the INR weakens, the Oil Marketing Cos. have to pay more Rupees for the same barrel of oil. This increased cost is eventually passed on to the consumers through higher prices for petrol, diesel, and natural gas. This high fuel cost then triggers a cascading effect – contributing to broader consumer price inflation.

b. **Cost of Goods:** The price of other key imports, such as electronics, gold, industrial chemicals, and fertilisers, also rise – intensifying the inflationary pressure & eroding the purchasing power & savings of the average household.

c. **Foreign Travel & Education:** Foreign travel & education will become significantly expensive.

2. Impact on Trade (Imports/Exports):

a. The WINNERS:

• **Increased Competitiveness:** A weaker rupee makes the Indian goods & services cheaper for foreign buyers who pay in Dollars. This can boost the competitiveness of Indian exports in global market.

• **High Profitability for Exporters:** Indian exporters, particularly the IT Service Sector, benefit significantly. Weakening of the INR directly boosts their profit margin & revenue growth.

• **Boost to Domestic Investment:** Rise in export revenue can lead to increased domestic investment as exporters look to expand capacity to meet the higher demand.

b. The LOSERS

• **Higher Import Bill:** Weakening of the Rupee against Dollar puts upward pressure on the net import bill.

• **Wider Trade Deficit:** The cost of essential imports outweighs the revenue gain from exports. A significant rise in import bill can lead to a widening of the Trade deficit.

3. Impact on Corporates (External Debt):

a. **Increase in Debt Servicing Cost:** The Indian Corporates who have taken ECBs denominated in USD & have not fully hedged their exposure, face a major risk. A weaker rupee means that a company has to pay more amount of INR for the USD-denominated debt.

b. **Divergent Fortunes:** The corporate sector witnesses a divergence – while the export-oriented cos. see higher profits, the import-dependent cos. & highly indebted cos. face significant financial strain.

4. Macroeconomic Impact:

a. **Forex Reserves Drawdown:** The RBI often intervenes (spot intervention) in the forex market to prevent excessive depreciation of the Rupee. The RBI sells USD to absorb the excessive Rupee liquidity. However, it leads to reduction in the national reserve buffer.

b. **Capital Flight:** Withdrawal of funds by FIIs is one the causes for the weakening of the INR. If the Rupee continues to weaken, it could signal greater macroeconomic instability which may increase the rate of capital flight from India – creating a self-perpetuating cycle of depreciation.

RBI Intervention and Exchange Rate Management

1. Market-based regime: India shifted to a market-determined exchange rate system in 1993, where the value of the rupee is decided by market forces.

2. **Scope for intervention:** The new system does not prevent the Reserve Bank of India from intervening in the foreign exchange market when required.

3. **No rupee pegging:** All RBI Governors have clarified that intervention is not meant to fix or peg the value of the rupee.

4. **Meaning of volatility:** RBI actions show that reducing volatility includes limiting sharp fluctuations and moderating sudden falls in the rupee.

5. **Smoothing the fall:** The objective is not to stop depreciation but to allow the rupee to slide smoothly to its required level.

6. **Cost of shocks:** Sudden rupee movements create economic costs, and intervention aims to minimise these shocks.

7. **Non-economic pressure:** The current rupee fall is influenced by non-economic factors, and an understanding with the U.S. can lead to appreciation.

Why Devaluation Is Not a Solution

1. Rising import content: The import content of India's exports is increasing, which reduces the export stimulus normally expected from rupee depreciation.

2. **Tariff-restricted exports:** High tariffs in the U.S. market limit Indian exporters' access, making currency depreciation less effective in boosting exports.

3. **Essential imports:** Most of India's imports are essential goods, with crude oil alone accounting for about 25% of total merchandise imports.

4. **Inflation risk:** A fall in the value of the rupee increases import prices, which can fuel domestic inflation.

5. **No inflation gap:** India's inflation is not higher than that of developed Western economies, removing the basic justification for devaluation.

6. **REER relevance:** Devaluation is required only when inflation differences are wide, which is measured through the real effective exchange rate (REER).

7. **Manipulation concern:** Keeping the currency undervalued, as attempted by some countries, amounts to currency manipulation and remains controversial.

Conclusion

The fall in the rupee is not due to weak economic fundamentals but due to capital outflows driven by geopolitical and trade tensions. Tariff actions have shifted the issue from economics to diplomacy. While the RBI can only smooth volatility, a lasting solution lies in an early diplomatic understanding between India and the United States.

Question for practice:

Examine the reasons behind the recent fall of the Indian rupee and explain why diplomacy is considered the key solution.

Source: The Hindu

A spark to drive India's e-LCV

UPSC Syllabus Topic: GS Paper3 - Infrastructure – Transportation

Introduction

Light Commercial Vehicles are essential for India's delivery and logistics system. Despite their wide use, they remained outside fuel efficiency rules for many years. While passenger cars followed corporate average fuel efficiency norms, LCVs operated in a regulatory gap. In July 2025, the Bureau of Energy Efficiency proposed fuel consumption standards for LCVs for 2027–2032, marking a key step toward cleaner transport.

What is Light Commercial Vehicles (LCVs)?

Light Commercial Vehicles (LCVs) are commercial-grade vehicles designed to transport goods or passengers with a maximum gross vehicle weight (GVW) typically not exceeding **3.5 tonnes**.

They are commonly used for **last-mile delivery, small-scale freight, and urban logistics.**

Importance of LCVs in India's Transport Ecosystem

1. Backbone of last-mile logistics: Most online deliveries depend on small trucks below 3.5 tonnes, making LCVs central to last-mile transport.

2. Large share in goods transport: LCVs accounted for **48% of India's commercial goods vehicles in 2024**, showing their dominance.

3. High daily utilisation: These vehicles operate continuously in urban and semi-urban areas, leading to high fuel use.

4. Major contributor to transport emissions: Because of frequent usage and fleet size, LCVs contribute significantly to road transport emissions.

5. Critical for clean transport goals: Including LCVs under regulation is necessary to meet India's decarbonisation objectives.

Major Constraints to LCVs in India's Transport Ecosystem

1. Regulatory gap: LCVs remained outside fuel efficiency norms for years, while passenger cars were regulated under **Corporate Average Fuel Efficiency (CAFE) standards.**

2. Low electrification: Electric LCVs formed only 2% of the total fleet in 2024, showing very limited adoption.

3. High emissions: The average LCV emitted 147.5 g CO_2/km, which would rise to 150 g CO_2/km without electric vehicles.

4. Limited vehicle options: Manufacturers offer only a few e-LCV models with sub-35 kWh batteries and ranges near 150 km.

5. High upfront cost: Conventional LCVs cost below ₹1 million, while electric versions are priced significantly higher.

6. Price-sensitive demand: Buyers focus on purchase price, which discourages fleet operators from shifting to electric vehicles.

7. Policy inconsistency: The PM E-DRIVE scheme excludes LCVs, and only a few States provide purchase incentives.

8. Weak regulatory push: Relaxed fuel efficiency standards make ICE upgrades cheaper than investing in electrification.

9. Technology dilution: Credits for hybrids and ICE technologies allow compliance without adopting full battery electric LCVs.

Initiative taken for strengthening of LCVs in India's Transport Ecosystem

1. Fuel consumption standards proposed: In July 2025, the Bureau of Energy Efficiency introduced draft fuel efficiency standards for LCVs. The proposed standards will apply from 2027 to 2032, providing policy certainty.

2. Government rejection of exemption: Automakers sought full exclusion citing price sensitivity and costly ICE technology upgrades. The request was set aside, reflecting commitment to decarbonisation.

3. Evidence-based benchmark: Research by the International Council on Clean Transportation (ICCT) identifies 116.5 g CO_2/km as the cost threshold beyond which vehicle manufacturers find electrification

cheaper than upgrading internal combustion engines (ICEs). This provides a scientific basis for designing emission standards that can economically incentivize the adoption of electric light commercial vehicles (e-LCVs).

4. Use of super credit mechanism: Electric LCVs are given super credit multipliers and assigned zero CO_2 value for compliance.

5. **Technology-neutral compliance approach:** The framework also allows credits for hybrid and select ICE technologies to ease early-stage compliance.

Conclusion

India has taken a major step by bringing LCVs under fuel efficiency regulation. However, real progress depends on strong standards and focused incentives. Making electric LCVs the cheapest compliance option, limiting prolonged hybrid support, and ensuring timely rollout are essential. Without this, India may repeat the passenger car experience, where relaxed norms kept electrification limited to 3%.

Question for practice:

Evaluate how the introduction of fuel efficiency standards for Light Commercial Vehicles can influence India's transition toward clean and low-carbon transport.

Source: The Hindu

India–EU Partnership: India's Growing Engagement with European Union

Source: The post **"India–EU Partnership: India's Growing Engagement with European Union"** has been created, based on **"India–EU Partnership: India's Growing Engagement with European Union"** published in **"PIB" on 28th January 2026.**

UPSC Syllabus: GS Paper-2- International Relations

Context: India–EU relations have gained renewed strategic momentum due to increased political engagement and expanding economic cooperation. The European Union is India's largest trading partner in goods, with bilateral trade reaching about $136 billion in 2024–25. Both sides are working towards concluding a Free Trade Agreement to enhance market access and ensure regulatory certainty. The partnership is based on shared values such as democracy, rule of law, and commitment to multilateralism.

Key Dimensions of India–EU Partnership

1. Trade and Economic Cooperation

a. The European Union is India's largest partner in merchandise trade and one of its major partners in services.
b. Bilateral trade in services grew steadily between 2019 and 2024, reflecting growing economic interdependence.
c. The proposed Free Trade Agreement aims to integrate supply chains and promote investment flows.
d. The Trade and Technology Council facilitates cooperation in digital, green, and industrial technologies.

e. The EU remains an important source of foreign direct investment in India.

2. Strategic and Security Cooperation

a. India and the EU are exploring the establishment of a formal Security and Defence Partnership.
b. Joint naval exercises have strengthened maritime security cooperation in the Indian Ocean and other strategic regions.
c. Regular political and security dialogues have improved coordination on regional and global security challenges.
d. Defence industry engagements have encouraged collaboration in **manufacturing and research.**

3. Climate, Clean Energy and Sustainability

a. The Clean Energy and Climate Partnership forms the backbone of India–EU climate cooperation.
b. Both sides cooperate in renewable energy, energy efficiency, hydrogen technology, and climate finance.
c. The European Union supports India through the International Solar Alliance and climate-resilient infrastructure initiatives.
d. Joint research programmes promote innovation in green technologies.

4. Connectivity and Infrastructure Cooperation

a. The India–EU Connectivity Partnership focuses on sustainable transport, digital infrastructure, and energy networks.
b. Trilateral development cooperation enables joint projects in third countries.
c. Participation in the India–Middle East–Europe Economic Corridor strengthens regional integration. These initiatives promote resilient and inclusive economic growth.

5. Science, Technology and Space Cooperation

a. The Science and Technology Agreement promotes joint research in emerging and strategic technologies.
b. India and the EU collaborate under Horizon programmes in areas such as climate change and health.
c. ISRO and the European Space Agency cooperate in satellite launches, navigation, and space missions.
d. The Space Dialogue provides an institutional platform for future-oriented cooperation.

6. Migration, Education and People-to-People Relations

a. The Common Agenda on Migration and Mobility facilitates skilled migration and legal pathways.
b. A large Indian diaspora strengthens social and economic ties.
c. Indian students benefit significantly from Erasmus Mundus scholarships.
d. Professional exchanges promote knowledge transfer and innovation.

Challenges in India–EU Partnership and FTA

1. Expanding Regulatory Barriers: The European Union increasingly uses environmental, social, and technical regulations as non-tariff barriers to trade. These regulations significantly raise compliance costs for Indian exporters. Complex standards reduce ease of market access.

2. Impact of Carbon Border Adjustment Mechanism (CBAM): The Carbon Border Adjustment Mechanism imposes carbon-related taxes on energy-intensive exports. It reduces the competitiveness of Indian steel, aluminium, and cement products. It forces exporters to cut prices or absorb additional costs and has already led to declining exports in some sectors.

3. Challenges Posed by EU Deforestation Regulation (EUDR): The EU Deforestation Regulation requires strict traceability of agricultural products. It creates serious difficulties for small and marginal farmers. It increases documentation and monitoring costs and threatens India's agricultural exports.

4. Corporate Sustainability Due Diligence Directive (CSDD): The CSDD mandates detailed monitoring of entire supply chains and requires sharing of sensitive business information. It raises data security and confidentiality concerns and increases administrative and operational costs.

5. Industrial Accelerator Act and Local Content Norms: The Industrial Accelerator Act promotes local content requirements in the EU. It discourages imports from non-EU countries and creates an uneven playing field for Indian firms. It reflects rising protectionism.

6. Limited Tariff Benefits under the FTA: Most Indian exports already face very low tariffs in the EU. The FTA is unlikely to generate major new tariff advantages. India may have to offer greater tariff concessions. This reduces net commercial gains.

7. High Compliance Burden on MSMEs: MSMEs lack financial and technical capacity to meet EU standards. Certification and auditing costs reduce competitiveness. Many small firms risk exclusion from European supply chains.

8. Asymmetry in Trade and Negotiating Power: The European Union possesses stronger regulatory and technological capabilities. Indian firms face higher adjustment costs and trade benefits are distributed unevenly. India's bargaining position remains constrained.

9. Weak Domestic Compliance Infrastructure: India lacks uniform systems for sustainability reporting and traceability. Testing and certification facilities are insufficient. Institutional capacity remains limited which delays effective compliance.

Way Forward

1. Strengthening Regulatory Cooperation

a. India should negotiate mutual recognition agreements with the EU. Both sides should harmonise technical and environmental standards.
b. Permanent regulatory dialogue mechanisms should be established. Joint **working groups should resolve compliance issues.**

2. Addressing Climate-Related Trade Barriers

a. India should seek transitional relief under CBAM and EU should recognise India's climate mitigation efforts.
b. India should develop a credible domestic carbon market.
c. Green certification systems should be expanded.

3. Building Domestic Compliance Capacity

a. National digital traceability platforms should be developed.
b. Testing and certification infrastructure should be modernised.
c. More accredited laboratories should be established.
d. Exporters should receive systematic training.

4. Supporting MSMEs and Exporters

a. Financial assistance should be provided for compliance costs.
b. Technical support centres should be expanded.
c. Capacity-building programmes should be strengthened.
d. Export facilitation desks should be created.

5. Ensuring Balanced and Fair FTA Provisions

a. Strong safeguard and review mechanisms should be included.
b. Dispute resolution systems should be made time-bound.
c. Phased implementation of regulations should be negotiated.
d. Flexibility for developing-country exporters should be ensured.

6. Promoting Technology and Green Industrial Cooperation

a. Joint ventures in renewable energy and green manufacturing should be encouraged.
b. The Trade and Technology Council should be leveraged for technology transfer.
c. Cooperation in hydrogen, EVs, and clean steel should be expanded.
d. EU investments in sustainable manufacturing should be promoted.

7. Strengthening Institutional and Policy Frameworks

a. India should introduce EU-compatible sustainability reporting standards.
b. Domestic labour and environmental regulations should be strengthened.
c. Inter-ministerial coordination should be improved. Policy stability should be ensured.

8. Leveraging Diplomacy and Strategic Engagement

a. High-level political dialogue should be used to resolve trade disputes
b. Multilateral platforms should address unilateral regulatory measures.
c. Strategic cooperation in Indo-Pacific and global forums should be deepened.
d. Economic diplomacy at EU institutions should be strengthened.

Conclusion: India–EU relations have evolved into a comprehensive and forward-looking strategic partnership. Expanding trade, technological cooperation, and people-to-people ties demonstrate mutual commitment. However, regulatory barriers and compliance burdens remain the biggest challenges. Addressing these challenges through cooperation, domestic reforms, and strategic negotiations will ensure a balanced, equitable, and sustainable partnership in the future.

Question: "India–European Union relations have acquired new strategic and economic significance in recent years." Discuss the opportunities, challenges, and suggest a way forward.

Source: PIB

The looming threat of antimicrobial resistance

Source: The post **"The looming threat of antimicrobial resistance"** has been created, based on **"The looming threat of antimicrobial resistance"** published in **"BusinessLine" on 28th January 2026.**

UPSC Syllabus: GS Paper-3-Science and technology

Context: Antimicrobial Resistance (AMR) occurs when bacteria, viruses, fungi, and parasites develop resistance to medicines that were earlier effective. It has become a serious public health challenge, causing nearly 1.27 million deaths globally every year according to the WHO. In India, high disease burden, easy availability of antibiotics, and weak regulation worsen the problem. The Prime Minister's recent appeal for responsible antibiotic use highlights the urgency of addressing this growing threat.

Challenges Related to AMR

1. Misuse and Overuse of Antibiotics: Antibiotics are frequently used without proper medical advice for viral infections such as colds and flu, where they are ineffective. Patients often discontinue treatment midway, which allows partially resistant bacteria to survive and multiply. In hospitals, excessive use of broad-spectrum antibiotics accelerates resistance.

2. Lack of Public Awareness: A large section of the population is unaware of the long-term consequences of antibiotic misuse. Many people practice self-medication or rely on informal healthcare providers. This leads to irrational consumption and weakens the effectiveness of existing drugs.

3. Weak Diagnostic Infrastructure: In many rural and semi-urban areas, proper diagnostic facilities are unavailable. Doctors often prescribe antibiotics without laboratory confirmation to save time. This empirical treatment increases unnecessary use and promotes resistance.

4. Inadequate Surveillance and Monitoring: India lacks a comprehensive and real-time national surveillance system for AMR. Data on resistant strains is fragmented and limited to select institutions. This makes it difficult to design targeted interventions and predict future risks.

5. Limited Research and Innovation: Pharmaceutical companies show limited interest in developing new antibiotics due to low profitability and high research costs. Public investment in antimicrobial research is also insufficient. As a result, the pipeline for new drugs remains weak.

6. Poor Implementation of Guidelines: The Indian Council of Medical Research has issued guidelines for rational antibiotic use. However, compliance remains uneven across public and private healthcare facilities. Lack of monitoring and accountability weakens their effectiveness.

7. Unregulated Sale of Drugs: Antibiotics are easily available over the counter despite legal restrictions. Many pharmacies sell medicines without valid prescriptions. This encourages indiscriminate use and self-medication.

Way Forward

1. Strengthening Public Awareness: The government should launch nationwide campaigns similar to those for polio and tuberculosis. These campaigns must educate people about completing prescribed doses and avoiding self-medication. Community health workers can play an important role in spreading awareness.
2. Improving Healthcare Infrastructure: District and sub-district hospitals must be equipped with modern laboratories and diagnostic tools. Timely and accurate testing will enable doctors to prescribe targeted antibiotics. This will reduce unnecessary drug use.

3. Capacity Building of Doctors: Regular training programmes should be conducted on rational prescription practices. Medical curricula must include AMR management and stewardship principles. Continuous professional development will improve clinical decision-making.

4. Strengthening Regulation: Strict enforcement of laws against over-the-counter sale of antibiotics is essential. Digital prescription systems can help monitor drug distribution. Regulatory agencies must be strengthened with adequate manpower and technology.

5. Promoting Research and Innovation: The government should increase funding for antimicrobial research and vaccine development. Public-private partnerships can encourage innovation. Incentives should be provided to pharmaceutical companies for developing new drugs.

6. Enhancing Surveillance Systems: India should expand the National AMR Surveillance Network to cover all States and districts. Real-time data sharing between hospitals and laboratories must be ensured. This will help in early detection and policy formulation.

7. Multi-sectoral Coordination: AMR is linked to human health, animal husbandry, agriculture, and the environment. A "One Health" approach should be adopted to coordinate actions across sectors. A dedicated national platform can ensure the effective implementation of policies.

Conclusion: Antimicrobial resistance poses a serious threat to India's healthcare system and economic stability. It can reverse decades of medical progress if left unaddressed. The Prime Minister's appeal provides momentum for sustained action. Through awareness, regulation, infrastructure development, research, and inter-sectoral coordination, India can effectively combat AMR and ensure long-term public health security.

Question: "Antimicrobial Resistance is emerging as one of the biggest threats to global public health and economic development." Discuss the major challenges posed by AMR in India and suggest suitable measures to address them.

Source: BusinessLine

How will the BRICS energy pact pan out?

UPSC Syllabus Topic: GS Paper 2 -International Relation

Introduction

The global energy system is under stress due to trade disruptions, sanctions, and energy transition pressures. In this background, BRICS energy cooperation is gaining importance. Questions are rising on whether it will

create a multipolar energy order or a new cartel, who will lead the bloc, and how India fits into this changing energy landscape.

Changing Global Energy Order and the Rise of BRICS

1. Debate on future energy leadership: The role of BRICS in shaping the global energy system is being widely discussed due to rising geopolitical competition and weakening global energy institutions.

2. **Shift away from Western dominance:** Members aim to reduce dependence on Western-led financial systems and institutions that influence energy trade and governance.

3. **Move towards a multipolar structure:** A broad assessment suggests that the energy order is becoming multipolar, with both China and Russia playing strong roles instead of a single dominant power.

4. **Energy as a strategic pillar:** Energy cooperation has gradually become one of the most important pillars of BRICS cooperation.

5. **Large global footprint:** The bloc accounts for nearly **50 percent of global energy production and consumption**, giving it structural influence in global markets.

Scope and Architecture of BRICS Energy Cooperation

1. Multi-sectoral energy framework: BRICS energy cooperation covers hydrocarbons, renewable energy, critical minerals, and energy infrastructure, reflecting an integrated approach across the energy value chain.

2. Energy security with transition balance: The bloc seeks to ensure stable energy supplies while pursuing a just and inclusive transition towards a low-carbon future.

3. Long-term cooperation roadmap: The *Roadmap for Energy Cooperation (2025–2030)* provides strategic direction for supply security, technology exchange, and infrastructure development.

4. Expansion into nuclear energy: The Nuclear Energy Platform, created in late 2024 and expanded in 2025, promotes corporate-level cooperation in nuclear power as a clean energy option.

5. Institutional financial backing: The New Development Bank supports nuclear and clean-energy projects, strengthening the financial architecture of BRICS energy cooperation.

6. Push for local-currency trade: Members are actively promoting the use of local currencies in energy trade to reduce dollar dependence.

7. **India's presidency priorities:**

- India assumed the BRICS presidency on January 1 and is leading the 11-member bloc with the theme of resilience, innovation, cooperation, and sustainability.

- India has invited BRICS nations to participate in an energy gathering scheduled later this year.

Multipolar Energy Order vs Cartelisation Debate

1. Absence of cartel-like structure: BRICS energy cooperation does not resemble a unified cartel like OPEC, as it lacks binding production controls and enforcement mechanisms.

2. Platform for coordination, not control: The grouping operates mainly as a coordination forum that enables dialogue and cooperation rather than collective market intervention.

3. Convergence of strategic interests: Members are driven by shared goals such as energy security, supply diversification, and reduced exposure to external economic and geopolitical shocks.

4. Expansion strengthens resources, not unity: The inclusion of energy-rich countries like Iran and the UAE has expanded the resource base but has not created policy uniformity.

5. Internal diversity as a structural constraint: Wide differences in energy profiles, national priorities, and political alignments limit the emergence of a single BRICS energy policy.

6. Impact on global energy governance: Greater use of non-dollar trade and alternative payment systems weakens the leverage of economic sanctions and challenges Western-led financial and energy institutions. This shift also intensifies competition with G7 countries, particularly in energy-rich regions such as the Middle East, Africa, and Central Asia.

Power Dynamics within BRICS: China–Russia Factor

1. China's structural strength:

- China is the world's largest energy consumer and holds strong financial capacity.
- China dominates clean-energy manufacturing and deployment, strengthening its influence in the energy transition space.

2. Russia's supply dominance:

- Despite sanctions, Russia remains a major supplier of oil, gas, and nuclear technology.
- Russia uses energy exports strategically to maintain geopolitical relevance.

3. Asymmetry among members:

- Other BRICS countries contribute in specialised areas rather than across the full energy value chain.
- Brazil contributes through biofuels, Gulf states through capital and reserves, and Iran through hydrocarbons under sanctions.

4. De facto Sino-Russian leadership: The imbalance in capabilities points to informal China–Russia dominance instead of equal influence.

India's Strategic Position and Policy Challenges

1. **Rising energy demand:** India's fast-growing economy has made energy security a central national concern.

2. **Supply diversification gains:** BRICS cooperation provides access to diversified sources and discounted hydrocarbons.

3. **Finance and technology access:** The grouping opens alternative financing channels and supports technology cooperation.

4. **Improved bargaining power:** Participation strengthens India's negotiating position in global energy markets.

5. **Lower external vulnerability:** Engagement helps reduce exposure to price volatility and geopolitical pressures.

6. **China factor:** India must manage China's dominant influence within the bloc carefully.

7. **Strategic balance:** While bilateral deals offer flexibility, India must avoid over-dependence on any single partner to preserve strategic autonomy.

Conclusion

BRICS energy cooperation points towards a multipolar energy order rather than a unified cartel. China and Russia will shape the agenda, but internal diversity limits full integration. For India, the framework offers energy security and strategic autonomy. However, success depends on managing power asymmetry and strengthening domestic clean-energy capacity.

Question for practice:

Discuss how BRICS energy cooperation is shaping the emerging multipolar energy order and examine its implications for China, Russia, and India.

Source: Businessline

The new logic of the Chinese economy

UPSC Syllabus Topic: GS Paper 2 -International Relation

Introduction

China's economy shows strong stability at a time when the global trade and economic system faces serious stress. In 2025, China's GDP crossed 140 trillion yuan, nearly $20 trillion, with 5% annual growth. Its contribution to global growth is close to 30%. Behind this performance lies a structural shift in growth logic—towards domestic consumption, innovation-led exports, and new industrial drivers—along with evolving trade dynamics, especially with India.

Key Drivers of China's Economic Growth

1. Growth performance:

• Overall growth: China's GDP exceeded 140 trillion yuan in 2025, around $20 trillion. The economy recorded a year-on-year growth of 5%.

• **Contribution to global growth:** China's share in global economic growth is expected to reach nearly 30%, showing its continued global importance.

2. Shift in growth structure:

• China's economy is moving forward through consumption, exports, and investment together. The internal growth structure is undergoing a deep and positive change.

• **Transition from old growth model:** The economy is gradually shifting away from heavy reliance on investment and exports toward a more balanced structure.

3. Domestic consumption as main engine:

• Final consumption expenditure contributed 52% to China's economic growth in 2025, making domestic demand the primary driver.

• **High level of physical consumption:** China ranks among the world's top countries in total basic consumption based on international physical consumption standards.

• **Digital consumption strength:** Average mobile phone ownership reached 1.28 units per person, placing China among global leaders.

• **Food and nutrition indicators:** Average daily protein intake stood at 124.6 grams, higher than the United States and Japan.

• **Agricultural consumption scale:** Average annual vegetable consumption reached 109.8 kilograms per person, the highest in the world.

4. Role of exports and innovation:

• Exports of goods and services contributed 32.7% to economic growth in 2025, emerging as a key growth booster.

• **High-tech export growth:** High-tech product exports increased by 13.2% during the year, reflecting rising technological capability.

• **Industrial chain advantage:** A complete industrial system supports export competitiveness and production efficiency.

• **Innovation-driven competitiveness:** Continuous improvement in innovation capability strengthens China's export performance.

• **Market diversification:** Stable export growth to ASEAN and the European Union helped offset slowdowns in other regions.

5. Investment transition and emerging growth engines:

- **Reduced role of capital formation:** Gross capital formation contributed only 15.3% to economic growth in 2025, showing a clear decline in investment-led expansion.

- **Expansion of high-end manufacturing:** Output of advanced products such as servers and industrial robots recorded rapid growth, reflecting industrial upgrading.

- **Growth of green and clean energy sectors:** Renewable electricity and clean energy industries expanded strongly, emerging as key pillars of future economic growth.

- **Breakthroughs in frontier technologies:** Advances have been achieved in artificial intelligence, quantum technology, and brain–computer interface research.

Debate on China's Export Production Capacity

1. Claim of overcapacity questioned:

- China argues it is exporting high-quality production capacity, not excess supply. China's above-designated-size industrial capacity utilisation rate stood at 74.4% in 2025, similar to levels in the United States and the European Union.

- Economist Jeffrey Sachs stated that labeling Chinese manufacturing as "**overcapacity**" reflects jealousy rather than economic reality.

2. Export strength driven by competitiveness: The global competitiveness of Chinese products comes from long-term R&D investment, strong domestic competition, and a complete industrial system.

3. Absence of dumping or subsidy dependence: China's export performance is not based on dumping practices or excessive government subsidies but on efficiency and scale advantages.

4. Strong demand from global markets:

- The expansion of China's production capacity is supported by real international demand rather than artificial supply creation.

- **Support to developing economies**:Many developing countries rely on Chinese equipment and technology to build infrastructure, promote energy transition, and advance industrialisation.

India–China Trade Relations and Trade Deficit Concerns

India–China Trade Relations

1. Record level bilateral trade: India–China trade reached an all-time high of **$155.6 billion in 2025**, showing strong economic linkages between the two economies.

2. Complementary trade structure: A large share of India's imports from China consists of **raw materials, intermediate goods, and components**, which support domestic manufacturing.

3. Role in India's industrial supply chains: Imports such as electronic parts, mobile components, machinery, auto parts, and active pharmaceutical ingredients are used for producing finished goods, many of which are exported.

4. Growth in India's exports to China: India's exports to China increased to **$19.7 billion in 2025**, recording a **9.7% year-on-year growth**.

5. Recent export momentum: Export growth strengthened sharply in the last two months of 2025, rising by **90% and 67%**, indicating improving market access.

6. China's market opening measures: China maintains a relatively low average tariff level of **7.3%**, continues to shorten its foreign investment negative list, and expands visa-free entry policies.

7. Future market opportunity: With a population of over **1.4 billion**, including **more than 400 million middle-income consumers**, China offers large potential for high-quality Indian products.

India's Trade Deficit and Structural Concerns

1. Rapid expansion of trade deficit: India's trade deficit with China widened from **$1.1 billion in 2003–04** to **$99.2 billion in 2024–25**.

2. Dominant share in India's total deficit: China accounts for nearly **35% of India's overall trade imbalance** of **$283 billion**.

3. Structural nature of the imbalance: The deficit is structural because China dominates India's import basket across almost all major industrial categories.

4. High product-level dependence: China supplies **97.7% of erythromycin**, **96.8% of silicon wafers**, **86% of flat panel displays**, **82.7% of solar cells**, and **75.2% of lithium-ion batteries**.

5. Strategic vulnerability risks: Such concentration gives China potential leverage, turning supply chains into pressure points during political or economic tensions.

6. Declining export share: India's share in bilateral trade has fallen to **11.2%**, compared to **42.3% two decades ago**, deepening the imbalance.

7. Economic impact of rising deficit: A large trade gap increases pressure on foreign exchange reserves, weakens domestic manufacturing, and can fuel inflation through import dependence.

Conclusion

China's economic performance reflects a new growth logic driven mainly by domestic consumption, supported by innovation and resilient exports. High-end manufacturing and green industries are shaping future growth. While China's export capacity is backed by real global demand and competitiveness, India–China trade presents both opportunity and structural risk. Balanced cooperation, wider market access, and stronger domestic manufacturing remain crucial to ensure stable and sustainable economic engagement.

Question for practice:

Examine how the new logic of the Chinese economy is shaped by domestic consumption, export competitiveness, and evolving India–China trade relations.

Source: The Hindu

Thorium-Based Nuclear Energy for India's Energy Security

UPSC Syllabus Topic: GS Paper 3 -Infrastructure (**Energy**).

Introduction

India's energy security is under increasing pressure due to rising electricity demand, climate commitments, and heavy dependence on imported fossil fuels. Limited domestic uranium and vast thorium reserves shaped India's long-term nuclear strategy. With the expansion of pressurised heavy water reactors and access to imported nuclear fuel, India now has a practical opportunity to accelerate the transition toward thorium-based nuclear power for sustained energy independence.

Current Status of India's Thorium-Based Nuclear Energy

1. **Three-stage nuclear programme framework:** India follows a sequential nuclear strategy that begins with uranium-based pressurised heavy water reactors, moves to fast breeder reactors, and finally transitions to thorium-based power using uranium-233.

2. **Stage one – PHWR deployment:** Pressurised Heavy Water Reactors use natural uranium to generate electricity and produce plutonium. This stage is fully operational and remains in the industrial domain with stable reactor performance.

3. **Stage two – fast breeder reactor progress:** The Prototype Fast Breeder Reactor at Kalpakkam is currently under commissioning and is intended to breed fissile material and support thorium conversion.

4. **Stage three – thorium utilisation goal:** Large-scale thorium use will begin after sufficient uranium-233 inventory is created through irradiation in suitable reactors.

5. **Expanded PHWR capacity:** India is increasing PHWR capacity using imported uranium, supported by the Nuclear Energy Mission which targets **100 GWe nuclear power capacity by 2047**.

Why Thorium-Based Nuclear Energy is Key for India's Energy Security

1. **Abundant domestic resource base:** India possesses one of the world's largest thorium reserves, mainly concentrated in the monazite sands of **Kerala, Tamil Nadu, and Odisha**, while uranium availability remains limited.

2. **Long-term electricity potential:** Economically extractable thorium reserves can support nearly **500 GW of electricity generation for about 400 years**, offering unmatched long-term energy security.

3. **Superior material properties:** Thorium dioxide has a higher melting point and better thermal conductivity than uranium dioxide, enabling safer and more stable reactor operations.

4. **Efficient neutron economy:** Thorium-232 has a higher neutron absorption cross-section than uranium-238 and converts efficiently into uranium-233 with excellent neutron economy.

5. **Reduced waste generation:** Thorium fuel cycles produce lower volumes of long-lived radioactive waste compared to conventional uranium fuel cycles.

6. **Enhanced safety characteristics:** The presence of uranium-232 generates intense gamma radiation, providing strong resistance to proliferation and improving safety.

7. **Reliable clean base-load power:** Nuclear energy delivers continuous electricity with lifecycle emissions comparable to wind and hydropower, strengthening India's clean energy transition.

Challenges in Deploying Thorium-Based Nuclear Energy

1. **Thorium is not directly fissile:** Thorium cannot sustain nuclear fission on its own and must first be converted into uranium-233 through neutron irradiation.

2. **Delay in fast breeder deployment:** Large-scale thorium conversion was planned through fast breeder reactors, but development of oxide-fuel reactors, metallic-fuel reactors, and recycling technologies has faced delays.

3. **Limited uranium-233 inventory:** Insufficient irradiation platforms restrict the availability of fissile uranium-233 required for thorium-based power generation.

4. **Complex fuel handling:** Uranium-232 produces strong gamma radiation, requiring advanced shielding, remote handling systems, and specialised infrastructure.

5. **Industrial and institutional constraints:** Nuclear expansion demands high capital investment, specialised manpower, advanced fuel-cycle facilities, and strong industrial coordination.

Initiatives Taken by India to Strengthen Thorium-Based Nuclear Energy

Technical Initiatives

• India is **expanding pressurised heavy water reactor capacity** using imported uranium to create large irradiation platforms for thorium conversion into uranium-233.
• **Thorium–HALEU (High Assay Low Enriched Uranium) drop-in fuel** is being pursued in PHWRs to enable efficient uranium-233 production with economic and safety benefits.
• **The Advanced Heavy Water Reactor has been developed** as a technology demonstrator for large-scale thorium utilisation with passive safety features.
• **Research on thorium molten salt reactors is underway** to achieve self-sustaining power generation where uranium-233 production matches consumption.

Policy Initiatives

• **The Nuclear Energy Mission** for Viksit Bharat targets 100 GWe nuclear capacity by 2047, with PHWRs forming the backbone of expansion.

• **The SHANTI Act, 2025** enables deployment of imported light water reactors as additional capacity while domestic thorium technologies mature.

Economic, Strategic Impact and Thorium Diplomacy

1. **Economic viability:** Thorium-based fuels achieve higher burn-up levels and generate less waste, reducing overall front-end and back-end fuel cycle costs.
2. **Reduced import dependence:** Large-scale thorium utilisation can significantly lower India's reliance on imported uranium and reduce exposure to global fuel market volatility.
3. **Support for industrial growth:** Reliable base-load nuclear power is essential for manufacturing expansion, urbanisation, and infrastructure development under the Viksit Bharat vision.
4. **Strategic autonomy:** Indigenous thorium utilisation strengthens national control over the nuclear fuel cycle and reduces geopolitical vulnerabilities.
5. **Climate commitment support:** Thorium-based nuclear energy supports India's **net-zero emissions target by 2070** by replacing carbon-intensive coal power.
6. **Thorium diplomacy:** Thorium's non-proliferative nature makes it suitable for international civil nuclear cooperation in research, training, and capacity building.
7. **Technology exporter potential:** Progress in AHWRs, breeder reactors, advanced fuels, and small modular systems positions India to evolve from a capacity builder to a technology exporter, particularly for developing regions.

Way Forward

1. **PHWR irradiation:** Expanding PHWR capacity should be fully utilised as irradiation platforms for thorium and uranium-233 production.
2. **HALEU integration:** Thorium–HALEU fuel use in PHWRs can accelerate fissile material generation with improved fuel efficiency.
3. **Fast reactor continuity:** Fast breeder reactor development must continue to meet long-term fuel breeding requirements.
4. **Closed fuel cycle:** Completion of aqueous and pyro-processing technologies is essential for sustaining thorium utilisation.
5. **Molten salt transition:** Thorium molten salt reactors should be advanced to achieve self-sustaining nuclear power based on uranium-233.

Conclusion:

Thorium-based nuclear energy provides India a credible pathway to long-term energy security. Expanded PHWR capacity, thorium–HALEU fuels, and continued breeder reactor development enable faster transition.

With vast thorium reserves, advanced reactor systems, and growing diplomatic engagement, India can secure clean base-load power while emerging as a global leader in sustainable nuclear energy.

Question for practice:

Discuss how thorium-based nuclear energy can contribute to India's long-term energy security.

Source: Indian Express

Is India Prepared for the End of Globalisation?

UPSC Syllabus Topic: GS Paper 1 -Globalisation

Introduction

Global trade is no longer guided by cooperation and shared rules. Power politics is replacing multilateralism. Trade is now used as a tool of pressure and control. This shift marks the collapse of the liberal global order. A new mercantilist system is emerging. The key concern is whether India has the economic strength, institutions, and social capacity to survive and remain relevant in this changed world.

Globalisation as a Political and Institutional Order

1. Globalisation beyond free trade: Globalisation was not only about goods and services. It was a political system that shaped markets, states, and global behaviour.

2. **Link with liberal values:** It became associated with liberalism, democracy, and international cooperation through global institutions.

3. **Historical roots of global economy:**

- The world economy was global long before it was liberal. Early globalisation relied on force and unequal trade.
- **Colonial wealth accumulation:** Industrialised countries grew through domestic exploitation and overseas resource extraction. Trade was unequal, not free.
- **Post-war institutional framework:** After the mid-20th century, new global institutions emerged to manage international affairs through shared norms.

4. **Legitimacy through restraint:** Powerful countries justified actions in the name of democracy, stability, or humanitarian values. This restraint gave legitimacy.

5. **Core political assumptions:** The system rested on **open markets**, **free movement of capital but not people**, **cross-border contracts**, and **negotiated resource management**.

6. **Temporary success:** For some time, this framework supported economic growth and reduced poverty across many regions.

Structural Fault Lines within Liberal Globalisation

1. **Rising inequality:** Returns to capital increased much faster than wages, leading to widening income inequality.
2. **Uneven industrial outcomes:** Manufacturing declined in some regions while expanding sharply in others, creating global production imbalance.
3. **Pressure on labour and employment:** Deep global supply chains increased competition and weakened job security.
4. **Rising migration pressures:** Uneven development pushed migration from poorer to richer countries.
5. **Emergence of populist politics:** Economic stress and social insecurity created public resentment, strengthening inward-looking populist movements.

Geopolitical Disruption from the Rise of China

1. **Entry without institutional compliance:** China integrated into the global economy without accepting multilateral rules or liberal political values.
2. **Strong domestic state control:** The state retained tight control over capital, labour, and information.
3. **Unequal benefits from globalisation:** China gained access to markets, technology, and supply chains while avoiding institutional obligations.
4. **Excess-capacity-driven growth model:** Its economy relied on overproduction and sustained external demand.
5. **Large and persistent trade surplus:** This model generated massive trade surpluses, reflecting mercantilist behaviour.
6. **Impact on developing economies:** China's dominance constrained industrial growth in poorer countries, including India.
7. **Emergence of an alternative model:** China combined rapid economic growth with political centralisation, challenging the liberal global order.

Collapse of Multilateralism and Return of Mercantilism

1. Changing global perception:

Major economies began viewing cooperation as a cost rather than a benefit.

Inward-looking politics: Populism pushed societies toward national interest over shared responsibility.

End of liberal restraint: States now exercise power openly without moral or institutional justification.

Return of mercantilism: Trade is treated as an instrument of state power. **Surpluses signal strength; deficits signal weakness.**

2. **Policy tools of the new order:**

- Tariffs, sanctions, and bilateral pressure are replacing multilateral negotiations.
- **Industrial self-sufficiency:** Countries promote industrial policy to reduce dependence on others.
- **Politicisation of migration:** Migration is used as a political issue rather than a development concern.

3. **Weakening of global institutions:** Multilateral bodies are losing authority and effectiveness.

4. **Conditional international aid:** Aid is increasingly tied to donor countries' national interests.

5. **Shrinking space for developing nations:** Joint negotiation on **climate change**, **illicit financial flows**, and **global commons** is weakening rapidly.

6. **Rising domestic pressure:** Youth populations demand jobs, growth, and accountability from governments.

India's Position and Constraints in the New World Order

1. **Strategic contradiction:** India remains too large to be ignored in global affairs, yet too poor to significantly influence global rules and institutions.
2. **Lost demographic window:** Over the past 15 years, India failed to convert its demographic advantage into productive economic capacity.
3. **Weak productive base:** Job creation and manufacturing expansion have remained limited, reducing India's economic bargaining power.
4. **Deepening social divide:** The social pyramid has become sharply unequal, with a large poor base supporting a narrow and powerful apex.
5. **Growth without inclusion:** Economic growth has not expanded opportunities widely across society or strengthened human capital.
6. **Low public investment:** Sustained spending on health and education has remained inadequate to support long-term productivity.

7. **Limited state capacity:** Weak administrative and institutional capacity restricts India's ability to compete in a mercantilist world.

8. **Conditional global relevance:** Without stronger institutions and social cohesion, India risks long-term marginalisation despite its size.

9. **Areas of potential strength:** India has scope in **digital public infrastructure**, **renewable energy**, **services**, and **democratic decentralisation**.

Conclusion

The liberal era of globalisation has ended. The emerging mercantilist order rewards state capacity, social cohesion, and productive strength. India cannot rely on rhetoric or demographic size alone. Without stronger institutions, wider investment in health and education, and fair growth sharing, global relevance will remain out of reach.

Question for practice:

Examine how the end of liberal globalisation and the return of mercantilism are reshaping the global order, and assess India's preparedness to adapt to this transition.

Source: The Hindu

How Solid Waste Management Rules 2026 seeks to tackle India's burgeoning waste problem

Source: The post **"How Solid Waste Management Rules 2026 seeks to tackle India's burgeoning waste problem"** has been created, based on **"How Solid Waste Management Rules 2026 seeks to tackle India's burgeoning waste problem"** published in **"Indian Express" on 30th January 2026.**

UPSC Syllabus: GS Paper-3- Economy

Context: India generates around **620 lakh tonnes of solid waste annually**, which has led to overflowing landfills and environmental degradation. To address this crisis, the government notified the **Solid Waste Management Rules, 2026**, with the objective of promoting a **circular economy** and sustainable waste management.

Key Features of SWM Rules, 2026

1. Four-Way Segregation and Waste Hierarchy

a. The rules introduce a waste hierarchy that prioritises prevention, reduction, reuse, recycling, and recovery before disposal.
b. The rules mandate four-way segregation of waste into wet, dry, sanitary, and special-care categories.
c. The government has prescribed colour-coded bins to encourage segregation at the source.
d. This system reduces contamination and improves recycling efficiency.

2. Responsibility of Bulk Waste Generators

a. The rules define bulk generators based on area, water consumption, and waste generation.
b. Large residential societies, institutions, hotels, and commercial establishments are brought under stricter regulation.
c. Bulk generators are required to segregate waste and process wet waste on-site.
d. They must hand over recyclable waste only to authorised agencies.
e. A certification-based compliance mechanism has been introduced.

3. Implementation of Polluter Pays Principle

a. The rules impose environmental compensation on entities that violate waste management norms.
b. Penalties are levied for non-registration, false reporting, and improper disposal.
c. Higher landfill charges discourage the dumping of mixed waste.
d. This principle promotes accountability and behavioural change.

4. Introduction of Centralised Tracking System

a. The government has established a centralised online portal to monitor waste management activities.
b. All stakeholders are required to register on the portal.
c. The portal enables real-time tracking of waste generation, transportation, and processing.
d. This improves transparency and regulatory oversight.

5. Extended Responsibility of Bulk Generators

a. The rules extend responsibility to bulk generators in line with the concept of Extended Producer Responsibility.
b. Bulk generators must submit annual waste accounting returns.
c. They are required to procure compliance certificates if on-site processing is not feasible. Non-compliance attracts financial penalties.

6. Reduction of Landfill Dependency

a. The rules restrict landfills to non-recyclable and non-recoverable waste.
b. Urban local bodies are required to map legacy dumpsites by October 2026.
c. Time-bound plans for bioremediation and biomining are mandated.
d. These measures aim to reduce landfill mountains and environmental pollution.

7. Promotion of Waste-to-Energy and Resource Recovery

1. The rules mandate the use of high-calorific waste for energy generation.
2. Refuse-Derived Fuel is promoted for use in cement and thermal power plants.
3. Industries are given phased targets to replace conventional fuels with RDF.
4. This supports resource efficiency and energy security.

Impact on Housing Societies and Institutions

1. Housing societies and institutions must register on the central portal.
2. They are required to follow four-way segregation at the source.
3. On-site composting or authorised tie-ups have become mandatory.
4. Annual reporting has been made compulsory.

5. These measures reduce dependence on municipal waste systems.

Way Forward

1. The government should strengthen the capacity of urban local bodies through training and financial support.
2. Public awareness campaigns should be intensified to promote behavioural change among citizens.
3. Digital infrastructure must be upgraded to ensure effective functioning of the tracking portal.
4. Private sector participation in recycling and waste processing should be encouraged.
5. Informal waste pickers should be integrated into the formal system with social security benefits.
6. Regular monitoring and third-party audits should be conducted to ensure compliance.
7. Research and innovation in waste-to-energy and biodegradable materials should be promoted.

Conclusion: The Solid Waste Management Rules, 2026 provide a comprehensive framework for sustainable waste management by focusing on segregation, accountability, monitoring, and resource recovery. With effective implementation and public participation, these rules can transform India's waste sector and support environmental sustainability.

Source: Indian Express

Question: "The Solid Waste Management Rules, 2026 aim to promote a circular economy in India." Discuss the key provisions of these rules and examine the challenges in their effective implementation.

Age Limit on Social Media: Economic Survey's Plan to Tackle Digital Addiction

Source: The post **"Age Limit on Social Media: Economic Survey's Plan to Tackle Digital Addiction"** has been created, based on **"Age Limit on Social Media: Economic Survey's Plan to Tackle Digital Addiction"** published in **"Indian Express" on 30th January 2026.**

UPSC Syllabus: GS Paper-2- Governance

Context: The Economic Survey 2025–26 has recommended age-based restrictions on social media usage for children. The main objective of this recommendation is to address the growing problem of digital addiction and harmful online exposure. The proposal reflects India's concern for the mental, emotional, and social well-being of young users.

Need for Imposing an Age Limit

1. There has been a significant increase in digital addiction among children due to excessive screen time.
2. Children often develop dependency on online validation through likes, comments, and shares.
3. Prolonged use of social media negatively affects mental health and increases anxiety and depression.
4. Exposure to violent, sexual, and gambling-related content harms the moral and psychological development of children.
5. Many children face cyberbullying and online harassment, which leads to emotional stress.
6. Children are highly vulnerable to manipulative and targeted digital advertisements.

Key Recommendations of the Economic Survey

1. The Survey recommends the introduction of age-based access limits on social media platforms.
2. It suggests mandatory age verification mechanisms for users.
3. It emphasizes the requirement of parental consent for users below 18 years of age.
4. It proposes a ban on behavioural tracking and targeted advertising for children.
5. It recommends the adoption of age-appropriate default privacy and safety settings.
6. It calls for regulation of addictive features such as auto-play and infinite scrolling.
7. It encourages the promotion of basic phones and education-only digital devices for children.
8. It supports the implementation of content filters and usage time limits.

Indian Policy Context

1. India's data protection framework mandates parental consent for children using digital services.
2. The framework restricts targeted advertising towards minors.
3. Although notified, the framework is yet to be fully implemented.
4. Some states such as Andhra Pradesh and Goa are exploring restrictions on children's social media use.

International Example: Australia

1. Australia has enacted the Online Safety Amendment (Social Media Minimum Age) Act.
2. The law sets a minimum age of 16 years for social media usage.
3. It requires platforms to block existing underage accounts.
4. It prevents minors from creating new accounts through strict verification.
5. It prohibits the use of bypass mechanisms.
6. It provides grievance redressal for wrongly blocked users.
7. The law aims to reduce screen addiction and improve children's well-being.

Role of Age Limits in Reducing Digital Addiction

1. Age restrictions delay children's early exposure to addictive digital platforms.
2. They reduce the influence of algorithm-driven content manipulation.
3. They help in controlling dopamine-based reward cycles.
4. They encourage children to participate in physical and social activities.
5. They improve concentration, academic performance, and emotional stability.
6. They help children develop self-control and responsible digital habits.

Challenges in Implementation

1. Reliable age verification remains difficult due to fake accounts and identity misuse.
2. The collection of personal data raises serious privacy concerns.
3. Regulatory authorities face difficulties in monitoring large digital platforms.
4. The digital divide may exclude disadvantaged children from online learning.
5. Technology companies may resist regulations that affect their revenue.
6. Children may use VPNs and alternative platforms to bypass restrictions.

Way Forward

1. The government should develop secure and privacy-friendly age verification systems.
2. Digital literacy should be included in school curricula.

3. Parents should be trained to monitor and guide children's online activities.
4. Independent regulatory institutions should be strengthened.
5. Social media platforms should be encouraged to follow ethical design practices.
6. Nationwide awareness campaigns should promote healthy digital habits.

Conclusion

The Economic Survey's recommendation is a timely step to protect children in the digital age. Age limits alone cannot solve digital addiction but can reduce early risks. A balanced approach involving government, parents, schools, and platforms is essential. Such coordinated efforts can ensure safe, responsible, and healthy digital development.

Source: Indian express

Question: Discuss how age-based regulation of social media can contribute to protecting the mental and emotional well-being of children in India. Illustrate with suitable examples.

Green steel can shape India's climate goals trajectory

UPSC Syllabus: Gs Paper 3- Indian economy and Infrastructure

Introduction try

India plans to submit a more ambitious climate pledge under its revised Nationally Determined Contribution. This requires economy-wide decarbonisation. Hard-to-abate sectors will decide the outcome. Steel is the most critical among them. The sector supports growth but also contributes heavily to emissions. The choices made today will shape India's climate path, industrial competitiveness, and long-term economic sustainability.

Importance of the Steel Sector in India's Growth Path

1. Backbone of infrastructure and industry: Steel drives construction, transport, housing, and manufacturing. It is central to India's economic expansion and industrial strength.

2. **Massive scale of future demand:** Steel production must rise from **about 125 million tonnes per year to over 400 million tonnes by mid-century** to meet development needs.

3. **Major contributor to emissions:** The steel sector already accounts for **around 12% of India's total carbon emissions**, mainly due to coal-based production routes.

4. **Twin national challenge:** India must support rapid growth while also meeting long-term climate targets. Steel sits at the centre of this balance.

Risks of Continuing High-Carbon Steel Production

1. Coal dependency locks emissions: Most steel is produced using coal-intensive blast furnaces. New investments in this route can lock emissions for decades.

2. **Long-term infrastructure risk:** Steel plants have long lifespans. Decisions taken now will define emissions till mid-century.

3. **Economic cost of inaction:** Lack of ambition can lock in **billions of dollars in carbon-inefficient technologies**, raising future transition costs.

4. **Loss of global competitiveness:** High-carbon steel will become unattractive as global markets shift toward cleaner production standards.

Global Pressure and Market Signals

1. International transition underway: Countries are already moving to cleaner steel. China is expanding scrap-based steel and investing in green hydrogen.

2. European Union's carbon barrier: The EU's **Carbon Border Adjustment Mechanism (CBAM)** penalises carbon-intensive imports.

3. **Export market risks:** Producers unable to prove low-carbon steel face **border taxes, loss of premium markets, and reputational damage**.

4. **First-mover advantage:** Early adopters of green steel gain a lasting competitive edge in global supply chains.

Initiative Taken

1. Corporate-level action: Major producers have initiated pilots and technology trials. **Tata Steel** tested hydrogen injection and carbon capture. **JSW Steel** and **JSPL** are exploring green hydrogen integration. **SAIL** is modernising furnaces and low-carbon pathways.

2. Greening Steel Roadmap: Released in September, it provides a structured decarbonisation pathway for the sector.

3. **Green Steel Taxonomy:** Issued in December 2024, it made **India the first country to formally define green steel**.

4. **National Green Hydrogen Mission:** Supports hydrogen-based industrial transition through capacity expansion.

5. **Carbon Credit Trading Scheme:** 253 steel units are covered under emission-intensity reduction targets.

Structural Barriers to Green Steel Transition

1. Pilot-scale limitation: Most efforts remain confined to pilot projects. The sector has not yet shifted to demonstration plants or commercial-scale near-zero emission technologies.

2. **Green hydrogen cost:** Green hydrogen supply is limited and remains expensive, making large-scale steel production financially difficult.

3. **Energy constraints:** Dedicated renewable power for industrial use is insufficient, slowing the shift away from coal-based processes.

4. **Scrap market gaps:** Scrap availability is low and the market remains largely informal, restricting expansion of secondary steel production.

5. **Transition fuel access:** Affordable and reliable natural gas supply is uncertain, despite its importance as a bridge fuel before hydrogen adoption.

6. **Finance and skills gap:** Projects lack long-maturity, low-cost debt and risk-sharing mechanisms. Workforce upskilling and technology support are also inadequate.

Way Forward

1. Clear emission timelines: Government must set **short-, medium-, and long-term emission targets** to guide capital investment.

2. **Early carbon pricing:** A carbon price can distribute transition costs across the value chain. In Europe, green steel became viable when carbon prices reached **$90–$100 per tonne of CO_2.**

3. **Domestic demand creation:** Public procurement policies can create assured markets for green steel.

4. **Certification and labelling systems:** Clear standards can promote consumer trust and encourage low-carbon products.

5. **Natural gas as transition fuel:** Reliable gas supply must be prioritised until hydrogen-based steel becomes scalable.

6. **Shared infrastructure hubs:** Government-led clusters can reduce costs for green power, hydrogen supply, pipelines, and CO_2 transport.

7. **Targeted fiscal support:** Low-carbon steel has **30–50% higher capital cost**, requiring temporary financial assistance.

8. **Support for smaller producers:** Additional help is essential to ensure an equitable transition across the sector.

Conclusion

Green steel is no longer optional for India. It is essential for meeting climate goals, protecting export competitiveness, and sustaining long-term growth. With strong policy signals, shared infrastructure, and targeted financial support, India can replicate its renewable energy success. Decarbonising steel can secure economic resilience and global leadership in sustainable industrialisation.

Question for practice:

Discuss how green steel can support India's climate goals and what key barriers must be addressed for its large-scale transition.

Source: The Hindu

Balanced Use of Fertilizers: A Key Enabler of Sustainable Farming

UPSC Syllabus: Gs Paper3- Indian economy (Agriculture)

Introduction

The Green Revolution transformed Indian agriculture by introducing high-yielding crop varieties supported by irrigation and chemical fertilizers. This ensured food security and improved rural livelihoods. However, continuous cultivation and excessive use of nitrogen fertilizers created nutrient imbalance and soil degradation. Declining soil fertility now affects crop productivity, environmental safety, and livestock health. Balanced fertilization has emerged as a critical strategy to restore soil health and ensure sustainable agricultural growth.

Balanced Use of Fertilizers and Its Scientific Basis

It means applying all essential plant nutrients in proper proportion, quantity, timing, and method. It includes macronutrients and micronutrients based on crop needs and soil conditions.

The concept is based on **Justus von Liebig's Law of the Minimum**, which states that crop growth depends on the most limiting nutrient. Excess supply of one nutrient cannot compensate for the deficiency of others.

Essential Nutrients Supplied-

a. Primary nutrients which include nitrogen (N), phosphorus (P), and potassium (K)

b. Secondary nutrients which include Sulfur (S), calcium, andmagnesium.

c. Micronutrients which include iron, zinc, copper, manganese, boron, and molybdenum.

Importance of Balanced Use of Fertilizers for Sustainable Agriculture

1. Higher Crop Productivity: Balanced nutrient supply allows crops to achieve their full yield potential. Adequate nutrition improves growth and grain formation.

2. **Better Performance of High-Yielding Varieties:** Improved crop varieties require balanced nutrients to deliver expected productivity gains. Imbalanced fertilization limits their genetic potential.

3. **Improved Nutrient Use Efficiency:** Availability of micronutrients improves the efficiency of macronutrients. This reduces nutrient losses and fertilizer wastage.

4. **Improved Crop Quality and Stress Resistance:** Well-nourished crops show higher resistance to pests, diseases, and climatic stress. This improves grain quality for food and fodder use.

5. **Improved Soil Health and Sustainability:** Balanced fertilization enhances soil organic matter, microbial activity, soil structure, and water-holding capacity.

6. **Reduced Environmental Risks:** Matching nutrient supply with crop demand reduces runoff, leaching, and water pollution. It also lowers greenhouse gas emissions.

7. **Cost-Effective Input Use:** Efficient fertilizer application reduces unnecessary expenditure. Higher yields and better quality improve farm profitability.

Approaches and Practices for Achieving Balanced Fertilization

1. Integrated Nutrient Management (INM): INM combines chemical fertilizers, organic matter, and biological sources. It ensures efficient nutrient use and maintains long-term soil fertility.

2. **Role of Chemical Fertilizers:** Chemical fertilizers supply essential macronutrients such as nitrogen, phosphorus, and potassium needed for crop growth.

3. **Role of Organic Matter:** Farmyard manure, compost, cow dung, and green manures improve soil structure, moisture retention, and microbial activity.

4. **Crop Rotation and Residue Management:** These practices enhance nutrient recycling, improve soil diversity, and reduce pest and disease pressure.

5. **Customised Fertilizers through Technology:** Customised fertilizers contain crop- and soil-specific nutrient combinations. Micronutrients like zinc, boron, and sulphur are blended with urea or DAP based on local deficiencies.

6. **Soil Test-Based Fertilizer Recommendations:** Soil testing classifies nutrient status as low, medium, or high. Fertilizer doses are adjusted accordingly to avoid excess application.

7. **Soil Test Crop Response (STCR) Approach:** STCR links fertilizer use with yield targets. It considers soil fertility, crop type, and climate to calculate exact nutrient needs.

8. **Diagnosis and Recommendation Integrated System (DRIS):** DRIS analyses nutrient ratios in plant tissues instead of absolute values. It helps identify nutrient imbalance during crop growth.

9. **Site-Specific Nutrient Management (SSNM):** SSNM applies fertilizers based on soil variability within a field. Nutrients are supplied only to fill actual nutrient gaps.

10. **Regenerative Agriculture as Support System:** Regenerative practices improve soil organic carbon and nutrient retention. Techniques include reduced tillage, crop rotation, cover crops, mulching, micro-irrigation, and climate-resilient farming.

Challenges in Achieving Balanced Fertilization

1. Nitrogen Dominance: Excessive dependence on nitrogenous fertilizers and limited use of other nutrients has created serious nutrient imbalance in soils.

2. Price Distortions: Price controls on single-nutrient fertilizers like DAP have reduced their prices compared to nutrient-balanced complex fertilizers such as **10:26:26:0** and **12:32:16:0**, discouraging balanced use.

3. Vague Price Fixing: Fertilizer prices are fixed without proper consideration of market demand and supply, leading to inefficient pricing outcomes.

4. Potassium Underuse: The price of **Muriate of Potassium (MOP)** is neither affordable for farmers nor viable for fertilizer firms, resulting in low field application and widespread potassium deficiency.

5. Declining Organic Inputs: Reduced use of organic manures has weakened soil structure, microbial activity, and long-term nutrient availability.

6. Soil Nutrient decline: Continuous cultivation without nutrient replenishment has depleted secondary and micronutrients, accelerating soil fertility decline.

7. Regional Soil and Climate Variability: Diverse agro-ecological conditions make uniform fertilizer recommendations ineffective.

Government Initiatives Promoting Balanced Fertilizer Use

1. Soil Health Card Scheme: Launched in 2015, the scheme provides plot-wise soil test reports. It covers 12 parameters including macronutrients, micronutrients, pH, EC, and organic carbon. Over 25.55 crore soil health cards have been distributed by November 2025.

2. **Farmer Awareness and Capacity Building:** More than 93,000 training programmes and 6.8 lakh field demonstrations have supported balanced nutrient awareness.

3. **Nutrient-Based Subsidy (NBS) Scheme:** The scheme promotes balanced use of nitrogen, phosphorus, potassium, and sulphur. Subsidies are linked to nutrient content. Between 2022–23 and 2024–25, over ₹2.04 lakh crore was allocated.

4. **Neem-Coated Urea:** 100% neem coating mandated since 2015. Neem acts as a nitrification inhibitor and improves nitrogen-use efficiency while reducing urea overuse.

5. **Paramparagat Krishi Vikas Yojana (PKVY):** The scheme supports organic farming with financial assistance of ₹31,500 per hectare over three years. 16.90 lakh hectares have been covered till October 2025.

6. **PM-PRANAM Scheme:** The scheme encourages reduction in chemical fertilizer use. During FY 2023–24, 14 States reduced fertilizer use by 15.14 lakh metric tonnes.

7. **Promotion of Nano Fertilizers:** Includes nano urea and nano DAP. Supported through nationwide campaigns, PMKSK availability, field demonstrations, and drone-based spraying.

8. Customised and Fortified Fertilizers: Fertilizers fortified with micronutrients like zinc and boron receive additional subsidy under the NBS framework.

9. **Enforcement Measures:** During 2025–26, 14,692 show-cause notices, 6,373 license cancellations, and 766 FIRs were recorded to prevent fertilizer diversion.

Conclusion

Balanced fertilization is central to sustaining agricultural productivity and soil health. Excessive reliance on a few nutrients has weakened soils and reduced efficiency. Science-based nutrient management, soil testing, integrated approaches, and regenerative practices offer long-term solutions. Government initiatives such as soil health cards, nutrient-based subsidies, nano fertilizers, and strong enforcement mechanisms support this transition. Together, these measures strengthen soil resilience, optimize fertilizer use, and ensure sustainable farming systems for the future.

Question for practice

Examine the role of balanced fertilization in improving soil health, crop productivity, and long-term sustainability of Indian agriculture.

Source: PIB

Gram Swaraj and the Challenge of Real Decentralisation in India

Source: The post **"Gram Swaraj and the Challenge of Real Decentralisation in India"** has been created, based on **"Explained: Gandhi's ideal of Gram Swaraj, and why true devolution of power to villages has yet to happen"** published in **"Indian Express" on 31st January 2026.**

UPSC Syllabus: GS Paper-2-Governance

Context: Mahatma Gandhi envisioned *Gram Swaraj* as a system in which villages would become self-governed, self-reliant, and economically independent units. He believed that true democracy and national development could be achieved only by empowering rural communities.

Gandhi's Concept of Gram Swaraj

1. Gandhi believed that villages should function as complete republics, managing their own social, economic, and political affairs.
2. He emphasized self-reliance in food production, clothing, and basic necessities.
3. He supported decentralised governance through democratically elected Panchayats.
4. He stressed the importance of equality, non-violence, and social harmony in village life.
5. He promoted a balance between independence and interdependence among villages.
6. He focused on holistic development, including moral, social, and economic progress.

Why True Devolution Has Not Happened

1. **Urban-Centric Development Model:** Post-Independence development policies focused mainly on cities and industries, which led to the neglect of rural areas.
2. **Weak Implementation of Decentralisation:** Although the 73rd Constitutional Amendment strengthened Panchayati Raj institutions, real powers remain concentrated with state governments and bureaucracies.
3. **Lack of Basic Infrastructure:** Many villages still lack quality education, healthcare, digital connectivity, and skill development facilities, which limits their growth.
4. **Limited Rural Entrepreneurship:** Rural enterprises have not received adequate financial and policy support, resulting in limited employment opportunities.

5. **Social and Structural Issues:** Caste-based discrimination, gender inequality, and social divisions continue to restrict inclusive development.
6. **Political Reluctance:** Higher levels of government often hesitate to transfer financial, administrative, and political authority to local bodies.
7. **Dependence on Welfare Schemes:** Schemes like MGNREGA provide short-term relief but do not always promote long-term self-sufficiency.

Way Forward

1. The government should ensure genuine financial, administrative, and political devolution to Panchayati Raj institutions.
2. Capacity building and training of local representatives should be strengthened for effective governance.
3. Investment in quality education, healthcare, digital infrastructure, and skill development must be prioritised.
4. Rural entrepreneurship and MSMEs should be promoted through credit support, market access, and innovation hubs.
5. Social inclusion must be ensured through awareness programs and community participation.
6. Monitoring and accountability mechanisms should be strengthened to improve local governance.
7. Successful models of village development should be replicated across regions.

Conclusion: Gandhi's vision of Gram Swaraj aimed at creating self-sufficient, empowered, and democratic villages. However, structural weaknesses, inadequate decentralisation, and social challenges have hindered its realization. With strong political will, institutional reforms, and community participation, India can move closer to achieving true Gram Swaraj and balanced national development.

Question: Explain Mahatma Gandhi's concept of Gram Swaraj. Why has true devolution of power to villages not been achieved in India even after Independence? Suggest a way forward.

Source: Indian express

Funding treatment of rare diseases

Source: The post **"Funding treatment of rare diseases"** has been created, based on **"Funding treatment of rare diseases"** published in **"BusinessLine" on 31st January 2026.**

UPSC Syllabus: GS Paper-3-Science and technology

Context: Spinal Muscular Atrophy (SMA) is a rare genetic disorder that causes progressive muscle weakness and can be life-threatening, especially in children. In India, despite being classified as a rare disease, a significant number of patients suffer due to limited access to affordable treatment.

Issues Related to Treatment of SMA

1. **High Cost of Treatment:** The cost of gene therapy is around ₹17 crore, while branded medicines like Evrysdi cost nearly ₹72 lakh annually, making treatment unaffordable for most families.
2. **Limited Coverage Under NRDP:** The National Rare Diseases Policy, 2021 provides only ₹50 lakh as one-time assistance, which is insufficient for long-term treatment.

3. **Inadequate Implementation:** Only a few patients receive financial support, and many remain on waiting lists despite registration.
4. **Underutilisation of Legal Provisions:** Section 100 of the Patent Act, which allows government use of patented medicines for public interest, has not been invoked.
5. **Weak Institutional Response:** Centres of Excellence are slow in prescribing affordable generic medicines.
6. **Financial Constraints:** The government's crowdfunding fund remains extremely low compared to patient needs.
7. **Judicial Uncertainty:** Several cases are pending before courts, leading to delays in treatment.

Constitutional and Legal Dimensions

1. Article 21 guarantees the right to life, which includes the right to health.
2. Failure to ensure affordable treatment amounts to deprivation of life.
3. The government has constitutional and legal responsibility to protect citizens' health.

Way Forward

1. The government should procure generic versions of medicines and provide them free of cost to patients.
2. Section 100 of the Patent Act should be invoked in public interest when required.
3. Financial assistance under NRDP should be enhanced and made flexible.
4. Budgetary allocation for rare diseases must be increased.
5. Indigenous research and manufacturing of rare disease medicines should be promoted.
6. Centres of Excellence must be strengthened and monitored for effective delivery.
7. Courts should issue clear guidelines to protect patients' right to treatment.

Conclusion: The plight of SMA patients reflects serious gaps in India's healthcare system for rare diseases. Ensuring affordable treatment is not merely a social obligation but a constitutional duty. Through policy reforms, legal intervention, and public investment, India can uphold the right to life and dignity of SMA patients.

Question: Spinal Muscular Atrophy (SMA) highlights the challenges of access to affordable healthcare in India. Discuss the issues related to treatment of SMA patients and suggest measures to ensure their right to life and health.

Source: BusinessLine