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The case for a board of peace and sustainable security

UPSC Syllabus Topic: GS Paper 2 International Relations – Important International institutions, agencies and fora – their structure, mandate.

Introduction

The UN turns 80 with a sharp gap between ideals and structures. The Security Council **reacts to crises but does not sustain peace**. **Political engagement ends too soon**; conflicts persist, deals falter, transitions stall. **Instead of waiting for slow constitutional change**, the General Assembly can **create a Board of Peace and Sustainable Security (BPSS)** to provide **steady political accompaniment** and **link peacekeeping to achievable political paths**.

Issue with United Nations (UN)

1. **Episodic responses:** The UN moves from crisis to crisis. **Diplomacy starts late, ends early,** and once violence dips, **attention shifts away**, so fragile settlements **lose direction and momentum**.

2. No continuity mechanism: After mediation peaks, **no body stays engaged**. Without a standing anchor, **political accompaniment fades** and **early understandings are not carried into implementation**.

3. **Peacekeeping–politics gap:** Missions **stabilise security** but often **lack a linked political roadmap**. Without sustained negotiation and monitoring, **transitions stall even with troops present**.

4. Reform bottleneck: Security Council reform is **necessary but slow**. **Waiting first is a mistake**. Under **Article 22**, the General Assembly can **create new subsidiary bodies (like the BPSS)** to strengthen action **without challenging Council primacy** or altering the Charter.

For detailed information on **UNSC Reforms** [read this article here](#)

Board of Peace and Sustainable Security (BPSS) as solutions

1.Purpose and scope of the BPSS

• A **Board of Peace and Sustainable Security (BPSS)** would fill the **institutional void** that undermines conflict resolution..

• A **Board of Peace and Sustainable Security (BPSS)** would work **during and after conflict**, where UN political presence is low. It would **not** do early warning, **not** intrude on sovereignty, and **not** rival the Council.

• **Use political tools, not force:** It would reinforce **national dialogue**, accompany **peace agreement implementation**, coordinate **regional diplomacy**, and ensure **peacekeeping links to achievable political pathways** rather than becoming indefinite holding missions.

• **Fit within the UN system:** Working with the **Secretary-General** and the **Security Council**, the BPSS would **subsume the Peacebuilding Commission** and align peacekeeping and peacebuilding with **clear political outcomes**.

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2. Structure of the BPSS

• **Representative:** Membership would be a **rotating group of about two dozen states**, elected by the General Assembly for fixed terms.

• **Regional bodies as participants: Regional balance** would be guaranteed across Africa, Asia, Europe, Latin America and the Caribbean, and West Asia.Organisations from these regions would be **participants, not observers**.

• N**o vetoes:** The board would rest on **participation**, not privilege.

• **Agenda items: It** could be introduced only by a **UN member-state**, a **regional organisation**, or the **Secretary-General**. **Civil society** would have **consultative** input, **no voting**.

3. Working mechanism of the BPSS

• **A working body:** The BPSS would **stay engaged when others leave**, **track commitments** after the spotlight moves on, and **preserve institutional memory** between mandate renewals. It would reduce drift in long engagements.

• **Modest form, real impact:** The mandate looks small but shapes outcomes. It delivers disciplined political accompaniment, builds continuity without expansion, and coordinates actors without confrontation. States keep sovereignty; societies gain confidence that peace will not be dropped.

• **Core principle:** Peace lasts when political deals earn legitimacy through governance, inclusion, and responsible leadership. The board links security to political reality and ties missions to achievable political paths.

Way forward

1. **Legal step:** The General Assembly should **use Article 22 now** to create the BPSS and fix the **lack of political continuity from war to peace**.

2. **Regional role:** Guarantee fair regional balance. Make regional organisations full participants, not observers, to anchor decisions in local realities.

3. **Coordination and respect**: Work with the Secretary-General and the Security Council. Fold in the Peacebuilding Commission to avoid overlap. Coordinate without confrontation. Respect sovereignty at all stages

4. **Accountability and learning:** Publish brief progress notes, share lessons across cases, and adjust tactics quickly. Use simple, shared indicators to measure political traction, not just security calm.

For detailed information on **On the shortcomings of UN** [read this article here](#)

Conclusion

Meaningful reform can **begin now** by creating a Board of Peace and Sustainable Security that restores **continuity, context, and momentum** to UN engagement. This board would **not rewrite power balances**, but

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it would **strengthen the UN's capacity to manage conflict responsibly**. Institutions are built **not for moments but for processes**. The UN once understood this; it can **understand it again—by innovating where it still can**.

Question for practice:

Examine how creating a Board of Peace and Sustainable Security under UNGA Article 22 can address the UN's lack of post-conflict political continuity without challenging Security Council primacy.

Source: [The Hindu](#)

Trump Drops a Bomb, on U.S. Nuclear Weapons Testing

UPSC Syllabus Topic: GS Paper 3 -security And GS Paper 2- international relations

Introduction

Recently, U.S. President Donald Trump announced that the **United States will resume nuclear weapons testing after a 33-year moratorium.** The announcement **followed Russia's claim of a successful test of a nuclear-capable cruise missile** and came the same day as Mr. Trump's meeting with **China's President Xi Jinping. The details remain unclear**, but the shift signals a **major change in U.S. nuclear posture** with **wide global implications**.

Consequence of Resuming Nuclear Weapons Testing by US

1. **Arms-race risk and alliance strain:** Speculation of a renewed arms race grows. **U.S. allies may doubt extended deterrence** and **take extra precautions**, including revising defence plans.

2. Erosion of 50 years of controls: The moratorium acted as restraint despite the **CTBT not entering into force**. **Breaking it weakens non-proliferation habits** built over decades, and others may **cite the precedent to test**.

3. **NPT's "grand bargain" undercut: Nuclear states promised disarmament; non-nuclear states promised restraint. Testing appears the opposite of disarmament** and invites **non-nuclear states to re-evaluate their choices**.

4. **Strain on existing and pending treaties**

   • **New START cliff:** The treaty capping **U.S.–Russia strategic warheads expires in February 2026**; testing would **make a successor harder to negotiate and verify**.
   • **CTBT and broader norms:** While not in force, **CTBT commitments** and the **wider normative fabric** are **pressured** as others **cite U.S. actions to proceed**.

5. **Regional security ripple effects**

   • **Asia cascade: If China resumes testing, India may also consider testing. Pakistan would likely respond**, raising **instability** in **South Asia**.

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• **Nuclear use as a 'tactical' option:** Most leaders today did **not see World War II or Hiroshima.** This distance **can make 'tactical' nuclear options seem more acceptable.**

6. **Environmental downsides:** The U.S. already relies on **simulations and non-explosive validation. Underground tests risk leakage and groundwater harm**, and **site readiness would take time.**

International Treaties and Initiatives

1. Treaty on the Non-Proliferation of Nuclear Weapons (NPT): Signed in 1968 and in force since 1970, the NPT is the **cornerstone of non-proliferation efforts.**
 Three-part bargain:

> • **States without nuclear weapons agree not to acquire them.**

> • **The five nuclear-weapon states (China, France, Russia, United Kingdom, and United States) agree to pursue disarmament.**

> • **All states agree to cooperate on the peaceful uses of nuclear energy.**

2. **IAEA Safeguards: Non-nuclear weapon states** that are NPT members have **legally binding safeguards agreements** with the IAEA to verify that **nuclear materials are not diverted for military purposes.**

3. **Comprehensive Nuclear-Test-Ban Treaty (CTBT):** This treaty **bans all nuclear explosions**, but **has not yet entered into force** because **not all required states have ratified it.**

4. **Treaty on the Prohibition of Nuclear Weapons (TPNW):** This treaty, which **entered into force in 2021**, **prohibits states from developing, testing, producing, acquiring, possessing, stockpiling, using, or threatening to use nuclear weapons.**

5. **Inter-Parliamentary Union (IPU):** The IPU **promotes the role of parliaments** in achieving a **nuclear-weapons-free world** by urging them to **work with their governments** to eliminate **nuclear weapons from security doctrines.**

6. **Non-Proliferation and Disarmament Initiative (NPDI):** A group of **12 countries**, established by **Australia and Japan**, that promotes **practical actions** to advance **NPT objectives.** It focuses on **transparency, strengthening the review process**, and **developing verification measures.**

7. **UN Security Council Resolution 1540:** This resolution **requires all states** to take and enforce **effective measures** to **prevent the proliferation** of nuclear weapons and their materials to **non-state actors.**

8. **New START:** It is a **U.S.–Russia treaty limiting strategic nuclear arms**, called **Measures for the Further Reduction and Limitation of Strategic Offensive Arms**, **signed in Prague on 8 April 2010** and **entered into force on 5 February 2011.**

Way forward

1. No-First-Use Pledge: At the **NPT review**, states should **adopt a binding no-first-use commitment** to **lower alert levels** and **rebuild trust.**
 2. **Focused Great-Power Talks:** The **U.S., Russia, and China** should **open trilateral arms-control**

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negotiations before **New START expires**, creating a **template others can join**.
3. **Reinforce Testing Restraint: All nuclear states** should **reaffirm the moratorium** and **expand transparency** on **subcritical experiments** to prevent **misinterpretation**.
4. **Assurance and Crisis Channels: Strengthen consultations and hotlines** to **reduce fear**, **deter adjustments**, and **manage incidents**.
5. **Verification and Public Accountability: Invest in monitoring tools** and **reporting to the UN**, **restoring confidence** in the **non-proliferation bargain**.

Conclusion

Resuming U.S. nuclear testing risks **eroding core norms, spurring competitive tests, and destabilising multiple regions.** It **weakens the NPT bargain**, **complicates New START follow-ons**, and **invites a costly arms race**. The safer path is **renewed dialogue**, **verifiable limits**, and a **collective No-First-Use pledge**—**rebuilding credibility** before the window for prudent restraint **closes**.

Question for practice:

Examine the likely impacts of a U.S. resumption of nuclear weapons testing on the CTBT/NPT framework, New START negotiations, and security dynamics in Asia.

Source: [The Hindu](#)

Unlocking PSB Top Posts for Private Sector Bankers

Introduction

The Appointments Committee of the Cabinet (ACC) of the Government of India recently announced revised/consolidated guidelines for the selection of Whole-Time Directors of the Public Sector Banks (PSBs), reigniting the 'public vs. private' debate.

Features of the Revised Guidelines

- The revised Guidelines, inter alia, seeks to open one of the Managing Directors (MDs) posts at State Bank of India (SBI), and MD and one of the Executive Directors (EDs) positions at the remaining 11 PSBs, to be selected from other public sector financial institutions and professionals from private sector.
- The Guidelines aim "to have uniform sequencing of eligibility criteria and to align the same with the changing banking industry."
- The Guidelines aim to recruit candidates for the PSB top positions through defined processes as and when the positions fall vacant.
  - Earlier, the private sector bankers held positions of Chairman & MD (CMD) in two Nationalized Banks (NBs); however, they were 'cherry-picked.'
- **Eligibility criteria**
  a) If the stated goal of the experiment (if so) is to bring in technically knowledgeable professionals, then the minimum qualification should have been fixed at a higher level instead of being just a graduate.

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b) The specified positions are open to the eligible candidates irrespective of the 'size' of the banks, as normally represented by their balance sheets, they have managed, as there are considerable differences between the size of SBI or NBs and NPvBs, let alone OPvBs.

c) As for the one open position of SBI MD, para 2.4 (B) (II) mentions "Candidates eligible under public sector position."

Challenges

● An eligible candidate from a small bank might find it difficult to manage a bank sufficiently bigger than that s/he had handled, whereas the opposite may not be true.

● It is not clear whether "public sector" means all types of public sector enterprises, including both the physical and financial sectors or even the government sector.

Way Forward

● **Assimilation of new entrants:** As for PSBs, it is widely acknowledged that they are more 'special' than PvBs owing to their massive social responsibility which includes tighter priority sector benchmarks, greater involvement in financial inclusion, etc.

● **Acceptance of new entrants:** Acceptance by employees would be another key factor for success, especially if the new CEO/ED from PvBs, brings about changes in the existing work force and culture.

● The private bankers should agree to compromise the salary to come to public sector given the contribution one can make in giving new direction to a behemoth.

Conclusion

It is a welcome, but baby, step to transfuse private banking culture into PSBs. However, its success would depend on its envisaged goal, which is yet fuzzy. And in this exercise, banking 'regulations,' instead of minor changes in the top management composition, would be paramount.

Source: BusinessLine

India–Taliban Engagement

UPSC Syllabus Topic: GS Paper2-International Relations-India and its neighbourhood- relations.

Introduction

India is weighing deeper contact with Kabul while guarding security and leverage. Pakistan–Taliban tensions, the Taliban Foreign Minister's India visit, and India's plan to upgrade its Kabul mission shape this moment. The core issues are India's **security**, **$3 billion** development stake, and **regional balance**. Engagement offers access, but recognition carries costs. India must read Afghanistan's **economic collapse**, **humanitarian strain**, and **jihadist networks** clearly before fixing long-term choices.

Challenges faced by the Taliban

1. **Fragile control:** The Taliban claim improved security, but their hold over a diverse, war-weary country is not settled. Power is centralised under a **reclusive Kandahar-based leader** while Kabul administrators run daily affairs, creating rigid control and limited accountability.

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2. **Economic collapse:** Afghanistan's economy has **shrunk by about one third** since the takeover.

3. **Humanitarian strain:** Revenue, jobs, and services are weak, and **around 22.9 million people** require humanitarian assistance, which keeps communities in a constant emergency.

4. **Social costs of women exclusion:** Girls are barred from schooling beyond the primary level, and women are largely removed from workplaces. These policies reduce household income, lower productivity, and damage long-term recovery and social stability.

5. **Persistent jihadist ties and IS-K threat**

   • Despite public assurances, ties endure with foreign jihadist groups.
   • The **Haqqani network** is embedded in the state.
   • A **UN monitoring report** notes **al-Qaeda** safe houses and training camps and calls the Taliban the **primary partner** of foreign terrorist groups such as **al-Qaeda, Pakistani Taliban, Jaish-e-Mohammad, Lashkar-e-Taiba**, and the **Islamic Movement of Uzbekistan**.
   • **Islamic State-Khorasan (IS-K)** rejects Taliban rule and remains the most active armed challenger.
   • If domestic pressures rise, these networks could resurface openly.

6. **Narrow political base:** A **Pashtun, men-only leadership** governs a multi-ethnic society. Limited inclusion and mounting economic stress could revive latent networks and push the country back toward wider violence and regional spillover.

7. **Narcotics transition:** The **poppy ban** has cut incomes for many farming households. This shock risks pushing communities toward other illicit activities, including **methamphetamine** production and trafficking.

Its implications on India

1. **Development interests:** India invested about **$3 billion** between 2001 and 2021. These assets, goodwill, and unfinished projects remain exposed to Afghanistan's internal stability, access to officials, and the basic functioning of state services.

2. **Counter-terror priority:** The Taliban promise that Afghan soil will not host anti-India groups. At the same time, documented ties with **foreign jihadist networks** keep the security environment uncertain. This sustains a persistent terrorism and infiltration risk for India.

3. **Recognition choice: Russia recognises the Taliban** and **China has exchanged ambassadors**. If India recognises Kabul, it could unlock cooperation and improve access, but it would also confer **legitimacy** and **diminish leverage** to influence behaviour. If India holds back, it risks shrinking diplomatic space as others move ahead.

4. **Regional posture:** Seeing the Taliban simply as a counter to Pakistan has costs. It can make regional ties more hostile, and if armed groups grow stronger, **India's safety and image** can suffer.

5. **Narcotics spillover:** Growth in **synthetic drugs** and trafficking routes via the region can strain India's **law-enforcement** and **public-health** systems.

Way Forward

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1. **Sustain Diplomatic Engagement while Withholding Formal Recognition:**

   • Maintain a functional full embassy, regular high-level exchanges, and technical partnerships, without immediate formal recognition of the Taliban.
   • Uphold conditional engagement, demanding assurances against the use of Afghan territory for terrorism targeting India, and keeping dialogue channels open for real-time intelligence sharing and security cooperation.

2. **Expand Targeted Development and Humanitarian Diplomacy:**

   • Continue needs-based development projects (**healthcare, water, rural infrastructure, education**), responding to urgent Afghan requirements and building grassroots goodwill.
   • Invest in humanitarian aid (**food, medicine, earthquake support**) and publicly visible projects to counter Chinese and Pakistani influence, reinforce soft power, and stabilize communities.

3. **Strengthen Counter-terrorism Cooperation:**

   • Institutionalize intelligence exchange, joint investigations, and security sector capacity-building based on India's **2011 Strategic Partnership Agreement** with Afghanistan.
   • Intensify cross-border **anti-narcotics** collaboration and border management to tackle trafficking and radicalization risks.

4. **Secure Economic Connectivity & Cooperation:**

   • Expand alternative trade and transit corridors, notably via **Chabahar Port**, revitalize the **Air Freight Corridor**, and develop resource-sector partnerships with robust contractual safeguards.
   • Explore investments in **minerals**, **water resource management**, and sectoral modernization to create mutual incentives for regional stability.

5. **Balance Principles & Realpolitik:**

   • Engage with the regime on the basis of practical security and development needs, without losing sight of India's advocacy for **inclusive governance**, **minority protection**, and **women's rights**.
   • Use **multilateral forums** to pressure for more inclusive policies and broader international engagement.

 Conclusion

India should deepen contact but **avoid premature recognition**. Protect the **$3 billion** stake, prevent **terror use of Afghan soil**, and watch **jihadist networks** closely. Use targeted aid, connectivity, and regional coalitions to build leverage. Balance **security needs** with **basic freedoms** to support stability that serves Afghans and India alike.

Question for practice

Examine the key challenges faced by the Taliban regime and their implications on India.

Source: [The Hindu](#)

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Model Youth Gram Sabhas

UPSC Syllabus Topic: GS Paper 2 -issues and challenges pertaining

to the federal structure, devolution of powers and finances up to local levels and challenges therein.

Introduction

Gram Sabha is the **constitutional foundation** of grassroots democracy under **Article 243A**. It represents **every registered voter** and enables **direct, participatory** decisions on budgets and local plans. Yet public awareness and youth aspiration remain low. The **Model Youth Gram Sabha (MYGS)** turns civics into a lived experience for students, building **leadership**, **accountability**, and **community-focused problem-solving** in simple, hands-on ways.

Need for Model Youth Gram Sabhas

1. **Foundational yet overlooked:** Gram Sabha is the base of local democracy, but it stays invisible in public talk and civic learning. Its role needs fresh attention.

2. **Curriculum gap:** Schools highlight Parliament and global forums, while Panchayati Raj receives little space. Students miss how village decisions actually happen.

3. **Aspiration deficit:** Few youths imagine leading as **Sarpanch** or **ward member**. Without relatable exposure, local leadership feels distant and unglamorous.

4. **Participation and accountability:** Low attendance weakens deliberation on budgets and plans. Early, hands-on exposure can build habits of participation and demand for accountability.

Initiative taken (Model Youth Gram Sabha- MYGS)

In **2025**, the **Ministry of Panchayati Raj**, with the **Ministry of Education**, **Ministry of Tribal Welfare**, and the **Aspirational Bharat Collaborative**, launched **Model Youth Gram Sabha (MYGS)**. It is strongly aligned with the vision of **National Education Policy (NEP) 2020**, which underscores the need for curriculum and pedagogy to instill in students a deep respect for **Fundamental Duties** and **constitutional values**, along with a strong sense of **national belonging**.

Its key objectives are to:

• **Educate students** about the Panchayati Raj System – Introduce students to the **three-tier Panchayati Raj** framework established through the **73rd Constitutional Amendment**.

• **Encourage participation** – Motivate students to engage in **Gram Sabhas** and local governance processes.

• **Develop leadership skills** – Foster a sense of responsibility and leadership among youth toward strengthening **Panchayati Raj Institutions (PRIs)**.

• **Promote understanding of local issues** – Provide a platform for students to discuss and analyze real-life governance challenges at the **grassroots** level.

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The core vision of MYGS is aimed to:

- Foster **active, empathetic, and informed** citizenship among youth, rooted in constitutional values and democratic principles.

- Instill values of **inclusivity, consensus building, justice, and equity**. Empower students to become socially responsible individuals.

- Build important life skills such as **leadership, participation, communication, critical thinking**, etc., among students.

- Strengthen awareness of **local governance structures** and **Localized Sustainable Development Goals**.

- Empower students to become socially responsible individuals committed to **national integration** and development.

Structured implementation (three steps)

- **Teacher training** by **National Level Master Trainers (NLMTs)**.

- **Mock Gram Sabha sessions** on sanitation, water, education, and budgeting.

- **Competitions and scaling** with **prizes and certificates**.

Module and pedagogy (MLJP)

The MYGS Module follows **MLJP—Meaning, Learning, Joy, Pride**. It includes:

- **NLMT Guide** with roles, processes, and step-by-step facilitation.

- **Teacher Facilitation Module** that is pictorial and user-friendly.

- **Evaluation Framework** with **pre/during/post** indicators and differential metrics to recognize exemplary schools.

Funding and recognition

- Each participating school gets ₹**20,000 (one-time)** for logistics and refreshments. Students receive **certificates** from the **Ministry of Panchayati Raj**.
- **Regional winners** get a **token cash award** for school development; **national top three teams** receive **large cash prizes**. **Logistics** for national teams are supported.

Significance of Model Youth Gram Sabhas

1. **Reconnecting youth with local democracy:** It links students to village decision-making. They work with **agendas, budgets, and resolutions**, making grassroots democracy concrete and credible.

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2. Building practical civic skills: Role-play develops **public speaking, critical thinking, negotiation, and consensus**. Students learn **due process**, **record-keeping**, and how to turn ideas into **resolutions**.

3. **School–Panchayat bridge:** Regular sharing of student proposals creates a steady channel between schools and **Gram Panchayats** for follow-up.

4. **Sharper local solutions:** Simulations turn village issues (sanitation, water, education) into **structured plans and budgets** that can be acted on.

5. Values and NEP 2020 alignment: Activities nurture **Fundamental Duties**, **inclusion**, **transparency**, and **accountability**. They build **pride in being Indian** and encourage **sustainable, community-centred** solutions.

6. **Pipeline of local leaders:** Early exposure to Panchayati Raj makes participation **aspirational**. Students gain confidence to engage in **Gram Sabhas** and later serve in **PRIs** and community bodies.

7. **Stronger accountability in Panchayats:** Regular student scrutiny of plans and spending raises expectations from local bodies. **Feedback**, **clear minutes**, and **public sharing of proposals** promote responsible governance.

Challenges of Model Youth Gram Sabhas

1. **Teacher preparedness:** Training quality can vary across regions. Simple tools and continued support are needed to keep facilitation consistent.
 2. **Student participation over time:** The simulation must become part of school culture to keep students engaged year-round.
 3. **Linkage with real governance:** Students should see their proposals reflected in actual Gram Sabha actions. Without visible follow-through, motivation drops.
 4. **Resources and logistics:** Remote and tribal schools may lack funds, internet, or staff time. Regular monitoring is harder where access and capacity are limited.
 5. **Monitoring and feedback: Clear indicators** and timely feedback are essential to improve sessions. Without structured reviews, practices drift and quality declines.
 6. **Inclusivity and reach:** Scaling beyond selected schools is challenging. Ensuring language, context, and local issues are represented fairly needs sustained attention too.

Way forward

1. **Expansion:** After Phase 1, roll out to **all State government schools** with clear state-wise timelines and support.
 2. **Institutionalisation:** Notify boards to count **MYGS as co-curricular credit**; embed in **teacher training** and **annual school calendars**.
 3. **Evidence:** Use simple **digital portals** to publish student plans; run **annual follow-up studies** tracking participation, skills, and later **PRI/community engagement**.

Conclusion

MYGS restores Gram Sabha to **everyday democratic practice**. It turns students into informed participants who **deliberate, budget, and resolve**. With **scaled training**, **structured modules**, **fair incentives**, and

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curriculum integration, local participation can become **aspirational and continuous**, strengthening **Panchayati Raj** and nurturing citizens ready to serve a **Viksit Bharat**.

Question for practice

Discuss how the Model Youth Gram Sabha strengthens grassroots democracy and outlines its key challenges and the way forward.

Source: [The Hindu](#)

India's IT dream is at a crossroads

UPSC Syllabus Topic: GS Paper 3 - Indian economy.

Introduction

India's IT sector still drives growth and aspiration, but the model is changing fast. **Layoffs, AI-led automation, visa costs, and tight client budgets** are reshaping work. The sector must shift from **scale to skill**, and from **services to solutions**. Clear **policy support**, large-scale **upskilling**, and fair **worker transitions** are essential to protect jobs and sustain momentum.

Current Status of IT Sector in India

1. GDP contribution and outlook: The IT sector contributed **around 7.5%** of GDP in **FY23**, with projections to reach **~10% by 2026**.

2. **Employment scale:** The sector employs **nearly 6 million** people.

3. **Export revenue trajectory:** Export revenue is predicted to reach **$224 billion in FY25**. According to a NASSCOM report, total IT revenue could **surpass $300 billion in FY26**.

4. **Domestic digital adoption:** With **over 760 million** internet users, domestic demand for digital products and services is a major growth driver.

5. Government supports: Key enablers include **67 Software Technology Parks of India (STPIs)**, **100% FDI**, and the **National Policy on Software Products (NPSP)**.

Major Concerns of IT Sector in India

1. **Layoffs signal structural change:** Firms are trimming quietly through **"silent layoffs"** such as performance-linked exits and delayed promotions. **Over 50,000** jobs may go by year-end. Global cuts add pressure (**Amazon ~14,000**; **Meta ~8,000**).

2. **Automation reshapes routine work: AI** now handles reporting, coordination, and basic coding. **Agentic AI** performs multi-step tasks, lifting productivity and shrinking team sizes.

3. **Visa costs push localisation:** Higher **H-1B** costs and tariff threats make onsite deployment of low- and mid-level roles uneconomic, so firms hire more **locally overseas**.

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4. Clients demand lean: Budgets in the **U.S. and Europe** are tight. Buyers want **cloud, cybersecurity, and generative-AI** outcomes from **smaller, expert teams**.

5. **The old "assembly line" model fades:** Mass hiring with basic coding and quick deployment no longer works. Clients seek **complete solutions**, **fast delivery**, **strong architecture**, and **solid security**.

6. **Skills gap at mid-career:** Many advanced through managerial tracks rather than **deep technical** skills. **Legacy stacks** (e.g., **SAP ECC**, mainframes, non-cloud tools) lose value as AI covers many routine tasks.

7. **Social and career insecurity:** Experienced workers are leaving, fresh graduates face long waits, and companies rush to retrain. A once-stable sector now brings income shocks, and many workers lack strong safety nets during this transition.

Way forward

1. Mass AI upskilling: Make **AI literacy** the baseline. **TCS trained ~550,000** in basic AI and **~100,000** in advanced skills. This scale should be the **norm** through public-private action.

2. Job-ready education: Move beyond rote coding. Teach **machine learning, product thinking, and ethics in AI**. Build **communication, collaboration, and critical thinking**. Graduates must be **job-ready for AI, cloud, data, and cybersecurity**.

3. Product and deep-tech push: Support **AI startups, deep-tech labs**, and **innovation hubs.** Shift from only services to products that create higher value and new jobs.

4. Stable rules and global access: Give policy clarity on **data, trade, and compliance.** Work with partners to **ease visas** so firms can deploy talent where needed.

5. Fair transitions and support: For large layoffs, **mandate 6–9 months' pay as a cushion**. Offer **career counselling, mental-health help**, and **retraining subsidies** so workers can re-enter quickly.

6. Coordinated execution: Align **government, industry, and campuses** on timelines and metrics. Track outcomes and **course-correct.**

Conclusion

India's IT base is strong, but the certainty is gone. The path forward is **skills first**, **product-led growth**, **clear rules**, and **worker protection**. If these steps scale now, the sector can move from **manpower to mindpower** and stay globally competitive in the **AI age**.

Question for practice:

Examine the major concerns facing India's IT sector and suggest key measures that can help strengthen it in the age of AI.

Source: [The Hindu](#)

The case for energy efficiency

UPSC Syllabus Topic: GS Paper 3-infrastructure-energy

Introduction

India has expanded clean power quickly, yet **grid emissions have risen**. **Non-fossil capacity now exceeds 51%**, but the **grid emission factor increased .** The paradox stems from a **capacity–generation gap** and an **evening-peak timing mismatch** that keeps **coal on call**. Progress now requires putting **energy efficiency first** and adding **flexibility** through storage, smarter tariffs, and demand-side tools.**.**

Current status of India's clean energy
1. India's Power Capacity

   Non-fossil fuel sources (renewable energy, hydro, and nuclear): **256.09 GW – over 51 % of the total.**

   Fossil-fuel-based sources: **244.80 GW – about 49 % of the total.**

   Within renewables:

   Solar power – 127.33 GW

   Wind power – 53.12 GW

2. **Achievement**:
   • India has already achieved one of its major **COP26 Panchamrit goals — to have 50 % of installed electric power capacity from non-fossil fuel sources by 2030** — five years early.
   • **India** has already **cut emissions intensity by 33% (2005–2019)**

3. **Global rankings:** India is ranked **4th in total renewable energy capacity globally**, **3rd in solar** capacity, and **4th in wind power capacity.**

4. **Continued reliance on coal:** Despite the growth in renewables, **over 66% of electricity generation still comes from coal-fired power plants.**

Major Concern Related to India's Clean Energy

1. **Capacity–generation gap:** Non-fossil sources are ~50% of installed capacity, yet renewables (with hydro) delivered only 22% in 2023–24. Low capacity factors keep coal dominant. This widens the capacity-delivery divide. Demand intensifies the shortfall.

2. **Evening peak deficit:** Solar output falls after sunset while household demand rises, pushing coal plants to meet night and peak loads.

3. **Flexibility gap in dispatch:** The grid cannot quickly shift or store power to match changing demand. Storage is limited and demand-shifting is weak, so coal plants are used as fast "shock absorbers," especially in the evening.

4. **Network and land constraints:** Slow expansion of transmission corridors and land access delays integration of new clean projects at the required pace.

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5. **Slow RTC scaling:** Round-the-Clock renewable supply is cheaper than new coal, but scale-up lags due to financing, siting, and grid readiness.

6. **Emissions rebound:** The grid emission factor rose from 0.703 to 0.727 tCO_2/MWh (2020–21 to 2023–24), reflecting coal-heavy balancing during growth.

Way forward

1. **Put efficiency first:** Energy efficiency is the **"first fuel."** It reduces demand before supply is built and **flattens evening and night peaks**, lowering coal dispatch. Scale efficient **fans, air-conditioners, and motors**, and embed efficiency in **buildings and industry**.

2. **Support infrastructure:** Efficiency must work hand-in-hand with clean supply. India should **expand transmission networks, invest in energy storage, and streamline land access** for renewables.

3. **Policy alignment:** Policymaking should prioritise **integration of efficiency, renewables, and flexibility** across all sectors.

4. **Strengthen demand-side flexibility:** To unlock the full potential of clean energy, India must take six clear actions:

> • **Enable virtual power plants** — Allow homes and offices to connect batteries to the grid, helping it glide through peak demand hours.

> • **Accelerate appliance efficiency standards** — Shift markets toward **4- and 5-star products** and continuously raise benchmarks.

> • **Support small and medium enterprises (SMEs)** — Encourage adoption of **efficient motors, pumps, and industrial processes** through targeted assistance.

> • **Adopt flexible pricing** — Design **time-of-day tariffs** that reward consumers who shift usage to periods of high renewable availability.

> • **Introduce scrappage incentives** — Replace **old, energy-guzzling equipment** with new, efficient technologies.

> • **Allow DISCOMs to procure energy services** — Facilitate procurement of **"electricity services"** like **green cooling** powered by RTC clean power, rather than just purchasing raw electricity.

Conclusion

India has the **capacity**; now it must unlock **delivery and timing**. Put **efficiency first**, scale **RTC renewables and storage**, expand **transmission**, and **align demand with clean supply**. These steps will cut **coal-time peaks**, lower the **GEF**, and turn clean capacity into **clean generation**—reliably, affordably, and at scale.

Question for practice:

Discuss the major concerns in India's clean energy transition and suggest the way forward to make the power system cleaner and more efficient

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Challenges to Nuclear Restraint and India's Position

Source: The post **"Challenges to Nuclear Restraint and India's Position"** has been created, based on **"Restraint has a half life"** published in "Indian Express" on 1st November 2025.

UPSC Syllabus: GS Paper -3- Science and technology

Context: The global consensus against nuclear testing, sustained for over three decades, is weakening. The voluntary moratorium on testing, not mandated by any binding international treaty, was upheld largely because it was politically convenient and morally persuasive. However, with growing geopolitical competition and technological advances, this restraint now appears to have a limited "half-life." India, as a responsible nuclear power, faces the challenge of reassessing its position amid this shifting landscape.

Challenges to Global Nuclear Restraint

1. **Erosion of Political Consensus**
   a. The post–Cold War nuclear restraint rested more on political will than legal obligation.
   b. The voluntary moratorium on nuclear testing was maintained as long as it suited the strategic convenience of major powers.
   c. Today, this moral consensus is fraying as nations prioritize renewed deterrence credibility.
2. **Shifts in Major Powers' Nuclear Postures**
   a. **United States:** Discussion under the Trump administration about resuming testing reopened a long-settled debate. While advanced simulations have replaced actual tests, U.S. experts now question whether such models can indefinitely ensure reliability.
   b. **Russia:** Has revived activity at its Arctic test sites, signaling preparation for potential new tests.
   c. **China:** Expanding its nuclear arsenal, constructing new missile silos, and increasing fissile material production — openly questioning arms control regimes.
   d. These developments collectively undermine the Comprehensive Nuclear-Test-Ban Treaty (CTBT) framework.
3. **Technological Evolution and Strategic Necessity**
   a. Since 1998, technology, materials, and delivery systems have advanced. Missiles like Agni-V and submarine-launched systems are now operational, requiring validation for accuracy, reliability, and miniaturization.
   b. Newer, multiple independently targetable re-entry vehicles (MIRVs) demand higher assurance levels that computer modeling alone may not provide.
   c. The next generation of deterrence systems thus faces pressure for renewed empirical testing.
4. **Weakening of Arms Control Architecture**
   a. The **CTBT**, though adopted in 1996, has not entered into force due to non-ratification by key states (including the U.S. and China).
   b. Its uncertain future has left the nuclear order "in limbo," with restraint now dependent solely on political choice rather than treaty obligation.
   c. The stability of the nuclear order has shifted from shared conviction to temporary convenience, eroding global trust.
5. **Credibility Crisis in Deterrence**

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a. When major powers doubt the sufficiency of their own self-restraint, others are likely to follow suit.

b. The absence of credible verification mechanisms heightens mistrust, prompting states to consider renewed tests to ensure deterrent credibility.

India's Position in the Changing Nuclear Landscape

1. **India's Historical Commitment to Restraint**
   a. India's nuclear tests in 1998 symbolized strategic maturity and national confidence.
   b. The voluntary moratorium that followed represented India's recognition of the moral dimension of restraint while affirming credible minimum deterrence and a **No-First-Use (NFU)** policy.
   c. India's approach demonstrated that responsible nuclear behavior could coexist with strategic assertion.

2. **Current Strategic Environment**
   a. With major powers reconsidering testing, India cannot ignore the potential impact on its own deterrence credibility.
   b. Technological shifts and new delivery systems (Agni-V, SLBMs) necessitate reassessment of reliability and readiness.
   c. If India's adversaries resume testing, maintaining unilateral restraint indefinitely could put India at a relative disadvantage.

3. **The Dilemma of Deterrence vs. Restraint**
   a. India must navigate between two imperatives:
      i. Preserving its image as a responsible nuclear power committed to global non-proliferation norms.
      ii. Ensuring the reliability of its deterrent in an evolving threat environment.
   b. Resuming tests could erode India's international standing, invite sanctions, and undermine its claim to responsible leadership.
   c. Yet, continuing restraint without assurance of credibility risks deterrence obsolescence.

4. **Testing within India's Ethical and Strategic Framework**
   a. Any future decision must align with India's principles of **credible minimum deterrence** and **NFU**.
   b. Testing, if ever necessary, should aim at deterrence credibility, not power projection or showmanship.
   c. The **focus must remain on preparedness,** not provocation and on assurance, not aggression.

5. **The Need for Open and Informed National Debate**
   a. Decisions of such magnitude require transparent, informed discussion among scientists, policymakers, and citizens.
   b. India's nuclear decisions should emerge from consensus, not reaction, grounded in national security, science, and moral responsibility.

Way Forward

1. **Reaffirm Responsible Nuclear Posture:** Continue to uphold restraint as a strategic strength while enhancing technological reliability through advanced simulations and subcritical experiments.

2. **Invest in Indigenous Capability:** Strengthen modelling and validation capacities to reduce dependence on physical testing.

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3. **Reassess Security Environment:** Conduct periodic strategic reviews considering developments in China, Russia, and the U.S.
4. **Diplomatic Engagement:** Lead efforts to revive global dialogue on the CTBT and arms control, positioning India as a stabilising power.
5. **Maintain Moral Leadership:** Balance deterrence credibility with India's long-standing advocacy for disarmament and peaceful coexistence.

Conclusion: The longevity of nuclear restraint is not guaranteed—it has a half-life shaped by global politics, technological change, and strategic mistrust. As the world edges toward renewed nuclear competition, India must act prudently: reaffirming its moral authority while remaining strategically prepared. The future of restraint will depend not merely on treaties but on the conviction and credibility of responsible powers like India.

Question: With the global consensus on nuclear restraint showing signs of erosion, critically examine the challenges to the existing nuclear order. In this context, discuss how India should recalibrate its nuclear policy to balance deterrence credibility with responsible restraint.

India's Reforms Moment in Science and Technology

Source: The post **"India's Reforms Moment in Science and Technology"** has been created, based on **"India's Reforms Moment in Science and Technology"** published in "Hindustan Times" on 1st November 2025.

UPSC Syllabus: GS Paper -3- Science and technology

Context: The global technological landscape is undergoing a profound transformation. Geopolitical alliances are being redrawn, supply chains are being weaponised, and economic borders are tightening. In this emerging order, **technological sovereignty has become synonymous with national sovereignty.** India's pragmatic response under the Narendra Modi government has been to lay the foundation for a **modern innovation economy**—expanding its **digital public infrastructure (DPI)**, opening strategic sectors like **defence and space** to private enterprise, and nurturing the **world's third-largest start-up ecosystem**.

Now, with the launch of the **Anusandhan National Research Foundation (ANRF)** and the **Research, Development and Innovation (RDI) Fund**, India is poised for a transformational reform moment in science and technology.

Current State of India's Science and Technology Ecosystem

1. In 2024, India's total **R&D expenditure** stood at about **$18 billion**, less than one-twentieth of China's $450 billion and below Israel's $25 billion.
2. To achieve leadership in critical technologies, India targets **$200 billion in R&D investment by 2035**—roughly **3% of projected GDP**.
3. The country's **scientific base**—IITs, IISc, and research labs—has made major strides in advanced R&D, producing more postgraduates than undergraduates and improving both scale and quality.

Achievements and Strengths

1) **Institutional Excellence**

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a) **IIT Madras:** Created the world's most detailed 3D images of the human foetal brain (10× sharper).
b) **IIT Kanpur:** Developed an artificial heart prototype at one-seventh the cost of global leaders.
c) **IIT Bombay:** Pioneered **CAR-T cell therapy** for cancer, cutting treatment costs for Indian patients by 90%.
d) **IISc Bengaluru:** Designed a **brain-inspired analog computing platform** with 16,500 conductance states—advancing AI computing.

2) **Digital Public Infrastructure (DPI):** India's DPI has already shown how visionary policy, executed at scale, can transform governance and enable inclusive innovation.
3) **Start-up Momentum:** With over 100,000 start-ups, India is nurturing a robust ecosystem for deep-tech ventures and R&D-based entrepreneurship.

Challenges in India's Science and Technology Sector

1. **Chronic Underinvestment in R&D:** India's R&D spending remains below 1% of GDP, among the lowest for major economies. Achieving the 3% target by 2035 requires substantial increases in **public and private investment**.
2. **Low Private Sector Participation:** Industry contributes only about **one-third** of India's total R&D expenditure, while globally, private enterprise contributes **two-thirds or more**.
3. **Fragmented Institutional Framework:** Research remains scattered across multiple ministries and agencies, leading to overlap, inefficiency, and slow coordination.
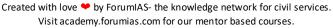4. **Limited Commercialisation of Research:** Indian academia often stops at publication rather than productisation. Weak **industry–academia linkages** impede conversion of innovations into marketable technologies.
5. **Brain Drain and Talent Utilisation:** Despite a large talent pool, limited research funding and infrastructure drive many top scientists abroad.
6. **Risk Aversion and Bureaucratic Delays:** Excessive regulation, slow approvals, and fear of audit scrutiny create a **risk-averse culture** that stifles experimentation and breakthrough innovation.
7. **Underdeveloped Deep-Tech Ecosystem:** Sectors such as semiconductors, quantum computing, and biotechnology remain nascent due to lack of sustained funding and long-term strategy.

Major Policy Reforms and Institutional Innovations

1. **Ease of Doing Research:** The government has introduced a new framework simplifying approvals, promoting autonomy, and empowering scientists. This reform has been described as **India's "1991-style liberalisation moment" for research**.
2. **Anusandhan National Research Foundation (ANRF)**
   a. It is modelled on the **U.S. National Science Foundation (NSF)**.
   b. **₹50,000 crore** investment over five years to fund **basic and applied research** across universities, labs, and industries.
   c. Encourages **industry collaboration**, interdisciplinary projects, and funding for research clusters.
3. **Research, Development and Innovation (RDI) Fund**
   a. **₹1-lakh-crore fund** to catalyse private-sector-led R&D.
   b. Provides **long-term, low-cost financing**—including equity and hybrid instruments—to corporates, start-ups, and FROs (Foundations for R&D Organisations).
   c. Focus on **strategic and emerging technologies**: semiconductors, quantum computing, biotech, space, energy, and defence.

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4. **Professionalised Management**
   a. Managed by **independent experts** from finance, industry, and technology—not by bureaucrats.
   b. **Ensures efficient and merit-based decision-making** for innovation investments.

5. Industry–Government Synergy: The ANRF and RDI Fund present a **historic opportunity** for India's government, academia, and industry to **co-innovate across sectors**, fostering a deep-tech ecosystem.

Significance and Transformational Potential

1. The reforms can **unlock India's innovation potential** similar to the U.S. post-World War II scientific transformation driven by *"Science: The Endless Frontier"* (1945).
2. By integrating **public funding, private entrepreneurship, and academic excellence**, India can achieve technological **self-reliance and global competitiveness**.
3. These measures align with the vision of **Viksit Bharat 2047**, where innovation and excellence in science are central to national prosperity.

Way Forward

1. **Adopt a National Mission Approach:** Treat R&D as a **strategic national priority**, demanding conviction and courage across ministries.
2. **Encourage Risk-Taking in Research:** Recognise that **failures are stepping stones** to innovation; avoid a blame culture that inhibits experimentation.
3. **Strengthen Academia–Industry Linkages:** Establish joint research funds, innovation clusters, and shared IP frameworks.
4. **Build Intellectual Property and Human Capital:** Shift focus from contract R&D to **proprietary innovation**; nurture IP ownership by Indian firms.
5. **Effective Implementation and Monitoring:** Timely execution and measurable outcomes must guide policy delivery.
6. **Global Partnerships:** Leverage collaboration with the U.S., Japan, EU, and others for advanced tech research while ensuring **strategic autonomy**.

Conclusion: India's reforms in science and technology mark the beginning of a new era of innovation-driven growth. With the **ANRF** and **RDI Fund**, India has a once-in-a-generation opportunity to **transform its research ecosystem**, achieve **technological sovereignty**, and secure a leading place in the global innovation order. If the government, industry, and academia act in concert—with courage, efficiency, and vision—this could become India's **"1991 moment" for science and technology**, heralding a truly **Viksit Bharat by 2047.**

Question: India's recent policy reforms such as the Anusandhan National Research Foundation (ANRF) and the Research, Development and Innovation (RDI) Fund mark a turning point in the country's science and technology ecosystem. Discuss the key challenges and opportunities these reforms present for achieving technological self-reliance.

Banking Law Amendment Streamlines Succession

Source: The post **"Banking Law Amendment Streamlines Succession"** has been created, based on **"Banking Law Amendment Streamlines Succession"** published in "The Hindu Businessline" on 4th November 2025.

UPSC Syllabus: GS Paper -2- Economy

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Introduction: The **Banking Laws (Amendment) Act, 2025** has brought a major reform in India's banking and succession framework. Effective from this month, the amendment introduces flexibility and clarity in the **nomination process** for bank deposits and locker contents. The new law ensures faster asset transfer, quicker claim settlements, and reduced inheritance disputes.

Background

1. Earlier, depositors could nominate **only one person** for bank deposits, lockers, and safe custody articles under the **Banking Regulation Act, 1949**, and the **Reserve Bank of India Act, 1934**.
2. This single-nominee model often caused **inheritance disputes**, **delay in settlements**, and the need for **succession certificates**.
3. A large number of **unclaimed deposits** accumulated in banks due to unclear or outdated nomination instructions.

Key Features of the Amendment

1. The new amendment allows depositors to **nominate up to four individuals**, reflecting diverse family arrangements.
2. It enables smoother asset distribution and ensures that the depositor's wishes are respected after death.
3. Two distinct nomination models have been introduced to cover both monetary and physical assets.

Two Distinct Nomination Models

1. **Simultaneous Nomination (for deposits like savings, term, and recurring accounts)**
    a. The depositor specifies exact percentage shares for each nominee.
    b. The total must add up to 100 percent.
    c. Funds are released proportionally and immediately to all nominees.
2. **Sequential or Successive Nomination (for lockers and safe custody facilities)**
    a. The depositor lists nominees in a specific priority order.
    b. The next nominee becomes eligible only if the previous one is unavailable.
3. This dual system ensures both transparency and fairness in the asset transfer process.
4. It eliminates ambiguity and ensures that physical and financial assets are passed on according to clearly recorded intentions.

Operational Framework and Implementation

1. The **Ministry of Finance** will issue the **Banking Companies (Nomination) Rules, 2025**, to provide operational details and prescribed forms for making, cancelling, or modifying nominations.
2. All **commercial and co-operative banks must implement** these rules uniformly across their systems.
3. Banks will be required to update their **core banking software**, revise documentation, and **train staff** before the **November 1, 2025** deadline.
4. For customers, adding or changing nominations will remain a **simple and accessible process** involving only standard forms.

Benefits and Implications

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1. The amendment reduces legal complications by providing **clear, documented succession instructions**.
2. It helps in the **faster settlement of claims** and reduces the number of unclaimed deposits in the banking system.
3. It minimises disputes among heirs by recording the depositor's intent transparently.
4. It ensures **uniform and standardised claim processing** across public, private, and co-operative banks.
5. It enhances **investor protection** by linking with the **Investor Education and Protection Fund (IEPF)** and improving governance practices.
6. The reform aligns with broader goals of strengthening banking governance and improving depositor confidence.

Challenges

1. Banks must ensure **timely technical upgrades** and proper staff training to implement the changes effectively.
2. Public **awareness campaigns** will be essential to educate depositors about the new multiple-nominee provisions.
3. Coordination among legal heirs will still be needed to prevent posthumous disputes.
4. The transition must be closely monitored to avoid administrative bottlenecks and ensure uniform compliance.

Conclusion: The **Banking Laws (Amendment) Act, 2025** represents a **progressive step** in India's financial and legal landscape. By allowing multiple nominees and defining clear asset-sharing mechanisms, it promotes depositor protection and ensures family financial security. The amendment not only streamlines regulatory procedures but also brings a **humane and practical shift** in India's approach to succession planning. It marks an important move towards **modernising banking governance** and ensuring that succession after death is handled with clarity, fairness, and compassion.

Question: The Banking Laws (Amendment) Act, 2025 marks a paradigm shift in India's banking and succession framework. Discuss how the introduction of multiple nominee models can enhance financial security, reduce legal disputes, and promote better governance in the banking sector.

AI and Jobs vs Work: The Economic Dimension

Source*:* The post "AI and Jobs vs Work: The Economic Dimension" has been created, based on "AI and Jobs vs Work: The Economic Dimension" published in "The Hindu Businessline" on 4th November 2025.

UPSC Syllabus: GS Paper -2- Economy

Introduction: The rapid expansion of **Artificial Intelligence (AI)** has fundamentally altered the nature of employment and productivity worldwide. Global corporations, such as Amazon, have begun large-scale job cuts, signaling an era where **machines increasingly replace human labour**. The key issue is not merely **job loss**, but the **need to redefine work and income** in a technology-driven economy.

Background

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1. Historically, major technological shifts — from the **Industrial Revolution** to the **digital revolution** — have disrupted employment but created new forms of work.
2. AI represents a similar transformation, but its **speed and scope** are far greater.
3. Across economies, private firms are deliberately reducing staff to enhance productivity and profits.
4. Even governments are prioritizing automation and cost efficiency over traditional job creation.

Economic and Social Consequences

1. **Employment Reduction:** The number of people employed is expected to decline sharply, especially in the private sector.
2. **Social Impact:** Job losses lead to **insecurity, inequality, and emotional distress** among workers.
3. **Economic Fallout:** Lower employment reduces **aggregate demand**, leading to **lower profits and excess capacity**.
4. **Political Implications:** Rising unemployment could provoke **social unrest** and challenge political stability.
5. **Wage Compression:** Increasing investor competition and profit pressures are leading to **lower wage growth and shorter contracts**.

The Scale of the Problem

1. In 1900, the global population was about **1 billion**; today it exceeds **8 billion**.
2. Assuming a 40% workforce, nearly **3.2 billion people** are employed or seeking work.
3. Even if 400 million people are unemployed, **3.2 billion people** still compete for limited work opportunities.
4. This imbalance is comparable to the **Industrial Revolution's 65% decline in employment** over 25 years — but is now occurring **within a decade** due to AI.

AI and Productivity Dynamics

1. AI has caused **massive displacement of labour**, similar to how railways disrupted road transport.
2. It has improved productivity but also **weakened income distribution** and widened wealth inequality.
3. The earlier public–private consensus on productivity and welfare is eroding, with firms prioritizing **efficiency over employment**.

Challenges
1. Technological Displacement: AI-driven automation threatens to replace millions of routine and cognitive jobs, leaving limited alternatives.
2. Skill Mismatch: The workforce lacks the advanced digital and analytical skills required to adapt to AI-based industries.
3. Inequality and Polarisation: AI amplifies **income and opportunity gaps**, concentrating wealth among those controlling technology.
4. Inadequate Policy Response: Governments continue to **promise jobs** rather than designing policies that create diverse **income opportunities**.
5. Informalisation of Work: Increased reliance on **short-term and gig contracts** can undermine social security and job stability.
6. Low Labour Productivity in Public Sector: Government employees often enjoy **inflation-indexed pay** without performance linkage.

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7. Decline in Aggregate Demand: As jobs shrink, reduced incomes weaken consumption, affecting overall economic growth.

8. Weak Social Protection Systems: Lack of robust unemployment benefits or retraining programs exacerbates vulnerability.

The Way Forward

1. **Shift Policy Focus from Employment to Work:** Governments must focus on **income creation**, not merely job numbers. Aggregate demand can only rise with sustainable income, not just employment statistics.
2. **Promote Self-Employment and Flexibility:** Encourage individuals to transition from **Form 16 (employee)** to **Form 16A (self-employed)** through incentives for entrepreneurship and freelancing.
3. **Adopt Short-Term, Productivity-Based Contracts:** Replace lifetime job models with **contractual and performance-linked employment** to maintain flexibility.
4. **Link Pay to Productivity:** Introduce **performance-based pay systems** across both private and public sectors to reward efficiency.
5. **Reskill and Upskill Workforce:** Implement large-scale **AI literacy and skill development programmes** to prepare workers for new industries.
6. **Encourage Remote and Gig Work Models:** Promote **work-from-home**, freelancing, and hybrid arrangements to expand participation in the economy.
7. **Reform Labour Laws and Safety Nets:** Update labour regulations to include **gig and platform workers**, ensuring basic income security and benefits.
8. **Public Awareness and Policy Integration:** Policymakers must integrate **AI impact assessments** in every major economic reform to ensure inclusivity.

Conclusion: The rise of AI represents a **paradigm shift in the global labour economy**, redefining what "work" means in the 21st century. Rather than clinging to the outdated promise of full employment, governments must **reimagine economic structures** that ensure equitable income distribution. By focusing on **self-employment, skill development, productivity, and income assurance**, societies can adapt to technological change without sacrificing economic security. The transition from **jobs to work** is not a loss — it can be a **path toward liberation, innovation, and resilience** in the age of AI.

   Question. AI is not merely reducing jobs but redefining the very nature of work. Discuss the economic and social challenges arising from AI-driven automation and suggest measures to ensure inclusive growth.

India's Forests Hold the Future

UPSC Syllabus Topic: GS Paper 3 -Environment.

Introduction

India's forests now anchor the climate and development agenda. The revised Green India Mission targets **restoration of 25 million hectares by 2030** and an additional **carbon sink up to 3.39 billion tonnes CO_2e**. Progress since 2015 shows expanded cover and mission support, but future gains depend on **ecology-first design, community leadership, capable field teams, effective CAMPA use,** and **real convergence** with agroforestry and watershed programmes so restoration delivers resilience—not just plantation numbers.

Current Status of Afforestation in India?

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Target: India target, to restore **25 million hectares** of degraded forest and non-forest land by **2030** (revised Green India Mission (GIM)).

Carbon sink pledge: India also aims to create an additional up to 3.39 billion tonnes CO_2e carbon sink by decade-end.

Implementation (2015–2021): From **2015–2021**, afforestation covered **11.22 million hectares**, with ₹**575 crore** disbursed to **18 states**.

Cover change: India's forest and tree cover is 25.17%, far below the 33% target of the 1988 National Forest Policy.

India's forests provide ecosystem services valued at over ₹**130 trillion annually**, sustaining most rural livelihoods

Global standing (GFRA-2025): India ranks **9th** in total forest area and **3rd** in *net annual forest area gain* worldwide.

Major Concern Related to Afforestation in India

1. **Declining ecological effectiveness:** A 2025 study by IIT Kharagpur with IIT Bombay and BITS Pilani found a 12% fall in photosynthetic efficiency of dense forests due to rising temperatures and drying soils. Planting more trees will not ensure stronger carbon sinks.

2. **Weak community participation and legality:** Nearly 200 million people rely on forests, and the Forest Rights Act (2006) empowers their management. Yet many plantation drives bypass claims and consent, eroding trust and legitimacy.

3. **Capacity gaps in implementation:** The revised GIM promotes native, site-specific species, but many field teams lack ecological expertise. Training institutes exist in Uttarakhand, Coimbatore, and Byrnihat, yet capability is uneven.

4. **Financing bottlenecks and under-utilisation:** CAMPA holds about ₹95,000 crore, but utilisation is inconsistent; Delhi used 23% of approved funds between 2019 and 2024. GIM has modest allocations and relies heavily on CAMPA.

5. **Fragmented alignment across programmes:** The blueprint links restoration to agroforestry, watershed missions, and CAMPA, but turning this integration into on-ground practice remains difficult. Policy–practice gaps slow outcomes.

6. **Quantity-over-quality plantations and monocultures:** Area-driven targets encourage single-species planting, lowering biodiversity, water security, and climate resilience.

Initiative Taken

Central initiatives

    1. **Revised Green India Mission (GIM):**

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It plan to **restore 25 million hectares by 2030** and build an additional carbon sink by decade-end.

It expands focus to **Aravalli Hills, Western Ghats, mangroves, and Himalayan catchments**.

Programme convergence: Seeks tighter links with the **National Agroforestry Policy**, **watershed initiatives**, and the **Compensatory Afforestation Fund Management and Planning Authority (CAMPA)** to support restoration at scale

2. **National Afforestation Programme (NAP): It** focuses on **ecological restoration of degraded forests** and improving livelihoods, using a three-tier structure (SFDA–FDA–JFMC), and supporting activities like soil–moisture conservation, fencing, micro-planning, awareness, and monitoring.

3. **Forest Fire Prevention & Management (FFPM) Scheme: It** provides dedicated support for **prevention, preparedness, and management of forest fires**, so that regenerated areas and new plantations are protected.

4. **MISHTI (Mangrove Initiative for Shoreline Habitats & Tangible Incomes):** Announced in Union Budget 2023-24, MISHTI aims to restore/afforest about **540 sq km of mangroves** across 9–11 coastal States/UTs over five years. It does this mainly through convergence of CAMPA, MGNREGS and other schemes, and it stresses local community/EDC/VSS involvement because mangroves are both a bio-shield and a high-carbon ecosystem

5. **Aravalli Green Wall Project :** Run by MoEFCC, this project tries to build a 1,400-km, ~5-km-wide belt of plantations and restoration along the Aravallis in Gujarat, Rajasthan, Haryana and Delhi to stop desertification, improve biodiversity, and protect NCR from dust.

State initiatives

1. **Tamil Nadu:** Nearly **doubled mangrove cover in three years**, strengthening carbon storage and coastal protection.

2. **Himachal Pradesh: Biochar programme** launched to generate **carbon credits** and **reduce fire risks**.

3. **Uttar Pradesh:**

• **Planted over 39 crore saplings this year**; exploring ways to connect **village councils to carbon markets**.

• **Green Chaupal platform** to mobilise village-level plantation and maintenance with a **Gram Harit Nidhi (village green fund)** and monthly meetings for awareness and micro-plan execution.

4. **Odisha: Joint Forest Management Committees** integrated into **planning and revenue-sharing**, improving participation and compliance.

5. **Chhattisgarh: Biodiversity-sensitive plantations** and revival of **barren cattle shelters** by planting **mahua**, aligning ecology with **tribal livelihoods**.

Way forward

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1. **Community leadership:** Recognise and empower FRA rights-holders, and involve them in planning, planting, and monitoring from the start to build trust and ownership.

2. **Ecology-first design:** Prioritise native, site-specific species and diversify plantings so restoration improves biodiversity and drought resilience, not just canopy.

3. **Capacity building:** Train frontline staff through institutes in Uttarakhand, Coimbatore, and Byrnihat to deliver ecology-sensitive work.

4. **Smarter finance:** Deploy CAMPA funds for participatory planning, maintenance, and adaptive management rather than one-time planting.

5. **Transparent tracking:** Publish dashboards on survival rates, species mix, fund use, and community participation.

6. **Market linkages:** Scale biochar and connect local bodies to credible carbon markets for upkeep.

7. **Institutional alignment:** Ensure that GIM's planned convergence with agroforestry, watershed missions, and CAMPA becomes operational on the ground, with states executing one coordinated restoration plan.

Conclusion

As India looks to Viksit Bharat 2047, forests are future capital. If India restores 25 million hectares with community leadership, native species, clear public tracking, and honest use of CAMPA funds—and if the Centre, states, local bodies, civil society, and researchers work as one—GIM can become a national movement and reshape restoration worldwide.

Question for practice:

Examine the major concerns in India's afforestation, and explain the key Central and State initiatives and the way forward under the revised Green India Mission.

Source: The Hindu

A Need for Nationwide SIR

UPSC Syllabus Topic: GS Paper 2 -Representation of People's Act

Introduction

India's electoral roll is now a dynamic national database. Precision is vital. After a contentious Bihar drive, a nationwide Special Intensive Revision (SIR 2.0) has been announced. It is presented as paperless, people-friendly, and robust. Yet a core weakness remains: duplicate voter entries. This is not usually fraud. It is a procedural lapse when people shift residence. SIR 2.0 must close this gap through clear rules, timely action, and smart use of technology.

Special Intensive Revision (SIR)

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A Special Intensive Revision (SIR) is a focused, time-bound exercise conducted by the Election Commission of India (ECI) to update and verify the accuracy of electoral rolls.

Electoral revisions are of 3 types:

• **Summary Revision:** Annual revision of electoral rolls for routine maintenance; no door-to-door verification.

• **Intensive Revision:** Major overhaul of electoral rolls; includes door-to-door verification.

• **Special Revision:** Undertaken in exceptional cases such as missed areas, large-scale errors, or legal/political exigencies.

Unlike routine summary revisions, which are annual and involve only minor updates, an intensive revision involves full, fresh preparation of electoral rolls through house-to-house verification by Booth Level Officers (BLOs) to ensure that:

• All eligible citizens are included in the electoral rolls.

• Ineligible or duplicate entries are removed.

•!The voter list is accurate, inclusive, and transparent.

SIR Legal Backing

SIR is anchored in the **Representation of the People Act, 1950,** which requires accurate and up-to-date electoral rolls and prohibits duplication. SIR is the operational drive that applies these statutory duties at scale so that each elector has only one valid entry.

Core prohibitions.

• **Section 17** bars a person from being registered in more than one constituency.

• **Section 18** bars multiple entries within the same constituency. These provisions make duplicate listings a legal violation.

Movement and updating of entries (change of residence).

• **Section 22(b)** enables transposition within the same constituency when a voter shifts residence.

• **Section 23(2)** governs inclusion in a new constituency after a move and requires the new ERO, once satisfied, to inform the previous ERO, who must strike off the old entry. The law expects these steps to be accurate, prompt, and simultaneous.

Administrative responsibility: The Electoral Registration Officers (EROs) carry the primary responsibility to execute transposition, inclusion, and deletion correctly to prevent duplicates.

Procedure Followed for Change Requests

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The EC has consolidated change-of-residence and correction provisions in **Form 8**. Address updates fall into **four types:**
 (I) No change in constituency or polling station.
 (II) Same constituency, different polling station.
 (III) New constituency within the same State.
 (IV) New constituency in a new State.
 Type IV moves most often create double entries when deletion at the previous place lags behind inclusion at the new place.

Form 6 is for fresh inclusion; if a voter hides an existing registration, it is a false declaration and a legal violation. Accountability is shared by the applicant and the officials who verify.

Digital backbone

> • The roll runs on **ECINet**, a nationwide digital system managed by **C-DAC, Pune**. Every voter has a unique **EPIC**number, which supports a single verifiable entry.

> • **ECINet** can detect duplicates, flag inconsistencies, and enable corrections through authorised verification. It should also retain a traceable update history to show what changed, when, and by whom.

Major Concern Related to SIR

1. **Persistent duplicate entries:** Many voters are listed twice when they shift homes. Names get added at the new address but are not deleted from the old roll. This weakens public trust.

2. **Administrative delay:** Detection tools exist, but action is slow. Deletion and coordination lag between Electoral Registration Officers (EROs), so errors stay in the system.

3. **EPIC-linked inconsistencies:** Duplicates appear with different EPICs or sometimes the same EPIC in two places. Both situations point to weak end-to-end checks during updates.

4. **Verification gaps:** When Form 6 is used for fresh inclusion without declaring an existing registration, it creates unlawful duplication. Verification should catch false declarations.

5. **Accountability shortfalls:** Primary responsibility lies with the concerned EROs. Without clear ownership and timely follow-through, even a paperless SIR cannot deliver credibility.

6. **Credibility risks:** Ongoing duplication invites judicial questions and public criticism.

Way forward

1. **Pre-clean the roll before SIR 2.0 begins:** The EC should flag suspected duplicates, verify them, and delete outdated entries so the drive starts from a clean baseline.

2. **Software-led validation:** ECINet should auto-flag potential duplicates, verify them through software-led checks, strike off the older entry immediately, and record every change with who approved it and when.

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3. **ECINet as a reliable public utility:** The platform must be intuitive, stable, and responsive for administrators and citizens, so corrections happen smoothly.

4. **Integrate Aadhaar:** Seamless Aadhaar checks should strengthen uniqueness and reduce duplication through clear, auditable workflows.

5. **Real-time grievance redressal with a feedback loop:** A live, trackable dispute window should replace queues, and its insights should feed a self-correcting system that prevents repeat errors.

Conclusion

SIR 2.0 must not become another bureaucratic ritual. The law already prohibits duplication, and the platform can detect it. The missing link is timely deletion, ERO coordination, and accountable follow-through. If ECINet is used to its full potential—pre-cleaning data, validating in real time, retaining audit history, integrating for independent checks, and resolving disputes promptly—future SIRs will be unnecessary. Electoral rolls will stay accurate, updated, and verifiable by design. This is how trust in India's elections is secured

For detailed information on **Special Intensive Revision (SIR) of Electoral Rolls – Significance & Challenges** read this article here

Question for practice:

Discuss the major concerns in SIR 2.0 and the key steps needed to ensure a clean, accurate, and duplication-free electoral roll.

Source: **The Hindu**

The Malleable Code of Conduct (CoC)

UPSC Syllabus–GS Paper-2– Salient Features of the Representation of People's Act.

Introduction

India's Model Code of Conduct (MCC) is meant to keep campaigns dignified and elections fair, yet it lacks statutory force. As politics, technology, and campaigning tactics evolve, loopholes, slow enforcement, and resource gaps strain its effectiveness. The code is respected publicly, yet routinely tweaked on the ground. Strengthening legal backing, sharpening enforcement, and building technical capacity are now essential to protect electoral integrity.

About Model Code of Conduct (MCC)

Model Code of Conduct- The Model Code of Conduct is a set of guidelines issued by the Election Commission of India for political parties and candidates to maintain decorum in their campaigning. It lays down a list of dos and don'ts for leaders and parties ahead of elections.

Duration of Model Code of Conduct- The MCC comes into force from the date the election schedule is announced until the date that results are out.

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Legal Enforceability of MCC- MCC does not have any statutory backing. It has come to acquire strength in the past decade because of its strict enforcement by the EC. Certain provisions of the MCC may be enforced through invoking corresponding provisions in other statutes such as the IPC 1860, CrPC 1973, and RPA 1951.

Penalties for its violation- If the Election Commission finds a party or candidate in violation of the Model Code of Conduct, it can take measures from issuing a warning to ordering an FIR against the concerned party or candidate.

Concern Related to the Model Code of Conduct (MCC)

1. **Lack of legal enforceability:** The MCC is election commission's moral sanction to get political parties and candidates to fall in line. But the norms of the Model Code of Conduct are flouted due to lack of legal backing.

2. **Distorted level playing field:** Pre-poll grants and project launches tilt voter choice toward incumbents. Presenting freshly announced benefits as extensions of "ongoing" programmes keeps them technically within the rules, yet it undermines the code's intent and spirit. For example- Disbursements under the Mukhyamantri Mahila Rojgar Yojana (MMRY) in Bihar began on September 26, 2025, with elections scheduled for November 6

3. **Ineffectiveness in Curbing Malpractices:** The MCC has failed to prevent electoral malpractices such as hate speech, fake news, money power, booth capturing, voter intimidation and violence.

4. **Challenges from evolving technologies:** MCC norms are also being increasingly challenged by new technologies like **AI based deepfakes**, and social media platforms that enable faster and wider dissemination of misinformation and propaganda.

5. **Vague Clauses:** Some MCC clauses, such as maintaining the 'purity of the election process', are subjective and can be misinterpreted.

6. **Reliance on Political Cooperation:** The MCC's effectiveness depends on the cooperation from political parties and governments. Parties and governments often indulge in the violation of MCC. **For ex-** Hate Speeches during election campaigning.

7. Slow Enforcement: Elections run on tight schedules, but legal action is slow. The EC cannot investigate and penalize every tactical breach in real time.

8. **Lack of Enforcement capacity of Election commission:** ECI suffers from the shortage of functionaries for the effective implementation of the MCC.

9. **Interference with Governance:** ECI is criticized for the early application of MCC as it imposes limitations on policy decisions, public spending, welfare schemes, transfers, and appointments.

10. **Lack of Awareness and Compliance:** The provisions of the Model code of conduct is not widely known or understood by voters, candidates, parties, and government officials.

Way forward

1. **Legalisation proposal** :Consider the **2013** Standing Committee recommendation to give the MCC a statutory basis.

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2. **Strengthen election laws** : Use the **RPA 1951** more decisively for corrupt practices like bribery and fund misuse, aligning procedures with MCC norms.

3. **Empower the ECI:** Under **Article 324**, prioritize firm, law-anchored enforcement over ad-hoc management of the code.

4. **Fast-track courts:** Create special fast-track mechanisms to adjudicate MCC cases swiftly during the election window.

5. **Tech-ready MCC & capacity:** Update clauses for social media and AI misuse; expand EC's digital forensics, monitoring, and platform-coordination capability.

6. **Strict neutrality:** Apply the MCC consistently and transparently across parties and candidates to sustain public trust.

Conclusion

The MCC protects electoral fairness but, without statutory backing, swift adjudication, and tech-ready safeguards, it remains pliable. Giving it legal force, time-bound enforcement through fast-track courts, stronger EC capacity, and neutral, transparent application can restore the level playing field and public trust.

For detailed information on **Model Code of Conduct** read the article here

Question for practice:

Examine the key concerns with the Model Code of Conduct and the way forward to make it more effective in the tech era.

Source: **The Hindu**

New Mutual FUnds Regulations on Total Expense Ratio (TER) and Brokerage Costs

Source: The post **"New Mutual FUnds Regulations on Total Expense Ratio (TER) and Brokerage Costs"** has been created, based on **"New Mutual FUnds Regulations on Total Expense Ratio (TER) and Brokerage Costs"** published in "The Hindu Businessline" on 06th November 2025.

UPSC Syllabus: GS Paper -3- Economic Development

Context: The Securities and Exchange Board of India (SEBI) has proposed changes in the Total Expense Ratio (TER) and brokerage fee structure for mutual funds to increase transparency, protect investors, and align costs with fund performance. These reforms focus on reducing investor burden while streamlining fund house expenses.

About Total Expense Ratio (TER)

- **Definition:** TER is the **total cost charged by a mutual fund** to manage and operate an investment scheme, expressed as a **percentage of the fund's average assets under management (AUM)**.
- **Components:** It includes **management fees, administrative costs, distribution expenses, registrar fees, and marketing costs**.

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- **Significance:** A higher TER reduces investor returns, while a lower TER indicates more cost-efficient fund management. SEBI regulates TER to ensure transparency and prevent excessive charges to investors.

About Brokerage Fee

- **Definition:** Brokerage fee is the **transaction cost paid by mutual funds to brokers** for buying and selling securities in the market.
- **Types:** It applies to both **cash market transactions** and **derivatives trades**.
- **Purpose:** Lower brokerage helps reduce overall fund expenses, contributing to a smaller TER and better investor returns.

Proposed Changes in TER Structure

- SEBI plans to **remove the additional 5 basis points (bps)** charge earlier allowed to AMCs.
- Revised TER slabs:
    - Up to ₹500 crore AUM – 2.5% (active), 2% (passive)
    - ₹500–₹700 crore AUM – 2% (active), 1.75% (passive)
- TER will decline as AUM increases, benefiting larger fund houses.

Changes in Brokerage Fees

- Brokerage for cash market transactions reduced from **12 bps to 2 bps**, and for derivatives from **5 bps to 1 bps**.
- All other expenses are to be charged on an actual basis.
- The move aims to reduce high bundled brokerage and research fees that burden investors.

Impact on AMCs, Brokers and Investors

- **AMCs:** Profit margins expected to fall by **15–20 bps**, forcing efficiency and cost control.
- **Brokers:** May experience lower income initially, but higher AUM could lead to more trades, offsetting losses over time.
- **Impact on Investors:**
    - Lower TER means reduced costs and better returns.
    - Example: For a ₹1 lakh investment, a 1% TER cut can save **₹150–₹200** annually.
    - Removal of exit load and transaction cost reduction directly benefit investors.
- **Industry Perspective**
    - Large fund houses are optimistic about managing the cost through efficiency and distribution improvements.
    - The rising AUM base will help absorb the impact in the medium term. Overall, it is seen as a positive, investor-centric reform.

Challenges

1. **Reduced AMC Profitability:** Smaller AMCs may face financial strain due to lower TER caps, affecting operational sustainability.
2. **Brokerage Pressure:** Sharp cuts in brokerage rates could hurt small and mid-sized brokers who depend on transaction volumes.

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3. **Operational Adjustments:** Fund houses need to redesign their fee structures, impacting short-term operations.
4. **Possible Quality Reduction in Research and Advisory:** Unbundling brokerage and research services might lead to reduced access to quality market research.
5. **Implementation Complexity:** Ensuring compliance and uniform adoption across the industry may pose regulatory challenges initially.

Way Forward

1. **Phased Implementation:** Gradual rollout of TER and brokerage reforms can help smaller AMCs and brokers adapt.
2. **Encouraging Technological Efficiency:** Leveraging fintech and automation can reduce costs and compensate for reduced margins.
3. **Transparency and Investor Education:** Clear disclosures and investor awareness programs can build trust and understanding of cost structures.
4. **Balanced Regulation:** SEBI can periodically review the caps to ensure that investor protection does not compromise market sustainability.
5. **Promoting Competition and Scale:** Encouraging consolidation and operational collaboration among smaller AMCs to achieve economies of scale.

Conclusion: The new SEBI proposals mark a progressive shift toward a more transparent and investor-friendly mutual fund regime. While challenges exist for AMCs and brokers, the long-term benefits—lower investor costs, higher accountability, and stronger market discipline—make this reform a crucial step in deepening India's mutual fund ecosystem.

Question: What do new SEBI regulations on TER and brokerage costs mean for mutual funds and investors?

In Brazil, COP30 and the moment of truth

Source: The post **"In Brazil, COP30 and the moment of truth"** has been created, based on **" In Brazil, COP30 and the moment of truth"** published in "The Hindu Businessline" on 06th November 2025.

UPSC Syllabus: GS Paper -3-Environment

Context: The 30th United Nations Climate Change Conference (COP30), to be held in **Belém, Brazil**, represents a crucial opportunity for the global community to shift from rhetoric to concrete climate action. The summit's location in the **Amazon rainforest**, one of the planet's most vital ecosystems, highlights the urgency of preserving nature and tackling the climate crisis.

Background

1. Brazil has a long history in climate diplomacy. It hosted the **Earth Summit in 1992**, which led to the Conventions on **Climate Change**, **Biological Diversity**, and **Combating Desertification**.
2. These agreements laid the foundation for global commitments to reduce **greenhouse gas emissions** and promote **sustainable development**.
3. Today, three decades later, COP30 returns to Brazil to renew the world's commitment to climate action amid worsening global warming and deforestation.

Significance of COP30 in Brazil

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1. The **Belém Summit** in the Amazon is intended to be a **"COP of Truth"**, where leaders move beyond speeches to implement genuine actions.
2. It reflects Brazil's leadership in demonstrating that **courage and political will** can yield real climate results.
3. Brazil has already made progress by **halving deforestation in two years**, showing that tangible results are achievable.

Key Initiatives and Proposals

a) Tropical Forests Forever Facility (TFFF)

- It is an **investment fund** (not a donation mechanism) to preserve forests.
- It rewards countries and communities that protect forests — a **win-win model** for sustainable finance.
- Brazil has announced a **$1 billion investment**, encouraging other nations to follow.

b) Nationally Determined Contribution (NDC)

- Brazil aims to **cut emissions by 59% to 67%** across all sectors.
- It encourages all nations to submit and effectively implement their NDCs.

c) Energy Transition

- Brazil's energy mix is already **88% renewable**, among the world's cleanest.
- The country is also leading in **biofuels, wind, solar, and green hydrogen** development.
- Revenue from oil production will be redirected toward an **equitable energy transition**.

d) Declaration on Hunger, Poverty, and Climate

- To address the link between **climate change and inequality**, Brazil plans to launch this declaration at COP30, recognizing that **adaptation and social justice** must go hand in hand.

Need for Reform in Global Climate Governance

- Current multilateral systems, especially the **UN Security Council**, have failed to address global crises effectively.
- Brazil advocates for the creation of a **UN Climate Change Council** under the **UN General Assembly**, ensuring accountability, equity, and stronger coordination in climate action.
- The principle of **Common But Differentiated Responsibilities (CBDR)** must remain the foundation of all agreements.

Challenges

1. **Inadequate Financing:** Developing countries still lack access to promised climate finance such as the **$100 billion per year** commitment, limiting their ability to mitigate and adapt to climate impacts.
2. **Implementation Gaps:** Many countries make ambitious commitments at COPs but fail to deliver due to weak political will and fragmented policy execution.

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3. **Global Inequality:** The Global South bears the brunt of climate change despite contributing the least to global emissions, while developed nations delay meaningful financial and technological support.
4. **Dependence on Fossil Fuels:** The world's continued reliance on coal, oil, and gas impedes the transition to renewable energy and contradicts emission reduction goals.
5. **Institutional Weakness:** The **UNFCCC and related mechanisms lack enforcement powers**, resulting in slow progress and diluted accountability.
6. **Social and Adaptation Challenges:** Vulnerable populations face hunger, migration, and livelihood loss due to climate impacts, while adaptation programs remain underfunded and poorly integrated.

Way Forward

1. **Fulfilment of Climate Finance Commitments:** Developed nations must honour and enhance their financial pledges to ensure predictable and accessible funding for developing countries.
2. **Strengthening Multilateral Institutions:** Establishing a **UN Climate Change Council** can improve coordination, enforce accountability, and prevent policy stagnation in global negotiations.
3. **Technology Transfer and Capacity Building:** Greater cooperation for sharing clean technologies and building institutional capacity in the Global South is crucial for equitable progress.
4. **Integrating Climate Action with Social Justice:** Climate policies should be designed to simultaneously address **poverty, hunger, and inequality**, ensuring a just and inclusive transition.
5. **Accelerating Energy Transition:** Governments should phase out fossil fuel subsidies and redirect investments toward renewables, green hydrogen, and sustainable infrastructure.
6. **Ensuring Accountability and Transparency:** Periodic reviews, monitoring frameworks, and measurable NDC targets must be implemented to track progress and ensure compliance.
7. **Empowering Indigenous and Local Communities:** Local populations, especially in the Amazon, should be recognized as key stakeholders and beneficiaries in conservation and adaptation efforts.

Conclusion: COP30 in Brazil stands as a **moment of truth** for global climate governance. It symbolizes both urgency and opportunity — to protect the Amazon, accelerate the energy transition, and ensure climate justice. The success of COP30 will depend on whether world leaders can match their promises with concrete, collective action.

Question: Discuss the significance of COP30 and the need for real global climate action.

Karnataka's menstrual leave policy: progressive step or symbolic gesture?

Source: The post **"Karnataka's menstrual leave policy: progressive step or symbolic gesture?"** has been created, based on **"Karnataka's menstrual leave policy: progressive step or symbolic gesture?"** published in "The Hindu" on 07th November 2025.

UPSC Syllabus: GS Paper -1- Society

Context: Karnataka has become the first state in India to introduce **one day of paid menstrual leave per month** for all **women employees**, covering both government and private sectors. Approved by the **Karnataka Cabinet**, this policy is being hailed as a **progressive measure** recognising menstrual health as a **legitimate workplace concern**, while also sparking debate on its adequacy and potential impact.

Background and Significance

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1. The policy aligns with the **principles of gender equity** and **affirmative action** enshrined in the Constitution.
2. It follows global and domestic precedents — similar provisions exist in **Odisha, Bihar**, and other countries such as **Japan, Finland, and South Korea**.
3. Karnataka's initiative applies to **government offices, educational institutions, and private organisations**.
4. Earlier recommendations had suggested **two days of leave**, but the **government approved one day.**

Rationale Behind the Policy

1. Recognises menstruation as a **biological and health-related condition**, not merely a private issue.
2. Aims to **improve workplace inclusivity**, ensuring **women's well-being** and **productivity**.
3. Acknowledges **severe menstrual pain (dysmenorrhea)**, **PCOD/PCOS**, and **menorrhagia**, which affect working women's performance and mental health.
4. Seen as a **women's right** — part of preserving health, dignity, and workplace equity.

Key Features

1. **One day of paid leave per month** for all women employees.
2. Applies uniformly to **both government and private sectors**.
3. Part of Karnataka's efforts toward a **gender-just workplace** and **inclusive labour policy**.

Concerns and Criticisms

1. **Adequacy of the Leave:** Many experts argue that **one day is insufficient**, given that menstrual pain can last **two to three days**. Some doctors and women's groups had initially recommended **two days of leave**.
2. **Risk of Stigma and Workplace Bias:** There are concerns that **menstrual leave may reinforce gender stereotypes**, discouraging employers from hiring women. It could lead to **"benevolent discrimination"** or **unequal opportunities**.
3. **Medical vs Policy Focus:** Doctors emphasise that the focus should be on **managing menstrual disorders medically** rather than relying solely on leave. Issues such as **endometriosis, PCOS, or hormonal imbalances** need healthcare access, not just workplace relief.
4. **Equity and Inclusion:** Critics fear that **additional leave for women** could be perceived as **inequitable** in mixed-gender workplaces. There are calls for **sensitisation programmes** to normalise menstruation as a health issue, not a disability.

Way Forward

1. **Comprehensive Menstrual Health Policy:** Integrate **medical care, awareness, and sanitation facilities** at workplaces and schools.
2. **Review of Leave Duration and Flexibility:** Periodic review to determine if **two days of leave** or **flexible options** would be more effective.
3. **Workplace Sensitisation:** Conduct awareness campaigns to **reduce stigma** and promote **gender-sensitive environments**.
4. **Healthcare Integration:** Ensure access to **gynecological care**, **counselling**, and **diagnostic support** for women with severe menstrual conditions.

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5. **Balanced Implementation:** Ensure that the policy **empowers women** without **reinforcing gender bias** in hiring or career progression.

Conclusion: Karnataka's menstrual leave policy represents a **progressive acknowledgment of women's physiological needs** and a step toward **inclusive workplace reform**. However, its true impact will depend on **effective implementation**, **awareness-building**, and **supportive healthcare measures**. To move beyond symbolism, the policy must evolve as part of a **comprehensive menstrual health and gender equity framework**, ensuring both **dignity and equality** for women at work.

Question: Examine how menstrual leave policies contribute to women's empowerment and workplace inclusivity. What challenges could arise in their acceptance and implementation in Indian society?

Why the nomination process needs reform

Source: The post **"Why the nomination process needs reform"** has been created, based on **"Why the nomination process needs reform"** published in "The Hindu" on 07th November 2025.

UPSC Syllabus: GS Paper -2- Polity & Governance

Context: The **Representation of the People Act (RPA), 1951** lays down that only **qualified candidates** can contest elections. However, over time, the **nomination process** has become **overly technical and rigid**, with procedural scrutiny often overshadowing the **substantive qualifications** of candidates. This imbalance has led to controversies, litigation, and questions over the fairness of electoral democracy.

Background

1. The **Returning Officer (RO)** holds extraordinary discretionary powers during nomination scrutiny.
2. Under **Sections 33 to 36 of the RPA, 1951** and the **Conduct of Election Rules, 1961**, the RO may **reject nomination papers** if they are deemed invalid due to procedural or technical defects.
3. However, this scrutiny, meant to ensure integrity, has evolved into a **complex bureaucratic exercise** that sometimes undermines **voters' choice** and **democratic participation**.

Issues with the Current Nomination Process

1. Excessive Procedural Rigidity

- Even **minor technical errors** — such as missing details, incomplete forms, or filing delays by minutes — can lead to rejection.
- The **focus has shifted from verifying substantive qualifications** (e.g., citizenship, age, criminal record) to **punishing technical lapses**.
- Example: Rejection of nominations for trivial mistakes like **wrong columns left blank or incorrect formatting**.

2. Discretionary Powers and Lack of Safeguards

- ROs exercise **wide discretion**, often with **limited oversight or appeal mechanisms** before elections.
- While intended to prevent fraudulent candidates, these powers have **enabled arbitrary decisions** and potential **misuse**.

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- Candidates sometimes lose the opportunity to contest **even before the public vote is cast**, undermining democracy.

3. Inconsistent Standards and Legal Uncertainty

- Courts have occasionally intervened to correct wrongful rejections, but **inconsistencies in interpretation** persist.
- For instance, in the **2019 elections**, several nominations were rejected due to **technical oversights**, not because candidates were unqualified.

4. Lack of Proportionality

- The system lacks balance — even **genuine candidates acting in good faith** can be disqualified for **minor errors**.
- The process places **form over substance**, focusing on paperwork rather than genuine eligibility.

5. Erosion of Voters' Right to Choose

- When nominations are rejected on flimsy grounds, **voters are denied the right to choose among all eligible candidates**.
- This undermines the **democratic principle of free and fair elections** enshrined in the Constitution.

Comparative Perspective and Best Practices

1. **UK:** Nominations are verified administratively, not through judicial-style scrutiny.
2. **Germany and Australia:** Allow correction of minor errors before the deadline, ensuring inclusivity and fairness.
3. **Canada:** Provides a **48-hour correction period** for defective nominations.
4. These models focus on **substance, fairness, and transparency**, unlike India's technical and punitive system.

Proposed Reforms

1. Digital and Automated Scrutiny

- Introduce a **digital nomination and verification system** using **facial recognition, ID, and online validation tools**.
- Allows real-time correction of errors before the final submission deadline.
- This reduces clerical mistakes and prevents arbitrary rejections.

2. Limiting Discretionary Powers

- Define **clear, objective guidelines** for ROs to prevent misuse of authority.
- All rejections should be accompanied by a **written justification** and **subject to appeal** within a short time frame.

3. "Substantial Compliance" Principle: Adopt a **substantial compliance standard**, where minor clerical errors do not invalidate nominations if core requirements are met.

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4. Transparency and Accountability: Establish a **public digital record** of accepted and rejected nominations with reasons, enabling transparency and judicial review.

5. Training and Capacity Building: Provide **specialised training** to ROs and election staff to ensure uniform application of rules and uphold democratic fairness.

Way Forward

1. The **Election Commission of India (ECI)** must modernise the process, balancing **integrity with accessibility**.
2. A **graded system** distinguishing **fatal errors** (false declarations, ineligibility) from **minor procedural mistakes** should be institutionalised.
3. Collaboration with **law and technology experts** can help evolve a **21st-century nomination framework** that ensures both **procedural rigor and electoral inclusion**.

Conclusion: India's nomination process, though rooted in fairness, has become **burdened by procedural formalism**. The current system prioritises **technical correctness over democratic participation**, often disqualifying legitimate candidates and disenfranchising voters. **Reform must shift focus from paperwork to principles**, ensuring that only substantive disqualifications bar candidacy. A transparent, technology-driven, and humane approach is essential to uphold the **spirit of democracy and the voters' right to choose**.

Question: Discuss the challenges in India's electoral nomination process under the Representation of the People Act, 1951. How can reforms in scrutiny procedures strengthen electoral democracy and uphold the voter's right to choose?

Reimagining labour laws for MSMEs

Source: The post **"Reimagining labour laws for MSMEs"** has been created, based on **"Reimagining labour laws for MSMEs "** published in "The Hindu Businessline" on 08th November 2025.

UPSC Syllabus: GS Paper 3 – Indian Economy

Context: Micro, Small, and Medium Enterprises (MSMEs) form the **backbone of India's economy**, employing over **70% of the workforce** and keeping supply chains dynamic. The **Shram Shakti Niti 2025** recognises the vital role of MSMEs in generating employment and driving production. However, India's consolidated labour codes, while progressive, often impose **uniform compliance burdens** unsuitable for small firms. A **tailored Employment Relations (ER) Code** has been proposed to bridge this gap — bringing MSMEs under the fold of protection while maintaining operational flexibility and proportional compliance.

Context and Rationale for Reform

1. India consolidated nearly **50 labour laws** into four codes — on **Wages**, **Social Security**, **Industrial Relations**, and **Occupational Safety and Health (OSH)**.
2. These reforms primarily address large enterprises with robust administrative systems.
3. MSMEs, on the other hand, rely on **trust-based, informal relationships** and operate with limited resources and administrative capacity.
4. Applying identical compliance procedures to both small and large enterprises leads to a **structural mismatch** that discourages formalisation.

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5. Thus, the next logical step is a **dedicated ER Code** for small establishments, balancing **protection, flexibility, and practicality**.

Key Features of the Proposed Employment Relations (ER) Code

1. **Applicability:** Designed for enterprises employing **up to 50 workers**, easing compliance requirements.

2. **Work Councils:** Establishment-level councils comprising employer and employee representatives. It is empowered to decide on **working hours, safety norms, leave, and benefits** through mutual agreements.

3. **Advisory Labour Department:** The government's role would shift from punitive enforcement to **guidance, mentorship, and feedback**.

4. **Digital Integration:** It links enterprises and Work Councils with **EPFO, ESIC, and DGFASLI** databases and enables tracking of employment records, social security benefits, and compliance digitally.

5. **Incentive-Based Compliance:** Verified digital records of fair practices could qualify firms for **tax relief or credit incentives**, promoting voluntary compliance and formalisation.

Benefits of the ER Code

1. **Encourages Formalisation:** Brings small firms under formal labour protection systems.
2. **Ensures Flexibility:** Simplifies compliance while ensuring workers' rights are protected.
3. **Strengthens Collaboration:** Promotes dialogue between employers and employees through Work Councils.
4. **Improves Transparency:** Digital monitoring enhances accountability and reduces corruption.
5. **Boosts Efficiency:** Reduces administrative costs and allows enterprises to focus on productivity.
6. **Facilitates Inclusive Growth:** Formalising MSMEs leads to broader social security coverage and stable employment.

Challenges in Implementation

1. **Digital Divide:** Many small enterprises, especially in rural areas, lack the infrastructure and skills for digital compliance.
2. **Administrative Capacity:** Labour departments may face difficulties transitioning from enforcement to an advisory role.
3. **Awareness and Training:** Both employers and workers may require **capacity building** to understand and utilise the ER framework.
4. **Resistance to Change:** Informal enterprises accustomed to minimal regulation might initially resist registration and digital procedures.
5. **Uniform Adoption:** Ensuring consistent implementation across States could be challenging due to differing labour practices.
6. **Resource Constraints:** Establishing and maintaining Work Councils may require financial and institutional support for smaller units.

Way Forward

1. **Pilot Implementation:** Launch the ER Code in selected MSME clusters before a national rollout to refine its structure.

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2. **Digital Enablement:** Provide low-cost digital tools and training for MSMEs to file compliance records and maintain employee data.
3. **Capacity Building:** Train labour officers and MSME owners to adopt a facilitative, partnership-based approach.
4. **Incentivise Compliance:** Link good employment practices with **tax credits, easier credit access, and procurement advantages**.
5. **Collaborative Governance:** Encourage continuous dialogue among government, industry bodies, and workers' associations.
6. **Gradual Expansion:** Once successful, extend the ER Code framework to larger enterprises to foster participatory and collaborative labour governance.

Conclusion: A differentiated **Employment Relations Code** can serve as a cornerstone of India's next labour reform wave — one that acknowledges the **unique rhythm and character of MSMEs**. By blending **digital transparency, flexible compliance, and partnership-based governance**, it can formalise employment without burdening small enterprises. Such reform aligns with the **Shram Shakti Niti 2025's vision** of transforming the Ministry of Labour from a regulator into a **facilitator of inclusive growth**. Strengthening MSMEs is ultimately about **strengthening labour protection** itself — ensuring that economic growth and worker welfare progress together.

Question: Discuss how a tailored Employment Relations Code (ER Code) can strengthen labour protection while promoting flexibility and growth in India's MSME sector.

A blueprint for India's 'regulatory stack

Source: The post **"A blueprint for India's 'regulatory stack'"** has been created, based on **"A blueprint for India's 'regulatory stack'"** published in "The Hindu Businessline" on 08th November 2025.

UPSC Syllabus: GS Paper 2 – Governance, Transparency & E-Governance

Introduction: As India deepens its digital governance ecosystem, the next frontier of reform lies in **regulatory transformation**. The proposed **Regulatory Stack (RegStack)** aims to make regulation **predictable, transparent, and humane**, turning compliance from a maze into a mirror that reflects a state that is **trustworthy, efficient, and ethical**. Conceived as a **centrally sponsored digital infrastructure**, RegStack can harmonize governance functions across ministries, municipalities, and regulators, mirroring the success of India's *Digital Public Infrastructure (DPI)* such as Aadhaar, UPI, and Jan Dhan.

Need for Regulatory Reform

1. India's regulatory landscape remains **fragmented, paper-heavy, and discretionary**, especially in local governance (construction permits, property registrations, waste management, etc.).
2. Bureaucratic opacity and procedural friction increase **delays, corruption, and rent-seeking**.
3. RegStack seeks to **digitally transform** the compliance ecosystem, ensuring that regulation is **applied uniformly, verifiably, and transparently**, reducing dependence on physical verification and subjective approvals.

Core Objectives of RegStack

1. **Simplify compliance:** Make regulation easy to apply, track, and verify digitally.

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2. **Enhance accountability:** Ensure transparency and auditability of every regulatory transaction.
3. **Reduce friction:** Limit discretionary power, making governance predictable and impartial.
4. **Build trust:** Move from a "presumption of suspicion" to a "presumption of honesty."

Key Components and Structure

RegStack is envisioned as a **four-layer interoperable digital architecture**:

1. **Identity & Authorisation Layer:** Uses **Aadhaar, PAN, and enterprise identifiers** to authenticate citizens and firms across interactions.
2. **Rule Engine Layer:** Encodes legal and regulatory provisions into **machine-readable logic**, allowing automatic real-time compliance checks.
3. **Data Exchange Layer:** Enables ministries and local bodies to share verified data securely, preventing redundant documentation and ensuring **auto-clearances** once one agency approves.
4. **Audit & Oversight Layer:** Maintains **immutable, traceable records** of all regulatory actions, strengthening both accountability and transparency.

Implementation Strategy

- **Pilot Phase:** Begin with **100 municipal pilot cities**, digitising select regulatory processes such as **building plan approvals and vendor licensing**. Implement in coordination with **Ministry of Housing and Urban Affairs** and **Ministry of Electronics and IT (MeitY)**.
- **Mission Approach:** Launch a **RegStack Mission** under MeitY to coordinate standards, technical support, and training. Gradually expand to **high-compliance sectors** like tourism, transport, and retail.
- **Integration:** Link RegStack with existing bodies such as **pollution control boards, labour departments, and land registries** for unified governance.

Philosophical Foundation

- Moves from **"regulation through suspicion" to "regulation through compliance."**
- Trust becomes **programmable**—once compliance is verified digitally, regulators can focus on exceptional cases rather than routine checks.
- Encourages **ethical governance** where citizens and enterprises are presumed honest until proven otherwise.

Advantages of RegStack

1. **Transparency:** Real-time data sharing reduces information asymmetry.
2. **Predictability:** Automated decisions minimise human discretion.
   Efficiency: Cuts the time and cost of compliance for citizens and enterprises.
3. **Accountability:** Immutable digital records deter corruption.
4. **Interoperability:** Integrates local and central regulations seamlessly.
5. **Scalability:** Can be extended to multiple sectors beyond municipalities.

Challenges and Concerns

1. **Digital Exclusion:** Smaller municipalities and citizens in rural areas may face access or literacy barriers.

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2. **Cybersecurity Risks:** Centralised regulatory databases could become targets for breaches.
3. **Institutional Resistance:** Bureaucratic inertia may slow down digital adoption.
4. **Algorithmic Bias:** Automated systems could produce unfair outcomes without human oversight.
5. **Capacity Constraints:** Ministries need technically skilled staff to maintain and audit digital rule engines.
6. **Ethical Oversight:** Automation cannot fully replace human discretion in sensitive domains like health or the environment.

Way Forward

1. **Phased Rollout:** Begin with low-risk regulatory areas before expanding to complex sectors.
2. **Build Capacity:** Train officials, regulators, and local bodies in **digital rule encoding** and data governance.
3. **Strengthen Cybersecurity:** Ensure **robust encryption, anonymisation, and data-sharing protocols**.
4. **Hybrid Oversight:** Combine **algorithmic processing with human supervision** in high-stakes decisions.
5. **Legal Coherence:** Establish a **National RegStack Secretariat** to standardise frameworks and ensure inter-ministerial consistency.
6. **Stakeholder Engagement:** Include industry, citizens, and civil society in feedback loops to maintain transparency and trust.

Conclusion: The proposed **RegStack** represents the next major leap in India's digital governance evolution, transforming regulation from a maze of discretion into a **system of trust, transparency, and traceability**. By digitising compliance, embedding ethics into code, and fostering accountable automation, RegStack can help India build a state that is **confident, capable, and citizen-centric**. The goal is not to reduce regulation but to **refine it,** making governance **predictable, impartial, and humane** in the digital age.

Question: Discuss how India's proposed Regulatory Stack (RegStack) can enhance transparency, accountability, and efficiency in governance while reducing compliance burden.

Tackling Maoist Insurgency

UPSC Syllabus: GS-3-Internal security

Introduction

India has sharply weakened the Maoist movement through a combined push on **security**, **development**, and **rights**. Still, the core grievance—**inequality and deprivation** in tribal, forest, and remote districts—persists. **Leadership losses, mass surrenders, and falling violence** mark clear gains. But unless gaps in **education, health, nutrition, land, and livelihoods** close, the **ideological spark** may endure. The task now is to **lock in security gains** while **delivering tangible improvements** that reach every settlement.

Maoist insurgency in India

It began after **Naxalbari (1967)** and is driven by Maoist ideology that seeks to undermine the state through **armed rebellion** and parallel structures. It claims to fight for the **marginalised**, especially tribal communities, but employs **violence, extortion, infrastructure sabotage, and recruitment**.

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It spread across the **"Red Corridor"**—Chhattisgarh, Jharkhand, Odisha, Maharashtra, Kerala, West Bengal, Madhya Pradesh, and parts of Andhra Pradesh and Telangana. Security forces, public assets, and democratic processes have been routine targets.

Current status of Maoist Insurgency

Leadership weakened: Maoist leadership has been decimated, and the People's Liberation Guerrilla Army is severely weakened.

Cadre losses and surrenders: This year till October 29, the **South Asia Terrorism Portal (SATP)** records **333** Maoists killed, **398** arrested, and **1,787** surrenders.

Territorial contraction: The number of **LWE-affected districts** has shrunk to **11** (**MHA**), marking a sharp contraction of operational space.

Violence trend: Incidents fell from **1,936 (2010)** to **374 (2024)** (**–81%**). Deaths fell from **1,005 (2010)** to **150 (2024)** (**–85%**).

G**ains happened:** These gains reflect an **integrated and holistic approach** led by the Centre and signal the potential of **police and CAPFs** to defeat an insurgency.

Underlying concerns

1. Core grievances: People joined the Maoists to defend marginalised communities. Injustice from inequality, deprivation, and political exclusion still shapes daily life. Without redress, anger remains. Security gains alone cannot fix these social deficits. People want fair access to services and dignity.

2. Uneven development: Growth is strong but uneven. Rural, tribal, and forest areas lack steady access to land, schools, health care, and livelihoods. India ranks lowest in the G20 in per-capita GDP and in PPP terms. The Gini coefficient shows only modest change. Many benefits fail to reach remote hamlets.

3. Poor human development: Many LWE districts trail state and national averages. Malkangiri's HDI is **0.37** against Odisha's **0.579**. In Gadchiroli, about **one-third** of under-five children are stunted or wasted, and **over 60%** of women of reproductive age are anaemic. Roads, banks, ITIs, and Eklavya schools exist, yet education, health, and nutrition outcomes remain weak.

4. Tribal rights and resource pressure: Tribal regions carry the costs of mining and projects. Forest Rights Act implementation is **slow**. Weak rights delivery breeds distrust.

5. Risk of ideological return: If injustice and exclusion continue, organised mobilisation may surface again, possibly in altered forms.

Government response

1. Security

> • **National Policy & Action Plan (2015):** This provides the core multi-pronged strategy, combining area domination, targeted intelligence, development support, and rights delivery under one coordinated framework.

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• **Security-Related Expenditure (SRE) Scheme:** The Centre reimburses states for key counter-LWE costs, including operations, training, rehabilitation of surrendered cadres, and community policing, ensuring steady funding for the front line.

• **Special Infrastructure Scheme (SIS) and Fortified Police Stations:** SIS strengthens intelligence branches and special forces, while fortified police stations harden vulnerable nodes; together they improve response times and officer safety in remote zones.

• **Financial Choke using NIA/ED:** Focused probes cut extortion and logistics chains, reducing the insurgency's ability to procure arms, move funds, and intimidate local contractors.

2. Infrastructure & Connectivity

• **Road Requirement Plan-I (RRP-I):** Strategic roads in core LWE states open access for security movement and bring markets, health, and schooling closer to isolated habitations.

• **Road Connectivity Project in LWE Areas (RCPLWE):** Complementing RRP-I, this project links interior villages to district hubs, protecting both routine service delivery and build-out of welfare assets.

• **Telecom Saturation Projects:** New towers and backhaul upgrades extend mobile coverage, enabling 112/ambulance access, digital payments, e-governance, and better operational coordination.

• **Special Central Assistance (SCA):** Flexible district funds close last-mile gaps—small bridges, solar lights, anganwadi repairs, and PHC upgrades—so citizens see tangible, near-term improvements.

3. Rights, Inclusion & Community Trust

• **Aspirational Districts (MHA-monitored):** Focused tracking of outcomes in priority LWE districts aligns line departments and accelerates problem-solving at the field level.

• **Skills & Education Stack (ITIs/SDCs/EMRS):** Local skilling and residential schooling raise employability and reduce youth vulnerability to recruitment.

• **Rehabilitation of Surrendered Cadres:** Time-bound benefits, training, and placement support ease reintegration and signal credible alternatives to violence.

• **Dharti Aaba Janjatiya Gram Utkarsh Abhiyan:** Saturation of personal amenities in tribal villages—paired with road, mobile, and finance access—converts security gains into everyday welfare, deepening trust.

Way Forward

1.**Focus on Development-** The successful implementation of development projects in Andhra Pradesh and Telanganareduced Maoist insurgency. Thus we must focus more on the effective implementation of development projects.

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2. Strengthen Local Governance- Empowering local governments to address grievances and deliver public services effectively, as seen in the Panchayati Raj system's success in reducing Naxalism in West Bengal, can help build trust between communities and authorities.

3. Enhance Security Forces' Capabilities: Provide specialized training and better equipment to security personnel, similar to the Greyhounds force in Andhra Pradesh, which proved effective in countering Maoist insurgency due to their specialized training and local knowledge.

4. Encourage Dialogue and Peaceful Resolution: Engage in meaningful dialogue with Maoist groups to address their grievances, similar to the peace talks between the Indian government and Naga insurgents, which led to a ceasefire and reduced violence in the region.

5. Foster Community Engagement: Involve local communities in decision-making processes and development projects, as seen in the success of the Janmabhoomi program in Andhra Pradesh, where community participation helped build trust and reduce Maoist influence.

6. Ensure Accountability and Transparency- Strengthen measures to prevent corruption and human rights abuses, as demonstrated by the National Human Rights Commission's interventions in cases of alleged human rights violations by security forces, which can help restore public trust in government institutions.

Conclusion

Security pressure has **reduced violence, shrunk territory, and fractured leadership**. Durable peace now requires **education, health, nutrition, land and forest rights, and decent work** in affected villages. If **security operations** stay firm and **human development** accelerates, LWE can end sustainably—**fewer attacks** and **fewer reasons** for anyone to return to violence.

Question for practice:

Examine how India's multi-pronged strategy has weakened the Maoist insurgency, and discuss the remaining socio-economic challenges that must be addressed to ensure lasting peace.

Source: **Indian Express**

Abraham Accords: A New Geopolitical Balancing Act

UPSC Syllabus Topic: GS Paper 2 -International relation.

Introduction

Kazakhstan has joined the Abraham Accords, a U.S.-brokered framework that normalised ties with Israel. The step is **symbolic and strategic**. It comes during **President Kassym-Jomart Tokayev of Kazakhstan's** visit to Washington, where the United States is seeking renewed influence in Central Asia amid Russian and Chinese pull. It also **revives momentum** for the Accords after a slowdown linked to the Gaza crisis.

The Abraham Accords

The Accords are a **diplomatic framework** that opened **normal relations between Israel and several Muslim-majority countries.**

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Members include the **United Arab Emirates, Bahrain, Morocco, Sudan, and Kazakhstan**

Kazakhstan is the **first post-Soviet** state to join.

The goal is practical **cooperation in diplomacy, trade, technology, and security.** The move extends the **Accords' reach from West Asia into Central Asia** and signals that expansion is again possible.

For detailed information on **Abraham Accords** read this article here

Relevance of Kazakhstan's Entry into the Abraham Accords

1. **Multi-vector fit:** Kazakhstan follows a **multi-vector** policy. It balances relations with Russia, China, the West, and regional partners. Joining the Accords formalises its **bridge role** between Israel and Muslim states, and between East and West.
2. **Economic match:** Kazakhstan wants to diversify beyond oil and extractives. Israel brings strengths in agricultural technology, water management, renewable energy, and cybersecurity. These areas align with Kazakhstan's diversification goals.
3. **U.S. signalling:** The decision shows the **United States remains relevant** in shaping alignments across the Muslim world. It offers visible diplomatic movement when expansion had slowed during the Gaza crisis.

Impacts

1. **For Kazakhstan:** The step deepens cooperation with Israel and **strengthens ties with Washington**. It raises Kazakhstan's diplomatic profile and supports its image as a **trusted bridge** across regions.
2. **For the United States:** Washington gains **renewed visibility** in Central Asia and can show the Accords are **still growing**. It creates space to engage key actors in West Asia while keeping attention on a framework the U.S. champions.
3. **Possible next entrants:** **Azerbaijan and Uzbekistan** are in talks. Their potential entry keeps the expansion track active and builds on Central Asia's quiet but steady links with Israel.
4. **Political narrative:** For President Donald Trump, adding a new member supports the story that the Accords can expand. The **long-term target remains Saudi Arabia**, but **Saudi Arabia** reiterated that it will **not move forward without progress on Palestinian statehood.**

Regional Dynamics Shift

1. **Great-power balance:** Central Asia faces a **shrinking Russian orbit** and a **strong Chinese economic pull**. Kazakhstan's move helps the **U.S. re-enter** this competition for influence and standards in the region.
2. **Trans-Eurasian linkages:** The Accords can connect **Central Asia's resources and trade routes** with **Gulf capital** and **Israeli technology**. This creates a wider economic and diplomatic network that links West Asia and Central Asia.
3. **Counter-extremism angle:** A broader circle of **pro-U.S. Muslim-majority partners** can coordinate against extremism and **state-sponsored ideological threats**, including those tied to Iran.

Constraints and Risks

1. **Security exposure:** Ties bring exposure. There were **Iran-linked plots in Almaty** targeting Israeli and Jewish institutions. Kazakhstan must keep **firm vigilance** while maintaining openness.
2. **Political limits: Saudi normalisation** still depends on **progress on Palestinian statehood**. This puts a

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ceiling on rapid expansion of the Accords.

 3. **Regional sensitivities:** Kazakhstan must preserve balanced ties with **Russia and China**. It needs careful messaging to **domestic and regional audiences**.

 4. **Evolving U.S. Engagement:** Separate U.S. moves—such as a planned meeting with **Syrian President Ahmed al-Sharaa**—signal a wider repositioning in West Asia and Central Asia. This introduces **uncertainty** but also **openings** for diplomatic leverage.

Way forward

1. Broaden participation: Draw in **Azerbaijan** and other **Central Asian nations.** There should also be a clear pathway for Saudi Arabia that depends on visible progress on Palestinian statehood.

2. **Remove legacy legal barriers:** Repeal or permanently waive **Jackson-Vanik** and **Section 907** to enable deeper trade, assistance, and cooperation.The **U.S. Congress** has introduced legislation to repeal the Jackson-Vanik Amendment following Kazakhstan's accession.

3. Raise executive-level engagement: Address the gap that **no sitting U.S. President has visited Central Asia**; use invitations (e.g., **Samarkand**) to signal commitment.

4. **Coordinate through partners.** Partners should coordinate through existing relationships to convert diplomacy into outcomes. The United States, Gulf states, and Israel should **promote business links, people-to-people exchanges, and technological cooperation** so that the Accords become the foundation of a durable regional order.

Conclusion

Kazakhstan's accession **reaffirms existing ties** with Israel but sends a larger signal. The Accords now **extend into Central Asia**, linking resources, routes, capital, and technology. If partners avoid legal and political bottlenecks and keep engagement steady, the framework can evolve into a **trans-Eurasian platform** for practical cooperation and balanced influence.

Question for practice:

Discuss the strategic and geopolitical significance of Kazakhstan's entry into the Abraham Accords.

Source: **India today , Atlantic council**

Nutritional Transformation Needed in India

Introduction

India must shift from **food security** to **nutritional security**. **Child undernutrition remains high** even as diets and incomes change. The path forward is a **sustainable, nutrient-rich food system** where **functional foods** and **smart proteins** help close protein and micronutrient gaps without worsening environmental stress.

Functional Foods

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Functional foods are **enriched or fortified foods** designed to promote health or prevent disease. For example, vitamin-enriched rice, omega-3-fortified milk, probiotic yoghurt, and similar products go beyond basic nutrition.

Supporting technologies: They rely on advanced technologies such as **nutrigenomics** (nutrition-gene interaction), **bio-fortification**, **bioprocessing**, and **3D food printing**. Together, these innovations improve nutrient absorption and help in targeted delivery of vitamins and minerals within the body.

Smart Proteins

Smart proteins are **biotechnologically produced proteins** that reduce dependence on livestock. They include:

- **Plant-based proteins** extracted from legumes and cereals.

- **Fermentation-derived proteins** produced through microbial systems.

- **Cultivated meat**, grown from animal cells in bioreactors.
  These are designed to mimic animal-based foods while lowering the environmental footprint.

Need for Functional Foods in India:

1. **High Undernutrition:** Despite being a major food producer, India faces high rates of child stunting (35.5% under 5) and underweight (32.1% under 5) as per NFHS-5. Widespread anemia (57% of women of reproductive age) is also a major issue.

2. **Double burden:** Rising **obesity** and **non-communicable diseases** alongside undernutrition.

3. **Food Insecurity:** Factors like climate change and rising food costs exacerbate food access issues, with the Global Hunger Index ranking India at 105 out of 127 in 2024.

4. **Diet transition & urban stressors:** Rapid urbanisation, air pollution links to diabetes risk, and convenience diets increase the need for fibre-rich, antioxidant, low-GI, and cardioprotective foods.

5. **Sustainability Challenge:** India needs **climate-resilient nutrition pathways** because **livestock supply chains contribute ~14.5% of global GHG emissions**, so diversifying toward smart proteins and biofortified crops is required to meet health goals without overshooting environmental limits.

6. **Economic loss:** World Bank analyses estimate **2–3% of GDP losses** in countries like India due to malnutrition, which means investments in fortification, biofortification, and better diets yield high productivity returns.

7. **Policy Imperative:** Building a **climate-conscious, resilient, and nutrient-rich food system** is crucial for India's long-term development goals and aligns with initiatives such as *Lifestyle for Environment (LiFE)* and *Viksit Bharat 2047*.

Current Status of Functional Foods

National Progress and Policy Support

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• India recognizes functional foods and smart proteins under its **Biotechnology for Economy, Environment, and Employment (BioE3) Policy**.
 • The **Department of Biotechnology (DBT)** and **Biotechnology Industry Research Assistance Council (BIRAC)** are promoting R&D and funding biomanufacturing hubs.

Research and Industrial Developments

• **Bio-fortified crops**: Zinc-enriched rice (IIRR, Hyderabad) and iron-rich pearl millet (ICRISAT).

• **Private sector participation**: Companies like *Tata Consumer Products, ITC, and Marico* have invested in fortified staples and health-focused food products.

• **Smart protein ecosystem**: Over **70 brands** offer around **377 plant-based or fermentation-derived products**.
 Startups such as *GoodDot, Blue Tribe Foods,* and *Evo Foods* lead the plant-based meat segment, while *Zydus Lifesciences* has entered fermentation-based proteins through a ₹**4.5 crore DBT-supported grant** for cultivated meat research.

Global Comparison

• **Japan** pioneered functional food regulation in the 1980s.

• **Singapore** approved the first sale of cultivated chicken in 2020.

• **China** and the **EU** are investing heavily in alternative protein production as part of their **food security and "Farm to Fork" strategies**.
 These examples underline the growing international momentum that India must match.

Major Concerns Related to Functional Foods in India

1. Regulatory clarity and standards: FSSAI has not yet issued **definitive guidance** for **cultivated meat** or **precision-fermented proteins**. Without clear **definitions, safety evaluation, and labelling**, **mislabelled or unverified products** could reach consumers.

2. **Infrastructure gaps:** India lacks **large-scale fermentation capacity**, **quality certification**, and **consumer testing infrastructure** necessary to scale reliably.

3. **Innovation and Skill Gaps:** Transitioning to biomanufacturing demands **large-scale workforce upskilling**. Without it, innovation may concentrate among a few corporations, excluding small farmers and startups.

4. **Public Perception Challenges:** Many consumers remain **skeptical about "lab-made" food**. Overcoming this perception requires transparent communication and **trust-building** through accurate labeling and awareness campaigns.

5. **Uneven Access and Affordability:** Functional foods currently remain **urban-focused and premium-priced**, which could widen the nutritional divide if not scaled inclusively.

Way Forward

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1. Need strong regulatory framework: The **Food Safety and Standards Authority of India (FSSAI)** must develop **clear definitions, safety evaluation procedures, and labeling norms** for functional and smart protein foods. This framework should align with global standards while promoting indigenous innovation.

2. Strengthening Inter-Ministerial Coordination: Close cooperation among **DBT, FSSAI, MoHFW, and Ministry of Agriculture** is essential to ensure **policy coherence** and effective implementation of the BioE3 vision.

3. Building Biomanufacturing Infrastructure: Public-private partnerships should focus on setting up **fermentation and bioprocessing facilities**, quality testing labs, and R&D hubs to accelerate commercialization.

4. Capacity Building and Workforce Training: Developing a **skilled biotechnology workforce** is critical. Training programs under BioE3 can empower youth and scientists to innovate in **processing, smart packaging, and food safety technologies**.

5. Inclusion and integration: Linking farmers with new value chains through **climate-smart crops** such as millets, sorghum, and legumes can create rural employment while ensuring environmental sustainability.

6. Public awareness: Transparent communication campaigns should highlight **health and sustainability benefits** of functional foods, promoting wider acceptance and informed choices.

Conclusion

India stands at a pivotal moment: address **malnutrition** while building a **sustainable food system**. **Functional foods** and **smart proteins** can **upgrade daily diets**, **ease environmental pressure**, and **improve productivity**. With **BioE3**, **DBT/BIRAC** support, **robust FSSAI standards**, **biofoundries**, and **farmer and consumer inclusion**, India can secure **nutritional security**, catalyse **jobs and innovation**, and build a **resilient, climate-conscious** food future.

Question for practice:

Discuss why India needs functional foods and smart proteins, and the key measures to scale them responsibly.

Source: [The Hindu](#)

The Case of Mounting Debt Pile in South India

UPSC Syllabus Topic: GS Paper 3 -Indian economy.

Introduction

Rising household **indebtedness in South India** reflects a **complex economic pattern.** It signals both greater financial access and growing reliance on credit. The trend invites attention to **regional disparities, socio-economic factors influencing borrowing, and the broader impact of inclusive finance.** Understanding these dimensions helps assess whether rising debt represents financial empowerment or emerging vulnerability in an increasingly credit-driven economy.

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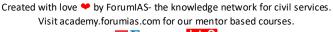Visit academy.forumias.com for our mentor based courses.

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Current Status of Indebtedness in India

1. **Definition**: Indebtedness counts any person aged 15 or above who owes ₹**500 or more** to a bank, cooperative, or informal lender.

2. **Coverage:** In **2021, about 15% of adults** had outstanding loans. This gives a clear, comparable baseline across states.

3. **Borrowing is concentrated in the South:**

- **Andhra Pradesh has the highest share, with over two in five adults indebted.**

- **Telangana (37.2%)**, Kerala (29.9%), **Tamil Nadu (29.4%)**, **Puducherry (28.3%)**, **and Karnataka (23.2%) also sit above the national average.**

- Older **All-India Debt and Investment Survey data (2013–2019)** also placed the South ahead.
- **RBI's Financial Stability Report** notes higher debt-to-asset ratios in southern rural and urban households.

4. **Low-indebted states and UTs:** Several regions show very low indebtedness. **Delhi (3.4%)**, **Chhattisgarh (6.5%)**, **Assam (7.1%)**, **Gujarat (7.2%)**, **Jharkhand (7.5%)**, **West Bengal (8.5%)**, and **Haryana (8.9%)** are at the lower end. These figures highlight wide interstate variation in household exposure to loans.

Indebtedness Connection to Other Parameters

1. **Income Level:** As income rises, borrowing also increases. **High-income households (top quartile)** show **almost double the indebtedness** of the **lowest-income group**. Richer families often borrow more for consumption, investment, or asset creation, while poorer ones remain credit-averse or dependent on informal sources.

2. **Household Size:** Smaller families tend to borrow more. **Households with fewer than four members show 17.8% indebtedness**, while **large families (eight or more)** show only **10%**. Bigger families may rely on pooled income, reducing the need for loans.

3. **Occupation:** The self-employed and regular workers borrow more due to business or lifestyle needs. **Self-employed (32%)**, **salaried (22.8%)**, and **casual labourers (22.5%)** show high exposure, whereas students, unemployed persons, and those with disabilities borrow the least.

4. **Social Groups:** Borrowing differs by community and caste. **OBCs (16.6%)** are most indebted, followed by **SCs (55% higher likelihood)**, while **STs (11%)** are the least indebted.

5. **Religious Groups:** Among religions, the likelihood of borrowing is **12% lower among Muslims** and **15% lower in other faiths** compared to Hindus.

6. **Age:** Middle-aged adults (30–59 years) are most indebted as they handle household and career responsibilities.

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7. Marital Status: Married men from high-income families record the highest indebtedness, showing the link between family obligations and credit use.

Financial Inclusion Across Regions

1. **Overall reach:** Financial access is broad but uneven across India. In 2020–21, 87.2% of people aged 15 and above had an account, and national coverage remains above 87%.

2. **Leaders among larger states:** The South is ahead. **Karnataka 95.9%**, **Andhra Pradesh 92.3%**, **Tamil Nadu 92%**, **Kerala 91%**. **Chhattisgarh 91.1%** also performs well.

3. **Lower coverage: Meghalaya 65.5%** marks the lower end, showing large interstate gaps that persist despite overall gains.

4. **Small states and UTs near universal**: Several smaller states and Union Territories are **close to universal access**. Andaman and Nicobar Islands record 97.5%, Dadra and Nagar Haveli 96.35%, Goa 95.8%, Himachal Pradesh 95.6%, and Puducherry 95.4%.

Conclusion

Southern indebtedness mirrors economic dynamism supported by financial inclusion, yet it demands balance and oversight. Strengthening credit discipline, improving financial literacy, and ensuring equitable access across regions can sustain this growth without triggering distress. The goal is to keep credit empowering, not burdensome, within a responsible and inclusive financial system.

Question for practice:

Examine the factors contributing to high household indebtedness in South India and assess the role of financial inclusion in this trend.

Source: **The New Indian Express**

Bihar's Makhana Potential

Source: The post **"Bihar's Makhana Potential"** has been created, based on **"Bihar's Makhana Potential"** published in "The Hindu Businessline" on 10th November 2025.

UPSC Syllabus: GS Paper 3 – Indian Economy

Introduction: Bihar is the largest producer of makhana (fox nut) in India, accounting for about 90 percent of national production and nearly 90 percent of the global supply. Despite this dominance, Bihar has not been able to establish itself as a major exporter due to structural and technological limitations. Makhana is now gaining recognition as a gluten-free, protein-rich superfood with growing global demand, presenting Bihar with a major opportunity for economic development.

Present Status of Makhana Production in Bihar

1. Makhana is traditionally cultivated in shallow ponds by the Mallah community using labour-intensive methods.

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2. The production system remains largely informal and small-scale, lacking standardisation and mechanisation.
3. Most value-added processing and export operations are handled by other states such as Punjab and Assam.

Major Challenges

1. **Lack of scale:** Bihar's makhana sector suffers from low production volumes, making it difficult to achieve economies of scale necessary for large-scale export.
2. **Low value addition:** The initial stages of production are low-value and labour-intensive, while higher-value post-production activities are concentrated outside Bihar.
3. **Quality issues:** Until 2022, makhana did not have a separate identification code in trade data, which limited its recognition as a unique product.
4. **Certification gap:** There is inadequate certification for food safety, quality, and environmental standards, making it less competitive internationally.
5. **Technological backwardness:** Traditional pond-based systems result in longer crop durations and inconsistent quality. Modern field-based systems and improved varieties have not been adopted widely.
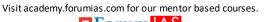6. **High fixed costs:** Small-scale production leads to higher costs that can only be offset by scaling up cultivation and processing.

Opportunities and the Way Forward

1. **Scaling up production:** Bihar needs to expand makhana cultivation from pond-based to field-based systems, which shorten crop cycles and improve consistency.
2. **Technological upgradation:** Investment in advanced processing technology can ensure better-quality pops that are larger, lighter, and suitable for premium markets.
3. **Diversification:** The state should promote the development of diversified makhana-based products for health, food, and medicinal uses.
4. **Certification and branding:** The 2022 Geographical Indication (GI) tag can be leveraged to build brand recognition and fetch higher export prices.
5. **Institutional support:** The government should facilitate farmer cooperatives, public–private partnerships, and targeted financial assistance to encourage investment in processing and export infrastructure.
6. **Quality assurance:** Independent certification systems should be encouraged to promote food safety, sustainability, and environmental compliance.
7. **Skill development:** Training programs for farmers and processors can help in adopting modern methods and achieving higher productivity.

Conclusion Bihar's makhana industry mirrors the situation of cocoa production in Africa, where raw producers earn little despite global demand. To realize its full potential, Bihar must focus on scaling up, modernizing production, ensuring quality certification, and strengthening value chains within the state.With coordinated policy support, technological innovation, and effective branding, makhana can become a driver of rural income, employment, and global competitiveness for Bihar.

Question: Bihar's makhana industry holds immense potential but faces challenges in scaling and certification. Discuss.

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Expectations from COP30 of United Nations Framework Convention on Climate Change (UNFCCC)

Source: The post **"Expectations from COP30 of United Nations Framework Convention on Climate Change (UNFCCC)"** has been created, based on **"Expectations from COP30 of United Nations Framework Convention on Climate Change (UNFCCC)"** published in "The Hindu" on 10th November 2025.
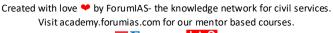
UPSC Syllabus: GS Paper 3 – Environment

Context: The **30th Conference of Parties (COP30)** under the **United Nations Framework Convention on Climate Change (UNFCCC)** is being held in **Belém, Brazil**, marking a decade since the adoption of the **Paris Agreement (2015)**. It is being termed the **'Implementation COP'** as it is expected to transform climate commitments and pledges into **concrete and actionable steps**. The summit is taking place against the backdrop of **rising global temperatures, record-breaking heat waves, worsening climate disasters, and delayed climate finance**, which have widened the gap between global promises and actual implementation.

Significance of COP30

1. COP30 comes at a **crucial juncture** when the international community is expected to take decisive action to keep the **temperature rise below 1.5°C** above pre-industrial levels.
2. Hosting the summit in **Belém**, at the edge of the **Amazon rainforest**, is both symbolic and strategic since the Amazon is a **vital carbon sink storing 150–200 billion tonnes of carbon** and is now threatened by deforestation and land conversion.
3. The summit provides an opportunity to **rebuild global trust** by strengthening commitments on climate finance, equity, and inclusion between developed and developing nations.
4. It aims to ensure that climate action is based on the principles of **equity, common but differentiated responsibilities (CBDR)**, and inclusive participation.

Key Expectations from COP30

1. **Implementation of Climate Commitments:** COP30 is expected to move beyond rhetoric and deliver on the commitments made under the **Paris Agreement**, focusing on measurable progress through the **Global Stocktake (GST)**, which reviews countries' efforts every five years.
2. **Guidance by the Global Stocktake (GST):** The GST will guide countries to identify policy and financing gaps, align new targets with scientific evidence, and draft **updated plans for mitigation, adaptation, and implementation**.
3. **Focus on Six Thematic Areas:** The summit will focus on six major areas— Energy, industry, and transport transitions, Stewardship of forests, oceans, and biodiversity, Transformation of food systems, Urban resilience and infrastructure adaptation, Sustainable water management and Human and social development linked to climate resilience.
4. **Mobilisation of Climate Finance:** The **Baku-to-Belém Roadmap**, jointly led by **Azerbaijan and Brazil**, aims to scale up finance for developing nations to **$1.3 trillion per year by 2035**, based on the **$300 billion New Collective Quantified Goal (NCQG)** finalised at **COP29**.
5. **Operationalising the Global Goal on Adaptation (GGA):** COP30 is expected to finalise the **long-pending GGA framework**, setting quantifiable adaptation targets, metrics for resilience, and financing mechanisms.
6. **Addressing the Finance Gap:** The **Loss and Damage Fund**, created at **COP28**, has received less than $1 billion against annual needs of hundreds of billions. COP30 must establish **clear reporting, financing, and accountability mechanisms** to restore confidence among developing nations.

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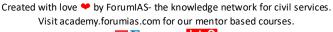Visit academy.forumias.com for our mentor based courses.

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7. **Ensuring a Just Transition:** COP30 must promote **equitable low-carbon transitions**, ensuring that economic growth, livelihoods, and energy access in developing nations are not compromised.
8. **Strengthening Technology and Capacity Building:** Access to **affordable clean technology** and capacity-building initiatives will be crucial to help developing countries achieve low-carbon growth despite **intellectual property barriers and high costs**.
9. **Enhancing Nationally Determined Contributions (NDCs):** Countries are expected to submit **updated and ambitious NDCs for 2035**, but as of now, only **19% of global emissions** are covered by submitted plans. COP30 will push for greater ambition and accountability.
10. **Integration of Climate and Biodiversity Goals:** Brazil will champion the **"Tropical Forest Forever Facility"**, which seeks to compensate over **70 tropical forest countries** for their conservation efforts, linking climate finance directly to forest and biodiversity protection.
11. **Promoting Inclusion and Participation:** COP30 must ensure that **low-income nations, indigenous communities, and civil society groups** have fair representation, despite the logistical and financial challenges posed by hosting the summit in Belém.

Major Challenges

1. **Inadequate Climate Finance:** Current commitments, even under the NCQG, fall far short of the **trillions required annually** for meaningful mitigation and adaptation in developing nations.
2. **Dilution of the CBDR Principle:** The term "**all actors**" used in financing includes private investors, philanthropies, and developing countries themselves, which **dilutes historical responsibility** of developed nations.
3. **Technology Barriers:** Developing nations struggle with limited access to clean technology due to **patent restrictions, high costs, and limited cooperation** from developed countries.
4. **Low Ambition and Delayed Implementation:** Many nations have failed to submit updated NDCs, and global emissions continue to rise, making the **1.5°C goal increasingly unattainable**.
5. **Underfunded Loss and Damage Mechanism:** The Loss and Damage Fund remains **grossly underfinanced**, leaving vulnerable countries without adequate support to cope with extreme climate events.
6. **Logistical and Inclusivity Concerns:** Hosting COP30 in Belém has resulted in **skyrocketing accommodation costs**, restricting participation from smaller delegations and **undermining inclusivity**.
7. **Political Divergence:** Differences between the **Global North and South** persist over emission responsibilities, finance distribution, and technology sharing.

Way Forward

1. **Scale Up and Streamline Climate Finance:** Developed nations must ensure **predictable and transparent funding** exceeding $1.3 trillion annually with clear accountability mechanisms.
2. **Finalise and Implement the Global Goal on Adaptation:** The GGA should include **quantifiable regional targets**, adaptation finance, and measurable resilience indicators.
3. **Ensure Technology Access and Collaboration:** There should be **North–South and South–South partnerships** for affordable technology transfer, innovation, and capacity building.
4. **Reinforce Climate Justice and CBDR:** COP30 must reaffirm the principle that **historically responsible nations** should lead in financing and emission reductions.

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5. **Promote Just and Inclusive Transitions:** Economic diversification, green skill development, and livelihood protection should accompany decarbonisation efforts.
6. **Integrate Climate and Biodiversity Finance:** Mechanisms like the **Tropical Forest Forever Facility** should be expanded to fund **ecosystem restoration, agroforestry, and community conservation**.
7. **Enhance Transparency and Accountability:** COP30 should strengthen **Global Stocktake reporting systems** to monitor real progress in finance, mitigation, and adaptation.
8. **Empower Local and Indigenous Knowledge:** Incorporating traditional resilience practices such as **India's water harvesting, seed conservation, and community forest management** can enhance local adaptation.
9. **Improve Inclusivity:** The UNFCCC process should support **participation of low-income and vulnerable countries** through logistical and financial assistance.

Conclusion

COP30 represents a defining moment for global climate governance, aiming to transform the **Paris Agreement's vision into real-world results**. The **Amazonian setting** underscores the urgency of protecting ecosystems while addressing emissions, equity, and finance gaps. For developing nations like **India**, COP30 is an opportunity to advocate **climate justice, fair finance, and sustainable growth**. The success of COP30 will depend on whether it can deliver a **credible, inclusive, and implementable roadmap** that aligns with science, strengthens equity, and ensures a sustainable and resilient future for all.

Question: What are the key expectations from COP30 of the United Nations Framework Convention on Climate Change (UNFCCC)? Discuss its significance, major focus areas, challenges, and the way forward.

India's AI Guidelines for Tech Regulation

UPSC Syllabus Topic: GS Paper 2 - Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

Introduction

India has unveiled governance guidelines for Artificial Intelligence to **balance innovation with accountability** and **growth with safety**. The approach prefers **agile, sector-specific regulation** over an immediate new AI law. It proposes an **India-specific risk framework**, **AI incident database**, **content authentication** for deepfakes, and **techno-legal safeguards** embedded in system design, ahead of the **India–AI Impact Summit 2026**.

Need for India AI Governance Guidelines

1. Harnessing AI while limiting harm: India aims to **use AI for inclusive development and competitiveness** while managing risks to people and society. Use is expanding fast, including **large language models**, demanding clarity on responsibility, safety research, and risk classification.

2. Avoiding premature over-regulation: The stance is to **not tighten rules immediately**. The goal is to let an **innovation economy** flourish while preparing guardrails such as **risk assessment**, **voluntary frameworks**, and **grievance mechanisms**.

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3. Deepfake and content authenticity challenge: Synthetically generated images, videos, and audio require content authentication. Draft amendments to IT Rules propose declarations by uploaders, platform verification, and visible labels; non-compliant platforms risk losing safe-harbour.

4. Public-sector exposure risks: There are **privacy and inference risks** when officials use AI systems. At scale, prompts may reveal priorities or patterns. There is debate on **protecting official systems from foreign AI services** and on potential uses of **anonymised mass data** by global firms.

Guiding Principle of AI Governance Guidelines

1. "Do No Harm" with flexible sandboxes: The central ethic is **"Do No Harm."** Innovation should occur in **sandboxes**, with **risk mitigation** built into a **flexible, adaptive** governance system.

2. People-centric and law-first approach: Policy remains **human-centric**. It relies on **existing laws**—notably the **IT Act** and the **Digital Personal Data Protection Act**—and fills **gaps through targeted amendments** rather than creating a standalone AI statute now.

3. Seven guiding principles : Seven guiding principles or sutras have been adapted from the **RBI's FREE-AI Committee report** to guide the overall approach. These principles have been adapted for application across sectors and aligned with national priorities.

> **Trust is the Foundation:** Without trust, innovation and adoption will stagnate.
> **People First:** Human-centric design, human oversight, and human empowerment.
> **Innovation over Restraint:** All other things being equal, responsible innovation should be prioritised over cautionary restraint.
> **Fairness & Equity:** Promote inclusive development and avoid discrimination.
> **Accountability:** Clear allocation of responsibility and enforcement of regulations.
> **Understandable by Design:** Provide disclosures and explanations that can be understood by the intended user and regulators.
> **Safety, Resilience & Sustainability:** Safe, secure, and robust systems that are able to withstand systemic shocks and are environmentally sustainable.

Key Issues in AI Governance in India

key issues in AI governance from India's perspective & makes recommendations across **six pillars are:**

1. Infrastructure: Enable innovation and adoption of AI by expanding access to foundational resources such as data and compute, attract investments, and leverage the power of digital public infrastructure for scale, impact and, inclusion.

2. Capacity Building: Initiate education, skilling, and training programs to empower people, build trust, and increase awareness about the risks and opportunities of AI.

3. Policy & Regulation: Adopt balanced, agile, and flexible frameworks that support innovation and mitigate the risks of AI. Review current laws, identify regulatory gaps in relation to AI systems, and address them with targeted amendments.

4. Risk Mitigation:

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• Develop an India-specific risk assessment framework that reflects real-world evidence of harm.
• Encourage compliance through voluntary measures supported by techno-legal solutions as appropriate.
• Additional obligations for risk mitigation may apply in specific contexts, for e.g. in relation to sensitive applications or to protect vulnerable groups

5. Accountability:

• Adopt a graded liability system based on the function performed, level of risk, and whether due diligence was observed.
• Applicable laws should be enforced, while guidelines can assist organisations in meeting their obligations Greater transparency is required about how different actors in the AI value chain operate and their compliance with legal obligations.

6. Institutions:

• Adopt a whole of government approach where ministries, sectoral regulators, and other public bodies work together to develop and implement AI governance frameworks.
• An AI Governance Group (AIGG) should be set up, to be supported by a Technology & Policy Expert Committee (TPEC).
• The AI Safety Institute (AISI) should be resourced to provide technical expertise on trust and safety issues, while sector regulators continue to exercise enforcement powers.

Action Plan

The Action Plan identifies outcomes mapped to short, medium, and long-term timelines.

Timeframe	Key Priorities
Short-term	• Establish key governance institutions • Develop India-specific risk frameworks • Adopt voluntary commitments • Suggest legal amendments • Develop clear liability regimes • Expand access to infrastructure Launch awareness programmes • Increase access to AI safety tools
Medium term	• Publish common standards • Amend laws and regulations

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	• Operationalise AI incidents systems
	• Pilot regulatory sandboxes
	• Expand integration of DPI with Al
Long-term	• Continue ongoing engagements (capacity building, standard setting, access and adoption, etc.)
	• Review and update governance frameworks to ensure sustainability of the digital ecosystem.
	• Draft new laws based on emerging risks and capabilities

Conclusion

India's AI governance path is **people-first** and **risk-based**, anchored in **"Do No Harm."** It relies on **agile, sector-specific updates** to existing laws, prioritises **content authentication** against deepfakes, and operationalises an **India-specific risk framework** with an **incident database**. With **graded liability**, **AIGG–TPEC–AISI** coordination, **subsidised compute/datasets (e.g., AIKosh)**, DPI integration, and **capacity building**, India can scale **trustworthy, inclusive AI** at speed and with accountability.

Question for practice

Examine how India's AI Governance Guidelines aim to balance innovation with accountability while addressing key risks associated with artificial intelligence.

Source: **Indian Express**

Celebration of India–Bhutan Ties

UPSC Syllabus Topic: GS Paper 2 -International Relations – India and its neighborhood- relations.

Introduction

Prime Minister **Narendra Modi's** visit to **Bhutan** for **Jigme Singye Wangchuck's (previous king) 70th birthday** highlights the depth and continuity of India–Bhutan ties. The relationship has moved from the **1949 Treaty** to the **2007 sovereign-equality framework**, anchored by **hydropower cooperation**, development support, and **trusted security coordination**. Current priorities include **Punatsangchhu II**, evolving **private financing**, and broader links in **connectivity, digital, education**, and culture, while calmly managing **boundary sensitivities**.

Evolution of India–Bhutan Relations

1. From the 1949 treaty to a mature partnership: The 1949 Treaty of Friendship set early rules. Bhutan agreed to be **"guided by India" in external affairs**, while India pledged **non-interference in Bhutan's**

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internal matters. Over time, nationalism in the Himalayas and shifting power balances made this model unsustainable.

2. Democratic transition and treaty revision in 2007: Under **Jigme Singye Wangchuck**, Bhutan moved towards a **constitutional democracy**. **Jigme Khesar Namgyel Wangchuck** now presides over the democratic system. In **2007**, both sides revised the treaty. They **removed the "guided by India" clause**, affirmed **independence, sovereignty, and territorial integrity**, and pledged **not to let territory be used against the other**. **This created sovereign equality with close cooperation.**

3. Leadership maturity and strategic restraint: Leaders in both capitals showed **pragmatism and restraint**. India helped Bhutan **build institutions, train armed forces, and develop the economy**. New Delhi learned to avoid a heavy-handed approach. **Hydropower cooperation since the 1960s** became the **central pillar** of growth and a symbol of mutual benefit.

4. Stabilising leadership and security cooperation:

- **Jigme Singye Wangchuck** managed profound regional shifts during his reign (1972–2006). His guidance continues, as king **Jigme Khesar Namgyel Wangchuck** consults him on national security.
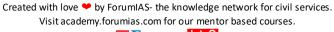
- In **Operation All Clear (December 2003)**, the **Royal Bhutan Army** expelled Indian insurgent groups from Bhutanese jungles; India acted on its side of the border. **This built deep security trust.**

Various Areas of Cooperation

1. **Hydropower as the anchor: Punatsangchhu II (1,020 MW)** is a new milestone. It was built through **government-to-government cooperation**, with India providing initial capital to be repaid from power sales to India at **competitive, periodically adjusted rates**. **This model lifted Bhutan's revenues and incomes.**

2. **Evolving financing and private participation:** Both sides now plan to **tap private capital** for future projects. **Tata Power and Adani Power** have taken up identified projects with Bhutanese partners. **This diversifies funding and quickens implementation.**

3. **Trade & Economic Cooperation:**

- **Duty-Free Access:** Bhutan enjoys free trade access to the Indian market for most of its exports.

- **Development Assistance:** India is Bhutan's largest development partner. The Government of India provides significant financial grants and support for Bhutan's Five-Year Plans, funding critical sectors like education, health, and infrastructure development.

- **Currency Stability:** The Indian Rupee (INR) is fully convertible with the Bhutanese Ngultrum (BTN), and India extends currency swap arrangements to Bhutan, ensuring financial stability during economic fluctuations.

4. **Security & Strategic Cooperation:**

- **Border Security:** India is responsible for training the Royal Bhutan Army (RBA). The RBA and Indian forces cooperate closely on border management.

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• **Doklam Standoff (2017):** When the Chinese military attempted to build a road on the disputed Doklam plateau (claimed by Bhutan), Indian forces intervened based on the strategic implications for India's own security (Siliguri Corridor or 'Chicken's Neck'). India's intervention demonstrated its commitment to Bhutan's territorial integrity.

5. Connectivity, digital, and education links: Ties now include **cross-border railway plans**, **digital initiatives**, and **educational cooperation**. The **exposition of Buddha relics from Piprahwa in Bhutan** reflects **enduring spiritual bonds** that reinforce societal trust.

Major Concerns Related to India–Bhutan Bilateral Relations

1. Managing the China factor: China's rise reshapes the Himalayan landscape. Bhutan shares a **long, disputed border** with China and holds **regular consultations** to resolve it. **Doklam remains** sensitive. Bhutan seeks a **peaceful settlement** that **protects Bhutan's sovereignty** and **does not compromise India's vital security interests**.

2. **Navigating asymmetry without mistrust:** The two countries differ greatly in **size and power**. The challenge is to **sustain equality in practice** while expanding cooperation. Past experience shows that **transparency, local priorities, and mutually beneficial security cooperation** prevent friction.

3. Diversifying an economy: Hydropower revenues are a strength, yet **over-reliance can be a risk**. Bhutan pursues **economic diversification** and a **wider international profile**, cultivating partners like **Japan, South Korea, and European nations**, while **deepening** ties with India.

4. Connectivity & Infrastructure Gaps:

• Road, rail, and transport links between India and Bhutan remain limited, hampering further economic and strategic integration.

• Bhutan's reservations about joining the BBIN Motor Vehicles Agreement due to sustainability and environmental concerns have slowed regional connectivity initiatives.

5. **The "Big Brother" Syndrome:** Due to India's overwhelming size and historical role as protector, there is a persistent public sentiment (though small) in Bhutan that views India as overly dominant or a "Big Brother."

6. **Environmental & Social Sensitivities:** Bhutan's focus on Gross National Happiness and environmental preservation sometimes clashes with India's infrastructure-led approach (e.g., highways, hydropower, BBIN MVA). There are concerns about the potential social impacts of rapid integration, such as migration and cultural change.

7. **Border Management & Security:** While the 699 km India-Bhutan border is largely peaceful, incidents of illegal crossings, militant hideouts, and smuggling necessitate close security cooperation.

Way Forward

1. Keep the 2007 treaty spirit central: Sustain **sovereign equality, non-interference, and mutual security assurances**. These norms protect trust as the regional environment shifts.

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2. **Deepen balanced growth:** Advance **new hydropower projects** with **mixed financing**, strengthen **grid integration**, and pair energy with **infrastructure, digital public goods, skills, and heritage conservation**. **This reduces concentration risk** and **widens Bhutan's revenue base**.

3. **Institutionalise quiet security coordination:** Maintain **regular joint assessments** on border issues and **capacity-building** for the **Royal Bhutan Army**. Keep **crisis-prevention mechanisms** active, especially around **Doklam**. **Security cooperation should remain demand-driven and mutually agreed.**

4. **Strengthen people-centric linkages:** Expand **education exchanges, cultural circuits, and connectivity** that bring **direct benefits to citizens**. Such links reinforce resilience against external shocks.

Conclusion

India–Bhutan ties rest on **sovereign equality**, **shared security**, and **developmental partnership**. Hydropower remains the anchor, with diversification, people-centric links, and quiet coordination on the China frontier sustaining trust. With steady leadership and calibrated financing, the partnership can deepen resilience, manage risks, and deliver **mutual prosperity** without friction.

For detailed information on **India-Bhutan Relationship – Significance & Challenges read this article here**

Question for practice:

Discuss how India–Bhutan relations have evolved over time and identify the key areas of cooperation and emerging challenges in the current regional context.

Source: The Hindu

R&D: A public & private challenge

Source: The post **"R&D: A public & private challenge"** has been created, based on **"R&D: A public & private challenge"** published in "Indian Express" on 11th November 2025.

UPSC Syllabus: GS Paper 3 – Indian Economy

Context: Research and Development (R&D) is the backbone of innovation, economic growth, and technological self-reliance. However, India's **Gross Expenditure on R&D (GERD)** as a share of GDP has **stagnated around 0.7% for three decades**, far below the **OECD average of 2.7%**, **South Korea's 4.9%**, **Japan's 3.4%**, and **China's 2.8%**. This low investment threatens India's scientific competitiveness and its goal of achieving *Atmanirbhar Bharat*.

Current Scenario

- **Public dominance:** Around **58–60% of India's GERD** comes from government sectors like defence, space, and atomic energy.
- **University sector:** Despite having **over 1,100 universities and 48,000 colleges**, it contributes only **7% of GERD**, even though it produces more than half of the country's scientific papers.

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- **Private sector:** Public companies contribute barely **4%**, and large private firms invest minimally — Infosys (~1% of turnover), Wipro (0.65%), L&T (0.13%), Vedanta (0.02%), and Reliance (0.6%).
- **Global comparison:** In developed economies, the **private sector invests 1.5–3% of GDP** in R&D, but in India, it's barely **0.3%**.

Government Efforts

Successive governments have aimed to raise GERD to **2% of GDP**, linking R&D with the goal of technological sovereignty.
Key initiatives include:

1. **National Missions** in critical sectors — AI, green hydrogen, semiconductors, electric mobility, quantum computing, biopharma, and ocean research.
2. **Anusandhan National Research Foundation (NRF):** Aims to expand private participation, with **70% of its ₹1.4 lakh crore budget** expected from private investors.
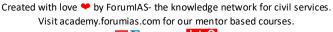3. **Research and Development Innovation Scheme** and **Vigyan Bhara** for capacity building.
4. Integration of R&D in **Production-Linked Incentive (PLI)** schemes and structural reforms aligned with *Atmanirbhar S&T* policies.

Challenges in R&D Investment

1. **Low private sector participation:** Major Indian firms underinvest compared to global peers; only **2% of listed firms** qualify as R&D-intensive.
2. **Limited academic research funding:** Universities receive minimal support despite producing significant research output.
3. **Over-concentration in strategic sectors:** Around 60% of R&D spending goes to defence, space, and atomic energy, leaving limited support for civilian innovation.
4. **Weak innovation culture:** Poor collaboration among academia, industry, and government reduces innovation translation.
5. **Policy gaps:** Lack of a robust mechanism to verify claims under tax incentives for in-house R&D.
6. **Insufficient coordination:** Institutions like **CSIR** have limited regional engagement with small and medium enterprises (SMEs).
7. **Dependence on public funding:** New missions rely on private participation that may not materialize as expected.

Way Forward

1. **Strengthen private sector role:** Encourage industrial R&D through fiscal incentives, competitive grants, and recognition mechanisms.
2. **Expand university-industry collaboration:** Increase funding to universities and foster innovation clusters linked to local industries.
3. **Reform CSIR and create regional R&D hubs** to coordinate with MSMEs and support technology diffusion.
4. **Institutionalise accountability:** Ensure proper monitoring of R&D tax incentives and outcomes.
5. **Adopt global best practices:** Learn from **South Korea's R&D–industry partnerships** and innovation-driven ecosystems.
6. **Enhance public spending:** Increase government GERD to **at least 1.5–2% of GDP** in the next three years to attract matching private investment.

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7. **Encourage frontier research:** Support national missions in AI, quantum, semiconductors, and biopharma with clear timelines and deliverables.

Conclusion: India's aspiration to become a global innovation hub and achieve *strategic autonomy* depends on transforming its R&D ecosystem. While public investment provides a strong foundation, **private participation, academic collaboration, and effective policy implementation** are essential. Raising R&D spending to **2% of GDP** and ensuring balanced public-private contribution will not only boost economic resilience but also secure India's technological future amid rising global uncertainties.

Question: Why is India's investment in Research and Development (R&D) low? Suggest measures to boost private sector participation and strengthen the R&D ecosystem.

Role of a Pay Commission in India

Source: The post **"Role of a Pay Commission in India"** has been created, based on **"What is the role of a pay commission?"** published in "The Hindu" on 11th November 2025.

UPSC Syllabus: GS Paper 2 – Governance

Context: A **Pay Commission** is established by the Government of India through an executive order to review and recommend changes in the salary structure, allowances, and service conditions of Central government employees, including defence personnel. The **first Central Pay Commission (CPC)** was set up in **1946**, and since then, seven commissions have submitted their reports. The **8th CPC**, chaired by **Justice Ranjana Prakash Desai**, has recently been constituted and is expected to submit its report within 18 months.

Objectives of the Pay Commission

1. **Rationalising Pay and Allowances:** To revise the pay structure, retirement benefits, and allowances of Central government employees in line with inflation, living costs, and economic growth.
2. **Ensuring Pay Equity:** To maintain internal parity among different levels of employees and achieve external parity with the private sector, promoting fairness across hierarchies.
3. **Fiscal Responsibility:** To balance salary hikes with the government's financial capacity, ensuring that wage bills remain within sustainable limits.
4. **Enhancing Administrative Efficiency:** To create incentives that improve motivation, productivity, and accountability within the public sector.

Terms of Reference (ToR)

The **ToR**, finalised by the Union Cabinet, guide the functioning of each Pay Commission. The major terms include:

- Comparison of public sector pay with private sector compensation.
- Assessment of the economic situation and fiscal prudence.
- Ensuring adequate resources for welfare measures and pension obligations.
- Recommendations on non-contributory pension schemes.
- Consideration of allowances and benefits for employees across departments.
- Study of working conditions and job satisfaction factors such as training, promotions, and work environment.

Role and Importance of Pay Commissions

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1. Standardising Compensation: Pay Commissions ensure uniformity in pay scales and service conditions across departments and cadres, avoiding disparities and anomalies.

2. Maintaining Competitiveness: The commissions review the **pay compression ratio**—the ratio between the lowest and highest salaries—to keep government jobs competitive with the private sector. The **7th CPC** fixed this ratio at **1:12.5**, though higher-level specialists often earn more in private roles, necessitating periodic review.

3. Supporting Employee Welfare: Recommendations extend beyond pay to include **housing, health, training, and work-life balance**, improving morale and retention.

4. Fiscal Prudence and Economic Stability: Each CPC carefully evaluates the fiscal impact of its recommendations to prevent undue strain on public finances. The **8th CPC**, for instance, must assess the ₹3.94 lakh crore central wage bill and its impact on the overall expenditure of ₹27.6 lakh crore.

5. Promoting Modern HR Practices: Newer commissions also advocate performance-linked incentives, learning opportunities, and flexible work conditions — aligning public sector management with global best practices.

Challenges in Implementation

- **Heavy Fiscal Burden:** Large salary and pension outlays can strain government budgets.
- **Centre-State Disparities:** State governments often face difficulty in adopting central pay revisions.
- **Limited Performance Linkage:** Pay revisions are often uniform and not directly tied to productivity or merit.
- **Need for Continuous Review:** Long gaps between commissions can delay necessary adjustments in real wages.

Recent Developments – The 8th Central Pay Commission

- **Chairperson:** Justice Ranjana Prakash Desai.
- **Members:** Faculty from IIM Bangalore and senior government officials.
- **Focus Areas:**
  - Revisiting pay compression ratios.
  - Reviewing non-contributory pension schemes.
  - Ensuring adequate funds for welfare measures.
  - Considering modern HR reforms like flexible working and health promotion.
- **Expected Outcome:** Recommendations that align compensation with efficiency, equity, and fiscal responsibility.

Conclusion: The **Pay Commissions** serve as a vital mechanism for balancing **employee welfare, administrative efficiency, and fiscal prudence** in India's governance system. As India's economy and workforce evolve, the **8th CPC** holds the responsibility to modernize public sector compensation — ensuring that government service remains attractive, efficient, and financially sustainable. A well-calibrated and equitable approach will help maintain the delicate balance between public welfare and fiscal discipline.

Question: Discuss the role and significance of Pay Commissions in India. How do they balance public sector equity, efficiency, and fiscal prudence? Illustrate with reference to the 8th Central Pay Commission.

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Lacunae in India's Labour Policy

Introduction

Across many sectors, workers face unstable jobs, reclassification, and lost benefits. Informality is widespread. Forced and coercive work still exists. The draft **Shram Shakti Niti 2025** promises a fair, inclusive, and future-ready system. It links social security, safety, skills, and digital tools. The real question is delivery: will protections reach informal, gig, and low-literacy workers, or stay on dashboards? The answer depends on funding, enforcement, and worker voice.

Current Status of India's Labour Force

- **About 90% of workers are informally employed (2024 ILO).**

- **Around 11 million people live in modern slavery** in India.

- **Female labour force participation is 33.7%**, with a **target of 35% by 2030**.

- **12 million** workers are in gig work. **Around 400 million** workers are in the informal economy.

- **Skills–jobs alignment**: **Graduate-job mismatch is 91.75%**.

- **Digital access constraint:** Low household literacy (about **38%**, as stated) limits the access to digital systems.

Constitutional Provisions for Labour Protection

Fundamental Rights

Article 19(1)(c): Guarantees the right to form associations and unions, which includes the right to form trade unions.

Article 21: The "Right to Life" has been interpreted by the courts to include the right to a dignified life, which encompasses a safe working environment, fair wages, and the right to a livelihood.

Article 23: Prohibits traffic in human beings and forced labor, ensuring that no individual can be forced to work against their will or in conditions that violate their dignity.

Article 24: Prohibits the employment of children below the age of 14 in factories, mines, or any other hazardous employment.

Article 17: Prohibits untouchability, which helps protect workers from discrimination and exploitation based on caste, particularly those from Scheduled Castes and Tribes.

Directive Principles of State Policy

Article 38: Mandates the state to promote the welfare of the people by securing and protecting a social order in which justice, social, economic, and political, shall inform all the institutions of the national life.

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Article 39: Lays down certain principles to be followed by the state, including:

(a) That citizens, men and women equally, have the right to an adequate means of livelihood.

(d) Equal pay for equal work for both men and women.

Article 41: Guarantees the right to work, to education, and to public assistance in certain cases like unemployment, old age, sickness, and disablement.

Article 42: Directs the state to make provisions for just and humane conditions of work and for maternity relief.

Article 43: Aims to secure a living wage for all workers.

Article 43A: Provides for the participation of workers in the management of industries.

Draft Shram Shakti Niti 2025 (National Labour & Employment Policy)

It is national labour and employment policy that seeks a "fair, inclusive, and future-ready labour ecosystem," aligning constitutional guarantees with a changing world of work.

Key features

1. **Universal Social Security Coverage**
It proposes a **portable Universal Social Security Account** that merges the Employees' Provident Fund Organisation (EPFO), Employees' State Insurance Corporation (ESIC), Pradhan Mantri Jan Arogya Yojana (PM-JAY), the e-SHRAM platform and State boards so that a worker's health, pension, maternity, accident and life-insurance benefits travel across jobs and sectors.

2. **Employment Facilitation & Future Readiness**
The policy envisions the Ministry acting as an **employment facilitator**, using the National Career Service (NCS) as a **Digital Public Infrastructure (DPI)** for job-matching, credential verification and skill-alignment across Tier-II/III cities and MSMEs, blending skill development with employment.

3. **Occupational Safety, Health & Humane Working Conditions**
It commits to the full enforcement of the Occupational Safety, Health and Working Conditions Code, 2020, with risk-based audits, gender-sensitive standards, and the ambition of "near-zero fatalities by 2047", aligned with ILO standards.

4. **Women's & Youth Empowerment**
It sets a target for **female labour force participation** of 35 % by 2030, up from 33.7 %. Initiatives include affordable childcare, flexible gig work options, equal pay, and apprenticeships. It also emphasises youth entrepreneurship, credential recognition and tackling a 91.75% graduate-job mismatch.

5. **Technology, Green Jobs & Just Transition**
The policy promotes green-technology employment, reskilling of workers (for example those in coal sectors),

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AI-enabled workplace safety, and climate-aligned labour transitions under SDG 13. It opens paths to "just transition" for affected workers.

6. **Ease of Compliance & Formalisation**
It introduces a single-window, digital compliance architecture for MSMEs, a unified labour-&-employment stack, and aims to increase formalisation of the labour market, simplify registration and strengthen inspections.

7. **Governance & Data-Driven Monitoring**
The policy includes the creation of a **Labour & Employment Policy Evaluation Index (LPEI)**, real-time dashboards, an Annual National Labour Report, and the linking of policy implementation with the digital agenda (Digital India, NEP etc.). This aims for transparency, tracking and continuous improvement.

Concerns Related to National Labour and Employment Policy of India

1. **Employer-ease policy**: Policies prioritise employer convenience over worker rights. This undercuts Articles 14, 16, and 23 and normalises informality. For example ,Workers recruited with ESI and PF promises are later reclassified as "daily wagers," losing contributions.
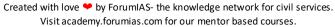
2 **Unfunded social security architecture:** The proposed **Universal Social Security Account** has **no clear funding** path. There are **no mandates on gig employers** or matching contributions from States. Without money in the system, portability becomes a promise on paper.

3. **Digital-first design that excludes**: A **digital-ID heavy approach** sidelines workers with **low literacy and limited access**. Women, seniors, and low-literates are most at risk. **Offline access and assisted enrolment** are not hard-wired, so exclusion persists.

4. **Weak safety enforcement and soft targets:** The pledge of **"near-zero fatalities by 2047"** lacks **penalties, inspectors, and timelines**. Risk audits and gender-sensitive standards are announced, but **without enforcement muscle** they do not change conditions on shop floors.

5. **AI-led placement without bias guardrails:** Turning the Ministry into an **AI-based employment facilitator** without **bias safeguards** risks **caste and gender discrimination**. Algorithms for job matching and credential checks need **ethics audits and worker oversight**; today, these are missing.

6. **Gig work outside wage protection:** "Flexibility" is used to **avoid wage floors and benefits**. **Wages Code minima are not applied** to gig workers, and **transition benefits are unclear**. This keeps a large, growing segment **precarious and voiceless**.

7. **Women's participation: targets without tools:** The **35% FLFP by 2030** target is paired with childcare and apprenticeships, but **no quotas, penalties, or robust maternity support** for informal workers. Without enforceable instruments, progress will be **nominal**.

8. **Data rights and surveillance risks:** Dashboards, LEPEI-style indexing and interoperable registries advance **data-driven control** while **DPDP enforcement** is weak. This raises **surveillance concerns** and can chill **Article 19** freedoms in hiring, organising, and grievance processes.

Way forward

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1. **Fund universal social security:** Mandate platform-employer and State contributions. Create a tripartite fund so benefits under the unified account are actually paid.

2. **Enforce safety:** Notify penalties, strengthen inspectors, and set time-bound safety milestones while implementing the OSH Code with risk-based audits.

3. **Guarantee offline and assisted access:** Provide walk-in/assisted services at district centres and mobile camps so low-literacy workers, women, and seniors can enrol and use benefits.

4. **Protect gig and platform workers' pay and continuity:** Apply wage floors to platform work and define transition benefits (injury, sickness, downtime) within the unified social security design.

5. **Make AI job-matching fair and auditable:** Require bias testing, independent audits, and a clear appeals path for NCS decisions to prevent caste- or gender-based exclusion.

6. **Restore worker voice and speedy grievance redress:** Formalise union/worker participation in policy pilots and audits, and run time-bound grievance systems with public tracking of outcomes.

Conclusion

The draft brings social security, safety, skills, and data onto one platform. Outcomes now depend on **money, penalties, offline access, fair algorithms, just-transition income support, and worker voice**. With these in place, delivery is possible. Without them, dashboards will grow—but workers will not be safer, formal, or secure.

Question for practice:

Examine the key challenges in implementing the Draft Shram Shakti Niti 2025 as an inclusive and enforceable labour policy for India's informal and gig workforce.

Source: The Hindu

Perils of Easy Credit Access

Source: The post **"Perils of Easy Credit Access"** has been created, based on **"Perils of Easy Credit Access"** published in "The Hindu Businessline" on 12th November 2025.

UPSC Syllabus: GS Paper -3- Economy

Context: Easy credit access has become a hallmark of modern finance, with banks, NBFCs, and fintech companies offering loans at the tap of a screen. While such access helps individuals meet their lifestyle and financial goals, it also increases the risk of over-borrowing, defaults, and long-term financial instability. Therefore, maintaining financial prudence and credit discipline is essential for sustainable borrowing.

Nature and Scope of Consumer Loans

1. Consumer loans include home loans, education loans, vehicle loans, and personal loans for various lifestyle and household expenses.

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2. Unsecured loans such as credit cards, buy-now-pay-later schemes, and payday advances do not require collateral, making them more accessible but riskier.
3. These loans enhance consumer purchasing power, support family welfare, and contribute to economic growth through higher consumption.
4. Since unsecured loans are riskier for lenders, they often carry higher interest rates and stricter credit score requirements.

Trends in Consumer Lending

1. The total outstanding consumer loans increased from ₹49.34 trillion in September 2023 to ₹62.54 trillion in September 2025, accounting for nearly 33% of total bank credit.
2. Unsecured loans such as credit card dues and personal loans rose from ₹23 trillion to ₹30 trillion during the same period.
3. To address the rising default risk, the RBI increased the risk weight for unsecured loans from 100 to 125 in November 2023.
4. Non-Bank Financial Companies (NBFCs) and fintech firms now serve around 34–37% of bank borrowers, with over 10 crore personal loans disbursed through digital platforms by FY 2024–25.
5. This expansion has been largely driven by mobile applications and digital lending platforms offering quick and paperless approvals.

Seamless Access through Digital Platforms

1. Over 1,500 RBI-approved digital lending applications now provide instant loan approvals, sometimes within minutes.
2. Digital verification systems using PAN, Aadhaar, and credit scores have made the lending process extremely fast and user-friendly.
3. Many fintech companies use targeted digital marketing and promotional offers to attract borrowers, especially young consumers.
4. These platforms enable borrowing without physical documentation, but they also increase the temptation for impulsive financial decisions.
5. Credit Information Companies (CIBIL, CRIF, Experian, etc.) continuously update borrowers' repayment history, allowing lenders to assess risk profiles more accurately.

Importance of Credit Discipline

1. Borrowers must ensure that the amount borrowed matches their actual repayment capacity to avoid falling into a debt trap.
2. Regular and timely repayment of EMIs helps maintain a healthy credit score, which is essential for future borrowing.
3. Maintaining a balanced mix of secured and unsecured credit reduces overall financial risk.
4. Borrowers should avoid multiple loans from different digital platforms simultaneously, as this increases repayment complexity.
5. Understanding the terms of credit, such as interest rates, processing fees, and prepayment penalties, is vital before taking any loan.
6. Financial literacy programs should be promoted to help borrowers understand the long-term impact of unsecured loans.

Challenges of Easy Credit Access

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1. **Rising Household Debt:** Many borrowers take multiple unsecured loans without fully understanding their repayment obligations, leading to financial stress.
2. **Over-Leveraging:** Easy access to credit encourages overspending, making households vulnerable to defaults and legal consequences.
3. **High Cost of Credit:** Unsecured loans carry higher interest rates and penalty charges, which can escalate the debt burden.
4. **Data Privacy Concerns:** The digital lending ecosystem often involves third-party data sharing, which poses privacy and misuse risks.
5. **Regulatory Challenges:** The speed of fintech innovation sometimes outpaces regulation, leading to unmonitored or predatory lending practices.
6. **Psychological Pressure:** Defaults or overdues may lead to harassment by recovery agents and cause emotional distress to borrowers.

Way Forward

For Borrowers

1. Borrowers should exercise financial prudence by borrowing only for productive or essential needs.
2. They should regularly check their credit reports and maintain transparency in financial transactions.
3. Financial planning and budgeting should be integral before taking any new credit.

For Lenders

1. Lenders must follow responsible lending norms, ensuring that loans are extended only to creditworthy borrowers.
2. Transparency in loan agreements, interest computation, and repayment terms should be mandatory.
3. Lenders should use technology responsibly, ensuring data security and ethical use of borrower information.

For Regulators

1. The RBI should continue monitoring the digital lending ecosystem and enforce strict licensing norms for fintech firms.
2. Regular audits and grievance redressal mechanisms should be strengthened to protect borrowers from exploitation.
3. Financial inclusion policies should focus equally on borrower education and credit awareness, not just loan accessibility.

Conclusion: Easy credit access, while beneficial for financial inclusion and economic growth, also brings significant challenges related to debt sustainability and consumer protection. Borrowers must adopt cautious financial behavior, lenders should prioritize responsible lending, and regulators must ensure effective oversight. A balanced approach among all stakeholders will help ensure that credit accessibility empowers rather than endangers financial well-being.

Question: Easy access to consumer credit has become a double-edged sword in the Indian economy. Discuss the benefits and risks associated with the growing trend of unsecured and digital lending.

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Govt Plans Major Overhaul for Index of Industrial Production (IIP)

Source: The post **"Govt Plans Major Overhaul for Index of Industrial Production (IIP) "** has been created, based on **"Govt Plans Major Overhaul for Index of Industrial Production (IIP)"** published in "Indian Express" on 12th November 2025.

UPSC Syllabus: GS Paper -3- Economy

Context: The **Index of Industrial Production (IIP)** is a crucial indicator that measures the short-term changes in the volume of production of industrial goods. It reflects the health of India's industrial sector and serves as a key input for policy formulation. Recently, the **Ministry of Statistics and Programme Implementation (MoSPI)** proposed revising the methodology of IIP calculation, including the **substitution of closed factories** and updating the **base year to 2022–23**, to make it more robust and representative of current industrial realities.
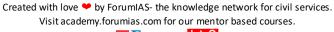
Need for Revision in IIP Methodology

1. **Outdated Factory Sample:** Many factories currently included in the IIP are no longer operational or no longer represent actual production levels, leading to inaccurate estimates.
2. **Increased Dependence on Estimations:** The closure or inactivity of listed factories forces reliance on imputation methods, reducing data reliability.
3. **Economic Structural Changes:** India's industrial structure has changed significantly since the last revision in 2017, making it necessary to capture emerging industries and technologies.
4. **Base Year Update:** The previous base year (2011–12) does not reflect the recent industrial and technological developments, warranting a shift to **2022–23** for relevance.
5. **Improved Policy Accuracy:** Policymakers rely on IIP data to assess economic momentum and design interventions; inaccurate data can lead to flawed policy responses.

Process of Substitution of Factories

1. **Selection of Comparable Units:** A factory can be introduced into the IIP sample if it produces the same item or belongs to the same industrial group as the one being replaced.
2. **Comparable Output Value:** The **gross value added** or **gross value of output** of the new factory must be close to that of the one it replaces, ensuring size similarity.
3. **Operational Record:** The new factory must be **operational for at least 12 months** before being included in the IIP sample.
4. **Data Requirement:** Twelve months of production data prior to the substitution are needed for consistency.
5. **Temporary Gaps:** Until overlapping data between the old and new factories are available, "nil" or **imputed values** may be used, which could temporarily affect monthly production figures.

Broader Review of IIP

1. The revision is part of a **comprehensive overhaul** of the IIP system, last updated in **2017**.
2. The new methodology will use **2022–23 as the base year**, with revised numbers expected by **May 2026**.
3. The IIP is based on production data from **14 source agencies**, covering **407 items** across **three major sectors**: **Mining, Manufacturing and Electricity**

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4. These items are categorized into **six groups**: Primary goods, Capital goods, Infrastructure/construction goods, Intermediate goods, Consumer durables and Consumer non-durables.
5. The revision aims to make IIP data more reflective of current industrial capacities and product diversity.

Current Industrial Performance (as per latest data)

1. India's **industrial growth rate** as per IIP was **4% in September 2025**.
2. In the first half of **FY 2025–26**, industrial output grew by **3%**, compared to **4.1%** in the same period of **FY 2024–25**.
3. The upcoming revision is expected to improve accuracy and reduce estimation errors in such performance reporting.

Significance of the Revision

1. **Enhanced Accuracy:** Replacing defunct factories ensures that IIP data reflects real-time production activity.
2. **Policy Relevance:** Reliable industrial data helps policymakers, the RBI, and analysts track growth trends and design interventions.
3. **Reduced Dependence on Estimation:** Substitution minimizes imputed data use, improving the reliability of official statistics.
4. **Updated Industrial Representation:** The new base year captures structural shifts such as digital manufacturing, green technologies, and new production processes.
5. **Greater Transparency and Robustness:** The feedback-based approach ensures that the final methodology is **"well-informed, robust, and broadly supported."**

Challenges in Implementation

1. **Data Collection Delays:** Ensuring uniform and timely reporting from new factories may pose logistical difficulties.
2. **Transitional Data Gaps:** Temporary "nil" or imputed data may distort short-term industrial growth estimates.
3. **Coordination with Source Agencies:** Synchronizing data across 14 agencies requires strong institutional coordination.
4. **Industrial Volatility:** Rapid entry and exit of manufacturing units can complicate the sample's stability.

Way Forward

1. **Strengthen Data Infrastructure:** Enhance digital data collection systems for real-time industrial reporting.
2. **Regular Methodological Reviews:** Conduct periodic updates to prevent large data gaps between revisions.
3. **Stakeholder Consultation:** Continue engaging with industry associations, economists, and statisticians for transparent methodology design.
4. **Integration with Other Indices:** Align IIP updates with GDP and CPI revisions to maintain consistency in economic analysis.

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5. **Capacity Building:** Improve the technical capability of statistical staff and data collection agencies to ensure uniform data quality.

Conclusion: The proposed revision of the IIP methodology marks an important step toward ensuring **accuracy, credibility, and contemporaneity** in industrial data. By replacing outdated factory samples and updating the base year to 2022–23, MoSPI aims to create a more **robust and policy-relevant indicator** of India's industrial health. However, timely implementation, data quality assurance, and effective coordination among agencies will be key to the success of this reform.

Question: The Ministry of Statistics and Programme Implementation (MoSPI) has proposed changes in the methodology of calculating the Index of Industrial Production (IIP). Discuss the need, process, and significance of this revision.

AI Labelling Regulations Framework

UPSC Syllabus Topic: GS Paper3- Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology

Introduction

Near-perfect AI videos and audio now appear next to real content, so users struggle to trust what they see and hear. A deepfake of the Finance Minister promoting an investment scheme and causing a large financial loss shows how **synthetic media can directly harm citizens.** To respond, India has proposed an AI labelling framework under the IT Rules 2021, focusing on clear labels, duties for large platforms, better detection tools and graded responsibilities for creators**.**

What is synthetic media?

Synthetic media is content that is artificially or algorithmically created, modified, or generated to appear authentic. It includes digital material reshaped by software in images, audio or video, even when it is not produced by generative AI. Content may be **fully AI-generated, AI-assisted or AI-altered**, including mixed media such as real visuals with cloned audio.

Over 50% of all content on the Internet is now considered AI-generated. This huge volume makes it hard for platforms and users to pick out content that is dangerous or misleading.

Concern Related to Synthetic Media

1. **Misinformation and Disinformation:** A major concern is the potential for synthetic media to spread fake news, create false narratives, and manipulate public opinion. This can impact political campaigns, disrupt democratic processes, and erode public trust in news organizations and government institutions.

2. Difficulty of user detection: Many synthetic videos and audio clips now look and sound almost real. Some still show visible signs of editing, but others are so realistic that viewers cannot clearly distinguish them from authentic content.

3. **Privacy and Consent Violations:** Synthetic media tools allow for the use of individuals' likenesses, voices, and behaviors without their consent. This has led to an increase in non-consensual intimate imagery (deepfake

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pornography), identity theft, and online harassment, causing significant psychological and reputational harm to victims.

4. **Fraud and Financial Crime:** Deepfake audio and video can be used in social engineering attacks to impersonate individuals (such as a CEO or bank employee) and deceive others into transferring money or divulging sensitive information.

5. **Erosion of Trust and Authenticity:** The prevalence of convincing synthetic content blurs the line between reality and fabrication, leading to a general skepticism towards digital media. This "authenticity crisis" makes it harder to use authentic media as reliable evidence in legal or journalistic contexts.

6. **Intellectual Property Issues:** The use of copyrighted material to train AI models and the generation of content that may infringe on existing works raise complex legal challenges regarding ownership and originality.

7. **National Security Risks:** Malicious state or non-state actors may use synthetic media for information warfare, psychological operations, or to sow discord and destabilize trust in targeted nations.

Regulating Mechanism (Draft Amendments to the IT Rule 2021)

The government earlier treated the existing framework as adequate to deal with synthetic media. **It has now proposed draft amendments to the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.** The aim is to create a clear **AI labelling framework.**

Key provisions of the draft amendments to the IT Rule 2021

1. **Enhanced Obligations for significant social media intermediaries (SSMIs) -Requires SSMIs to:**

- Obtain a **user declaration** on whether uploaded information is synthetically generated;
- Deploy **reasonable and proportionate technical measures to verify** such declarations;
- Ensure that synthetically generated information is **clearly labelled or accompanied** by a notice indicating the same; and
- The **label or identifier must enable immediate identification of the content** as synthetically generated information.
- The rule further **prohibits intermediaries from modifying, suppressing, or removing** such labels or identifiers.

2. **Minimum label size and duration:** The draft requires that labels cover **at least 10% of the visual area of synthetic videos**. For audio, labels must cover **at least 10% of the initial duration of synthetic clips**. This tries to ensure that the label is prominent and not hidden like fine print.

3. **Due diligence focused on large platforms:** The primary obligations fall on **Significant Social Media Intermediaries**, which host large user bases and can amplify harmful synthetic media at scale. This reflects the view that bigger platforms carry higher responsibility.

Major Concerns Related to The Draft Amendments to the IT Rule 2021

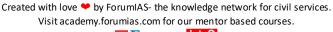1. **Broad and unclear scope of synthetic media:** The definition of synthetic media covers any content that is artificially or algorithmically created or modified. This makes it hard to separate everyday edits or computer-generated imagery from content that is actually harmful or misleading, even though **not all synthetic media is problematic.**

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2. **Rigid 10% labelling rule may not work in practice:** The rule that labels must cover **10% of the visual area or 10% of the initial audio duration** may not meet the **reasonable person test.** Short disclaimers in longer clips can be ignored like fine print, and long disclaimers may overwhelm users instead of helping them.

3. **Unclear treatment of mixed media formats:** The framework does not clearly deal with **mixed media**, such as real visuals combined with cloned or synthetic audio. It is not clear how the 10% rule will apply in such cases, which creates confusion for both platforms and creators.

4. **Unreliable technical markers like watermarks: Watermarks added by AI companies are easy to remove.** Soon after a major text-to-video tool promised watermarking of synthetic videos, other tools appeared that could wipe these markings. This makes sole reliance on watermarks a weak safeguard.

5. **Limited effectiveness of current detection and labelling tools:** Synthetic media is multiplying faster than verification tools can keep up. Platforms face difficulty in detecting AI-generated or algorithmically created content, and **third-party detection tools are only as good as their training and accuracy.** An audit of 516 AI-generated posts found that **only 30% were correctly flagged**, and even the best-performing platform labelled just about **55%** of such content.

6. **Gaps in content provenance and platform practices**
 Many platforms follow **Coalition for Content Provenance and Authenticity** (**C2PA) standards** to track content origin, but these standards do not always result in consistent labelling.

Way forward

1. Fine-tune categories and standards:,Develop **clear, precise standards for different types of synthetic media**. Use a **tiered labelling system** that separates **fully AI-generated, AI-assisted and AI-altered content**, instead of relying on one generic label.

2. **Extend duties to influential creators:** Make **creators above a certain follower threshold disclose their use of AI** in content creation. Encourage **voluntary self-labelling** among smaller creators to build a basic culture of transparency.

3. **Adopt graded compliance:** Link **stricter obligations to higher reach and influence**. Professional creators and big accounts should follow stronger labelling and disclosure norms to **maintain public trust** and adapt to changing regulation.

4. **Improve detection systems with external tools:** Strengthen platform capacity to identify synthetic media by using **specialised third-party detection tools**, and regularly improve them based on **training quality and accuracy levels**.

5. **Use independent auditors for high-risk content:** In cases of **harmful, fraudulent or misleading synthetic media**, rely on **independent information verifiers and auditors**.

Conclusion

AI labelling rules are emerging because **synthetic media is widespread, hard to detect and sometimes highly harmful.**Draft IT rules push large platforms to label such content and verify user declarations, while graded compliance can involve creators. As a **multi-stakeholder effort** with stronger standards, tiered labels,

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better detection tools and support from independent auditors, **users can receive clearer signals on what is real and what is synthetic** and face fewer risks online.

Question for practice:

Examine the effectiveness of India's proposed AI labelling framework in addressing the risks posed by synthetic media.

Source: [The Hindu](#)

G2 and India

Introduction

The US–China "G2" dynamic refers to a situation where the US and **China act as the two main centres of** global power. The recent Trump–Xi meeting at the Busan APEC Summit, framed as a "G2", highlighted this reality. **Their strategic calm may reduce global tensions**, but it also **exposes India's limited economic leverage and high external dependence.** This moment forces India to reassess its assumptions about great-power politics and rethink how it positions itself between the two dominant players.

Impacts of US–China "G2" Dynamic on India

1. US priorities: The US now puts its China relationship ahead of ties with India. Trade imbalances and big-ticket deals with Beijing attract more attention in Washington than long-term strategic plans with New Delhi.

2. India's Indo-Pacific assumptions: India earlier believed it was central to the US Indo-Pacific strategy as a counterweight to China. The quick US trade accommodation with China, combined with continued tariff pressure on India, shows these assumptions were over-optimistic.

3. Economic costs and unequal treatment: US tariffs have already cost Indian workers jobs, while China gains relief and praise from Trump. This difference in treatment underlines how India's concerns can be sacrificed when they clash with core US economic interests.

4. Need for strategic rethinking: The "G2" moment signals that India cannot rely on permanent US support. India must rethink how it defines its value to Washington and prepare for frequent policy shifts. Greater flexibility becomes essential.

Way forward

1. From reliance to multi-alignment: India must move faster towards a multi-aligned posture. It should deepen ties with Europe, the UK, Gulf states, Africa, ASEAN, Russia and Central Asia. No single relationship should be able to limit or define India's choices in foreign or economic policy.

2. **Reassessing the Quad and other coalitions:**

> • Uncertainty over Trump's participation in the next Quad summit in India shows how fluid coalitions are.

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• India should treat the Quad as useful but not central, and weigh it alongside other regional and bilateral forums, including engagement with China when it serves Indian interests.

3. **Managed competition with China:**

• The current **US–China thaw** creates some space for engagement between India and China.

• India needs a model of **managed competition**: firm military preparedness on the border, but open diplomatic and trade channels. This can prevent escalation and keep room for negotiation on difficult issues.

4. **Cutting dependence and building capability:**

• India's reliance on **Chinese imports**, especially in pharmaceuticals and electronics, is a core weakness.

• India must **diversify supply chains**, attract firms that want to reduce exposure to China, and build domestic capacity in **AI, quantum technologies, semiconductors and advanced manufacturing**.

5. **Balancing openness and state-led instruments:**

• Economic policy must be coherent and rooted in political and social realities.

• India should keep trade and investment **open and business-friendly**, but also use targeted **industrial policy, public investment and digital tools** where markets alone cannot protect workers, key sectors or critical technologies.

Conclusion

For India, the "G2" moment is a clear warning. The US will not automatically treat India as a counterweight to China. In a transactional multipolar world, only a proactive, multi-aligned strategy built on economic and technological resilience can reliably safeguard India's interests.

Question for practice:

Examine how the evolving US–China "G2" dynamic challenges India's earlier strategic assumptions and discuss the policy shifts India must pursue in response.

Source: [Indian Express](#)

A Case of Privileged Communications

Source: The post **"A Case of Privileged Communications"** has been created, based on **"A Case of Privileged Communications"** published in "The Hindu Businessline" on 13th November 2025.

UPSC Syllabus: GS Paper -2- Polity

Context: The Supreme Court on **October 31, 2025**, reaffirmed the indispensable role of advocates in India's constitutional democracy. It held that **a lawyer cannot be summoned merely to disclose what a client has**

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communicated, except when such legal advice is used to commit or conceal a crime. The verdict arose from a suo motu case concerning a notice issued under Section 179 of the **Bharatiya Nagarik Suraksha Sanhita (BNSS), 2023**.

What are Privileged Communications?

1. **Privileged communications** are confidential exchanges between certain protected relationships — such as **attorney-client and spouses** — safeguarded from disclosure in court.
2. These are protected under **Sections 126–129 of the Indian Evidence Act, 1872** (now reflected in Sections 128–132 of the BNSS, 2023).
3. Purpose: To build **trust**, **professional integrity**, and ensure **effective legal representation**.

Legal Provisions and Scope

1. **Section 132 BNSS** (earlier Section 126 Evidence Act) prohibits advocates from disclosing communications made in the course of professional engagement, even after the employment ends.
2. Exceptions (where disclosure is permitted):
    a. With the client's consent.
    b. If communication is made to commit or conceal a crime.
    c. If disclosure is required by law or departmental approval for **disciplinary proceedings.**

Supreme Court's Key Observations

1. The **Court asserted** that compelling a lawyer to disclose client communications **violates the citizen's right to fair trial and legal representation**.

2. It held that **State intrusion** into the lawyer-client relationship **endangers the structural integrity** of the justice system.
3. Privilege is not a "shield" for lawyers but a **safeguard for citizens** to ensure effective defence.
4. The privilege **"ensures no prejudice is caused to the accused whom the lawyer represents."**

Why Safeguarding this Privilege is Important

1. It upholds the **right to equality before law and fair trial** under **Articles 14 and 21**.
2. It prevents the State from **coercing confessions indirectly** through lawyers.
3. It encourages **free and honest communication** between lawyers and clients — essential for justice delivery.
4. It also strengthens **public trust** in the legal system.

Lawyer as a Constitutional Actor

1. The Court recognized advocates as **"constitutional actors"**, not mere private agents.
2. Their role is central to the **constitutional architecture of legal representation** and the survival of rule of law.
3. Compelling lawyers to reveal confidential information **collapses the distinction** between defence and prosecution, violating the **principle of fair defence**.

Wider Implications

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1. The judgment reinforces earlier rulings such as: *M.H. Hoskot v. State of Maharashtra* (1978) and *Hussainara Khatoon v. State of Bihar* (1980)
   affirming the right to effective legal representation as part of **Article 21**.
2. It curtails **investigative overreach**, where police or agencies summon advocates to "assist" investigations by disclosing client details.

Way Forward

1. **Codify clearer safeguards:** Amend the **BNSS and Bar Council Rules** to explicitly reaffirm the inviolability of client-lawyer privilege, defining limited exceptions with judicial oversight.
2. **Strengthen awareness among enforcement agencies:** Conduct **training for police and investigative officers** to prevent misuse of Section 179 BNSS and other provisions against advocates.
3. **Digital confidentiality norms:** Frame **data protection and cyber-ethics guidelines** to secure electronic client communications in the digital age.
4. **Ethics and accountability:** Encourage the **Bar Council** to enforce strict disciplinary action in genuine cases of professional misconduct while upholding the core principle of confidentiality.
5. **Judicial vigilance:** Courts must continue to **scrutinize coercive summons or investigative overreach** that threaten the right to fair defence.

Conclusion: The Supreme Court's judgment strengthens the **constitutional protection of lawyer-client confidentiality**, affirming it as a pillar of **fair trial and rule of law**. By positioning the advocate as a **constitutional actor**, the Court safeguards the citizen's **right to defence, dignity, and privacy**, ensuring that justice in India remains independent, impartial, and constitutionally grounded.

Question: Can lawyers break client confidentiality? Discuss in the context of the recent Supreme Court judgment.

Tackling China's Rare Earth Choke

Source: The post **"Tackling China's Rare Earth Choke"** has been created, based on **"Tackling China's Rare Earth Choke"** published in "Indian Express" on 13th November 2025.

UPSC Syllabus: GS Paper -3- Economic Development, Science & Technology, Environment, Security

Context: China currently controls around **60–65% of global rare earth production** and almost **90% of global refining capacity**, giving it strategic leverage over critical supply chains. After facing an export ban from China in **2010**, Japan adopted a comprehensive plan to diversify its rare earth sources, develop alternative technologies, and ensure long-term supply security. asure Japan's approach has now become a model for other nations seeking to reduce their dependency on Chinese rare earth supplies.

Background – China's Rare Earth Monopoly

1. In September 2010, a **collision between a Chinese fishing vessel and a Japanese coast guard ship** near the East China Sea led China to **suspend rare earth exports to Japan**.
2. This incident revealed Japan's extreme vulnerability, as it relied on China for nearly **90% of its rare earth imports**.
3. The move demonstrated how China could use its mineral dominance as a **geopolitical weapon**.

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Japan's Counter Strategy

1. **Diversification of Supply Sources:** Japan entered into partnerships with **Australia, Vietnam, India, and African nations** to develop alternate mining and processing capabilities.
2. **Government Investment:** The Japanese government agency **JOGMEC (Japan Oil, Gas and Metals National Corporation)** financed overseas mining projects to secure long-term supply.
3. **Recycling and Substitution:** Japan promoted **recycling technologies** and invested heavily in **research to find substitutes** for rare earth elements in manufacturing.
4. **Strategic Stockpiling:** Japan built **national reserves of critical minerals** to prevent disruptions in industrial production.
5. **Public–Private Coordination:** Japan's strategy involved **close coordination between the government, industries, and research institutions**, ensuring policy alignment and effective execution.
6. **International Cooperation:** Japan worked with like-minded countries to promote **transparent and sustainable global supply chains** for rare earths.
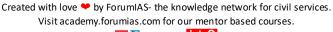
Achievements of Japan's Approach

1. Japan successfully reduced its dependence on China for rare earth imports from **about 90% in 2010 to nearly 60% by 2023**.
2. The country invested **over $1 billion in global mining projects** and developed advanced recycling systems.
3. Japanese industries such as **Toyota and Hitachi** began using **rare earth-free or low-use technologies**, minimizing supply risks.
4. Japan's rare earth policy became a benchmark for **strategic self-reliance and industrial resilience**.

Challenges

1. **High Extraction and Refining Costs:** Rare earth processing is expensive and requires advanced technology, making it difficult for many nations to compete with China's low-cost dominance.
2. **Environmental Concerns:** The mining and refining of rare earths produce toxic waste, creating ecological and social challenges that restrict expansion.
3. **Limited Technological Capacity:** Many countries, including India, lack **cutting-edge refining technologies** and face a shortage of skilled technical manpower.
4. **Long Gestation Period:** Developing new mines, processing plants, and recycling networks takes **years of sustained investment**.
5. **Global Market Dependence:** China continues to dominate downstream manufacturing and **price-setting mechanisms**, which discourages competition.
6. **Institutional Hurdles in India:** India's **bureaucratic delays, limited private participation, and outdated mining laws** hinder rapid progress in the rare earth sector.

India's Exposure

1. India imported around **2,270 tonnes of rare earths in 2023–24**, marking a **29% increase** compared to 2019–20.
2. Approximately **65% of India's rare earth imports come from China**, making the country vulnerable to potential supply disruptions.

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3. The rapid expansion of **EV, renewable energy, and defense industries** in India will significantly increase demand for rare earths in the coming years.

Way Forward

1. **Diversify Import Sources:** India should expand partnerships with **Australia, Vietnam, the U.S., and African nations** for joint exploration and mining.
2. **Strengthen Domestic Capabilities:** Agencies like **IREL (India) Ltd.** and the **Atomic Minerals Directorate** must be empowered to enhance exploration, processing, and value addition.
3. **Promote Recycling and Urban Mining:** India should establish **e-waste recycling hubs** and promote **rare earth recovery technologies**.
4. **Create Strategic Mineral Reserves:** The government should maintain **national stockpiles** of essential rare earths for critical industries.
5. **Ensure Policy Integration:** Rare earth policy should align with the **National Mineral Policy and Atmanirbhar Bharat** initiatives to promote private sector participation.
6. **Foster International Cooperation:** India can lead a **Rare Earth Partnership Framework** with Quad and ASEAN countries to reduce collective dependence on China.
7. **Invest in R&D:** Long-term investment in **green extraction technologies and RE-free alternatives** should be prioritized.

Conclusion: Japan's rare earth strategy demonstrates that **diversification, innovation, and recycling** can effectively counter resource monopolies. Although challenges remain, Japan's experience proves that **strategic planning, policy consistency, and international cooperation** can ensure mineral security and economic resilience. For India, adopting similar long-term strategies is essential to achieve **technological sovereignty and supply chain independence** in critical minerals.

Question: **How can Japan's strategy to counter China's rare earths dominance serve as a model for other nations, including India? Discuss the challenges involved.**

Antimicrobial Resistance in India

Introduction

Antimicrobial resistance (AMR) is now a serious and escalating threat for India and for the world. The WHO's GLASS 2025 report shows that common bacteria are often resistant to standard antibiotics, and India faces far higher resistance than the global average. GLASS and national data also reveal gaps in surveillance, weak regulation, and slow policy execution. Kerala's stewardship model and newer antibiotics show solutions exist, but India needs stronger, coordinated action on AMR.

About GLASS-2025

Global Antimicrobial Resistance and Use Surveillance System (GLASS) 2025 is the WHO's global platform for tracking antimicrobial resistance using standardised, comparable data.

Launched in **2015**, it publishes annual reports showing resistance trends across major pathogens.

India joined GLASS in 2018 through the NCDC AMR surveillance network.

GLASS collects data on infections, antibiotic use, and laboratory capacity, helping countries compare resistance levels, identify high-risk pathogens, and strengthen national AMR policies and stewardship programmes.

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Highlights from GLASS 2025

Global finding

The 2025 report presents an analysis of data from 104 countries and focuses on resistance trends between 2018 and 2023.

AMR was associated with nearly 5 million deaths in 2019 alone.

High Prevalence of Resistance: An average of one in every six laboratory-confirmed bacterial infections recorded in 2023 was found to be resistant to antibiotic treatment.

Significant Resistance Levels: For key pathogen-antibiotic combinations, the report notes alarming resistance levels:

E. coli **resistance:** Over 60% resistance to ciprofloxacin and around 40% resistance to third-generation cephalosporins.

K. pneumoniae **resistance:** Nearly 20% resistance to last-resort antibiotics like carbapenems.

S. aureus **resistance:** About 20% resistance to methicillin (MRSA).

India specific

AMR in India is described as **"a serious and escalating threat."**

In **2023**, **about one in three bacterial infections in India** were resistant to commonly used antibiotics, compared to **about one in six globally**, with **India disproportionately affected**.

Key aggravating factors highlighted for India

• **Widespread over-the-counter access to antibiotics.**

• **Self-medication** with antibiotics.

• **Incomplete antibiotic courses** taken by patients.

• **Environmental contamination** from:

• Pharmaceutical manufacturing

• Hospital waste

• **Uneven enforcement of regulations** related to antibiotic use and sale.

Limitations of India's GLASS data

1. Hospital and tertiary-care bias: Most Indian GLASS data comes from NARS-Net labs in tertiary hospitals and medical colleges. This means the picture is driven by serious hospital cases, not everyday infections in primary centres or rural clinics.

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2. Under-representation of private and rural sector: NARS-Net sites are mainly public sector medical colleges. Small hospitals, private clinics, and rural laboratories contribute very little data, so rural and peri-urban patterns are not well captured.

3. Limited pathogen and specimen scope: Surveillance includes only seven priority pathogens and five specimen types. Many community-acquired infections and other important bacteria may be missed or under-represented.

Initiatives Taken Against Antimicrobial Resistance (AMR)

1. National Policy and Surveillance

- India has started the **National Programme on AMR Containment**.

- It **enrolled in GLASS (Global antibiotic resistance surveillance report system) in 2017** and participates actively.

- Surveillance networks such as **ICMR's AMRSN / i-AMRSS** and **NCDC's NARS-Net** collect resistance data from sentinel hospital laboratories.

- The **National Action Plan on Antimicrobial Resistance (NAP-AMR)**, launched in 2017, provides an overall policy framework.

2. State-Level Action: Kerala Model

- **Kerala Antimicrobial Resistance Strategic Action Plan** (2018) uses an inter-sectoral **One Health** approach.

- **AMRITH (Antimicrobial Resistance Intervention for Total Health)**, launched in 2024, targets over-the-counter antibiotic sales through inspections, penalties, and public reporting.

- Kerala aims to become **antibiotic-literate by December 2025** through awareness and proper antibiotic use initiatives.

3. Regulatory and One Health Measures

- **Ban on colistin** use as a growth promoter in animal husbandry was imposed in 2019.

- The COVID period strengthened **One Health collaborations** across human, animal, and environmental sectors.

4. Innovation and Industry Efforts

- **CDSCO** has approved four new antibiotics: **Nafithromycin, Plazomicin, cefepime/enmetazobactam, Tedizolid phosphate**.

- The **AMR Industry Alliance** works to speed up discovery and development of new antibiotics and diagnostics, improve equitable access, and promote responsible manufacturing practices.

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Way forward

1. Nationwide AMR surveillance : India needs a wider surveillance system that covers tertiary, secondary, and primary healthcare facilities.

2. More laboratories : Including more laboratories and peripheral centres will help generate **representative and reliable resistance data**, instead of estimates driven mostly by tertiary hospitals.

3. Strengthen antibiotic regulation : Strict enforcement of **prescription-only antibiotic sales** is essential. Expanding Kerala's model of inspections, penalties, and public reporting can reduce over-the-counter misuse and promote safer, responsible antibiotic use across States.

4. Improve One Health coordination:

> • Human health, animal health, agriculture, and environmental sectors must work together through **strong One Health mechanisms**.

> • Better coordination will help control misuse in livestock, reduce environmental contamination, and ensure shared responsibility for stewardship.

5. AMR literacy: Awareness campaigns should make AMR understandable for the general population. Schools, civil society groups, and healthcare providers can support **basic education on bacteria, antibiotic use, and the risks of incomplete treatment**, helping people relate to AMR more closely.

6. Support development and access to new antibiotics: India must encourage innovation through **sustained funding**, better incentives, and faster but safe regulatory pathways. New antibiotics should target priority pathogens, be safe, affordable, and aligned with stewardship principles to ensure long-term effectiveness.

7. Revitalise State Action Plans on AMR: States need renewed commitment to implement their AMR plans. Clear timelines, adequate budgets, and regular progress reviews can help move AMR from paper frameworks to **consistent on-ground action**.

For detailed information on **Increasing Antimicrobial Resistance in India** read this article here

Conclusion

India faces a high AMR burden, incomplete surveillance and weak stewardship, but also has promising models and new antibiotics. Kerala's experience shows that strong regulation, enforcement and literacy can work. India must scale One Health-based State plans, widen AMR surveillance and support affordable innovation to secure effective antibiotics.

Question for practice

Examine how the GLASS 2025 findings on antimicrobial resistance highlight both the scale of India's AMR crisis and the gaps in its surveillance and stewardship efforts.

Source: **The Hindu**

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Shutdown of US Government

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

News- US President Donald Trump recently signed a stopgap bill, ending the longest government shutdown in US history. The 43-day shutdown, caused by a budget deadlock between the Executive and Congress, was the 11th since 1976—yet the most prolonged and politically charged of all.

What is a US Government Shutdown?

A government shutdown occurs when the US federal government **loses legal authority to spend money** because Congress fails to pass annual appropriations or a stopgap funding bill by the October 1 fiscal deadline.

Under US law, federal agencies cannot operate or pay employees without approved funding, forcing partial or complete closure of departments.

Why Shutdowns happen in the US (But not in India)

1. Separation of Powers

- The US follows a **presidential system** where the Executive and Legislature are separate and independently elected.
- The President cannot guarantee congressional approval of the budget.
- Failure to pass the budget does **not** lead to the resignation of the government.

2. Legislative Gridlock

- When the two Houses of Congress—especially the Senate—are politically divided, the budget gets delayed.
- Key bills require **60 Senate votes**; inability to reach this threshold triggers deadlock.

3. Policy Conflicts

- Shutdowns often arise due to disagreements on politically sensitive issues.
- In the recent case, disputes over funding for the **Supplemental Nutrition Assistance Program (SNAP)** significantly delayed negotiations.

In Contrast, India

- The Executive is part of Parliament; if the budget fails, the government effectively loses confidence.
- Parliament does not shut down government operations; **vote-on-account** provisions ensure continuity.

How the US Budget Process Works

1. **Fiscal Calendar-** The US fiscal year runs from October 1 to September 30.
2. **Budget Preparation-** By the first Monday of February, the President submits the budget proposal. Committees in the House and Senate then debate, amend, and negotiate its details.

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3. **Hard Deadline-** All appropriations must be passed by October 1. If funding lapses, a "funding gap" triggers a government shutdown under the Antideficiency Act.
4. **Temporary Relief-** Congress can pass a Continuing Resolution (CR) to temporarily fund the government, as occurred to end the 43-day shutdown.

Economic and Social Impact of Shutdowns

- **Disrupted Public Services** – Government shutdowns lead to the closure of national parks, furloughs of federal employees, and delays in tax refunds, welfare programmes, and regulatory functions.
- **Economic Loss** – Each shutdown results in billions of dollars in lost productivity, while businesses reliant on federal contracts face uncertainty and cash-flow challenges.
- **Rising Fiscal Stress** – Despite the size of the US economy, the fiscal deficit remains high. For FY2025, the deficit stood at $1.8 trillion, with receipts of $5.2 trillion and spending of $7 trillion. Growing deficits expand public debt and raise interest payments, which constitute the second-largest federal expenditure.
- **Loss of Public Confidence** – Repeated shutdowns undermine trust in democratic institutions and highlight how hyper-partisanship can hinder effective governance.

Lessons for India

- **Executive–Legislature Coordination:** India's parliamentary system works smoothly when the government and Parliament cooperate, ensuring the budget passes on time and governance continues without disruption.
- **Fiscal Discipline:** The US deficit problem shows why India must stick to fiscal responsibility, follow FRBM rules, and keep budgeting transparent to maintain economic stability.
- **Continuity Mechanisms:** Provisions like the Vote on Account and constitutional safeguards ensure essential services keep running even during political uncertainty, preventing shutdown-like situations.
- **Avoiding Polarisation:** The US gridlock shows how harmful political divisions can be. India needs strong dialogue and consensus in Parliament to avoid financial deadlocks.

Conclusion

The US shutdown highlights how executive–legislative conflict in a presidential system can disrupt governance. India's parliamentary model, despite its own challenges, provides stronger continuity and fiscal stability. The episode underscores the value of political cooperation, robust institutions, and responsible fiscal management.

Question- Government shutdowns in the US demonstrate how executive–legislative conflicts can disrupt governance and the economy. Examine how India's parliamentary system avoids such disruptions and suggest measures to strengthen fiscal discipline, continuity of services, and political cooperation.

Source: IE

Global Nuclear Order

UPSC Syllabus- GS 2 - India and international order

Introduction

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The global nuclear order shows a sharp contradiction: nuclear weapons have not been used since 1945 and arsenals have declined, yet stability is weakening. A small nuclear club has remained intact, but modernis ation, ambiguous testing signals, and weakening treaties now strain this system. Recent statements by Donald Trump about resuming U.S. nuclear testing, combined with expanding capabilities across major powers and a failing CTBT framework, suggest that long-standing restraint is under serious pressure.

Changed in the global Nuclear Order

1. **Non-use and shrinking arsenals:** Hiroshima and Nagasaki remain the only wartime uses, and since the late 1970s stockpiles have fallen sharply.

2. **A small and stable nuclear club:** Early fears of two dozen nuclear-armed states did not materialise. Today, nine states possess nuclear weapons, including the five permanent members of the UN Security Council and four later entrants.

3. **Achievements under strain:** These patterns look like success but do not inspire celebration. The nuclear order appears fragile, and moves and statements by Donald Trump are seen as weakening its supports.

Nuclear Testing is Re-emerging as a Threat

1. **Trump's Testing Signal:** Recent statements by **U.S. President Donald Trump** about restarting U.S. nuclear testing have injected fresh uncertainty. He claimed that other countries are testing and ordered the "Department of War" to begin tests

2. **Modernisation Without Explosions**

    • The U.S., Russia, and China are **simultaneously designing and developing new nuclear weapons**.

    • Russia has tested the **Burevestnik nuclear-powered cruise missile** and the **Poseidon underwater nuclear-powered torpedo**.

    • China is developing **hypersonic missiles** and a **nuclear-capable hypersonic glide vehicle**.

    • The U.S. is producing **new warheads** like the B61-13 gravity bomb and W76-2 warhead, and working on a new **submarine-launched cruise missile**.

    • These programmes increase pressure to **move from lab work to fresh explosive tests**.

3. **Doctrinal shift:** Nuclear doctrines are being **reworked to deal with cyber and space technologies** and new missile defence ideas such as the U.S. **"golden dome"**. Together, these changes **blur lines between conventional and nuclear use** and **raise doubts about the future of the nuclear taboo**.

4. **Risk of Breaking the Taboo:** If any major power resumes explosive testing, others are likely to follow, undermining the CTBT norm and increasing the chances of a new nuclear arms race.

Conventions Regulate the Global Nuclear Order?

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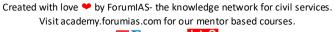Visit academy.forumias.com for our mentor based courses.

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1. **Non-proliferation of Nuclear Weapons (NPT), 1968-** It was put forward by the USA, UK and USSR. It was signed in 1968 and came into force in 1970. The treaty has 3 pillars:

(a) **Non-proliferation-** Nuclear Weapon States (NWS) pledge not to transfer nuclear weapons and technology and Non-nuclear Weapon States pledge not to acquire nuclear weapons;

(b) **Disarmament-** All parties to pursue good-faith negotiations on effective measures to control nuclear arms race, and to general and complete disarmament;

(c) **Peaceful Use of Nuclear Energy-** The Treaty recognizes the right of all Parties to develop nuclear energy for peaceful purposes.

India considers the treaty discriminatory as it creates a club of 'nuclear haves' and a larger group of 'nuclear have-nots' by restricting the legal possession of nuclear weapons to those states that tested them before 1967. India hasn't signed the treaty.

2. **Comprehensive Nuclear-Test-Ban Treaty (CTBT)-** Seeks to ban all nuclear explosions for both civilian and military purposes. It prohibits nuclear testing, thus preventing further advancement of nuclear weapons capabilities.

3. **Treaty on the Prohibition of Nuclear Weapons, 2017-** It prohibits and makes it illegal to possess, use, produce, transfer, acquire, stockpile or deploy nuclear weapons. States are also prohibited from using or threatening to use nuclear weapons and other nuclear explosive devices. It came into force in 2021.

4. **Export Control Groupings-** Nuclear Suppliers Group (NSG) and the Missile Technology Control Regimes (MTCR) are some of the nuclear export control groupings. These ensure that nuclear fuel export doesn't result in nuclear weapons development.

5. **International Atomic Energy Agency (IAEA) Safeguards Agreement-** Governs the verification and inspection of nuclear facilities to ensure they are used for peaceful purposes and not for the development of nuclear weapons.

CTBT Framework is Failing

1. Incomplete ratification and geopolitical deadlock

- The **Comprehensive Test Ban Treaty (CTBT)** has **still not entered into force 29 years after negotiation**.

- It has 187 signatories, but key states such as the **U.S., China, Israel, Egypt, and Iran have not ratified it**.

- **Russia ratified and then withdrew ratification in 2023**. **India, Pakistan, and North Korea** have neither signed nor ratified. Given current geopolitics, **entry into force is highly unlikely**, leaving the treaty politically weak.

2. Ambiguity: The CTBT tells states not to carry out **"any nuclear weapon test explosion or any other nuclear explosion"**, but these terms were **never formally defined**.

3. Shift from disarmament to non-proliferation: CTBT began as a first step towards nuclear disarmament, but during 1995–96 negotiations it was recast mainly as a non-proliferation tool. Nuclear-weapon states kept their arsenals and focused on stopping others, weakening political support among non-nuclear states.
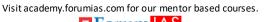
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4. Allegations, monitoring, and eroding trust:

> • In 2019-20, the U.S. State Department said Russia and China **"may have conducted low-yield tests"** inconsistent with the U.S. standard.

> • The **CTBT Organisation**, using a network of **over 300 monitoring stations in 89 countries**, reported **no inconsistent activity**.

> • This gap between political claims and technical findings **undermines trust in both national assessments and international monitoring**. As confidence falls, the **norm against nuclear explosive testing becomes more fragile**.

It's Impacts

1. **Strategic Stability:** Unclear rules on testing and new technologies make nuclear relations more unstable. Misunderstandings and miscalculations between major powers may grow, especially in crises.

2. **Arms race revival:** China's rapid arsenal expansion, U.S.–Russia modernisation, and possible end of New START point to a fresh nuclear arms race rather than gradual disarmament.

3. **Erosion of treaties and norms:** Weakening of the CTBT and strain on the NPT reduce legal and moral barriers against testing and proliferation.

4. **Regional ripple effects:** If major powers resume explosive tests, India and Pakistan are likely to follow, intensifying South Asian nuclear risks.

5. **Threat to nuclear taboo:** More "usable" nuclear options and **changing doctrines in cyber and space domains** put the eight-decade taboo against nuclear use under pressure.

Way forward

1. **Crafting a new nuclear framework:** The earlier nuclear order grew in a very different 20th-century setting. Today's world is more fractured and multipolar, yet nuclear dangers remain high. A new framework must reflect current power shifts and new technologies, while firmly keeping nuclear use outside the realm of acceptable options.

2. **Reviving arms control and restraint:** States need to bring back serious arms control thinking, update nuclear rules, and rebuild habits of transparency, dialogue, and restraint. These habits once helped to manage rivalry and can do so again.

3. **Putting non-use and risk reduction first:** The main goal must be to prevent any nuclear use. Countries should avoid actions that raise the chance of miscalculation, including vague testing signals and systems that shorten decision time.

4. **Heeding UN warnings on nuclear risk:** The UN Secretary-General has warned that nuclear risks are already "alarmingly high" and urged states to avoid steps that could trigger catastrophic escalation.

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Conclusion

The nuclear order built on decades of restraint is under strain as Donald Trump's testing signals, renewed arms racing, and treaty erosion weaken past gains. Preventing any nuclear use must remain the core priority. A realistic, updated nuclear framework, guided by UN warnings about "alarmingly high" risks, is essential to protect the taboo against nuclear use.

For detailed information on **Global Nuclear Order** read this article here

Question for practice:

Discuss how renewed nuclear testing signals and weakening arms-control treaties are undermining the stability of the global nuclear order.

Source: **The Hindu**

Flexible inflation targeting

GS Paper 3- Indian Economy and issues relating to Planning, Mobilization of Resources, Growth, Development and Employment

Introduction

Flexible Inflation Targeting (FIT), adopted in 2016, mandates the RBI to maintain Consumer Price Index (CPI) inflation at **4% ± 2%.** As the framework comes up for **review in 2026**, key questions regarding the optimal target, inflation band, and the relevance of **headline versus core inflation** have come to the forefront.

Inflation Control as a Policy Priority

Inflation control remains a central monetary policy objective. High inflation acts as a **regressive consumption tax**, disproportionately hurting poorer households, eroding savings, discouraging investment, and creating macroeconomic uncertainty.

Post the dismantling of automatic monetisation in 1994, RBI gained greater operational autonomy, culminating in the adoption of FIT in 2016. Since then, inflation has remained largely range-bound despite global shocks, underscoring the resilience of the framework.

Headline vs Core Inflation debate
A key debate is whether monetary policy should target headline inflation (full CPI) or core inflation (excluding food and fuel). Arguments favouring core inflation assume food prices are driven by supply shocks beyond monetary control. However

- Food inflation is **not entirely supply-driven**; expansionary monetary conditions tend to amplify it.
- Inflation ultimately reflects **excess liquidity**, not isolated price spikes.
- Second-round effects are strong in India, where rising food prices raise wages and production costs.

Thus, **headline inflation** better captures pressures affecting household welfare and macro stability.

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Appropriate Level of Inflation

Post-1991 empirical analysis shows a **non-linear growth-inflation relationship** with an inflection point near **4%**. Inflation beyond 4–6% significantly reduces growth. Forward-looking estimates (2026–2031) also place India's optimal inflation target around or slightly below 4%.

Determining the Acceptable Level of Inflation

The classic Phillips Curve trade-off between inflation and growth is now widely accepted to be **short-run only**. For India, post-1991 data shows a **non-linear relationship** between inflation and growth, with the inflection point near **3.98%**:

- Inflation up to around **4%** is growth-neutral or mildly supportive.
- Inflation above **4–6%** significantly reduces growth.

Forward-looking simulations for 2026–2031 indicate that an acceptable inflation target should remain **around or slightly below 4%**. There is little justification for raising it.

Conclusion

The FIT framework remains appropriate for India. A target around **4%**, with the existing ±2% band and headline inflation as the primary anchor, strikes the right balance between flexibility and stability. Sustained monetary–fiscal coordination will be essential to preserve credibility, protect vulnerable households, and support durable economic growth.

Question- Critically analyse the effectiveness of India's Flexible Inflation Targeting (FIT) framework and examine whether the current target of 4% ± 2% remains appropriate in the upcoming 2026 review

India's stray animal crisis and global intervention approaches

Source: The post **"India's stray animal crisis and global intervention approaches"** has been created, based on **"India's stray animal crisis and global intervention approaches"** published in "Indian Express" on 15th November 2025.

UPSC Syllabus: GS Paper 2- Governance

Context: The Supreme Court has recently directed the **immediate removal of stray dogs from public areas** and their relocation to designated shelters after sterilisation and vaccination. The order—mandating **uniform implementation across India** and requiring **compliance certificates within eight weeks**—comes at a time when India faces a severe stray animal and public health crisis, particularly linked to dog bites and rabies.

Why did the Supreme Court issue this order?

1. **Escalating public health threat:** The 2025 *State of Pet Homelessness Project* reports that India has **100.09 million dogs and cats**, including **85.61 million dogs** and **14.48 million cats**. **71% of dogs** and **61% of cats** in India are homeless. About **52.5 million dogs** and **8 million cats** roam freely as strays.
2. **High dog-bite cases and rabies deaths:** India recorded **3.7 million dog-bite cases in 2024**. **99% of rabies deaths** in India occur due to dog bites. Rabies is almost always fatal once symptoms appear.

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3. **Public safety and administrative concerns:** The Court emphasised uniform compliance and directed that **strays must not be released back to the pickup location**, diverging from earlier practices. The ruling reflects growing national concern over uncontrolled stray populations, rising attacks, and preventable deaths.

How does India currently manage its stray population?

India's framework is governed by the **Animal Birth Control (ABC) Rules, 2023**, based on humane and scientific population management.

1. Role of Local Bodies: Municipalities and panchayats are responsible for **sterilisation and vaccination** through AWBI-approved organisations.

2. Humane Capture and Surgery Norms: All procedures must prevent cruelty and follow veterinary standards.

3. CNVR Model (Catch–Neuter–Vaccinate–Return): Traditionally mandated returning animals to their original territories to prevent pack aggression and maintain ecological balance.

4. Standards for ABC Centres: Adequate kennel facilities, post-operative care, and access to veterinary hospitals.

5. Shift after SC Order: The Court's direction to **relocate and not release strays back** marks a major departure from previous CNVR norms.

How do other countries manage stray animals?

1. **Greece:** Municipalities run comprehensive systems for **capture, sterilisation, registration, rehoming**, and in some cases euthanasia after 3 months. Pets must be **microchipped and registered**.
2. **Cyprus:** Strict **Dog Licensing Law** for all dogs over two months old. Strays are held for 15 days for owners to reclaim; unclaimed animals are rehomed or euthanised. Cat sterilisation is limited due to **insufficient funding**.
3. **Netherlands:** Considered the **only country with zero stray dogs**. Achieved through: Long-standing anti-cruelty laws (since 1864), **High taxes** on pet purchase to discourage abandonment, Nationwide CNVR and a **dedicated animal police force.**

Challenges in India's Stray Management System

1. **Insufficient ABC infrastructure:** Lack of adequate sterilisation centres, veterinary staff, and shelter space.
2. **Low sterilisation coverage:** Only a small fraction of strays undergo sterilisation, allowing rapid repopulation.
3. **Weak enforcement of pet ownership laws:** Poor registration compliance, unchecked breeding, and widespread pet abandonment.
4. **Funding and capacity gaps:** Many local bodies lack dedicated budgets and trained personnel.
5. **Public behaviour and community resistance:** Street feeding in unregulated public spaces leads to territorial aggression and conflicts.
6. **Absence of reliable stray population data:** No standardised national stray census hampers planning.

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7. **High rabies prevalence and low vaccination coverage:** Limits the effectiveness of sterilisation programmes.

Way Forward

1. Strengthen ABC and Shelter Infrastructure: Establish more ABC centres, mobile sterilisation units, and improve veterinary capacity.

2. Enforce Responsible Pet Ownership: Mandatory **microchipping**, registration, and breeding regulations. Strict penalties for abandonment.

3. National Mission on Stray Animal Management: A centrally coordinated programme with uniform standards—on the lines of Swachh Bharat/National Rabies Control Programme.

4. Digital Monitoring Systems: GIS-based dog population mapping, online ABC dashboards, and tracking of sterilised/vaccinated animals.

5. Regulated Feeding Zones: Create designated community feeding points supervised by RWAs/ULBs to reduce human–animal conflict.

6. Learn from Global Best Practices: Stronger pet taxation and anti-cruelty enforcement (Netherlands model). Municipal responsibility and rehoming systems (Greece).

7. Public Awareness and Adoption Drives: Large-scale campaigns to promote vaccination, sterilisation, adoption, and responsible ownership.

Conclusion: India's stray animal crisis is a multidimensional problem involving public health, animal welfare, and municipal governance. The Supreme Court's mandate underscores the urgent need for scientific, humane, and enforceable mechanisms for population control. A combination of **strong legal enforcement**, **robust infrastructure**, and **community participation** is essential to create safe public spaces while ensuring compassionate treatment of animals.

Question: Why did the Supreme Court order the removal of stray dogs, and how does India manage its stray population? Examine the challenges and suggest a way forward.

India's deep-tech democracy for inclusive AI

Source: The post **"India's deep-tech democracy for inclusive AI"** has been created, based on **"India's deep-tech democracy for inclusive AI"** published in "The Hindu" on 15th November 2025.

UPSC Syllabus: GS Paper 3- Science and technology

Context: Artificial Intelligence has emerged as a defining force in shaping economies and transforming societies, but access to AI capacity remains unequal across the world. A handful of advanced nations control most high-end compute, proprietary datasets, and talent, creating a new digital divide between technology creators and technology consumers. India, through the **IndiaAI Mission (2024)**, is attempting to bridge this divide by treating AI as a **public good** and building a democratic, inclusive, and sovereign AI ecosystem.

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How IndiaAI Mission Addresses Global AI Imbalances

1. Democratising access to compute, data, and talent: India is creating a **digital public infrastructure for AI** that expands access to shared compute, open data, and decentralised talent. This ensures that start-ups, researchers, and students from every region can participate in technological progress.

2. Building India's first national AI compute grid: Over **38,000 GPUs** are being deployed to form India's national AI compute grid, reducing dependence on global tech giants and lowering entry barriers for innovators.

3. Unlocking open and locally relevant datasets: The **AI Kosh platform** is providing **360+ curated, non-personal datasets** across agriculture, climate, health, and governance. This helps innovators build solutions grounded in India's diverse realities rather than imported assumptions.

4. Promoting multilingual, inclusive AI: The **Digital India Bhashini framework** supports AI tools in **22 Indian languages**, while Project Vaani's **150,000-hour dataset** strengthens language diversity. This makes AI accessible to India's linguistic and cultural spectrum.

5. Decentralising AI innovation: The Mission is establishing **570 AI labs** in Tier-2 and Tier-3 cities and providing **13,500 AI fellowships**, ensuring deep-tech innovation is not limited to metropolitan hubs.

6. Embedding India's collaborative governance approach: India's model draws from the **Samaj–Sarkar–Bazaar philosophy**, ensuring societal, governmental, and market cooperation so that technologies are ethical, transparent, and people-centric.

7. Safe and trusted AI ecosystem: A dedicated **safe and trusted AI pillar** is framing safeguards against misinformation, deepfakes, and algorithmic biases. Ethical guardrails are being built into AI systems to ensure accountability and human dignity.

8. Leveraging India's Digital Public Infrastructure (DPI): AI integrated with platforms such as UPI, Aadhaar, and ONDC ensures population-scale impact. When AI is trained on Indian languages and delivered through public platforms, benefits directly reach farmers, small traders, students, and citizens at the last mile.

9. Global collaboration through India-AI Impact Summit 2026: The upcoming summit will convene leaders from the Global South to explore how AI can drive **equity, accessibility, and inclusive growth**, signalling India's outward-looking and cooperative AI leadership.

Challenges in India's Public AI Model

1. High cost and sustainability of compute infrastructure: Massive GPU deployment requires continuous investment, long-term maintenance, and stable power and cooling infrastructure.

2. Limited availability of specialised AI talent: Although India is expanding training, the demand for high-end AI researchers, data scientists, and semiconductor specialists remains far greater than supply.

3. Concerns around data governance and privacy: Large-scale open datasets raise questions about data security, consent, anonymisation, and responsible use.

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4. Risk of algorithmic bias and unethical AI deployment: Even with safeguards, biases in models trained on uneven datasets may reinforce social inequalities.

5. Uneven adoption across states and institutions: Some states, rural colleges, and smaller institutions may not immediately benefit due to weak digital infrastructure and limited awareness.

6. Dependence on imported hardware: India still relies heavily on foreign semiconductor supply chains, making compute infrastructure vulnerable to global disruptions.

Way Forward

1. Accelerate domestic semiconductor manufacturing: Strengthening India's chip ecosystem will reduce hardware dependency and ensure long-term compute sovereignty.

2. Establish national ethical AI and audit frameworks: Mandatory AI audits, impact assessments, and transparency standards can minimise risks of bias, misinformation, and misuse.

3. Expand training for AI talent at scale: AI courses in universities, vocational centres, and industry partnerships must be enhanced to build a strong talent pipeline.

4. Strengthen data protection and open-data governance: Robust privacy frameworks, anonymisation protocols, and secure data-sharing mechanisms will enhance trust in the ecosystem.

5. Increase collaboration with the Global South: Joint datasets, shared compute, and knowledge partnerships with Africa, Southeast Asia, and Latin America can help build a collective AI capacity.

6. Promote inclusive access through DPI integration: Linking AI innovations with UPI, ONDC, DigiLocker, and telehealth platforms will ensure that benefits reach the poorest and most remote communities.

7. Encourage responsible industry participation: Incentives for start-ups and ethical guidelines for private players can foster innovation while maintaining public-interest safeguards.

Conclusion: India's public model of AI innovation represents a shift from proprietary, exclusive technological progress to **democratic, accountable, and inclusive AI development**. By socialising access to compute, data, and talent, India is ensuring that the competitive frontier shifts from "who can afford AI" to "who can innovate responsibly." As the world prepares for the India-AI Impact Summit 2026, India's message is clear: AI must uplift all and leave no one behind. The true measure of technological progress lies not just in advancing machines, but in advancing human dignity and shared prosperity.

Question: India is pioneering a public model of AI innovation through the IndiaAI Mission. Discuss how this model addresses global AI imbalances. Also highlight key challenges and suggest a way forward.

Delhi's air, a 'wicked problem' in need of bold solutions

UPSC Syllabus Topic: GS Paper 3 -Environment (pollution).

Introduction

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Each winter, Delhi wakes to grey skies, closed schools, and AQI levels in the "severe" range, but this is **not a seasonal inconvenience.** It is a long-running public health, economic, and environmental crisis **created by geography, weather patterns, urban choices, and everyday behaviour**. Delhi's air pollution is a "**wicked problem**" that needs coordinated, science-based and bold action across Delhi and the wider National Capital Region.
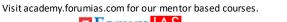
Cause of Delhi's Air Problem

1. **Geographical factor:**

   • Delhi lies in a **basin-like formation** flanked by the Aravalli hills, which restrict air flow and prevent pollutants from dispersing easily.

   • Between October and January, high-pressure systems and **temperature inversion** trap cooler air and pollutants near the surface.

   •**Low wind speeds** worsen this, turning Delhi into a **closed bowl of stagnant, polluted air**.

2. **Vehicular emissions:** Delhi NCR has over **3.3 crore registered vehicles**. Diesel trucks, two-wheelers, and ageing buses emit nitrogen oxides and **PM2.5**. Even with **BS-VI norms**, enforcement is weak.

3. C**onstruction-related emissions:** Rapid urbanisation, unregulated construction, and poor dust control mean construction dust and debris contribute nearly **27% of PM2.5**. Covering construction sites and following dust norms are often ignored.

4. **Industrial Emissions :** Factories and power plants in neighbouring States emit sulphur dioxide and other toxins, often using outdated technologies and minimal filtration.

5. **Crop Residue Burning: Stubble burning** in Punjab and Haryana each autumn sends large plumes of smoke into Delhi's skies, despite court orders and subsidies for alternatives.

6. F**irecrackers: Deepavali firecrackers**, and even large-scale use of "green crackers" cause intense short-term spikes on top of already high baseline pollution.

7. **Urban development strategy in India:** The current strategy focuses on real estate development, a widening of roads and allowing large fuel guzzling vehicles which are major reasons for increased pollution.

8. **Expansion of 'Grey' infrastructure:** Water bodies, urban forests, green cover, and urban agriculture have all reported shrinkage, and "grey" infrastructure has seen rapid expansion.

9. **Land use change:** The handing over of open spaces to real estate developers and lack of any meaningful afforestation affects the city's ecology.

Impact of Delhi's Air Problem

1. Impact on **Public health**

   • Long-term exposure to Delhi's toxic air can **reduce life expectancy by up to 10 years**, especially in areas with consistently high particulate levels.

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• Air pollution leads to multiple health conditions including respiratory infections, heart disease, Neurological disorders, Lung cancer, and Premature mortality

• As per the Global Burden of Disease comparative risk assessment for 2015, air pollution exposure contributes to approximately 1.8 million premature deaths and loss of 49 million disability adjusted life-years (DALYs) in India.

2. **Economic loss and reputational damage**

• Air pollution costs India about **1.36% of GDP annually**, around **$36.8 billion**, due to **health-care costs, lost productivity, and premature deaths.**

• Delhi's image as one of the **world's most polluted cities** discourages **international tourists and investors.**

• Funds are increasingly diverted to **emergency responses** such as cloud seeding and domestic air purifiers, including for government offices, instead of addressing structural causes.
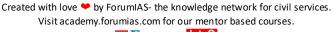
3. **Environment impacts:**

Acid Rain: Damages crops, natural vegetation, soil chemistry and leads to damage to ancient monuments (Taj Mahal Yellowing).

Eutrophication of water bodies: Increases nitrogen intake of freshwater bodies leading to Eutrophication.

Government Initiative

1. **Cloud Seeding (Artificial Rain):** Piloted with IIT Kanpur, three rounds were conducted in 2025 to temporarily reduce airborne particulate matter, although results were mixed due to weather constraints. The key reason for limited results was **insufficient cloud moisture (only 15–20%)**, while successful cloud seeding typically requires 50% or more. High cloud bases (near 10,000 feet) also reduced effectiveness.

2. **Crop Residue Management Scheme:** Crop Residue Management (CRM) scheme which provides subsidy to farmers for buying 'Turbo Happy Seeder', 'Super SMS attachment', 'rotavators' and 'superseeder'.

3. **Commission for Air Quality Management (CAQM):** CAQM is a statutory body formed under the Commission for Air Quality Management in National Capital Region and Adjoining Areas, Act 2021. CAQM has provided a framework to tackle the problem of air pollution due to stubble burning.

4. **Initiatives to reduce Vehicular Pollution:** The shift from BS-IV to BS-VI, push for Electric Vehicles (EVs), Odd-even Policy have all been implemented to reduce Vehicular pollution.

5. **Graded Response Action Plan (GRAP):** GRAP measures like shutting down thermal power plants and a ban on construction activities are implemented to curb air pollution.

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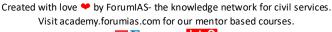
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6. **Dust and construction controls:** Mandatory deployment of anti-smog guns and water sprinklers at large buildings, construction sites, and hotspots; mist sprayers installed on electric poles at 13 major air pollution hotspots.a

Way forward

1. **Unified Airshed Management Plan:** Delhi and neighbouring NCR States need to plan for air as one shared system. A Unified Airshed Management Plan should treat Delhi, Haryana, Uttar Pradesh, and Rajasthan as a single pollution zone. **Common standards, joint enforcement drives, and shared data** can reduce blame-shifting and close gaps at borders.

2. **Increase the AQI monitoring stations:** The adequate numbers of AQI monitoring stations as mandated by the National Clean Air Programme (NCAP) must be installed. Also, sensor based AQI monitoring units that give hyperlocal data must be set up.

3. **Enhanced powers to the authorities to take action according to the hyperlocal data:** It will help the authorities take pre-emptive actions and allow denser monitoring. For example, if it is found that construction is taking place in a certain pocket without following norms, the authorities can identify the location and immediately penalise the violators.

4. **National Nodal Authority for Air pollution:** India needs a nodal authority with constitutional powers to ensure collaborative pre-emptive action on air pollution with timelines for all stakeholders.

5. **Stricter guidelines for industrial emissions: SEBI's Business Responsibility and Sustainability Report (BRSR) framework** can lay down tighter guidelines to ensure uniformity in the unit of reporting pollutant emissions, declaration of air pollution mitigation targets (like companies do for carbon emissions), and reporting of disaggregated emissions data. We must reduce exposure across the value chain from production to consumption to recycling of goods and delivery of services.

6. **Making 'Clean air' an investment sector:** The push for substitution of fossil fuels will increase investment opportunities in clean energy transition sector like green mobility, clean cooking. This will open up a new sector for investment and will help in reducing the air pollution simultaneously.

7. **Increased use of Public transport and reduced dependence on private vehicles:** The Delhi Master Plan target of 80 per cent of motorised trips by public transport by 2020 has not been met yet. The deadline has been shifted to 2041. This deadline needs to be met by augmenting the public transport system. The private vehicles use must be disincentivized by introducing ward-wise parking management area plans and parking tax.

8. **Adapting tested global measures**
 • Delhi can adapt measures used in **London, Los Angeles, and Beijing**. These include strict vehicle emission rules, cleaner fuels, relocation or upgradation of highly polluting industries, and limits on coal use in and around urban areas.

 • **Beijing's multi-year plan**, which cut PM2.5 by about **35% in five years**, shows that focused, consistent efforts work.

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9. S**cience-led action:** Delhi needs a **sustained, science-led strategy** rather than scattered, emergency actions.

10 T**ransparency:** Real-time air monitoring with **public dashboards** can build trust by showing what people are breathing and what is being done.

11. C**itizen role: Citizen engagement** through campaigns, school programmes, and community initiatives must reinforce that clean air is also a **behavioural responsibility**, not just a governance issue.

Conclusion

Delhi's polluted air reflects structural choices, weak enforcement, and low priority for clean air, not an unavoidable winter pattern. Continuing with short-term, crisis-driven responses will deepen health, economic, and ecological damage. A coordinated, science-based, and citizen-backed approach can still transform Delhi's air and prevent future generations from inheriting a permanent public health emergency.

Question for practice:

Examine the major causes of Delhi's air pollution, the key government initiatives taken so far, and what more needs to be done to address the crisis.

Source: The Hindu

Deeper trade ties will help internationalise the rupee
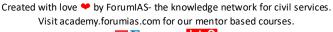
Source: The post **"Deeper trade ties will help internationalise the rupee"** has been created, based on **"Deeper trade ties will help internationalise the rupee"** published in "Indian Express" on 17th November 2025.

UPSC Syllabus: GS Paper 2- Indian Economy

Context: The internationalisation of the Indian Rupee (INR) has gained significant momentum as part of India's broader strategy to enhance its global economic footprint. The emphasis on deeper trade ties with other countries, especially through local currency usage, is key to this shift. By increasing the role of INR in international transactions, India aims to reduce its dependence on the US Dollar and strengthen its trade position globally.

Current Efforts towards Internationalisation of INR:

1. **Increasing Trade with Key Partners:** India is focusing on expanding trade relationships, particularly with countries in Asia, Europe, and the Middle East. As trade volume grows, the usage of INR for invoicing and settlement can reduce the reliance on foreign currencies.
2. **Initiatives by International Institutions:** The **International Finance Corporation (IFC)** has committed to investing $30 billion in 67 local currencies, fostering trade in the Indian currency. Additionally, the **Asian Development Bank (ADB)** has forecasted a rise in local currency loans, which will bolster India's trade with regional partners.
3. **RBI's New Policies:** The **Reserve Bank of India (RBI)** has taken steps to make it easier for businesses to settle transactions in INR. This includes allowing banks to lend INR to people in neighboring

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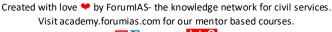
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countries like Nepal, Bhutan, and Sri Lanka. The RBI has also expanded its **Local Currency Settlement System (LCSS)** with countries such as the UAE, Mauritius, and the Maldives.

Challenges in the Internationalization of the Indian Rupee (INR):

1. **Dependency on Foreign Currencies**: Despite efforts to reduce dependence on the US Dollar, India continues to rely heavily on foreign currencies for trade settlements. Over **80%** of India's exports are still invoiced in **dollars**, which limits the growth of INR in international trade.
2. **Imbalance in Trade Basket**: The export basket remains heavily skewed towards **primary goods** and **semi-processed items** (over **80%** of trade). This limits the scope for greater use of INR, as the demand for final goods (which are more likely to be traded in local currencies) is lower.
3. **Lack of Awareness and Integration among Exporters**: There is a need for greater awareness among **Indian exporters** about using INR in transactions. Many businesses still rely on **dollars** due to established international practices and lack of understanding of local currency settlement systems.
4. **Challenges in Infrastructure and Payment Systems**: India is still developing the **payment infrastructure** necessary to support widespread adoption of INR. While **UPI** has made strides domestically, **cross-border payment systems** that can seamlessly facilitate INR-based transactions remain underdeveloped in many countries.
5. **Geopolitical and Market Barriers**: The global economic system, dominated by **dollar-based transactions**, poses significant geopolitical challenges. Many countries prefer to settle trade in dollars for stability and ease of conversion, which may slow the adoption of INR.

Way Forward for the Internationalization of INR:

1. **Expanding Local Currency Settlement Systems (LCSS)**: India must continue to **expand LCSS** agreements with key trading partners like the **UAE**, **Mauritius**, and **Maldives**. This would allow for more **cross-border transactions** in INR and reduce reliance on the US Dollar. A focus on **regional partnerships** through agreements like those with ASEAN countries and the **Russian Federation** could further establish INR as a regional trade currency.
2. **Encouraging More Free Trade Agreements (FTAs)**: Signing **FTAs** with more countries would provide a platform for promoting **local currency trade**, including INR. A focus on industries that export **final goods** (such as high-tech, processed products) can make INR more attractive for trade invoicing.
3. **Technological Innovations in Payment Systems**: To streamline cross-border trade, India needs to **enhance digital payment systems**. The **expansion of UPI** to international markets, as well as the development of alternatives to **SWIFT**, such as **Russia's STFM** (System for Transfer of Financial Messages), will be critical in facilitating **INR-based transactions**.
4. **Boosting Awareness and Incentives for Exporters**: The government should work with **export organizations** like the **Federation of Indian Export Organisations (FIEO)** to raise awareness among exporters about the benefits of settling transactions in INR. Financial incentives or subsidies for exporters who use INR in cross-border transactions could encourage adoption.
5. **Promoting Diversified Exports**: India should focus on increasing the share of **processed and finished goods** in its trade basket. A more diversified export profile, especially in sectors like technology, pharmaceuticals, and manufacturing, will provide stronger justification for the use of INR in global trade.
6. **Long-Term Policy Commitment**: A **consistent policy commitment** towards internationalizing the INR is necessary, with special focus on **trade and payments systems**. Policies encouraging international companies to hold and use INR will also help improve its acceptability.

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Conclusion: To achieve the goal of **INR internationalization**, India must focus on addressing existing challenges such as dependency on foreign currencies, trade imbalances, and the need for better payment infrastructure. By strategically expanding local currency settlement systems, entering more FTAs, and promoting technological advancements in payments, India can position the INR as a viable alternative to the US Dollar in international trade. If these steps are taken, INR's global usage could significantly rise, contributing to India's long-term economic growth and self-reliance.

Question: How will deeper trade ties help internationalize the Indian Rupee? Discuss the current steps and future prospects.

What are Digital Personal Data Protection Rules?

Source: The post **"What are Digital Personal Data Protection Rules?"** has been created, based on **"What are Digital Personal Data Protection Rules?"** published in "The Hindu" on 17th November 2025.
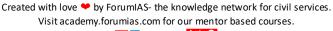
UPSC Syllabus: GS Paper 2- Governance

Context: The **Digital Personal Data Protection (DPDP) Act, 2023** establishes a comprehensive legal framework for the protection of personal data in India, aligning with global standards such as the **General Data Protection Regulation (GDPR)**. This Act regulates how businesses and government bodies handle citizens' digital data, ensuring privacy, security, and accountability. Additionally, it introduces amendments to the **Right to Information (RTI) Act, 2005**, addressing the balance between personal privacy and public transparency.

Key Features of the Digital Personal Data Protection (DPDP) Act:

1. **Definition of Data Fiduciaries and Data Principals: Data fiduciaries** (individuals or entities handling data) must manage and protect the personal data of **data principals** (individuals whose data is collected), ensuring its safe processing, encryption, and security.
2. **Informed Consent Requirement:** Data fiduciaries are required to obtain **informed consent** from **data principals** before collecting, processing, or sharing data. The consent must specify the purpose, nature, and duration of data collection.
3. **Rights of Data Principals: Data principals** have the right to access, correct, or delete their data. If they become inactive or request deletion, data fiduciaries are obligated to comply.
4. **Data Breaches and Penalties:** If a **data breach** occurs, data fiduciaries must report it within a specified time frame. Fines for non-compliance range from **₹10,000** to **₹250 crore** depending on the severity of the breach.
5. **Appointment of a Data Protection Officer (DPO):** A **DPO** must be appointed by data fiduciaries to ensure compliance with the DPDP Act and manage data security and breaches.
6. **Restrictions on Data Transfers:** The Act imposes **restrictions on cross-border data transfers**, mandating that sensitive personal data is stored and processed within India, unless authorized otherwise.

Relation to the Right to Information (RTI) Act, 2005:

1. **Amendment to the RTI Act:** The **RTI Act, 2005** has been amended to protect **personal information** from disclosure, allowing government bodies to refuse requests for personal data, even if public interest is involved.

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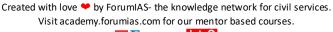Visit academy.forumias.com for our mentor based courses.

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2. The amended **Section 8(1)** of the RTI Act aligns with the DPDP Act by introducing restrictions on revealing private information unless there is a significant public interest.

3. **Controversy and Opposition:** The amendment has sparked controversy, with critics arguing that it could be used to **limit transparency** and **obstruct accountability**, particularly in cases where government officials' actions need to be scrutinized.

4. Transparency and civil rights groups, including those associated with the **Mazdoor Kisan Shakti Sangathan (MKSS)**, have expressed concerns that the amendment could shield government activities from public scrutiny under the guise of privacy.

Challenges in the Implementation of the DPDP Act:

1. **Enforcement and Compliance Issues:** The DPDP Act's effective enforcement depends on the formation of the **Data Protection Board of India (DPBI)**. However, key aspects of the Act, such as the creation of the DPBI, have yet to be fully implemented. This delay hinders the enforcement of data protection regulations.

2. **Balancing Privacy and Transparency:** The amendment to the **RTI Act** has created a conflict between **privacy rights** and **public transparency**. Striking a balance between the right to privacy and the public's right to access information remains a challenge, as it could limit citizens' access to crucial information about government operations.

3. **Data Fiduciary Accountability:** While the Act mandates data fiduciaries to implement robust data security measures, ensuring compliance across various industries and sectors can be a logistical and financial challenge. Small businesses, in particular, may struggle to meet the regulatory requirements, including appointing a **Data Protection Officer (DPO)** and reporting data breaches promptly.

4. **Public Awareness and Education:** A lack of widespread awareness among **data principals** (citizens) about their rights under the DPDP Act could hinder its effectiveness. Ensuring that people are informed about their **right to access, modify, or delete** their data is crucial for the success of the Act.

5. **Resistance from Government Bodies:** Despite the DPDP Act's protections, **government bodies** may resist certain provisions, such as the restriction on disclosing personal information, leading to potential conflicts with citizens' rights to **public information** under the **RTI Act**.

6. **Cross-Border Data Transfers:** The Act's restrictions on **cross-border data transfers** may face opposition from multinational corporations and foreign governments, as it could disrupt global data flows. This could also affect India's participation in global digital trade and limit access to international data processing resources.

Way Forward:

1. **Effective Implementation and Infrastructure Development:** India must expedite the formation of the **Data Protection Board of India (DPBI)** and ensure that the **Data Protection Officer (DPO)** role is well-defined and resourced across businesses. This would ensure consistent enforcement and monitoring of the DPDP Act.

2. **Public Awareness Campaigns:** Widespread awareness initiatives must be launched to inform citizens about their rights under the DPDP Act, the process for consent management, and their ability to seek redress if their data is mishandled.

3. **Regulation of Government Transparency:** A balanced approach is needed to ensure that government data is made available for public scrutiny while respecting individuals' right to privacy. Clear guidelines should be set to ensure transparency without compromising personal data.

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4. **Engagement with Stakeholders:** Continued dialogue with industry stakeholders, including **businesses** and **technology firms**, will be essential to address challenges related to cross-border data flow and data security compliance.

Conclusion: The **DPDP Act, 2023** is a crucial step toward protecting personal data in India. However, the effective implementation of the Act faces several challenges, including balancing privacy with transparency, ensuring compliance across sectors, and fostering public awareness. India must address these challenges to ensure that the DPDP Act achieves its goal of safeguarding digital privacy while promoting transparency and accountability in governance.

Question: What are the key features of the Digital Personal Data Protection (DPDP) Act, 2023? How does it aim to protect personal data and how does it relate to the Right to Information (RTI) Act, 2005? Discuss the challenges associated with its implementation.

The lower judiciary — litigation, pendency, stagnation

Introduction

India's subordinate judiciary, which handles the bulk of civil and criminal cases, now faces a crisis of **litigation, pendency and stagnation**. Despite constitutional safeguards and High Court supervision, huge backlogs, vacancies, weak infrastructure, procedural hurdles and uneven training have slowed justice delivery, making timely, accessible and effective adjudication a major challenge at the trial level.
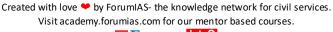
What is Subordinate Judiciary?

Subordinate courts work at the district and lower levels under the supervision of the High Court. **Articles 233 to 237 of Part VI of the the Constitution** regulate their organisation and ensure independence from the executive.

District Judges are appointed, posted and promoted by the Governor in consultation with the High Court, while judges below that level are appointed after consulting the State Public Service Commission and the High Court.

A three-tier structure operates: District and Sessions Courts at the top, various subordinate civil and criminal courts and special courts below, with appeals ultimately lying to the High Court.

Significance of Subordinate Judiciary

1. **Accessibility to justice**: It is the first point of contact for most people, making justice accessible in their local communities. This is vital for rural populations and ensures that judicial reach extends to all strata of society.

2. **Handling the majority of cases**: These courts handle the largest volume of cases, managing over 85% of all civil and criminal matters in the country.

3. **Enforcing the rule of law**: By addressing a wide range of disputes, from petty offenses to major crimes, the subordinate judiciary plays a critical role in maintaining law and order and upholding the rule of law at the local level.

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4. **Reducing the burden on higher courts**: By effectively managing and resolving cases at the district and lower levels, these courts prevent the Supreme Court and High Courts from being overwhelmed.

5. **Facilitating local dispute resolution**: They handle a variety of civil matters like disputes over property, contracts, and family law, resolving issues between individuals and organizations at the local level.
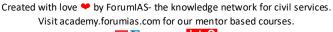
Major Concerns related to Subordinate Judicial Service

1.Huge case backlog: As per NJDG data about **4.7 crore cases** are pending in district and subordinate courts, out of **5.34 crore** cases across all courts.

2.Delay justice: India Justice Report (IJR) 2025 notes that of **5.1 crore cases** pending in high courts and district courts (Jan 2025), **12%** are over **10 years** old, **22%** are **5–10 years**, and around **61%** (HC) and **46%** (district) have been pending for more than **three years**, showing systemic delay at the trial level.

3.Overburdening: At the district court level, the average workload rose to **2,200 cases per judge.** Prime hours are spent on clerical tasks instead of recording evidence, hearing arguments, and writing judgments, so judges function more like **ministerial officers** than adjudicators.

4. **High Vacancies in Subordinate Judiciary:**

  • According to IJR 2025, sanctioned subordinate-court strength is **25,771 judges**, but only **20,478** are in place (about **15 judges per 10 lakh people**), and **vacancies in subordinate courts have stayed between 21–22%** from 2018-19 to 2025.
  • The 2023 "State of the Judiciary" report also recorded **5,300 vacancies** in the district judiciary.

5. **Infrastructure Gap**: Over 40% of district and subordinate courts lack basic facilities such as modern computers, reliable internet, and video-conferencing equipment.

6. Access to Justice & Physical Accessibility: only **30.4%** of district-court complexes have separate **PwD washrooms**, more than **half** lack ramps, only about **25%** provide wheelchairs, and roughly **5%** have tactile paving, making subordinate courts difficult to use for persons with disabilities.

7. Administrative and procedural challenges

  • Judges spend a large part of the day on calling cases, issuing summons, and checking files instead of deciding disputes.
  • Archaic procedures and multiple technical steps create frequent delay points, which are often used by parties to postpone hearings and execution.

Major Reasons for Delay

1. **Judges doing clerical work:** Subordinate judges spend prime hours calling cases, issuing summons, and receiving vakalatnamas instead of recording evidence and writing judgments.

2. **Inexperienced and underprepared judges:** Many new judges lack prior practice at the Bar, struggle with workload and procedure, and sometimes fail to pass clear, timely orders.

3. **Mandatory pre-suit mediation in commercial cases:** Section 12(a) of the Commercial Courts Act requires mediation before filing, even when parties have already exchanged notices and failed to settle, so it simply adds a new layer of delay.

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4. **Cooling-off and separation rules in mutual consent divorce:** The six-month cooling-off period and one-year separation requirement in mutual consent divorce slow down disposal and often lead to further proceedings on whether these conditions can be relaxed.

5. **Confusion and forum issues under the new Rent Act:** The insistence on a written registered lease and conflicting views on rent court jurisdiction allow the same dispute to go to civil or commercial courts, creating forum confusion and extra litigation.

6. **Two-stage decrees in partition suits:** Separate preliminary and final decrees, plus a fresh application for final decree, turn partition cases into long, staggered processes.

7. **Hyper-technical rules for execution of decrees:** Order XXI of the Code of Civil Procedure has 106 detailed rules that judgment debtors can use to obstruct execution, forcing decree-holders to visit court for years to realise their claims.

Way Forward

1. M**inisterial court:** Create a **separate "ministerial" court** in each district to handle calling cases, issuing summons, receiving vakalatnamas, written statements and recording ex parte evidence.

2. **Raise judge strength:** States must **fill all sanctioned posts quickly** and **increase sanctioned strength** in low-ratio states, in line with the **Law Commission 120th Report** and **Supreme Court directions** to move towards **50 judges per million population**.

3. **Ensure experience-based entry:** New civil judges should have **minimum practice experience** at the Bar; the Supreme Court has now restored the **3-year practice requirement** for Civil Judge (Junior Division).

4. **Career progression:** Ensure **merit-based promotion** and proper use of **LDCE quota** for faster promotion of efficient officers.

5. **Strong training**: Each new civil/senior civil judge should undergo **structured training at High 6. Court Benches**, observing hearings, use of precedents and order-writing.

7. Raise **state judicial spending above the current ~0.59% of state budgets** and improve **per capita spend**, as flagged by India Justice Report 2025.

Conclusion

A stronger subordinate judiciary is essential for real access to justice, not just a formal right on paper. If clerical work is removed from judges, vacancies are filled, procedures are simplified, and training, infrastructure and funding are improved, district courts can move from pendency and stagnation towards **faster, reliable and citizen-centred justice**.

Question for practice

Examine the major concerns and causes of delay in India's subordinate judiciary and suggest a suitable way forward to strengthen its functioning.

Source: The Hindu, India Justice Report (IJR) 2025

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India needs to 'connect, build and revive' with Africa

Source: The post "**India needs to 'connect, build and revive' with Africa**" has been created, based on **"India needs to 'connect, build and revive' with Africa"** published in "The Hindu" on 18th November 2025.

UPSC Syllabus: GS Paper 2- International relations

Context: India's relationship with Africa has grown significantly over the past decade, evolving from traditional ties to a more dynamic and multi-faceted partnership. The **India-Africa Forum Summit (IAFS)** held in 2015 marked a milestone in this relationship. Since then, India has increased its diplomatic presence, trade relations, and investment in Africa, positioning itself as a critical player in Africa's growth and development.
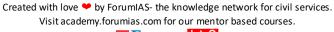
Growth in India-Africa Relations

1. **Diplomatic Expansion**: Since 2015, India has opened **17 new missions** across Africa, reinforcing its diplomatic engagement.
2. **Trade and Investment**: Trade between India and Africa has surpassed **$100 billion**, and India is now one of the **top five investors** in Africa with cumulative investments of **$75 billion**. Investment flows are steadily rising, focusing on key sectors such as **energy**, **infrastructure**, and **technology**.
3. **Global Representation**: India has played an instrumental role in ensuring Africa's full membership in the **G-20**, strengthening the continent's global voice.

Opportunities for Deeper Engagement

1. **Demographic Dividend**: By 2050, one in four people on Earth will be in Africa, creating a unique opportunity for India to tap into a young, growing market. India's **economic strength** and **demographic alignment** with Africa provide a solid foundation for mutual growth.
2. **Strategic and Economic Partnerships**: India has increasingly focused on **co-investing in future-facing sectors** such as **green hydrogen**, **electric mobility**, and **digital infrastructure** in Africa. India can help Africa leapfrog in these areas, thus fostering sustainable growth.
3. **Educational and Technical Cooperation**: India's educational initiatives, such as the **IIT Madras campus in Zanzibar**, provide African students with opportunities to develop skills that are essential for Africa's future development. Over **40,000 Africans** have studied in India in the last decade, with many returning to contribute to their nations' development.
4. **Security and Peacekeeping:** India's **naval and security** partnerships in Africa are expanding. Countries like **Comoros**, **Djibouti**, and **Kenya** have joined India in strengthening shared maritime security.
5. India's support for **peacekeeping missions** in Africa, as part of its broader UN peacekeeping efforts, further demonstrates its commitment to the continent's stability.

Challenges to Overcome

1. **Competition from China**: Despite India's growing presence, it still lags behind **China**, which has heavily invested in Africa. China's **Belt and Road Initiative (BRI)** has allowed it to dominate African infrastructure projects.
2. **Bureaucratic Hurdles**: Indian firms often face challenges such as **small balance sheets** and **bureaucratic delays** that hinder their ability to scale up investments in Africa.

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3. **Need for Technology Transfer**: While India has contributed significantly in terms of funding and projects, there is a need for **more technology transfer**, particularly in cutting-edge sectors like **renewable energy** and **digital infrastructure**.

The Human Link and Soft Power

1. India's most significant contribution to Africa is its **human capital**. Over **40,000 African students** have studied in India in the past decade, creating a network of skilled professionals.
2. **People-to-people connections**, such as the **Indian Council for Cultural Relations (ICCR)**, help build long-lasting relationships between India and Africa. Many of these students have returned to Africa, working in **policy, governance**, and **innovation** sectors, acting as bridges between the two regions.

Way Forward

1. **Technology and Innovation**: India should focus on advancing its partnerships with Africa in **high-tech sectors**, particularly **green hydrogen**, **electric mobility**, and **digital infrastructure**, which are key to Africa's sustainable growth.
2. **Increasing Investments**: India must work to overcome bureaucratic barriers and increase **public-private partnerships** (PPP) to scale investments in Africa's development.
3. **Trade Partnerships**: Strengthening India's trade relations through agreements like the **African Continental Free Trade Area (AfCFTA)** will open up new opportunities for deeper economic integration.
4. **Capacity Building**: India should continue to expand its **educational and skill development programs** in Africa, focusing on technical training, entrepreneurship, and digital skills, in order to contribute to Africa's human capital development.
5. **Enhanced Security Cooperation**: Building more robust security and defense ties through joint military exercises, peacekeeping operations, and infrastructure security projects will reinforce India-Africa partnerships.
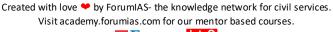
Conclusion: India's partnership with Africa is entering a new phase, one that goes beyond trade and investment to include **strategic cooperation, educational partnerships**, and **sustainable development initiatives**. The challenges posed by competition and bureaucratic obstacles are real, but India's strengths in **technology, human capital**, and **diplomacy** offer significant opportunities for strengthening ties. In the coming years, India must **move up the value chain** by focusing on **co-investment in future-facing sectors** and enhancing its technological and educational outreach to Africa. The continent's demographic and economic transformation offers India a unique opportunity to play a pivotal role in shaping the future of the African continent.

Question. Discuss the evolving relationship between India and Africa, highlighting the opportunities and challenges in enhancing their strategic, economic, and cultural ties. How can India strengthen its position in Africa in the coming years?

Need of a cluster-based cooperative model

Source: The post "*Need of a cluster-based cooperative model*" has been created, based on "**Need of a cluster-based cooperative model**" published in "The Hindu Business line" on 18th November 2025.

UPSC Syllabus: GS Paper 2- Indian Economy

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Context: India's agricultural sector, which supports a large portion of the population, faces significant challenges such as low efficiency, fragmented production, and inadequate infrastructure. To address these challenges and boost India's agricultural exports, there is a growing need to adopt a **cluster-based cooperative model**. This model has the potential to streamline supply chains, connect producers with processors and global markets, and enhance product efficiency, profitability, and inclusivity.

The Concept of Cooperative Clusters

1. **Cooperative Clusters**: This model involves farmers coming together in **clusters** based on their geographic advantages, producing specific crops, and linking up with processors and global markets.
2. **Strengths of the Model**: It promotes **collective participation**, enhances **productivity**, and enables **better market access**. It creates a **synergistic environment** where farmers can collectively procure inputs, streamline production, and share resources to achieve economies of scale.
3. **Global Competitiveness**: The model fosters efficiency in production and enhances profitability by connecting producers to international markets, facilitating improved branding, certification, and export.
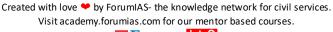
Advantages of a Cluster-Based Cooperative Model

1. **Increased Efficiency and Profitability**: By joining forces, small farmers can overcome individual barriers such as lack of resources, infrastructure, and technical expertise. The collective approach allows for **bulk procurement** and better **negotiation power**.
2. **Improved Marketing and Branding**: With the collective effort of farmers, they can create stronger market identities and **better brand recognition** in global markets, increasing demand and profitability.
3. **Linking Agriculture with Industry**: The model fosters a better connection between **agriculture and agri-processing industries**, promoting the development of **value-added products**, thus opening up new market opportunities.

Key Success Factors for Cluster Development

1. **Infrastructure Development**: Proper **storage facilities**, **processing units**, and **cold chains** are crucial to ensure that products can be processed, packaged, and transported efficiently.
2. **Access to Finance and Technology**: Farmers need access to **credit facilities**, technical knowledge, and government support for adopting modern agricultural practices and infrastructure.
3. **Export-Orientation**: A key component of the cluster model is aligning production with **global demand**, tailoring products for export markets. For example, regions like **Jammu and Kashmir** can focus on high-value crops like **saffron** and **walnuts**, while **Tamil Nadu** can specialize in **turmeric** and **spices**.

Examples of Potential Clusters

1. **Jammu and Kashmir**: Known for its unique climate and geography, the region can be developed as a cluster for producing high-value crops such as **saffron**, **apples**, and **walnuts**, which are in global demand.
2. **Tamil Nadu**: Leveraging its agricultural diversity, Tamil Nadu can focus on **turmeric**, **banana**, **spices**, and other high-demand crops, combining traditional practices with modern methods.

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3. **Maharashtra and Gujarat**: These states could focus on **horticultural crops**, connecting farmers directly with processors and exporters to enhance agricultural value chains.

Current Challenges in Indian Agriculture

1. **Fragmented Production**: India's agricultural sector is characterized by small and marginal farmers, often scattered across different regions, which hinders the scaling of production.
2. **Post-Harvest Losses**: India faces **5-15% post-harvest losses** due to inadequate cold storage, scientific warehousing, and processing facilities, especially in fruits and vegetables.
3. **Limited Market Access**: Many farmers lack direct access to global markets, resulting in limited profitability and inefficient supply chains.

Way Forward

1. **Promote Policy Support**: The government should provide **policy backing**, including **financial support**, incentives for **infrastructure development**, and **subsidies** for cooperatives to form and grow.
2. **Infrastructure Development**: Investment in **storage facilities**, **cold chains**, and **agri-processing units** must be prioritized to reduce post-harvest losses and increase value addition.
3. **Skill Development**: Extension services and **agricultural training** must be strengthened to enhance the **capacity of farmers** to adopt new technologies and best practices, improving production efficiency.
4. **Strengthen Export Linkages**: Building **global market access** through international partnerships, trade agreements, and export infrastructure is essential for ensuring that the cooperative clusters can compete on the global stage.
5. **Focus on Sustainability**: As the cluster model grows, it is important to emphasize **sustainable farming practices**, ensuring that the agricultural sector remains environmentally and economically viable in the long term.

Conclusion: A **cluster-based cooperative model** holds significant potential in transforming India's agricultural sector. It can help address the pressing challenges of fragmented farming, post-harvest losses, and limited market access. By promoting **collective participation**, enhancing **global linkages**, and improving **productivity**, this model offers a pragmatic solution to the challenges faced by Indian agriculture, ensuring long-term growth, profitability, and sustainability.

Question. Critically analyze the need for a cluster-based cooperative model in India's agriculture. Discuss its potential advantages and challenges, and suggest a way forward for its successful implementation.

What can local bodies expect from the 16th FC?

Source: The post **"What can local bodies expect from the 16th FC?"** has been created, based on "**What can local bodies expect from the 16th FC?"** published in **"The Hindu"** on **19th November 2025.**

UPSC Syllabus: GS Paper 2- Governance

Context: The 16th Finance Commission (FC) submitted its report on November 17. Under Article 280 of the Constitution, the FC is mandated to recommend vertical sharing of Central revenues with States and measures

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to augment the finances of panchayats and municipalities. Given the limited progress in fiscal decentralisation, local bodies expect the 16th FC to bring stability, clarity, and greater financial empowerment.

What Local Bodies Expect from the 16th FC

1. Greater vertical devolution: Local bodies expect the FC to allocate a higher percentage share of the Union divisible pool, ensuring predictable and adequate resources. They also anticipate a formula-based approach rather than the earlier ad hoc lump-sum grants.

2. Strengthening of own-source revenues: Local governments expect clearer guidelines on expanding property tax, advertisement tax, and user charges. They expect the FC to push States to devolve revenue powers aligned with functional responsibilities.
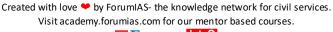
3. Clearer functional devolution: Panchayats and municipalities expect the FC to encourage States to map functions in line with the 11th and 12th Schedules. They expect stronger alignment between assigned functions and corresponding funds.

4. Revival of performance-based grants: Local bodies expect the FC to introduce realistic and implementable performance criteria. They expect incentives for improving auditing, transparency, service delivery, and administrative reforms.

5. Better integration of State Finance Commissions: Local governments expect the FC to ensure that recommendations of SFCs are considered and implemented consistently. They anticipate a framework that encourages States to devolve funds and functions as per constitutional intent.

6. Reduction of ad hocism: Local bodies expect the FC to move away from abrupt shifts in grant design seen in previous FCs. They expect consistent principles to guide tied, untied, and conditional grants.

Challenges Faced So Far

1. Inadequate functional devolution: States often retain control over key subjects listed in the 11th and 12th Schedules. Local bodies thus lack clarity over their actual service delivery responsibilities.

2. Weak local revenue capacity: Many local governments lack the authority or capacity to effectively administer property tax or user charges. Local revenues remain insufficient to meet operational costs.

3. Poor implementation of State Finance Commissions: Though over 100 SFC reports have been submitted, very few have been accepted or implemented by States. The absence of SFC-based devolution weakens the overall fiscal framework.

4. Discontinuity in Union FC recommendations: Successive FCs have changed formulas, grant types, and conditions frequently. Local bodies struggle to plan long-term due to such inconsistencies.

5. Unrealistic performance conditions: Several FCs recommended conditions that were difficult for most local governments to meet.As a result, performance-linked grants were often discontinued.

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6. Inability to estimate actual resource needs: Earlier FCs could not accurately assess expenditure needs of 2.7 lakh panchayats and 5,000 municipalities. This has resulted in inadequate and uneven grant allocations.

Way Forward

1. Adopt a stable, transparent formula for grants: The 16th FC should standardise tied, untied, and performance grants to reduce policy uncertainty. A predictable multi-year framework will improve planning at the grassroots.

2. Strengthen SFCs and enforce their implementation: The FC should mandate timelines and minimum standards for SFC constitution and functioning. A monitoring mechanism can ensure States implement their SFC recommendations.

3. Promote realistic and outcome-based performance grants: Conditions should focus on achievable reforms such as timely audits, data reporting, and improved service indicators. Incentives should reward efficiency rather than penalise weak capacity.

4. Link funds to actual functions devolved: Grants must be aligned with functions that States assign to local governments. This alignment will strengthen accountability and improve service delivery.

5. Enhance local revenue mobilization: Capacity building, digitisation of property tax records, and rational user charges should be promoted. States should be nudged to devolve appropriate taxation powers.

6. Create a comprehensive database of local finances: A national-level dataset on local government finances can help assess expenditure needs accurately. This will support evidence-based grant allocation by the FC.

Conclusion: Local bodies expect the 16th Finance Commission to provide a coherent, sustained, and equitable framework for fiscal decentralisation. Strengthening functional clarity, ensuring predictable grants, improving revenue capacity, and reinforcing SFCs can finally realise the vision of the 73rd and 74th Amendments by empowering grassroots governance in India.

Question: Discuss key expectations of local bodies from the 16th Finance Commission and the challenges in strengthening local government finances.

Threats to Indian Sea Cows

Source: The post **"Threats to Indian Sea Cows"** has been created, based on **"Threats to Indian Sea Cows"** published in **"Indian Express" on 19th November 2025.**

UPSC Syllabus: GS Paper 3- Environment

Context: Dugongs (Dugong dugon), also known as sea cows, are listed as *Vulnerable* on the IUCN Red List and protected under **Schedule I** of the Wildlife Protection Act, 1972. A recent IUCN report has highlighted that India's dugong populations, found primarily in the Gulf of Mannar–Palk Bay, the Gulf of Kutch, and the Andaman & Nicobar Islands, face severe risks due to human-induced pressures.

Significance of Dugongs

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1. Dugongs play a vital role in maintaining the health of **seagrass ecosystems**, which are crucial habitats for fish, invertebrates, and carbon storage.
2. Their grazing activity helps keep seagrass meadows healthy by preventing overgrowth and promoting nutrient recycling.
3. Seagrass ecosystems where dugongs graze can contribute significantly to **carbon sequestration**, acting as major "blue carbon" sinks.
4. Healthy seagrass habitats support **commercially important fisheries**, contributing up to **₹2 crore per year** in additional fish production.
5. Dugongs serve as an indicator species for assessing the ecological health of shallow coastal waters.
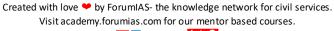
Why Are Dugongs in India at Risk?

1. Rapid decline in population: Once abundant, the population has drastically reduced; estimates vary between **250–450 individuals**, with some experts suggesting even lower numbers. Their elusive nature and cloudy, shallow waters make accurate surveys difficult, complicating conservation.

2. Degradation of coastal habitats: Seagrass meadows are shrinking due to coastal development, sedimentation, and pollution. Habitat loss directly reduces their food availability and safe nursing grounds.

3. Accidental entanglement in fishing nets: Breakdown of traditional, regulated fishing methods increases bycatch incidences. High mortality is linked to gillnets and other fishing gear, especially in Tamil Nadu and Gujarat.

4. Pollution and toxic contamination: Research from *Marine Pollution Bulletin* found high concentrations of **arsenic, cadmium, chromium, mercury, and lead** in dugong tissues. These pollutants enter the sea through industrial effluents, agricultural runoff, and untreated sewage, eventually settling in seagrass beds. Toxic accumulation weakens vital organs like the liver and kidneys, increasing mortality and reducing reproductive success.

5. Slow reproductive rate: A female dugong gives birth only once in several years. Slow breeding makes population recovery extremely difficult once numbers decline.

Government Measures Taken

1. In 2010, the **MoEFCC** constituted a *Task Force for Conservation of Dugongs* to assess threats.
2. India launched the **National Dugong Recovery Programme**, in partnership with Tamil Nadu, Gujarat, and the Andaman & Nicobar Islands.
3. The **Dugong Conservation Reserve** was established in **Palk Bay, Tamil Nadu (2022)** to protect seagrass meadows and create secure habitats.
4. Awareness campaigns and research collaborations have been initiated to monitor dugong distribution and mortality.

Challenges in Conservation

1. Dugongs inhabit **remote, cloudy, and shallow** waters where surveys are unreliable, making population management difficult.

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2. Coastal populations depend heavily on fishing for livelihood, creating conflict between conservation goals and economic needs.
3. Enforcement of no-fishing zones or restrictions is weak in ecologically sensitive maritime areas.
4. Marine pollution continues unabated due to limited monitoring and inadequate treatment of industrial and municipal waste.
5. Long-term seagrass restoration requires sustained funding and coordination between multiple agencies.

Way Forward

1. **Strengthening seagrass conservation** through large-scale mapping, restoration, and strict regulation of coastal development.
2. **Reducing bycatch** by promoting dugong-safe fishing gear, seasonal closures, and community-based marine conservation models.
3. **Controlling marine pollution** via stricter enforcement of effluent discharge norms, expansion of sewage treatment, and monitoring toxic metal levels.
4. **Enhancing scientific monitoring** using satellite tracking, drones, and acoustic methods for better population estimation.
5. **Community participation** by incentivising fisherfolk to adopt sustainable practices and developing alternative livelihoods.
6. **Regional cooperation** with Sri Lanka and Southeast Asian countries, given the migratory nature of coastal marine fauna.
7. **Strengthening protected areas** through expansion of Dugong Conservation Reserves in other habitats like the Gulf of Kutch and Andaman & Nicobar Islands.

Conclusion: Dugongs are essential to the ecological health of India's coastal ecosystems, but they face severe threats from habitat degradation, overfishing, pollution, and slow reproductive rates. Strengthening seagrass conservation, reducing anthropogenic pressures, and improving scientific monitoring can ensure the survival of these gentle "gardeners of the sea."

Question: Why are dugongs declining in India, and what measures are needed to ensure their long-term conservation?

How China Dealt With Air Pollution - Lessons for India

UPSC Syllabus Topic: GS Paper 3 -Pollution

Introduction

China moved from choking, coal-driven smog to visible gains in air quality within a decade, while India still struggles with hazardous winter air in many cities. In China, air pollution became a core development priority, backed by strict targets, heavy investment, cleaner energy, electric transport and better monitoring. India can study these choices, their limits and their relevance to its own federal structure and growth needs.

China's air pollution crisis

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1. Rapid growth and rising pollution: After economic opening, China's coal-based industrial growth made emissions soar. By the 2000s, **thick urban haze** showed the cost of power plants and heavy industry, while **PM2.5 from coal, industry, vehicles and burning of crop residues** became the key health threat.

2. Beijing as the symbol: Beijing's air became a global symbol of this crisis. In 2015, its **average AQI was about 144**, similar to present Delhi levels. Attention during the 2008 Olympics and rising public anger turned air quality into a **core political issue**.

Initiatives Taken by China to Control the Air Pollution Crisis

1. Policy priority: Air pollution became a **clear policy priority** in China's **11th Five-Year Plan (2006–10)**. It was recognised as a serious concern linked to rapid coal-based growth and urban smog, so central leaders decided that cutting key pollutants would be a core development goal, not a side issue.
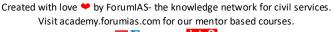
2. Implementation performance: China used a **top-down implementation system**. The Communist Party's organisation departments monitored how well regions met environmental goals and compared the performance of different provinces and cities.

3. Target for officials: Under the **cadre evaluation system**, specific **targets were fixed for governors, mayors, county magistrates and other officials**. Their success or failure on these air-quality and energy goals directly influenced promotions and assessments.

4. Increasing investment:

> • China backed these targets with **higher investment in pollution-control equipment**. Industries were required to fit better filters and treatment systems, and many **outdated, highly polluting plants were shut down**.

> • This combination of money for technology and compulsory closure of dirty capacity became a major tool to reduce emissions from coal-based power and heavy industry.

5. Adoption of electric vehicles: China also focused on the **adoption of Electric Vehicles (EVs)** to cut transport emissions. For example, **Shenzhen** fully electrified more than **16,000 buses** by 2017, and other big cities expanded electric buses and cleaner public transport.

6. **Shifting from coal:** China has prioritized replacing coal with cleaner energy sources, such as natural gas and renewables, through policies like the "**coal-to-gas**" initiative.

7. **Modernizing industries:** Stricter emission standards have been enforced for new and existing industrial plants, including upgrading technology to remove pollutants like sulfur dioxide and nitrogen oxides.

8. **Implementing traffic controls: Low Emission Zones (LEZs)** have been introduced in cities to restrict entry for high-emission vehicles, and restrictions have been placed on the number of private vehicles through measures like license plate lotteries.

9. **Large-scale afforestation:** China has undertaken extensive tree-planting programs, such as the **Great Green Wall,** to combat pollution and improve air quality.

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10. **Enhanced monitoring:** The country has invested in state-of-the-art air quality monitoring systems and makes hourly and daily Air Quality Index (AQI) data publicly available to inform the public about health risks.
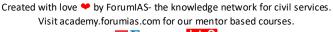
Limitations to China Initiative

1. Top-down implementation: Strong top-down pressure leads some local officials to fake data and quietly restart factories that were officially closed.

2. Coal expansion risk: Plans to increase coal production capacity after the 2021 power shortage risk pushing PM2.5 levels and ground-level ozone back up again.

3. Weak air-quality benchmarks: China's basic air-quality standards are set much lower than in Western countries, so even reported improvements still allow relatively dirty and unhealthy air in many big cities.

Comparing China and India: structural differences

1. Different policy approach over time: Both countries introduced environmental laws in the 1980s and air-quality programmes in the 2010s, but China's strategy has been more steady overall.

2. Continuous plans vs emergency measures: China relies on continuous national plans, while India uses GRAP-type measures that activate after pollution breaches limits and focus on Delhi-NCR.

3. Role of political will and money: A study highlights two determinants: political will and financial resources, and clear accountability linking national standards with plant-level emission control.

4. Household pollution and biomass use: India faces household emissions from rural biomass use; LPG support helps, but clean fuel is still not affordable for many.

5. Basic services and growth: When China moved to clean up, most citizens already had reliable power; India still lacks equitable electricity access and worries that green goals may slow growth.

6. Centralised China vs federal India: China's unitary state allows tighter top-down control, whereas India's tiered governance has overlapping jurisdictions and weakly fixed institutional responsibility.

7. Courts and PILs as accountability tools: India's judiciary and PILs create decentralised legal accountability, which China partly lacks.

Way Forward for India

1. **Plan for long-term, nationwide action:** India should move from short, seasonal responses like GRAP to steady clean-air plans covering major cities.

2. **Tie targets to accountability:** Like China's cadre system, India must link air-quality goals with clear responsibility and strict plant-level monitoring.

3. **Clean up power and industry:** India can curb pollution by closing or upgrading dirty plants and limiting new coal power, as China did after 2013.

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4. **Invest in cleaner transport:** Promoting public transport and large electric bus fleets, as in Shenzhen, can sharply cut city emissions.

5. **Support clean fuels for households:** Expanding affordable LPG and other clean options is essential to reduce biomass burning and household smoke.

6. **Use science and data to guide action:**

> • India should expand air-quality monitoring, study which sectors (power plants, industry, vehicles, households, farms) cause how much pollution, and use this evidence to decide **where to act first and how strict the rules should be**.
> • Clear, public data can also help check whether policies are really reducing PM2.5 and other pollutants over time.

Conclusion

China moved from severe smog to **significant, though incomplete, air quality gains** within a decade by combining political will, strict targets and heavy investment. India cannot copy this path in full because of its **different governance structure, energy needs and social realities**, but it can adapt the lessons to build its own route towards cleaner air.

Question for practice:

Examine how China's approach to tackling air pollution can inform India's clean-air strategy, considering both successes and limitations.

Source: **Indian Express**

Time to Sort Out India's Cereal Mess

UPSC Syllabus Topic: GS paper 3- Indian economy- issues of buffer stocks and food security

Introduction

India's foodgrain policy is facing growing contradictions. While the country has **excessive stocks of rice and wheat**, it is **dependent on imports for pulses and edible oils**, spending huge amounts on food subsidies and foreign purchases. The recent controversy over **paddy procurement in Tamil Nadu's kuruvai season** shows how India's procurement and cropping system has become distorted. It underlines the urgent need to reform the **procurement, crop diversification, and food security policy**.

Key Facts Behind India's Cereal Mess

1. Across India, paddy procurement (as rice) was **119.86 lakh tonnes** by October 31, 2025, against **82.08 lakh tonnes** a year earlier.

2. Rice stocks now stand at **356.1 lakh tonnes** against a norm of **102.5 lakh tonnes.**

3. **Subsidy burden:** The Union government spends about ₹**2 lakh crore** each year on food subsidy.

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4. India is the **largest producer of pulses** at **252.4 lakh tonnes** in 2024-25, yet it imports pulses worth ₹**30,000 crore** and edible oil worth ₹**1.2 lakh crore**, with about **55%** of edible oil demand met through imports.
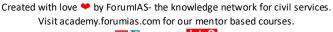
Cause of India's Cereal Mess

1. **Assured support for paddy:** Paddy offers **minimum assured returns** and easy procurement. Farmers shift more land to paddy when other crops look risky, which keeps adding to **large rice stocks**.

2. **Limited comfort in pulses and oilseeds:** Pulses and oilseeds do not enjoy the same backing. Procurement of notified pulses at MSP has fallen, so farmers feel **less secure** growing them.

3. C**heap edible oil imports:** Cheaper edible oil imports weakened domestic oilseed prices. Output has lagged behind demand because policy support here stays weaker than for rice and wheat.

4. **Procurement–PDS imbalance:** Rice procurement is **525–547 lakh tonnes**, while PDS distribution is **392–427 lakh tonnes**. Buying more than needed creates **surplus stocks** and higher costs, even while India imports pulses and edible oil.

5. **System inefficient:** ICRIER study estimating about **28% loss** of rice and wheat in distribution, showing that the system is still not efficient.

Consequences

1. **Nutritional Deficiencies:** A cereal-heavy diet with inadequate protein and micronutrients is linked to rising lifestyle diseases like diabetes and obesity.

2. **Price Volatility:** Despite the overall surplus, India has experienced high cereal inflation, raising questions about the accuracy of production data and market dynamics.

3. **Resource Misallocation:** Continued overinvestment in certain cereal production, particularly water-intensive crops like rice in water-stressed regions, raises sustainability concerns.

   Way forward

1. **Crop diversification:** India should consider diversifying agriculture away from just rice and wheat.

2. **Financial support:** Farmers need financial support and guidance to reduce their fear of switching crops and to manage the risk of trying new crops.

3. **Export relaxation:** Since rice production already exceeds national needs, export restrictions should be relaxed so that farmers can benefit from global markets instead of facing sudden curbs.

4. **Investigate and potentially expand cereals' industrial applications,** considering the speculated rise in use for products like beer and biscuits.

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5. **Direct link between farmers and buyers:** Primary producers should be helped to tie up directly with buyers, such as papad manufacturers with blackgram farmers, so that both sides gain better prices and stable supply.

6. **Strengthening Farmer Producer Organisations (FPOs):**

> • Farmers should be encouraged to form and join FPOs so that they can bargain better, organise supplies, and build long-term market linkages.

> • FPOs, self-help groups and cooperative societies can share paddy procurement work, as seen in West Bengal, and reduce the load on existing procurement agencies.

> • FPOs can be used to educate farmers on soil health, guide them towards crop diversification, prepare market studies, and help set up supply chains in different regions.

7. **Plugging leakages and reforming the system:** The government should examine leakages and weaknesses in the PDS and procurement system and work with farmers, experts and policy makers to plug loopholes and move towards wider reform.

Conclusion

India's current foodgrain system is **imbalanced and unsustainable**. It rewards overproduction of rice and wheat while neglecting vital crops like pulses and oilseeds. To fix this, India must **redesign its procurement system**, **incentivise diversification**, and **empower FPOs and cooperatives**. Such reforms require **joint efforts by farmers, policymakers, and experts**. Though gradual, these steps are essential to build a **balanced, self-reliant, and sustainable agricultural future**.

Question for practice

Examine the causes of India's cereal mess and what should be done to address it.

Source: [The Hindu](#)

India's Plant Variety Act and Issues Around It

UPSC Syllabus Topic: GS Paper 2 - Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

Introduction

India's Plant Variety Act is being reviewed after two decades to match new technologies, trade changes, and farmers' needs. Planned amendments must balance **high-yielding varieties** with the protection of **traditional and community-developed seeds** and farmers' rights.

India's Plant Variety Act

The Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001 is a **sui generis system** for plant variety protection. It was enacted to meet **India's WTO–TRIPS obligation** to create an "effective system" for protecting plant varieties, while avoiding patents on plants.

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It **recognises both breeders and farmers** for conserving, improving, and making available plant genetic resources, and aims to promote new varieties without harming food and livelihood security.

Implementation Authority

Implementation is done by the **Protection of Plant Varieties and Farmers' Rights Authority (PPV&FRA)** under the Ministry of Agriculture and Farmers' Welfare. The Authority maintains the **National Register of Plant Varieties and grants plant variety certificates (PVCs)**.

Rights under the Act:

Breeders get exclusive rights to produce, sell, market, distribute, import or export protected varieties and to act against infringement.

Researchers can use registered varieties for experiments or breeding, with permission for repeated use.

Farmers who develop new varieties can register them and get the same protection as breeders. All farmers can save, use, sow, re-sow, exchange, share or sell farm produce, including seed of protected varieties, as long as it is not sold as branded seed.
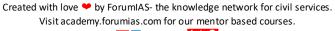
R.S. Paroda committee on India's Plant Variety Act

A **twelve-member committee chaired by R.S. Paroda** has been set up by the PPV&FRA to examine the Act and Rules and suggest amendments.

The committee will examine deficiencies in implementation, present-day challenges, and farmers' requirements, then submit its report to the Authority, which will in turn present its views to the Union Agriculture Ministry.

Argument for the amendment I India's Plant Variety Act

1. **Updating outdated definitions:** Current definitions of "variety" and "seed" do not fully cover combinations of genotypes or vegetatively propagated material like tubers, bulbs or tissue-culture plants, so the law does not match today's seed technologies.

2. **Clarifying breeder and institutional roles:** The Act needs clearer recognition of public institutions and private firms as breeders to avoid disputes over who can register and commercialise new varieties.

3. **Improving DUS testing framework:** Present Distinctness–Uniformity–Stability (DUS) rules are narrow and allow confusion and disputes, so clearer trait-based descriptors and procedures are required.

4. **Curbing abusive market practices:** Amendments seek to define "abusive acts" such as selling seeds with misleading or identical denominations and make such conduct punishable.

5. **Protecting community and traditional seeds:** Stronger safeguards are required so community-developed and traditional varieties cannot be privatised or registered without farmer consent and benefit-sharing.

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6. **Strengthening farmer compensation and sovereignty:** Clearer rules on compensation for non-performing registered seeds and alignment with global plant-treaty negotiations are needed to protect farmer rights and India's seed sovereignty.

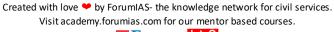**Concern related to the amendments of India's Plant Variety Act**

1. **Dilution of farmer-centric balance:** There is concern that amendments may tilt the Act towards breeder and industry interests, weakening its original pro-farmer design.

2. **Vague and punitive "abusive acts" clause:** Critics say criminalising "abusive acts" without precise, objective criteria could give excessive discretion to authorities and be misused against small seed dealers.

3. **Risk of privatising community and traditional seeds:** Farmer groups fear DUS-tested community varieties could be registered by companies, enabling monopolisation of shared seed commons and biocultural heritage.

4. **Marginalisation of small farmers in a techno-legal regime:** Complex IPR procedures, expanded breeder rights and weak legal support can worsen power asymmetry between resource-poor farmers and large seed firms.

5. **Weak, unclear compensation and liability framework:** Rules on holding breeders liable for seed failure and compensating farmers remain under-specified even as stronger breeder rights are considered.

6. **Possible drift towards UPOV-1991-style standards:** Some experts fear that, in the name of "harmonising" with international standards, future amendments could slowly make India's law resemble the UPOV-1991 model, which is widely viewed as giving stronger rights to commercial breeders and relatively weaker protection to farmers' traditional practices of saving, reusing and exchanging seeds.

Way forward

1. **Strengthen community seed control:** Amendments must keep **community-developed seeds** out of private monopoly. DUS-tested farmers' varieties should be registered in community names. This will help prevent future misuse and keep control with local seed keepers.

2. **Clarify key legal terms:,**The law and Rules should clearly define **variety, seed, breeder institution and abusive act**. Clear wording will make procedures easier to understand and apply for all stakeholders.

3. **Detail farmer compensation rules:** Rules must spell out when and how farmers will be compensated if protected propagating material fails to perform. Simple criteria and process will help farmers claim timely relief.

4. **Link reforms with global talks:** Reforms should watch plant-treaty negotiations on the multilateral system. They should also support **in situ conservation**and fair **benefit sharing** with local farming communities.

Conclusion

Revising India's Plant Variety Act is a chance to align the law with new technologies while **strengthening farmers' rights** by supporting innovation, ensuring accountability and protecting community seed systems so that traditional and improved varieties together secure farmers' livelihoods and community control over seeds.

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Question for practice:

Discuss the key concerns related to the proposed amendments to India's Plant Variety Act and suggest a suitable way forward to protect farmers' rights.

Source: The Hindu

The Threat of Digital Tradecraft in Terrorism

UPSC Syllabus Topic: GS Paper 3 -Security

Introduction

Terrorism has entered the digital age, where extremist groups are no longer limited to physical networks or propaganda. They now exploit the **digital ecosystem — encrypted apps, private servers, and spy-style communication — to plan, coordinate, and execute attacks** while avoiding detection. The recent Red Fort blast in Delhi revealed how advanced digital tradecraft has become a key weapon in modern terrorism.

Use of Digital Tradecraft in Terrorism

1. Encrypted Messaging and Private Servers

• Encrypted apps and private servers: Terror groups increasingly use **encrypted platforms like Threema app** that require no phone numbers or emails. Such apps hide user identities, erase metadata, and allow message deletion from both ends.

• Some modules even run **private servers** to exchange layouts, maps, and instructions, making it nearly impossible for law enforcement to trace communication.

2. **Spy-style email 'dead drops':** A common digital tactic is using **shared email accounts** where messages are never sent but saved as drafts. Another member logs in, reads, and deletes them — a **dead-drop system** that leaves no visible trail in mail logs and bypasses traditional surveillance.

3. Integration with physical operation: Digital coordination supports **on-ground reconnaissance and logistics**. Terror cells conduct site visits, collect materials such as explosives, and use ordinary vehicles to remain unnoticed. This integration of digital stealth with physical planning increases operational precision and reduces exposure.

4. Multi-layered security and global linkages: Modules follow **strict operational discipline** — switching off phones, using VPNs, and maintaining minimal online activity. Many show **ideological or logistical links with international groups** like Jaish-e-Mohammed, reflecting a global exchange of both ideology and technical know-how. Such tactics together form a **multi-layered operational security system** designed to minimise traceability.

Impacts of Digital Tradecraft

1. Weakening Traditional Surveillance

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• Encrypted and decentralised technologies have **reduced the effectiveness of conventional tools** like phone tapping, metadata analysis, or email interception.

• Deleted messages, private servers, and VPN masking prevent reconstruction of digital trails. Even banned apps continue to operate through proxies, exposing the limits of mere regulatory restrictions.

2. Rising Transnational Complexity: Digital connectivity allows terror networks to **operate across borders**, sharing ideology, finances, and instructions through encrypted channels. This blurs jurisdictional boundaries and demands international coordination for effective countermeasures.

3. Institutional and Social Risks: The involvement of professionals such as **doctors or academics** in terror cells shows how radicalisation has penetrated educated circles. It highlights the challenge of detecting extremism in institutions where digital tools provide cover for covert recruitment and coordination.

Way Forward

1. Strengthening Digital Forensics

• D**igital forensic units:** There is a need to **build specialised digital forensic units** with expertise in encrypted-platform analysis, server tracking, and memory forensics.

• These **teams need skills in encrypted-platform analysis**, server forensics, and memory dumping to recover short-lived or deleted data.

• The **state must invest in units** that monitor misuse of end-to-end encrypted platforms, anonymising services, and VPN exit nodes as possible indicators of terror tradecraft and adapt investigative practices accordingly.

2. Regulation of self-hosted communication infrastructure

• Frame clear rules for **self-hosted or private communication servers**.

• Require such servers to follow lawful access obligations under rules that still safeguard genuine privacy.

3. Cooperation with technology providers

• **Strengthen cooperation with technology companies** providing encrypted or communication services.

• Ensure lawful interception is possible under **strict, judicially supervised processes**.

4. Updating counter-terrorism laws and procedures

• Update counter-terrorism laws to **explicitly cover encrypted and decentralised communication**.

• Include mechanisms for detecting **digital dead drops, shared accounts, and draft-only mailboxes** in investigations.

5. **Training for investigators**

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• Train law-enforcement officers to **identify patterns of digital dead drops, shared accounts, and draft-only communication**.

• Build skills to recognise and respond to emerging digital tradecraft techniques.

6. Counter-radicalisation in universities and institutions

• Support universities and similar institutions to **spot early signs of radicalisation**, especially among highly educated professionals.

• Design **counter-radicalisation programmes** suited to professional and academic spaces where modules can remain less visible.

7. Strengthening international cooperation

• Deepen **intelligence and law-enforcement partnerships** with other countries.

• Focus on cases involving **encrypted apps, private servers, and possible foreign funding** of terror modules.

8. **Tech diplomacy with host countries of encrypted services**

• Use **tech diplomacy** with countries where major encrypted services are based.

• Seek **lawful but privacy-respecting access** to self-hosted infrastructure linked to terror cases.

9. Public awareness on digital tradecraft: Educating the public about **how digital tools are misused by terror groups** can enhance vigilance without creating fear. Community reporting, guided by awareness, can act as a frontline defence against extremist digital activity.

Conclusion

The **digital transformation of terrorism** marks a new frontier in security challenges. Extremist groups now combine technological sophistication with traditional radicalisation to operate in invisible digital spaces. For India and other democracies, the task is not only to strengthen physical security but also to build **intelligence, legal, and cyber-forensic capacities** capable of navigating encrypted, decentralised, and private networks. Protecting societies in the digital era means securing both the **streets and the servers**.

Question for practice:

Examine how modern terrorist groups are using digital tradecraft to evade surveillance and why this poses new challenges for counter-terrorism agencies.

Source: [The Hindu](#)

Hidden Cost of Polluted Groundwater

Source: The post **"Hidden Cost of Polluted Groundwater"** has been created, based on "**Hidden Cost of Polluted Groundwater"** published in **"The Hindu"** on **20th November 2025.**

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UPSC Syllabus: GS Paper 3- Environment

Context: Groundwater contamination has become a major environmental and developmental challenge affecting health, agriculture, and economic stability in India. The Annual Groundwater Quality Report 2024 shows that nearly one-fifth of samples from 440+ districts exceed safe contamination limits. Punjab faces a particularly severe crisis, with almost one-third of samples showing uranium above permissible levels along with widespread fluoride, nitrate, and arsenic. With 600 million people depending on groundwater for drinking and irrigation, the crisis has national-level implications.

Key Challenges and Impacts

1. **Public Health Crisis:** High levels of uranium, fluoride, arsenic, and nitrates have led to severe health issues such as skeletal deformities, fluorosis, chronic illnesses, and cognitive impairment in children.
   a. In Mehsana (Gujarat), fluorosis has reduced workers' earning capacity and pushed households into cycles of wage loss and medical expenditure.
   b. Diarrhoeal diseases due to unsafe water still kill large numbers of children under five each year, contributing to significant human capital erosion.

2. **Heavy Economic Burden:** The World Bank estimates that environmental degradation—mainly polluted water and soil—costs India USD 80 billion annually, nearly 6% of GDP.Illnesses caused by contaminated water reduce productivity and cause millions of lost working days. High out-of-pocket health expenditure further weakens economically vulnerable households.

3. **Agricultural Decline:** Soil degradation now affects nearly one-third of India's land area, with polluted irrigation water accelerating the damage. Heavy metal residues reduce crop yields and contaminate food chains.
   a. Farms located near polluted water bodies show declining productivity and falling incomes.
   b. Export markets increasingly demand strict quality standards, and contamination-related rejections pose a risk to India's USD 50-billion agricultural export sector.

4. **Rising Inequality**: Wealthier households can afford bottled water or filtration systems, but poorer families remain dependent on contaminated aquifers. Illness, reduced productivity, and debt reinforce poverty cycles in rural areas. Children exposed to fluoride or arsenic face long-term cognitive and physical impairments, limiting future opportunities.

5. **Over-Extraction and the Vicious Cycle:** Punjab extracts groundwater at 1.5 times the sustainable limit, forcing farmers to drill deeper and encounter poorer-quality water. Increased fertiliser use further contaminates aquifers, creating a feedback loop that undermines long-term agricultural viability.

Way Forward

1. **Real-Time Monitoring:** Establish a nationwide, real-time groundwater quality monitoring network with open-access data to ensure transparency and community awareness.
2. **Stronger Regulation:** Strengthen enforcement against untreated industrial effluents and sewage discharge. Reform pollution control agencies to ensure accountability and compliance.

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3. **Agricultural Reform:** Shift from chemical-intensive farming to crop diversification, organic practices, and micro-irrigation.Pilot programmes in Punjab and Haryana show that shifting from paddy to pulses and maize reduces pressure on aquifers and maintains farmer incomes.
4. **Decentralised Water Treatment:** Promote village-level purification systems and low-cost community filters. The success of community water purification units in Nalgonda (Telangana), which reduced fluorosis among children, can be replicated.
5. **Protecting Agricultural Exports**: Strengthen export quality checks to prevent contamination-related rejections.Provide farmer training on safe water usage, residue management, and quality standards.
6. **Community Awareness:** Conduct awareness campaigns on contamination risks, safe water practices, and sustainable farming methods. Encourage community participation in local water management.

Conclusion: Groundwater contamination is a severe but often invisible threat that affects health, livelihoods, agriculture, and economic growth. Unlike water scarcity, contamination is often irreversible and permanently damages aquifers. India must adopt bold, coordinated, and sustained measures to prevent this silent crisis from becoming a national catastrophe and to safeguard long-term development.

Question: Groundwater contamination in India poses a serious public health, agricultural, and economic challenge. Discuss the key impacts of this crisis and suggest measures to address it.

Recognise the critical role of the childcare worker

Source: The post "**Recognise the critical role of the childcare worker"** has been created, based on "**Recognise the critical role of the childcare worker**" published in "The Hindu" on 20th November 2025.
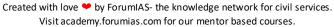
UPSC Syllabus: GS Paper 2- Governance

Context: On July 24, 2023, the UN General Assembly declared October 29 as the International Day of Care and Support, recognising the need to reduce, redistribute and value unpaid care and domestic work. Care work remains overwhelmingly performed by women and adolescent girls, yet it is largely invisible, undervalued, and unaccounted for in policy and national statistics. India has a long history of childcare efforts, from early pioneers like Tarabai Modak and Gijubai Badheka, to modern childcare systems such as the Integrated Child Development Services (ICDS).

Evolution of Childcare in India
1. Early childcare institutions emerged in the late 19th and early 20th centuries through progressive educationists.
2. Post-Independence, childcare shifted to private and voluntary sectors, excluding low-income families.
3. The 1972 Study Group report, convened by Mina Swaminathan, set a social justice agenda for holistic development of poor and marginalised children.
4. This led to the launch of the ICDS in 1975, which today runs 1.4 million Anganwadi Centres, serving 23 million children with 2.4 million workers and helpers.
5. By 2030, India will need 2.6 million centres and over five million workers to reach nearly 60 million children.

Key Challenges in India's Childcare System

1. **Underpaid and Undervalued Care Workers:**

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a. National and global studies highlight that despite their critical role, care workers remain underpaid, undervalued, and lack recognition as professionals.

b. Rapid ICDS expansion has diluted pre-service and in-service training, weakening practice-based learning crucial for quality childcare.

c. Their role is often reduced to providing food, hygiene, and immunisation, rather than being acknowledged as early childhood professionals.

d. Workers face poor working conditions, limited paid leave, inadequate social security, and very low wages (₹8,000–₹15,000), often below minimum wages for skilled work.

2. **Impact of Climate Change**

a. Poor women and children are disproportionately affected by climate-related disasters such as floods and droughts.

b. Climate-induced male migration increases women's care burden, eliminating the possibility of shared responsibilities.

c. Migrant families in urban areas face high living costs, compelling women to work as domestic workers while having little or no childcare support.

d. Only 10% of Anganwadi centres function in urban areas, leaving a vast urban care deficit.

3. **Feminisation of Unpaid Care**

a. The Time Use in India 2024 survey shows women spend 426 minutes/day on unpaid care work compared to 163 minutes/day by men.

b. This unpaid work constitutes 15%–17% of GDP, yet remains unrecognised in economic policymaking.

c. Lack of maternal time for care and feeding is linked to high child undernutrition, with 35% child stunting and only 11% of children receiving a minimum acceptable diet.

4. **Inadequate Early Childhood Provision**

a. There is extremely limited care for children under three years, with only 2,500 functional crèches under the Palna Scheme out of 10,000 sanctioned.

b. Public investment in childcare stands at only 0.4% of GDP, far below Scandinavian levels of 1%–1.5%, which provide universal childcare.

Positive Developments

1. India Childcare Champion Awards 2025 was organised by Mobile Creches and FORCES, these awards honour creche workers, supervisors, NGOs, local leaders, employers, and CSR funders.

2. The awards highlight care workers as skilled professionals and social change-makers, challenging caste, class, and gender norms.

3. Workers build trust with parents, offer emotional support to children, and advocate for health insurance and better care infrastructure.

4. They play multiple roles: nurturing caregivers, educators, monitors of child development, and community leaders.

Way Forward

1. **Recognition and Professionalisation**

a. Childcare workers must be recognised as professional workers with respectable wages, job security, and clear career pathways.

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b. Comprehensive investments in training, skill-building, and practice-based learning are essential.
2. **Strengthening Childcare Infrastructure**: India must expand childcare facilities, especially for children under three and in urban poor settlements. Public investment must increase to 1–1.5% of GDP, aligning with global standards of universal childcare coverage.
3. **Reducing and Redistributing Unpaid** Care: Policies must encourage men's participation in domestic and care work through awareness campaigns, paternity benefits, and gender-sensitive programmes.
4. **Climate-Responsive Care Policies:** Childcare services must be strengthened in climate-vulnerable areas to support migrating households and reduce gendered care burdens.
5. **Decentralisation and Convergence**: Local governments, communities, and civil society must be involved in planning and monitoring childcare services. Integration of health, nutrition, education, and social protection services can enhance holistic child development.

Conclusion: Care work lies at the heart of human development and gender equality, yet remains invisible and undervalued in India. Recognising, professionalising and adequately funding care services is essential for building a strong, inclusive, and equitable nation. With expanded investment, improved working conditions, decentralised systems, and recognition of care workers' contributions, India can move closer to universal, high-quality childcare aligned with global best practices.

Question: "Care work in India remains undervalued and underfunded." Discuss the major challenges in India's childcare system and suggest measures to strengthen care infrastructure and workers' rights.

Supreme Court on Governor Powers

Source: The post **"Supreme Court on Governor Powers"** has been created, based on **"Supreme Court on Governor Powers"** published in "Indian Express" on 21st November 2025.
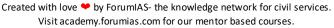
UPSC Syllabus: GS Paper 2- Polity

Context: In a landmark Constitution Bench judgment, **the Supreme Court clarified the scope and limits of the Governor's powers under Articles 200 and 163, along with related constitutional provisions such as Articles 201, 142, 145(3), and 361.** The reference arose due to increasing concerns over delays by Governors in granting assent to Bills passed by state legislatures. The Court addressed fourteen constitutional questions and provided definitive interpretations that govern legislative–executive relations in the federal structure.

Governor's Options Under Article 200

1. The Supreme Court held that the **Governor has only three constitutionally** permissible options under Article 200.
2. These **include granting assent to the Bill,** withholding assent and returning the Bill to the Legislature with recommendations (if the Bill is not a Money Bill), and reserving the Bill for the consideration of the President.
3. The **Court clarified that there is no fourth option that allows the Governor to "withhold assent simpliciter"** by merely keeping the Bill pending indefinitely.
4. If the Governor decides to withhold assent, **then the Bill must be returned to the House.**

Whether the Governor is Bound by the Aid and Advice of the Council of Ministers

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1. The Court held that, **under Article 163, the Governor is required to act on the aid and advice of the Council of Ministers** except in matters where the Constitution expressly provides for discretion.
2. The Court further held that **granting or withholding assent under Article 200 is an area where the Governor has discretion** and is therefore not bound by the Cabinet's advice.
3. The reasoning of the Court was that **if the Governor were bound by ministerial advice, then the Governor would never be able to return a Bil**l for reconsideration because no government would advise against its own legislation.

Justiciability of the Governor's Constitutional Discretion

1. The Court held that the **substantive decision of the Governor, or the reasons behind choosing a particular course of action under Article 200**, cannot be subjected to judicial review.
2. However, the **Court clarified that prolonged, unexplained, or indefinite inaction** on the part of the Governor is subject to judicial scrutiny.
3. Therefore, **if a Governor keeps a Bill pending without making any decision,** the Court may direct the Governor to act, although it cannot direct what decision must be made.

Article 361 and Judicial Review

1. The Court **explained that Article 361 grants personal immunity to the Governor and the President for acts done** in the exercise of their official duties.
2. However, this **immunity applies only to the individual and not to the "office" of the Governor.**
3. Consequently, the Court held that **the actions or inactions of the Governor's office that cause constitutional delays** can still be examined by the judiciary even though the individual holding the office cannot be personally questioned.
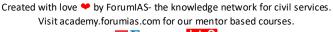
Timelines for Governors

1. The Court **overruled its earlier April 2025 judgment that prescribed strict timelines** of one to three months for the Governors to act on Bills.
2. The Court reasoned that **Article 200 uses the expression "as soon as possible,"** which prevents courts from imposing rigid or fixed timeframes.
3. **The judiciary, therefore, cannot mandate specific deadlines**, although it can intervene to prevent unreasonable delays.

President's Discretion Under Article 201

1. The Court held that **the President's discretion under Article 201** is similar to the **Governor's powers under Article 200.**
2. The **President's decision to either assent to or withhold assent from a reserved Bill is not open to judicial review** on its merits.
3. The Court also clarified that t**he President cannot be compelled through judicial directions to act within fixed timelines** when dealing with state Bills reserved for consideration.

Requirement of Supreme Court's Advice Under Article 143

1. The Court clarified that **Article 143 gives the President the option, but not the obligation,** to seek the Supreme Court's advisory opinion on questions of law.

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2. The **President is not required to seek this advice every time a Governor reserves a Bill.** The President's subjective satisfaction is considered sufficient for the purpose of acting on reserved Bills.
3. The Court held that **judicial review applies only to enacted laws and not to Bills,** which represent proposed legislation.
4. Therefore, **courts cannot adjudicate the validity, content, or constitutionality of a Bill** before it receives assent and becomes a law.

Whether Article 142 Can Substitute the Governor's or President's Role

1. The Court held that A**rticle 142 does not empower the Supreme Court to substitute the constitutional roles of the Governor or the President**.
2. The Court **rejected the concept of "deemed assent,"** which earlier judgments had proposed as a remedy for delays.
3. It clarified that **Article 142 cannot be used to override substantive constitutional provisions,** such as those that require the Governor's or President's assent before a Bill becomes law.
4. The Court held **unequivocally that a Bill cannot become law without the assent of the Governor, or of the President in cases where the Bill is reserved.** Until such assent is granted, the Bill has no legal force and remains only a proposed piece of legislation.
5. **Scope of Supreme Court's Powers Under Article 142:** The Court held that the question regarding the extent of the Supreme Court's powers under Article 142 was too broad to be answered definitively.
6. However, it reiterated its position that Article 142 cannot be used to contradict or override substantive or procedural provisions of the Constitution, such as the mandatory requirement for constitutional assent.
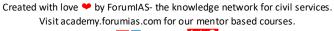
Reference to Five-Judge Bench Under Article 145(3)

1. The Court declined to answer the question regarding whether certain matters must compulsorily be referred to a Constitution Bench of at least five judges under Article 145(3).
2. It held that the question was irrelevant to the specific issues concerning the Governor's powers on legislative assent.

Bar Under Article 131

1. The Court declined to answer the question on whether Article 131 bars any other jurisdiction of the Supreme Court concerning disputes between the Union and the States.
2. It noted that Article 131 confers original jurisdiction on such disputes but held that this issue was irrelevant to the reference concerning the Governor's powers.

Conclusion: The Supreme Court's judgment establishes a clear and balanced constitutional framework governing the roles of Governors, state legislatures, and the Union executive. It preserves necessary constitutional discretion while ensuring accountability by preventing indefinite delays. The verdict strengthens cooperative federalism by clarifying constitutional boundaries and by safeguarding the legislative process from executive inaction.

Question: What were the major issues clarified by the Supreme Court regarding the Governor's powers to grant assent to Bills under Article 200?

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The Need of a National Arbitrator Database

Source: The post **"The Need of a National Arbitrator Database"** has been created, based on **"The Need of a National Arbitrator Database"** published in "The Hindu" on 21st November 2025.

UPSC Syllabus: GS Paper 2- Polity

Context: India has repeatedly expressed its aspiration to become a global hub for international arbitration. However, recent statements, including those made by the Solicitor General, indicate that the current arbitration ecosystem suffers from an "integrity crisis." The predictability of appointments, the dominance of select networks, and the lack of transparency have undermined trust in arbitration as a credible dispute-resolution mechanism. This has occurred despite the existence of a legislative framework intended to address these issues.

Key Challenges in India's Arbitration System

1. The Solicitor General highlighted that **the name of an arbitrator often reveals the likely client and law firm,** indicating entrenched networks and a lack of neutrality.
2. The system **suffers from a deep-seated integrity crisis marked by opacity,** repetitive appointments of a select few arbitrators, and limited diversity.
3. The **absence of institutional arbitration dominates the landscape** and allows ad-hoc practices to flourish without accountability.
4. **Arbitrator performance is not systematically evaluated,** and there is no mechanism to track the quality or judicial outcomes of awards.
5. **Parties often manipulate selection** by using narrow criteria to engineer predetermined appointments.
6. **Judicial interference and delays** undermine the finality and efficiency of arbitration.
7. There is **inadequate training and capacity building for arbitrators,** leading to inconsistent quality of awards.

Failure to Operationalise the Arbitration Council of India (ACI)

1. Although the **Arbitration and Conciliation (Amendment) Act, 2019** envisioned the **creation of the Arbitration Council of India** to grade arbitral institutions and accredit arbitrators, the ACI remains non-functional.
2. This represents **a substantive failure of reform rather than a procedural delay.**
3. The **gap between legislation and implementation** has allowed informal networks to continue dominating appointments, thereby weakening the credibility of the arbitration process.

Need for a National Arbitrator Database (NAD)

The proposed National Arbitrator Database is essential for ensuring transparency, objectivity, and merit-based appointments.

a. Comprehensive Profiles: Every active arbitrator would be required to register on the NAD. The database would include **information such as qualifications, domain expertise, years of experience, number of awards delivered, and the judicial track** record of these awards. This information would be publicly accessible to promote transparency.

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b. Algorithmic Allocation: Arbitrator selection in institutional or court-appointed cases would occur **through algorithmic matching.** Parties would **define required competencies, and the system would generate a randomised, skill-based shortlist, preserving party autonomy** while reducing human discretion.

c. Safeguards Against Manipulation: If restrictive criteria produce fewer than a minimum threshold of arbitrators, the system would **automatically broaden parameters.** The NAD would **also flag suspicious patterns,** such as repeated criteria combinations that repeatedly select the same arbitrator.

d. Continuous Monitoring: Every arbitration would **require outcome reporting.** Arbitrators whose awards are frequently set aside would have this reflected in their grading, while **consistently sound arbitrators would benefit** from enhanced professional standing. This process would democratise opportunities and reduce the dominance of a select few.
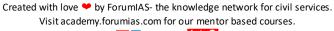
Benefits of the Proposed System

1. The system would greatly improve transparency and ensure merit-based appointments.
2. It would reduce real and perceived bias in arbitrator selection.
3. It would strengthen institutional credibility and promote accountability.
4. It would create more opportunities for qualified and diverse arbitrators.
5. It would provide measurable performance metrics for evaluating arbitrators.
6. It would align India's arbitration practices with global standards and support its goal of becoming an international arbitration hub.

Way Forward

1. The government **should immediately operationalise the Arbitration Council of India** to accredit arbitrators and grade institutions.
2. The **creation of the National Arbitrator Database should be prioritised** as a core tool for transparent and technology-driven reform.
3. India must **strengthen institutional arbitration** and reduce its dependence on ad-hoc procedures.
4. **Capacity-building and specialised training programmes** should be expanded to raise the overall quality of arbitrators.
5. Courts should **limit intervention to statutorily permitted grounds** to protect arbitral autonomy.
6. **Technology integration,** including digital case management and algorithmic allocation should be made standard practice.
7. A **performance-based evaluation system** should be developed to ensure consistent quality and accountability.

Conclusion: India already has a strong statutory foundation for arbitration reform through the 2019 amendment, which created the Arbitration Council of India. What is now required is the political and administrative will to operationalise the ACI and implement a robust National Arbitrator Database. These measures will enhance transparency, restore trust, reduce bias, and help India genuinely emerge as a credible global hub for arbitration.

Question: India aspires to become a global hub for arbitration, yet the system faces an "integrity crisis." Discuss the key challenges affecting India's arbitration ecosystem and suggest reforms needed to ensure transparency, credibility, and merit-based appointments.

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Environment Vs Development - SC's Reversing the Vanashakti Judgement

UPSC Syllabus Topic: GS Paper 3 -Environment

Introduction
On 18 November 2025, the Supreme Court recalled its **May 2025 Vanashakti ruling that had outlawed retrospective environmental clearances**. The case now stands at the centre of a wider conflict between strict, preventive environmental regulation based on prior environmental clearance and demands to protect large public and private investments through limited ex post facto approvals. The split verdict highlights deep tensions between constitutional environmental rights and development-led policy choices.

Background: Vanashakti Judgment (May 2025)

Key holdings of the May 2025 judgment

1. In May 2025, a bench of Justices Abhay S. Oka and Ujjal Bhuyan held that **prior environmental clearance (EC) is the only lawful route** to set up or expand industrial and real estate projects.

2. It struck down the Environment Ministry's **2017 Notification** and **2021 Office Memorandum** that permitted ex post facto ECs, terming this framework **illegal and unconstitutional**.

3. The bench also **restrained the Central Government** from issuing any future circulars or orders providing for retrospective EC or regularising violations of the EIA notification,

4. It allowed ECs already granted under these instruments to continue.

5. The Court relied on **Article 21's right to a pollution-free environment and to health**, and on **Article 51A(g)** which places a duty on citizens to protect and improve the environment.
6. It treated environmental protection as a **foundational requirement rather than a fine-based system.**

Review Petitions and the Reversal: Split Verdict of November 18, 2025

Grounds for review

1. Industry bodies, especially **Confederation of Real Estate Developers of India (CREDAI)**, and the Union government sought review, saying Vanashakti had **ignored earlier precedents** such as Common Cause, Alembic Pharmaceuticals, Electrosteel Steels and Pahwa Plastics, where **limited ex post facto ECs** were allowed in exceptional cases under Article 142.
2. They called the review "imperative and expedient" and demanded a **"balanced approach"**, arguing that a total ban on retrospective ECs would make regularisation of ongoing projects impossible.

Majority view (CJI Gavai & Justice Chandran)

1. By **majority of CJI B.R. Gavai and Justice K. Vinod Chandran**, the Court **recalled the May 2025 judgment** and restored the case for a fresh hearing.
2. CJI Gavai warned of a **"devastating effect"**, including possible demolition of projects worth **nearly ₹20,000 crore**—such as SAIL investments, a **962-bed AIIMS hospital in Odisha**, a **greenfield airport in Karnataka**, a **CAPF medical institute in Delhi**, and many other central and state projects funded from the public exchequer.

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3. The majority held that **ex post facto EC should not be refused with pedantic rigidity** and may be permitted in **rare, exceptional situations**, with heavy penalties and strict conditions instead of demolition.

Minority dissent (Justice Bhuyan)

1. Justice Bhuyan dissented, saying the review **overlooked fundamentals of environmental jurisprudence** and meant **"backtracking on sound environmental jurisprudence" for the sake of violators**.
2. He rejected the "dustbin" argument over sunk public costs, opposed **prodding the government towards ex post facto ECs**, and pointed to **Delhi's deadly smog and rising pollution** as proof of the human cost of weak enforcement.
3. He insisted that **retrospective ECs are an "anathema"**, a concept "devoted to evil", that would cause **irreparable environmental degradation**.

Environment vs Development: Core Legal and Policy Tensions
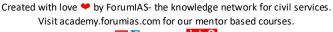
1. Precautionary principle vs regularisation:

• The May Vanashakti ruling treated prior environmental clearance (EC) as non-negotiable, rooted in prevention and advance study.

• The recall opens space for limited ex post facto ECs in "exceptional" cases, shifting focus from strict prevention to controlled regularisation after violations.

2. Sustainable development and article 21:

• One side links sustainable development to the right to life and health under Article 21, insisting that projects must fit environmental limits from the start.

• The opposing view weighs infrastructure needs and sunk public investment, accepting limited retrospective approvals to avoid demolition.

3. Polluter pays vs "pay and legalise": The Court warned against turning the polluter pays principle into a "pay and legalise" route, where fines buy forgiveness. Exceptional ex post facto clearances risk making prior EC look optional rather than mandatory.

4. Narratives on environment and development: The dissent rejects a false narrative that treats environment and development as rivals, stressing that real development includes ecological protection. The majority stresses public cost, jobs and continuity of projects, using penalties to claim a balanced middle path.

Way Forward

1. **Reaffirm prior EC as the norm:** The discussion points towards **prior EC as the default rule**, with any ex post facto relief, if allowed at all, confined to **truly exceptional situations** under strict judicial control.

2. **Stronger enforcement and transparency:** To avoid an **"optional EC" mindset**, authorities need firm monitoring and compliance so that **violators do not expect easy regularisation through fines or fresh notifications**.

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3. Legislative and policy clarity: There is a need for **clear, coherent rules** aligning the EIA framework, notifications and Office Memorandums with constitutional principles, so that **future disputes over ex post facto ECs are reduced**. A detailed implementation roadmap is not explained, which leaves a gap in the policy picture.

Conclusion

The reversal of Vanashakti exposes a sharp clash between **environmental constitutionalism and development-centred pragmatism**. One side insists on strict prior EC, prevention and constitutional duties; the other worries about wasted public investment and favours limited regularisation with penalties. The reheard case will be crucial in deciding whether **India's growth path is guided mainly by precaution, or continues to accommodate post-facto forgiveness**.

Question for practice:

Discuss how the Supreme Court's reversal of the Vanashakti judgment reflects the tension between environmental protection and development needs in India.

 Source: [The Hindu](#)

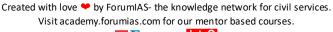## India's Fisheries and Aquaculture: Its Promising Course

UPSC Syllabus Topic: GS Paper 3 - Agriculture

Introduction

India's fisheries and aquaculture sector is growing rapidly, supporting **livelihoods, nutrition, exports and coastal development**. India has become a **global aquaculture leader**, backed by technological change, institutional support and major schemes such as Blue Revolution, PMMSY and new digital initiatives. At the same time, **environmental stress, climate risks, weak infrastructure and governance gaps** show why a more sustainable and inclusive "Blue Transformation" is urgently needed.

Facts and Data Related to Fisheries and Aquaculture Sector

1. India is the world's **second-largest aquaculture producer**, contributing **10.23 million tonnes of aquatic animals**.

2. The country's total aquatic food production rose from **2.44 million tonnes in the 1980s to 17.54 million tonnes in 2022–23**.

3. Marine Products exports increased **by 11.08 % from US$ 0.81 Billion in October 2024 to US$ 0.90 Billion** in October 2025.

4. Coastal states and Union Territories, produce **72 percent** of the country's total fish production and account for **76 percent** of India's total seafood exports.

5. GST on key fish products has been reduced from **12 percent to 5 percent**, making value-added seafood more affordable at home and strengthening India's export competitiveness.

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6. **Livelihoods:** Supports approximately 28 million people through fishing, processing, and related activities.

Challenges to Fisheries and Aquaculture Sector

1. Environmental and climate challenges

- **Overfishing and resource depletion:** Many fish stocks are overexploited, threatening their sustainability and disrupting marine ecosystems.

- **Climate change:** Rising sea levels can destroy coastal ecosystems like mangroves, which are vital nurseries for fish, and increasing storm intensity can damage infrastructure. Climate change also affects water temperature and quality.

- **Pollution:** Contamination of water from industrial and other sources threatens aquatic life and the health of the sector.

- **Habitat loss:** Urban and industrial expansion reduces the wetland and other natural areas needed for both wild fish populations and aquaculture.

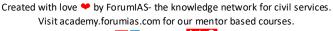**2. Infrastructure and technology challenges**

- **Inadequate infrastructure:** Deficiencies in cold storage, processing facilities, and transportation lead to significant post-harvest losses.

- **Slow technology adoption:** The sector struggles to embrace innovative and sustainable techniques and equipment, from modern fishing technology to water-efficient aquaculture systems.

- **Limited extension services:** There is a lack of sufficient support, such as soil and water testing, and real-time market information for fishers and farmers.

3. Governance and management challenges

- **Illegal, Unreported, and Unregulated (IUU) fishing:** IUU fishing is a major problem that can devastate fish stocks, particularly those of high economic value.

- **Weak governance:** Conflicting regulations across different regions make effective enforcement difficult.

- **Slow technology adoption:** The industry needs to embrace modern practices and technologies, but adoption rates are slow, especially at the production level.

- **Limited extension services:** There is a shortage of adequate support, such as soil and water testing facilities and real-time market information, for farmers and fishermen.

4. Health and disease challenges

- **Disease outbreaks:** Disease can spread quickly in aquaculture environments, especially with poor biosecurity measures and limited awareness of emerging diseases.

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• **Unpredictable interactions:** Unanticipated interactions between cultured and wild populations can also pose challenges.

Incentives Taken for the development of India's Fisheries and Aquaculture Sector
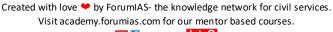
A. India initiative

1. **National Marine Fisheries Census 2025:** This fully **digital, geo-referenced census** covers **1.2 million fisher households** across **13 coastal states**, integrating real-time monitoring and socio-economic data through mobile apps like **VyAS–BHARAT** and **VyAS–SUTRA**. It supports targeted policy planning and transparent welfare delivery.

2. **Sustainable Harnessing of Fisheries in the Exclusive Economic Zone (EEZ)** : The **2025 EEZ Rules** mark a shift to sustainable deep-sea fishing. They prioritize **Fishermen Cooperatives and FFPOs** for deep-sea ventures, regulate access through **digital pass systems**, and ban destructive practices.

3. **Fisheries and Aquaculture Infrastructure Development Fund (FIDF):** Established in 2018 with a corpus of ₹7,522 crore, FIDF provides concessional finance and 3% interest subvention for infrastructure projects.

4. **Pradhan Mantri Matsya Sampada Yojana (PMMSY): It is flex scheme driving India's blue revolution which is launched in** 2020 with ₹**20,312 crore**, promotes sustainable fisheries through infrastructure, safety, and digital inclusion.

5. **Pradhan Mantri Matsya Kisan Samridhi Sah-Yojana (PM-MKSSY)**.

   • Approved in **2024** with ₹**6,000 crore**, PM-MKSSY aims to formalize the fisheries sector and extend aquaculture insurance. It offers **40% premium assistance**, capped at ₹25,000 per hectare.
   • Integration with digital platforms like the **ReALCraft portal** and the **National Fisheries Digital Platform** ensures efficiency and traceability.

6. **Safety and Monitoring**

   • To enhance safety and monitoring, the government is using **digital safety technologies**. Under the **Vessel Communication and Support System (VCSS) Project**.
   • The **NABHMITRA app** and these transponders help improve **maritime safety**, support **real-time communication**, and assist enforcement agencies in monitoring secure and legal fishing activities.

B. Institutional and Global Initiatives

1. Bodies like **ICAR fisheries institutes, MPEDA and the National Fisheries Development Board (NFDB)** have promoted innovation, better practices and value chain development across capture fisheries and aquaculture.

2. The **FAO** has supported India through the **Bay of Bengal Programme (BOBP)**, the **Bay of Bengal Large Marine Ecosystem (BOBLME)** project and a **GEF-funded aquaculture project in Andhra Pradesh**, which focus on climate-resilient, sustainable and ecosystem-based aquaculture and fisheries management.

3. Under a **Technical Cooperation Programme (TCP)**, FAO assists India in enhancing fishing port capacities to address environmental and social challenges. Two pilot ports—**Vanakbara (Dadra and Nagar Haveli and**

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Diu) and **Jakhau (Gujarat)**—will receive support to identify strategic investment projects that strengthen sustainability and value chains.

Way forward

1. **Strengthen science-based management** by mapping fish stocks, setting catch limits, curbing IUU fishing, strictly enforcing coastal regulations, and aligning national practices with FAO responsible fisheries guidelines.

2. **Diversify production** by promoting mariculture, deep-sea and offshore fisheries to reduce pressure on crowded coastal and inland waters and to unlock the underused potential of the EEZ.

3. **Upgrade infrastructure** by expanding harbours, landing centres, cold chains, testing laboratories and export hubs, and aligning these investments with PMMSY and broader Blue Economy investment plans.

4. **Support small-scale fishers:** Support small-scale fishers by improving access to formal credit, insurance, cooperatives, safety at sea, housing and social protection, with a special focus on women workers across the value chain.

5. **Invest in climate-resilient aquaculture** by promoting better quality seed and feed, stronger disease control, regular water-quality monitoring, digital tools and low-impact systems such as cage culture and recirculating aquaculture systems (RAS).

6. **Improve data and institutions** by modernising surveys, building robust digital databases and enhancing coordination among the Department of Fisheries, research institutes and coastal States for evidence-based policy and management.

7. **Promote value addition and sustainability** through eco-labelling, improved processing, better use of by-products and community-led co-management of resources and habitats, ensuring long-term resilient incomes and nutritional security.

Conclusion

India's fisheries and aquaculture are on a **promising but fragile** path. Stronger science-based management, climate-resilient practices, better infrastructure and data, and focused support to **small-scale fishers and women workers** are essential. With sustained national reforms and FAO-backed cooperation, India can achieve a resilient Blue Revolution that secures incomes, nutrition and marine ecosystems.

Question for practice:

Examine how India's recent policy initiatives and international collaborations are shaping the **sustainable development** of its fisheries and aquaculture sector.

Source: [The Hindu](#)

Do we really need large banks now?

Source: The post **"Do we really need large banks now?"** has been created, based on **"Do we really need large banks now?"** published in "The Hindu BusinessLine" on 22nd November 2025.

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UPSC Syllabus: GS Paper 2- Bilateral, Regional and Global Groupings and Agreements involving India and/or affecting India's interests.

Context: The Indian banking sector has remained stable even during global financial disturbances due to the Reserve Bank of India's conservative regulatory approach. In this context, the debate on whether India needs global-scale banks has resurfaced as the economy aspires to expand rapidly.

Why the Demand for Large Banks Has Emerged

1. Perception of Funding Constraints: Some stakeholders believe India lacks sufficiently large banks that can finance major private-sector expansion, mergers, acquisitions, and global-scale operations.

2. Poor Global Ranking of Indian Banks: Indian banks rank relatively low on global asset-size rankings, prompting suggestions that India needs much larger banks to support its ambition of becoming a $7.3 trillion economy by 2030.

Global Scenario: How Large Banks Were Formed

1. Government-Created Banking Giants: Many of the world's largest banks were deliberately built through government policies or substantial exposure to market risks to serve strategic national interests.

2. Dominance of Chinese Banks: Chinese banks such as ICBC, Agricultural Bank of China, China Construction Bank, and Bank of China hold a combined asset size of $22 trillion, reflecting their state-supported scale.

Position of Indian Banks Today

1. Global Ranking of Indian Banks: Only SBI (rank 43) and HDFC Bank (rank 73) appear in the list of top global banks.

2. Asset Size Gap: The total assets of all Indian Scheduled Commercial Banks amount to $3.38 trillion, which is nearly half the size of a single Chinese bank like ICBC.

Feasibility of Creating Large Banks in India

1. Limits of PSU Bank Consolidation: Consolidation of public-sector banks from 27 to 12 has strengthened the system, but even merging all PSU banks would create a bank ranked only 18th globally. Such mergers face cultural, structural, and employee-related resistance.

2. Risks of Higher Foreign or Corporate Ownership: Allowing greater corporate or foreign ownership in banks raises governance and systemic-risk concerns.
3. Limited Room for Deposit Growth: With Indian households already depositing most of their savings in banks, expanding the deposit base to create mega-banks is difficult.

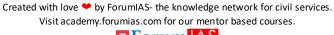**Do Large Banks Match Current Economic Needs?**

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1. Weak Industrial Credit Demand: Industrial credit growth has slowed, with its share dropping from 39.5% in 2016 to 21.5% in 2025.

2. Shift Toward Retail Lending: Banks rely increasingly on retail credit, which has grown from 22% to 33% of total lending over the same period.

3. Low Private-Sector Capex: Private-sector capital investment remains subdued except in select sectors like renewables and chemicals.

4. Growth of Non-Bank Funding Sources: Companies are increasingly using internal accruals, corporate bond markets, and external commercial borrowings, reducing the dependence on banks.

5. Unsuitability of Banks for Infrastructure Lending: Infrastructure projects create asset–liability mismatches for banks and add long-term risks, making specialised institutions like NaBFID better suited for such financing.

6. M&A Financing Is Manageable: The average annual M&A deal value of ₹3.7 lakh crore during 2019–2024 can be easily financed with the current banking capacity.

Challenges in Creating Large Global Banks in India

1. Governance and Management Complexity: Creating mega-banks increases administrative complexity and may dilute accountability, making governance more difficult.

2. Risk Concentration: Large banks may lead to higher systemic risk, where the failure of one institution could destabilise the entire financial system.

3. Integration Difficulties: Merging banks with different cultures and technological systems creates operational disruption and affects employee morale.

4. Fiscal Constraints: The government lacks sufficient fiscal space to recapitalise very large banks without compromising other developmental priorities.

5. Technological and Cybersecurity Risks: Larger institutions become more attractive targets for cyberattacks and may face greater challenges in integrating digital platforms.

6. Regulatory Challenges: Supervising mega-banks becomes more complex and demands significantly stronger regulatory capacity.

Way Forward

1. Encourage Targeted PSU Bank Consolidation: Consolidation should continue but with a focus on operational efficiency, stronger governance, and improved customer service rather than global rankings.

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2. Strengthen Development Finance Institutions (DFIs): Institutions like NaBFID should be strengthened to handle infrastructure financing, reducing the burden on commercial banks.

3. Deepen Corporate Bond Markets: India should expand bond markets to meet corporate financing needs, reducing reliance on banks and diversifying funding sources.

4. Promote Digital and Technological Capacity: Banks must invest in advanced technology, cybersecurity, and AI-driven decision systems to improve efficiency without necessarily increasing size.

5. Enhance Risk Management Practices: Strengthening risk monitoring, stress-testing, and governance systems can improve safety and performance.

6. Focus on Financial Inclusion and Credit Access: Expanding credit to small businesses, agriculture, and underserved sectors can generate more real economic value than creating globally large banks.

7. Maintain a Stable and Diverse Banking Ecosystem: India should aim for a balanced mix of public-sector banks, private banks, small finance banks, and fintech-driven models rather than only mega-banks.

Conclusion: While India may eventually need larger banks to support global ambitions, the current economic realities do not demand the creation of huge global-scale banks. Strengthening governance, expanding capital markets, improving credit allocation, and empowering DFIs provide a more sustainable path. Stability, efficiency, and resilience must remain the core priorities of India's banking system rather than size alone.

Question: "The Indian economy needs efficient and resilient banks, not necessarily larger banks." Comment in light of the debate on forming global-scale banks in India.

The new direction for India should be toward Asia

Source: The post **"The new direction for India should be toward Asia"** has been created, based on **"The new direction for India should be toward Asia"** published in "The Hindu" on 22nd November 2025.

UPSC Syllabus: GS Paper 3- Indian Economy and issues relating to Planning, Mobilization of Resources, Growth, Development and Employment.

Context: India's foreign policy is undergoing a significant transformation as global power shifts toward Asia and India rises as a major economy. The United States is recalibrating global multilateralism, China is expanding influence, and Russia remains a long-standing partner. In this evolving landscape, India faces strategic choices that require clarity, autonomy, and long-term vision.

Why Asia Should Be the New Strategic Direction for India

1. Asia's Growing Centrality in Global Power: The "G2" optics at the 2025 Busan Summit, with a confident China and an uneasy United States, highlight that geopolitical gravity is shifting toward Asia. Asia now holds **two-thirds of the global population and wealth**, re-establishing itself as the world's strategic and economic centre.

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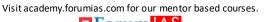**2. Economic Scale and Market Potential:** Asia's market is projected to surpass that of the U.S.A, offering India larger economic opportunities. Unlike Western alliances shaped by colonialism, Asia is integrating through **shared value-chain interests**, allowing India to partner on equal terms.

3. India's Role as a Balancing Power: Asian countries seek partnership with India due to its **technological capacity**, **economic weight**, and ability to balance China.India has the potential to shape Asian regional institutions and emerging economic corridors.

4. Strengthening Relations with Russia and Stable Ties with China: Russia remains a **trusted 75-year-old strategic partner**, and its S-400 system was crucial in "Operation Sindoor." India-China border negotiations in Ladakh are advancing, with potential long-term implications for stability and settlement of related issues such as Kashmir.

5. The Rise of Asian Groupings: Organisations like **BRICS**, **SCO**, and **ASEAN** are becoming intertwined in economic, security, and political domains. The door remains open for India to rejoin **RCEP**, offering a major alternative market to the U.S.

Why India Must Re-evaluate Its U.S.A Engagement

1. U.S.A. Moves Are Reducing India's Strategic Policy Space: U.S.A. is attempting to "pull India away from China" and restrict India's discounted oil purchase from Russia. The U.S.A. Ambassador's public positions reveal attempts to influence India's choices.

2. Concerns Over U.S.A Motives: There is a growing perception that the U.S.A may try to **prevent India's rise** to avoid another China-like competitor.

3. India Has Asserted Strategic Independence: Prime Minister Modi clarified that India's future **cannot be dictated by external powers**, underlining independent decision-making.

Key Challenges for India in Pursuing an Asia-centered Strategy

1. Defining Strategic Autonomy Clearly: India must balance its **developmental priorities** with its rising power status, ensuring that partnerships do not impose external agendas.

2. Navigating New Technological and Geopolitical Rules: Asia's power is now linked to **technology, digital interconnectedness, and innovation**, not traditional diplomacy. India must protect **national data**, promote **endogenous technology**, and strengthen **local defence production**.

3. Adapting to Evolving Security Threats: Cyberwarfare is becoming central, replacing land-centric threats. China's recalibration in Pakistan, U.S.A influence in South Asia, and the U.S.A quest for a base in Afghanistan complicate India's security landscape.

4. Defence Modernisation Challenges: India needs a national debate on reallocating defence resources. Maintaining a large Army and importing big platforms may hinder innovation in **AI, missiles, drones, air defence, and space systems** where India already has competitive capability.

5. AI Sovereignty Risks: India's ₹10,372-crore AI mission has been questioned by global firms for being inadequate. There is a risk of **U.S.A companies dominating India's AI ecosystem**, undermining sovereignty.

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Way Forward

1. Reaffirm Strategic Autonomy Based on India's Dual Agendas: India must align foreign policy with both its **high-growth ambitions** and its **Global South developmental commitments** without dilution.

2. Rebuild Trade and Economic Integration Within Asia: India should explore re-entry into **RCEP** and deepen cooperation across BRICS, SCO, and ASEAN. Trade concessions and mechanisms outside WTO rules may help integrate India into Asian value chains.

3. Prioritise Technology and Innovation as Core National Strategy: India must invest heavily in **indigenous innovation**, digital sovereignty, and localised defence systems. Protecting national data and building homegrown technological capacity should be non-negotiable.

4. Transform National Security for a Digital Era: Cybersecurity, AI-driven warfare, and technological dominance must replace older land-centric doctrines. Defence spending should shift from manpower-heavy structures to **innovation-heavy capabilities**.

5. Achieve AI Sovereignty: Funding for AI must increase at least **20-fold**, with national-level strategic collaboration, advanced compute resources, proprietary AI models, and talent development under PMO leadership. This will be critical for India's goal of becoming a global power by 2047.

Conclusion: As global power shifts toward Asia, India stands at a decisive moment in shaping its future. An Asia-focused strategy—grounded in strategic autonomy, technological strength, regional integration, and innovation—offers India the best path to secure its economic rise, geopolitical influence, and long-term national interests.

Question: India's foreign policy is at an inflection point, with changing global power balances and shifting Asian dynamics. Discuss why the new strategic direction for India should be towards Asia, highlighting key challenges and the way forward.

New Framework for Obscenity on Digital Platforms

UPSC Syllabus- Cyber Laws and Regulations: IT Act, 2000, rules regarding online content, and recent amendments.

News- The Union government has proposed new rules to define "obscenity" and other banned content on digital platforms under the IT Rules, 2021. The aim is to make clear what counts as prohibited content and to expand the Code of Ethics so that it applies not just to websites, but also to social media, OTT platforms, and digital news portals.

Background of the Proposed Amendment

The Supreme Court, while hearing a case involving comedian **Samay Raina** and a controversial joke, asked the government to come up with guidelines that strike a delicate balance between **freedom of speech under Article 19(1)(a)** and **reasonable restrictions under Article 19(2)**. In response, the **Ministry of Information and Broadcasting** submitted a detailed proposal outlining new regulatory measures.

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These proposals emerge at a time when concerns over **sexual content, deepfakes, harmful speech, and misinformation** are growing, prompting the government to strengthen oversight of digital platforms.

Key Features of the Proposed Guidelines

- **Definition of Obscene Content:** For the first time, the IT Rules explicitly define "obscenity," drawing from **Section 67 of the IT Act, Cable TV Programme Code, and Indian Penal Code (Bharatiya Nyaya Sanhita)**.
- **Expansion of Code of Ethics:** A new chapter on **Obscenity** applies to **OTT platforms and digital news portals**, covering 17 restrictions, including vulgarity, glorification of crime, and bias against communities.
- **Alignment with TV Standards:** The Cable TV Programme Code is transposed to digital platforms, raising questions about its relevance online.
- **OTT Compliance:** Platforms may need to ensure content is fit for **public exhibition**, akin to films under the **Cinematograph Act, 1952**.
- **Revival of IT Rules 9(1) and 9(3):** Previously stayed by courts, these rules enforcing the Code of Ethics are proposed to be revived.
- **Community Standards Test:** The Aveek Sarkar v. State of West Bengal test will decide if content is obscene. Content is acceptable if:
    - A reasonable person today would not see it as sexually provocative or voyeuristic.
    - It has literary, artistic, scientific, or political value.

Criticism of the Proposal

Digital rights groups have flagged several issues:

- **Overbroad definitions** could classify too much content as obscene
- **Executive overreach** by expanding IT Rules instead of using parliamentary amendments
- **Risks to free speech**, as ambiguous terms like "good taste" may be misused
- **Overlap with pending court cases**, since some rules are already stayed

Implications for Digital Platforms

If implemented:

- Platforms will need **stricter moderation and compliance processes**
- OTTs may face **film-like certification requirements**
- Social media platforms would have to **proactively filter indecent or vulgar content**
- Digital publishers could experience **heightened regulatory oversight**

Overall, the amendment has the potential to **reshape India's digital content ecosystem**, bringing it closer to a **broadcast-style regulatory framework**.

Question- Examine the key features of the proposed online obscenity guidelines, the concerns of digital rights groups, and their potential impact on India's digital content ecosystem

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Centre's Higher Education Commission of India Bill 2025

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

Introduction

Five years after **NEP 2020** proposed a single higher education regulator, the Union government plans to introduce the **Higher Education Commission of India (HECI) Bill 2025** in the winter session, aiming to replace multiple regulatory bodies and reorganise regulation and accreditation in higher education.

Historical Context of HECI Bill 2025

• Attempts to create a unified regulator began with the **2018 HECI draft Bill**, which aimed to repeal the UGC Act but did **not subsume AICTE and NCTE**.

• It faced criticism over centralisation and reduced university autonomy, leading to its withdrawal.

• Renewal efforts started under **Education Minister Dharmendra Pradhan in 2021**, aligning the proposal with **NEP 2020**, which called for structural reform and clearer separation of regulatory functions.

Centre's Higher Education Commission of India (HECI) Bill 2025

NEP 2020 vision and current structure

• NEP 2020 highlights the current regulatory system as **heavy-handed**, with concentrated powers, conflicts of interest and weak accountability. It proposes an **overarching HECI** to replace the **UGC, AICTE and NCTE** to minimise red tape.

• The **HECI Bill 2025 is likely to follow NEP 2020's recommendations** on a single overarching regulator and separation of core functions.

• **Currently**, **UGC** regulates non-technical education, **AICTE** manages technical institutions, and **NCTE** oversees teacher education.

• The Bill aims to create a **commission enabling higher education institutions to function as independent self-governing bodies**, promoting excellence through **transparent accreditation and autonomy frameworks**.

Commission Structure

• The earlier 2018 draft proposed a **chairperson, vice-chairperson and 12 members appointed by the Centre**, including AICTE and NCTE heads.

• The updated proposal is likely to follow NEP 2020, where **HECI will be a small expert-led body**, supervising four verticals.

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• Each vertical will have **independent experts with integrity and proven public service background**, ensuring specialised oversight. Although the NEP proposes a funding vertical, **funding powers are expected to remain with the government**, not with HECI.

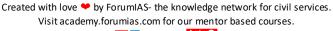**Key Provisions of the Bill**

1. **Unified Regulation** – HECI will function as a **single authority** for technical and non-technical higher education institutions, simplifying processes.

2. **Repeal and Replacement** – The Bill seeks to **repeal the UGC Act (1956)** and merge the UGC, AICTE and NCTE into HECI.

3. **HECI's Four Verticals under NEP 2020**

   • **The National Higher Education Regulatory Council** to regulate all fields except medical and legal education;

   • **The National Accreditation Council** as an accrediting body;
   • **The General Education Council** to frame learning outcomes; and
   • **The Higher Education Grants Council** for funding.

4. **Independent Expert Bodies** – Each vertical functions independently, overseen by HECI experts to ensure integrity and effectiveness.

5. **Exclusion of Specific Sectors** – **Medical and law colleges** remain outside HECI's jurisdiction.

6. **Institutional Autonomy Promotion** – HECI will encourage institutions to strengthen autonomy without compromising academic quality.

Potential Impact on Higher Education

1. Simplified Governance: Institutions may experience faster approvals and reduced bureaucratic hurdles

2. Enhanced Quality and Credibility: Uniform standards and professional benchmarks could strengthen the global recognition of Indian degrees.

3. Academic Autonomy: Clear separation of regulation and funding may allow universities to pursue research, collaborations, and innovation more freely.

4. Policy Clarity: A single regulator could provide coherent guidelines, reducing conflicts between overlapping authorities.

Potential Concerns Regarding HECI Bill 2025

1. **Centralisation and Autonomy Concerns:** A commission dominated by central authority, coupled with funding control retained by the ministry, may lead to **excessive centralisation and weakened institutional autonomy**.

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2. Representation Gaps: Critics observed that earlier structures lacked inclusion of **women, Dalits, Adivasis, minorities, backward castes and persons with disabilities**, while **industry stakeholders were explicitly accommodated**, raising concerns over equitable participation.

3. **Centre–State Funding Imbalance:** Some states fear a shift from **full central support to a 60:40 cost-sharing model**, which could affect fair fund allocation and burden-sharing.

4. **Ambiguity in State Role:,**A parliamentary committee warned that **insufficient state representation** could cause universities to face conflicting central and state regulatory requirements, creating compliance challenges.

Conclusion

The **HECI Bill 2025** seeks to replace fragmented regulatory systems with a unified framework aligned with **NEP 2020**, focusing on regulation, accreditation and academic standards while leaving funding decisions with the ministry. Its success will depend on **preventing centralisation, ensuring fair representation—including states and disadvantaged groups—and protecting institutional autonomy alongside stable funding mechanisms**. The effectiveness of reform will rely on how well these concerns are addressed during implementation.

Question for practice

Discuss the key provisions, potential impact and major concerns associated with the Centre's Higher Education Commission of India (HECI) Bill 2025.

Source: **Indian Express**

Need for Safe Food Processing in India

Introduction

India's food system faces a serious trust crisis. Street food, once a symbol of culture and livelihood, now raises safety doubts after raids exposed contaminated water and poor hygiene. At the same time, worries about pesticides, adulteration and sugar in processed foods are growing. These risks make safe, science-based food processing and stronger regulation central to protecting public health in both informal and packaged food sectors.

Concern related to food safety in India
1. **Contamination:** Food is contaminated through various means, including the rampant use of pesticides, antibiotics, and fertilizers, which introduce heavy metals and other harmful chemicals into the food chain.
2. **Adulteration:** Food adulteration is a significant problem, with deceptive labels being used to mislead consumers. This can include adding substances like wood dust, chili heads, or substandard oils to products, leading to chronic diseases like cancer and liver/kidney ailments.

3. **Regulatory issues:** Enforcement of food safety laws is often weak and inconsistent, and regulatory bodies have been criticized for lax supervision. There are also challenges with the clarity and simplicity of food safety standards, especially for small and medium-sized businesses.

4. **Hygiene and sanitation:** Inadequate sanitation in food preparation and storage areas, such as dirty sinks and poor disinfection procedures, creates high-risk environments for contamination. Improper food handling

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and storage practices, such as inadequate temperature control, are also common. For example, Raids on 58 pani puri stalls in Chennai using contaminated water and poor hygiene.

5. Public health burden: An **Observer Research Foundation (ORF)** estimates nearly 100 million food-borne illness cases and about 1,20,000 deaths annually, much of it linked to unsafe informal food sources.

6. **High sugar content:** Some reports highlight concerns about high sugar content in processed foods, such as baby food, which poses a risk to child health.
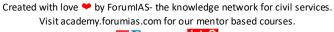
Initiative taken

1. **Consolidate various earlier laws: The Food Safety and Standards Act, 2006 (FSSA)** was enacted to **consolidate** various earlier laws dealing with food regulation, including the **Prevention of Food Adulteration Act, 1954 (PFA)**.

2. **Setting scientific limits for residues and additives:** The FSSAI has **notified Maximum Residue Limits (MRLs) for pesticides**, safe limits for **food additives and contaminants**, and **standards for veterinary drug residues**, bringing Indian norms close to those of advanced economies by around 2020.

3. **Adoption of a risk-based, Codex-aligned approach:** FSSAI has moved to a **risk-based regulation**, drawing on international best practices, especially the **Codex Alimentarius Commission**, rather than treating all contaminants in a simple "adulterated / not adulterated" way.

Note: The **Codex Alimentarius Commission or CAC** is the body responsible for all matters regarding the implementation of the Joint FAO/WHO Food Standards Programme.

4. **Organised regulation of packaged foods:** The packaged food industry works under an FSSAI framework that covers sourcing, processing and packaging. These rules guide companies and help authorities monitor safety.

5. **Safe processing methods:** Techniques such as pasteurisation, vacuum sealing and aseptic packaging are used to control microbes and maintain quality. They support safe storage and wider distribution in different weather and cities.

6. **Labels and health-based products:** Ingredient lists, allergen warnings and manufacturing and expiry dates on packs give consumers information. Companies are also adding fortified options to address micronutrient gaps and respond to health concerns.

7. **Food safety training for street vendors:** FSSAI, with Brihanmumbai Municipal Corporation, runs training on hygiene, safe handling, storage and waste disposal to bring street vendors into the safety net.

Way forward

1. **Regulatory compliance:** Adherence to regulations set by bodies like the Food Safety and Standards Authority of India (FSSAI) is mandatory to ensure products meet safety standards.
2. **Hygienic practices:** Businesses must implement strict hygiene protocols, including staff training on personal hygiene, safe handling, storage, and proper cleaning and sanitization.

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3. **Infrastructure and design:** The physical environment of food processing plants must be designed for safety, with durable, easy-to-clean materials, proper pest control, and a layout that prevents contamination.

4. **Quality control systems:** Tools such as Hazard Analysis and Critical Control Point help identify hazards at each step, fix control points and maintain records that track performance over time.

5. **Supply chain management:** Safety must continue beyond factories. Correct storage, temperature control and careful transport protect texture, flavour and microbiological quality till food reaches shops or homes.

6. **Safer street food ecosystem:** Campaigns like Eat Right India and Clean Street Food Hubs can expand training, licensing and stall grading so that vendors improve hygiene and customers judge options.

7. **Shared responsibility:** Regulators, companies, vendors and consumers each have a role: set rules, follow them, demand clean practices and choose safer options to support a healthier food system.

Conclusion

India's food future cannot rest on taste and tradition alone. Contamination, adulteration, unsafe street food and risky processing demand firm laws, better hygiene and strong oversight. Science-based standards, safer packaged foods, trained vendors and national campaigns must work together so every plate, from roadside stall to factory-made snack, reflects a clear, shared commitment to safety.

Question for practice

Examine how unsafe practices in both street food and packaged food, along with regulatory and hygiene gaps, have created a food safety challenge in India.

Source: [**The Hindu**](#)

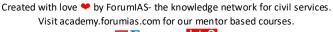## How can State PSCs be reformed

Source: The post **"How can State PSCs be reformed"** has been created, based on **"How can State PSCs be reformed"** published in "Indian Express" on 24th November 2025.

UPSC Syllabus: GS Paper 2- Polity

Context: State Public Service Commissions (PSCs) are responsible for recruitment to various government posts at the state level. Every year, examinations conducted by State PSCs face controversies, forcing aspirants to approach courts, which delays the recruitment process and erodes public trust. These problems are primarily due to structural and procedural lapses prevalent in most State PSCs.

History of PSCs

1. **Origin:** PSCs in India have their roots in the country's struggle for independence, where merit-based entry into civil services was a key demand.
2. **Montagu-Chelmsford Report:** The report of 1919 recommended the establishment of a permanent, politically neutral authority to regulate civil service matters.
3. **Formation of PSCs:** The first Union Public Service Commission (UPSC) was formed in 1926, and the Government of India Act, 1935, provided for PSCs in each province

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4. **Constitutional Provision:** The Constitution retained these provisions, resulting in the UPSC at the national level and PSCs in each state.

Structure of PSCs

1. **UPSC Structure:** The UPSC functions in a relatively apolitical environment, with members appointed based on merit and experience, including representation from all zones of the country.
2. **Experience Requirement:** Most UPSC members are above 55 years and possess extensive experience in public affairs.
3. **State PSC Structure:** State PSCs operate in politically influenced environments, and the appointment process often lacks transparency, minimum qualification requirements, or age criteria.
4. **Resource Constraints:** Many states do not have a dedicated Ministry of Personnel, and financial constraints often delay recruitment, leading to irregular notifications of vacancies.
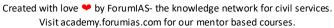
Working of PSCs

1. **UPSC Practices:** The UPSC regularly revises its syllabus, forms expert committees including academicians and civil servants, and follows inter-se moderation of scores to minimize subjectivity.
2. **State PSC Practices:** State PSCs rarely revise syllabi, have limited access to academic expertise, and face challenges in implementing complex vertical, horizontal, and zonal reservations, leading to frequent litigation.
3. **Impact on Credibility:** These systemic issues contribute to delays, complaints, and declining credibility of State PSCs.

Challenges Faced by State PSCs

1. **Lack of Regular Syllabus Revision:** Committees for syllabus updates are rarely appointed, leading to outdated examinations.
2. **Limited Academic Resources:** PSCs are often constrained to faculty within the state, reducing question quality and evaluation fairness.
3. **Evaluation Issues:** Difficulty in implementing inter-se moderation of marks increases subjectivity in results.
4. **Reservation Complexity:** Vertical, horizontal, and zonal reservations add procedural challenges and create frequent litigation.
5. **Inconsistent Examination Schedule:** Irregular notifications and postponed recruitment due to manpower and financial constraints erode trust.
6. **Regional Knowledge Gap:** Testing state-specific areas like history, economy, and geography is challenging due to limited faculty expertise.
7. **Translation Issues:** Translation of question papers can lead to errors affecting candidate performance.
8. **Inadequate Supervision:** Secretaries often lack prior experience in education administration, reducing the effectiveness of the examination branch.

Suggested Reforms

1. **Manpower Planning:** State governments should create a dedicated Ministry of Personnel to enable systematic manpower planning and prepare a five-year roadmap for recruitment.
2. **Age Criteria:** The minimum age for appointment as a PSC member should be 55 years and the maximum age 65 years.

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3. **Qualification Requirement:** Official members should be retired senior civil servants of at least Secretary rank, and non-official members should have at least ten years of experience in recognized professions such as law, medicine, or engineering.
4. **Consultation in Appointment:** Pre-consultation with the Leader of Opposition should be mandatory for non-official appointments, and a state-wide panel of eminent persons should be periodically updated.
5. **Syllabus Revision:** Syllabi should be revised periodically following UPSC standards, with public consultation. Regional knowledge should be tested in objective format while main examinations can mix objective and subjective papers.
6. **Question Paper Translation:** Translation of question papers should use technology and human oversight to ensure accuracy. Question patterns should be regularly changed to reduce misuse of AI tools.
7. **Secretary Appointment:** The Secretary of the State PSC should be a senior officer with prior experience in education administration to ensure effective supervision of the examination process.
8. **Transparency and Confidentiality:** Transparency and confidentiality in the examination process should be balanced, following the UPSC model.

Conclusion: Implementing these reforms will enhance the efficiency and credibility of State PSCs. With proper structural, procedural, and administrative changes, State PSCs can function on par with the UPSC, ensuring merit-based recruitment and reducing litigation.

Question: State Public Service Commissions play a vital role in recruitment at the state level. Discuss the structural and procedural challenges faced by State PSCs in India and suggest reforms to enhance their efficiency and credibility.

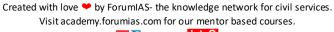## Constitution (131st Amendment) Bill 2025 and Status of Chandigarh

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

Introduction

The debate around the Constitution (131st Amendment) Bill 2025 is about bringing Chandigarh under Article 240, changing how the Union Territory and joint capital is governed. Today, Chandigarh is a UT and shared capital of Punjab and Haryana, administered by the Punjab Governor. Punjab's political parties fear this will weaken their claim over Chandigarh as capital, while the Centre has now said it has **no intention of introducing the Bill in the coming Winter Session**.

Background

1. Search for a new capital after Partition: After Partition, Lahore went to Pakistan and Shimla became Punjab's temporary capital. Jawaharlal Nehru supported creating a new planned capital for Punjab, leading to the selection of a site near the foothills of the Himalayas in March 1948.

2. Planning and construction of Chandigarh: Land, including **22 villages in Kharar**, was acquired and **Le Corbusier** prepared the master plan. Chandigarh became Punjab's capital in 1953 and was formally inaugurated later that year. It stood for a modern, post-Partition capital built on land taken from Punjab's villages, shaping Punjab's emotional and political link with the city.

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3. Reorganisation and UT joint capital status: The **Punjab Reorganisation Act, 1966** divided Punjab and created Haryana. Chandigarh, on the border of the two states, became a **Union Territory and joint capital**, with properties divided 60:40 between Punjab and Haryana and the city brought under Central control.

4. 1970 assurance and continuing dispute: In 1970, the Centre announced that the capital project area of Chandigarh should go to Punjab, while giving Haryana temporary office use in Chandigarh and financial help to build a new capital. Yet, Chandigarh still functions as joint capital. Punjab continues to see its claim over the city as **"undisputed"**, arguing that a city built by uprooting Punjab's villages should belong to Punjab.
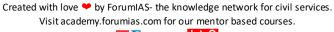
5. Repeated assertion of Punjab's claim

• In **August 2016**, when the Centre tried to appoint former IAS officer K J Alphons as an independent Administrator, the Akali-led Punjab government, Congress and AAP opposed it.

• More recently, at the **Northern Zonal Council meeting in Faridabad**, Chief Minister Bhagwant Mann again asserted that Chandigarh should be immediately transferred to Punjab.

Constitution (131st Amendment) Bill 2025

1. **Core proposal under Article 240:** Parliament bulletins mentioned a proposal to introduce the Constitution (131st Amendment) Bill 2025 to include **Chandigarh under Article 240** of the Constitution.

2. **Power of the President under Article 240:** Article 240 allows the President to make regulations "for the peace, progress and good government" of certain Union Territories such as Andaman and Nicobar Islands, Lakshadweep and other listed territories, including Puducherry in specific situations.

3. **Regulations as law for Chandigarh:** These regulations can repeal or amend Acts of Parliament or other laws and have the same force as an Act of Parliament. Including Chandigarh would place it with Union Territories without legislatures and allow the President to issue direct regulations instead of Parliament passing separate laws.

4. **Present administrative model of Chandigarh:** Chandigarh is a Union Territory and shared capital of Punjab and Haryana. The **Governor of Punjab** currently functions as the **Administrator of Chandigarh**, reflecting its role as a common capital under the Punjab Reorganisation framework.

5. **Possible shift to an independent Administrator:** Placing Chandigarh under Article 240 is widely seen as paving the way for an **independent Administrator or Lieutenant Governor**, like in other Union Territories.

Impacts of Constitution (131st Amendment) Bill 2025

1. **Impact on Punjab's claim:** Punjab leaders say an independent Administrator or L-G will weaken Punjab's historical, emotional and political claim over Chandigarh, which they see as built on Punjab's land and promised as its exclusive capital.

2. **Impact on governance of Chandigarh:** Including Chandigarh under Article 240 would place it with UTs without legislatures and allow the President to issue direct regulations instead of Parliament making separate laws. It is also seen as ending the current model where the **Punjab Governor** acts as Chandigarh's Administrator.

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3. **Impact on federal balance: Political p**arties term the move anti-federal, argue it breaks past assurances on Chandigarh, and warn it could damage trust between Punjab and the Union government.

4. **Political backlash:** The proposal led to sharp protests from AAP, Congress and SAD, who called it a conspiracy to "take away" Punjab's capital and demanded that the Centre withdraw the move.

Conclusion

The controversy over the Constitution (131st Amendment) Bill 2025 shows how sensitive Chandigarh's status remains. Punjab sees an Article 240-based independent Administrator as diluting its claim and federal spirit. The Home Ministry says the proposal only aimed to simplify law-making, and its decision to pause and consult means any change must rest on broad agreement.

Question for practice:

Examine how the proposed Constitution (131st Amendment) Bill 2025 could impact Chandigarh's governance structure and Punjab's claim over the city.

Source: **The Indian Express**

From Gene Modification to Genome Editing – India's Journey

UPSC Syllabus Topic: GS Paper 3 -science and technology.

Introduction

India's biotechnology journey has moved from first-generation gene modification (GM) towards more precise genome editing using tools like CRISPR. While GM crops largely stalled after Bt cotton, genome-edited (GE) crops and therapies now enjoy stronger policy support, indigenous R&D and growing applications in both agriculture and health.

Gene Modification (GM) vs Genome Editing (GE)

Technique

Gene modification creates genetically modified (GM) crops by inserting one or more genes from another organism, often an unrelated species. A key Indian example is Bt cotton, where a gene from the soil bacterium *Bacillus thuringiensis* was inserted into cotton to give insect resistance.

Genome editing creates genome-edited (GE) crops by using tools such as CRISPR-associated proteins (like Cas9 or Cas12a) to cut and modify genes that are already present in the plant. The edit is guided by a short RNA sequence, so a specific native gene is altered rather than a foreign gene being added.

Regulation in India

1. GM crops that contain foreign DNA have to follow the full biosafety pathway under the **Environment (Protection) Act Rules, 1989**, and **need clearance from the Genetic Engineering Appraisal Committee (GEAC)** for environmental release, including field trials.

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2. **In March 2022, the Environment Ministry issued an Office Memorandum stating that certain genome-edited plants which are free from exogenous (introduced) DNA**—specifically SDN-1 and SDN-2 categories—are exempted from the more stringent provisions of these Rules.

3. For such SDN-1 and SDN-2 genome-edited plants, the biosafety review under the 1989 Rules ends at the Institutional Biosafety Committee (IBSC), once it confirms that the final plant is free from foreign DNA.

Phase I – Introduction of Gene Modification (GM) in India

1. India's modern biotechnology journey began with gene modification, where foreign genes were inserted into crops to provide specific traits.
 2. The most important milestone was the **introduction of Bt cotton**, which carries a gene from the bacterium *Bacillus thuringiensis* to resist bollworms.
 3. This marked **India's entry into the era of genetically modified (GM) crops** and showed that biotechnology could directly improve farm-level productivity and pest resistance.

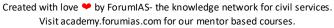**Phase II – Stagnation and Controversies Around GM Crops**

1. After the initial success of Bt cotton, **India's GM story entered a phase of stagnation**. **No new GM crop technology was approved for commercial cultivation for many years.**
 2. Attempts to **introduce GM food crops such as Bt brinjal and GM mustard** faced strong opposition from civil society groups, farmers' organisations and some state governments.
 3. **Concerns were raised over biosafety**, long-term health effects, environmental risks and corporate control over seeds.
 4. Court cases and regulatory caution further slowed the process. As a result, **India remained effectively limited to Bt cotton**, and the country was seen as having underused the full potential of GM technology.

Phase III – Policy and Regulatory Shift Towards Genome Editing

1. A clear shift began when India **moved from classical GM to genome editing**.

2. Building on the **2022 decision that exempted SDN-1 and SDN-2 genome-edited plants** without foreign DNA from the stringent 1989 Rules, many genome-edited crops would no longer require clearance from the Genetic Engineering Appraisal Committee (GEAC) for environmental release.

3. The **Department of Biotechnology then released detailed guidelines and SOPs** for safety assessment of genome-edited   plants.
 4. The **Union Budget 2023–24 earmarked a dedicated allocation of ₹500 crore** for genome editing, with ₹310 crore for field crops, ₹120 crore for horticulture and the rest for animal science, fisheries and microorganisms.

5. **ICAR has identified 178 genes in 24 field crops and 43 genes in 16 horticultural crops for editing.**

6. Together, these steps **signalled a policy decision to actively promote genome editing** as a preferred route for crop improvement.

Phase IV – Field Applications of Genome Editing in Crops

Genome-edited rice and mustard

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1. In 2025, two GE rice lines derived from **Samba Mahsuri and MTU-1010** completed multi-location trials (2023 and 2024 kharif). They show around 19% higher yield and better tolerance to saline and alkaline soils.
2. Parallel reporting notes **India's first genome-edited rice varieties – DRR Dhan 100 (Kamala) and Pusa DST Rice 1 –** designed to use less water while maintaining or increasing yields, signalling a potential water-saving "game changer".
3. A **GE mustard line with low pungency and resistance to major fungal pathogens and pests** is under second-year trials and may be ready for release around 2026.

Building Indigenous Tools and Capacity

How CRISPR is used

• India's GE crops **use CRISPR-Cas9 and Cas12a to "edit" native genes** controlling traits like drought and salt tolerance (in MTU-1010) and yield-linked genes like *Gn1a* in Samba Mahsuri.

• The **Cas proteins** appear only in the first generation; later selected plants are transgene-free, differentiating them from GM crops that permanently carry foreign genes.

Indigenous tools and capacity building

• ICAR and IARI have sent Indian scientists for advanced genome-editing training to the US, Europe, Australia and CIMMYT.

• Experts from **Jennifer Doudna's Innovative Genomics Institute trained faculty at IARI in 2025** and shared next-generation tools like GeoCas9 and CasLambda.

• A team led by Kutubuddin Ali Molla has patented an **indigenous "miniature" genome-editing tool based on TnpB proteins**, claimed to be cheaper and potentially more efficient than Cas9 and Cas12a because of smaller protein size and local IP control.

Beyond Crops: Gene and Cell Therapies in Health

Parallel to developments in agriculture, India's genome-editing journey now extends into human health.

1. **NexCAR19, an indigenous CAR-T cell therapy for blood cancers, received CDSCO approval in 2023** and is being deployed at a fraction of typical global CAR-T costs, positioning India on the global map of cell and gene therapy.

2. India is pursuing **gene-editing solutions for sickle cell disease** under a mission to eradicate the disease by 2047, with CRISPR therapies highlighted as potential one-time cures.

3. In November 2025, the **government launched BIRSA-101, India's first indigenous CRISPR-based gene therapy for sickle cell disease,** specifically targeting tribal populations.

4. These examples show that **India's shift to genome editing is not just about crops but part of a broader bio-innovation ecosystem.**

Way forward

1. Strengthen biosafety and transparency: Keep lighter rules for SDN-1 and SDN-2, but ensure robust risk assessment, labelling norms where needed, and transparent public communication to avoid a repeat of GM-era mistrust.

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2. Focus on climate resilience and nutrition: Prioritise edits that improve drought, flood and salinity tolerance, disease resistance, micronutrient content and reduce input use, aligning with food and nutritional security goals.

3. Democratise access to gene and cell therapies: Extend public funding, innovative pricing and manufacturing models so treatments like NexCAR19 and BIRSA-101 are not confined to a few elite hospitals.

4. Invest in indigenous platforms and skills: Support Indian toolkits (like TnpB-based editors), shared biomanufacturing facilities and training programs so researchers across states can use advanced genome-editing without prohibitive IP or equipment costs.

5. Build ethical and legal frameworks: Update bioethics guidelines, consent frameworks and data-sharing rules to keep pace with human gene editing and ensure equity, safety and respect for rights.

Conclusion

India's journey from gene modification to genome editing reflects a shift from controversial, slow-moving GM crops to policy-backed, largely indigenous genome-editing programmes in agriculture and health. GM cotton remains the lone commercial success, but genome-edited rice, mustard and other crops, along with CAR-T and CRISPR-based therapies, show that India is now shaping, not just importing, frontier biotechnologies. If regulatory vigilance, public trust and equitable access are sustained, genome editing can become a powerful, home-grown tool for India's food security and public health in the coming decades.

Question for practice:

Discuss how India's regulatory and technological shift from gene modification to genome editing is shaping its agricultural and healthcare innovation landscape.

Source: **Indian Express**

Indian Aviation Can Soar to Greater Heights

Introduction

India is poised to become the world's third-largest aviation market, marking a transformative phase in its civil aviation sector. This growth is not merely in numbers but is underpinned by strategic reforms, infrastructure expansion, and a vision to integrate over a billion people with global connectivity. Aviation acts as a key driver of economic and social development, fostering job creation, enhancing business links, and positioning India as a global connectivity hub.

Current Status

·   India's fleet is rapidly expanding with **around 1,300 new commercial aircraft ordered** in the last two years, indicating robust industry confidence.

·   The number of **operational airports has more than doubled**, growing from **74 in 2014 to 159 presently**, with ambitious plans to increase this to **over 220 by 2025.**

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· **Domestic passenger traffic showed steady growth**, albeit modest (4-6% in 2025-26), while international passenger traffic for Indian carriers is projected to rise 13–15%.
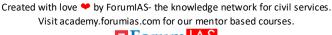
· The government's **modified UDAN scheme** aims to enhance regional connectivity, adding 120 new destinations and carrying over 40 million passengers in the coming decade.

· Despite challenges such as fuel costs and regulatory hurdles, India's **per capita air travel remains low at 0.14 trips annually**, highlighting **vast growth potential**.

· Indian carriers currently operate **under 90 wide-body long-haul aircraft compared to 450+ in the Gulf**, emphasizing room for expansion in global long-haul connectivity.

· **Delhi** is strategically positioned to **become a true global hub**, incentivized by infrastructure enhancement, regulatory reforms, and improved multimodal connectivity.

Challenges in aviation sector

· **High aviation turbine fuel (ATF)** costs, especially with VAT rates as high as 25% in Delhi, hamper competitiveness compared to neighboring hubs with much lower fuel taxes.

· **Maintenance, Repair, and Overhaul (MRO) facilities** remain underdeveloped domestically, leading to significant foreign exchange outflows and longer turnaround times.

· **Dependence on Original Equipment Manufacturers (OEMs)** for design data limits India's ability to develop a comprehensive domestic MRO ecosystem.

· **Skilling shortages and limited advanced R&D facilities** impede the evolution of a high-quality aerospace manufacturing and services industry.

· **Infrastructure bottlenecks** such as land acquisition delays, regulatory complexities around tariff and land-use, and multimodal connectivity gaps restrict seamless aviation sector growth.

Way Forward

· **Rationalize ATF taxation** by reducing VAT to 4-5% and integrating ATF under GST to enhance cost predictability and sector competitiveness.

· **Promote the development of indigenous MRO capabilities** leveraging public-private partnerships and policy reforms such as the 'Right to Repair' legislation.

· **Provide targeted fiscal incentives**—reduced GST, customs duty exemptions, tax credits, and subsidies— for aerospace R&D and component manufacturing.

· **Enhance skilling** through modular aerospace skill centers and strengthen collaborations between flight test engineers, pilots, and industry stakeholders.

· **Expedite airport infrastructure projects** and enable **new greenfield airports** while streamlining regulations to unlock their full economic potential.

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·   Strengthen India's position as an **international transit hub** by expanding wide-body aircraft fleets and improving airport multimodal connectivity.

·   **Digitize cargo operations**, develop **free trade zones**, improve **cold chain logistics**, and **first-mile infrastructure** to boost cargo handling efficiency.

Conclusion

India's journey to becoming a global aviation powerhouse is both aspirational and achievable through coherent policy action, infrastructure upgrades, and innovation. Building a seamless ecosystem encompassing airports, airline fleets, MRO, and skilled manpower will unlock high economic multipliers, enhance global connectivity, and secure India's strategic position in the international aviation arena by 2030 and beyond. The sector's continued growth promises to be transformative, not only linking people and businesses but also significantly contributing to India's economic development and global outreach.
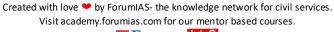
Source - BusinessLine

A Bank for G20

UPSC Syllabus Topic: GS Paper 3 -Economy

Introduction

South Africa's G20 presidency comes at a time of **conflicts, climate stress, and a wider development crisis**. The pandemic has reversed earlier gains against poverty and hunger and pushed **93 million more people into poverty**. With earlier presidencies of Brazil and India refocusing the G20 on SDGs, finance, food security, digital public infrastructure and climate action, the central question now is how to plug the **huge SDG financing gap**.

Need for a Bank for G20

1. Massive SDG financing gap: UN estimates show that developing countries face a **$4 trillion gap** in financing the SDGs. This gap makes it very hard to carry out the scale of change required across countries and sectors.

2. Debt distress and pressure on basic services: Much of the developing world is **reeling under debt distress**. Many countries are not able to sustain essential social services because a large part of their resources goes towards managing debt.

3. Decline in development aid and bilateral flows: Development aid has **suffered a severe setback** as many big donors, especially the **United States**, have withdrawn from the international development scene. Net bilateral flows to low-income countries have **fallen steadily** after the initial rise during the pandemic.

4. Very low private investment in SDGs: Private sector support for SDGs is very weak. Only **4 per cent of the $410 trillion in global private assets** invested in developing countries is directed towards SDG-related sectors. This level of investment is too low for stable, long-term SDG and climate financing.

5. Rigid and slow multilateral financial institutions: Existing multilateral financial institutions are seen as **structurally rigid** and **slow to respond** during crises. Their functioning has not matched the urgent financing needs of developing countries for SDGs.
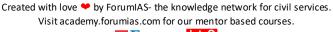
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6. Imbalance between Global North and Global South: These institutions are dominated by the **Global North**, while the **Global South is underrepresented** in decision-making. This imbalance weakens trust and limits the ability of developing countries to shape financing rules and priorities.

7. Country-focused model not suited to SDGs: The **World Bank and IMF** follow a country-focused operating model. SDG financing, however, needs a **broader focus across countries and sectors**, which this model does not provide.

8. Narrow growth-based lending approach: Multilateral development banks have **prioritised economic rate of return** and often ignored environmental and social concerns. Their record in climate finance is poor, and they have mainly pushed a **growth-based approach to poverty reduction**, which does not align well with the SDG and Paris Agreement agenda.

Initiatives taken for the development of a Bank for G20

1. **Think-tank proposals under G20 presidencies:** A Think-20 policy brief under India's G20 Presidency proposes creating a **Development Financial Institution under the G20** to bridge the SDG financing gap and support the Global South during crises.

2. **Idea of a Global Public Goods Bank:** A written submission by the G20 Expert Group (IEG) for a **new Global Public Goods Bank within the World Bank**, with its own balance sheet and governance, sitting alongside IBRD and IDA.

3. **United nation technical note:** A UN Technical Note on refugee hosting as a global public good calls for reform of MDBs toward GPGs and explicitly mentions creating a dedicated Global Public Goods (GPG) Bank with its own balance sheet and governance. . These ideas strengthen the intellectual case for a G20-led bank.

4. **Norad 2025 report:** It calls for **new "tiers" and additional funding streams for global public goods and planetary challenges**, arguing that traditional ODA must be complemented by new international public finance mechanisms—this supports the case for GPG-type institutions.

5. **UN "Our Common Agenda" Policy:** Calls for **new mechanisms and reformed institutions** to mobilise large-scale finance for SDGs and global public goods and for changing MDB business models; expert proposals like a **GPG Bank / G20 Bank** are emerging within this reform track and feeding into G20 MDB discussions

Challenges to a Bank for G20

1. **Complex governance and power balance:** G20 members have different interests and priorities. Designing a governance structure that is fair to both Global North and Global South will be politically difficult.

2. **Overlap with existing institutions:** A new G20 bank may duplicate the roles of the World Bank, regional development banks, and funds already working on SDGs and climate, leading to more fragmentation.

3. **Uncertain and uneven capital contributions:** The bank will need large and predictable capital and guarantees. Securing strong commitments from all G20 members, especially at a time of strained budgets, is a major challenge.

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4. **Risk of reinforcing old conditionalities:** If the new bank copies the lending practices and conditionalities of existing institutions, it may fail to correct current problems of slow disbursement, rigid conditions, and limited country ownership.

5. **Exclusion of non-G20 countries in decision-making:** Although the bank would serve the wider developing world, its core decision-making may remain with G20 states, raising questions about representation and voice for non-G20 borrowers.

6. **Time lag between idea and implementation:** Negotiating the mandate, structure, capital, and governance of such a bank can take years, while the SDG and climate crises require urgent action.

Conclusion

A G20 Development Bank is shown as essential to bridge the SDG financing gap, ease debt distress and overcome failures of the current financial order. With long-term, stable finance for development, climate action and other global public goods, and with greater voice for the Global South, it could decide whether the SDGs succeed and reshape global finance.

Question for practice:

Examine why there is a growing demand for a dedicated G20 Development Bank to finance the Sustainable Development Goals (SDGs)

Source: **Businessline**

USA-Saudi Arabia Relations and Impacts on India

UPSC Syllabus Topic: GS Paper 2 - International Relations

Introduction
USA–Saudi Arabia ties rest on an 80-year-old, **transactional "oil-for-security" alliance** that now extends into defence, energy management and technology. The recent Summit, driven by the personal bond between U.S. President Donald Trump and Crown Prince **Mohammed bin Salman (MbS)**, is reshaping this partnership, altering the regional balance in West Asia and creating important security, energy and economic implications for **India**.

Historical Evolution of the USA-Saudi Arabia Alliance

Origins and durability of the bargain

• The relationship began in February 1945 as a secret "oil-for-security" deal between Franklin D. Roosevelt and King Abdul Aziz on the USS Quincy in the Suez Canal.

• It exchanged assured oil supplies for American protection and **predated** institutions such as the UN, NATO and the Bretton Woods system.

• Originally meant to last 60 years, it was **renewed in 2005**, making it one of the **oldest strategic transactional deals** still in force.

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Energy transformation, trade shifts and early strains

• Shale technology turned the U.S. into the world's largest crude producer and a major exporter.

• This reduced the direct commercial weight of Saudi oil and pushed the **bilateral trade balance in America's favour**, even as U.S. exports remained steady.

• As a trading partner, the U.S. now ranks **below China and India** for Saudi Arabia.

• Relations also faced shocks from Saudi participation in the 1973 Arab oil embargo and its mid-1980s purchase of Chinese intermediate-range ballistic missiles from a country it did not even recognise.

Increased Mistrust

• **During the Yemen war,** U.S. decisions to **staunch arms supplies** weakened Saudi capabilities against the Houthis and increased mistrust.

• The **assassination of Jamal Khashoggi** in the Saudi consulate in Istanbul in October 2018 further jolted ties.

Tilt Towards China and Russia

• The Biden presidency initially kept MbS at arm's length, prompting **diversification towards China and Russia**.

• In December 2022, Xi Jinping's visit to Riyadh, three separate summits with Saudi, Arab and Muslim leaders, and China's role in restoring Saudi–Iran diplomatic relations strengthened this new outreach.

Gaza conflict and unresolved Israel–Palestine issue

• Since late 2023, strong **U.S. support for Israel's brutal campaign in Gaza** has made it harder for Riyadh to reset ties with Washington.

• Saudi Arabia has resisted U.S. pressure to **formally recognise Israel**, insisting on a credible pathway to Palestinian statehood, which Israel has ruled out. This unresolved question remains a **core political constraint** on full strategic convergence.

Shifts Under Trump 2nd Presidency

1. Defence deals and big investments
In Trump's second term, relations moved up sharply. His first foreign trip in May 2025 was to Saudi Arabia, where both sides agreed on **$142 billion** in U.S. military equipment. There, **$270 billion** worth of agreements were signed, showing stronger political trust and deeper economic engagement.

2. Strategic defence status and Saudi money in the U.S.

• MbS promised to increase planned Saudi investments in the U.S. from **$600 billion to $1 trillion**. This amount is almost equal to Saudi Arabia's GDP and the size of its Public Investment Fund, which already has about **40%** of its foreign investments in the U.S.

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• A **Strategic Defence Agreement** gave Saudi Arabia "major non-NATO ally" status and bound Washington to help if the Kingdom is attacked.

3. Technology cooperation and unresolved gaps

• Both sides advanced cooperation in **civil nuclear energy** and the supply of state-of-the-art **AI chips**.

• However, observers doubt that all promises will be realised, given Trump's "truthful hyperbole" and Saudi economic stringency.
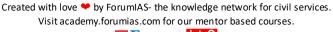
• Key differences on the global oil surplus, ties with Israel, Iran, and Saudi ambitions for strategic autonomy were not resolved, only set aside.

Geopolitical & Regional Impact

1. Saudi Arabia's more assertive role: Revived U.S.–Saudi ties under Trump 2.0 are shifting the regional balance. Under MbS, Saudi Arabia has dropped its low-key style and is pursuing its interests after the Israeli campaign that has weakened Iran, its rival. White House backing makes MbS a long-term U.S. partner in West Asia.

2. Regional crisis brokerage: MbS has got Trump to lift sanctions on Syria's new regime and has pressed for stronger U.S. action to end the Sudanese civil war. The Iranian President has sought his help to restart nuclear talks with Washington, turning Saudi Arabia into a regional go-between.

3. Oil, sanctions and big-power rivalry: Saudi Arabia relies on oil income. Coordinated U.S. sanctions on Iran, Venezuela and Russian oil majors curb oversupply, keep prices moderate and create space for higher Saudi and U.S. exports, while limiting Chinese and Russian influence.

Implications for India

1. Security implications via Pakistan: Closer U.S.–Saudi defence ties may indirectly benefit Pakistan. Riyadh's defence pact with Pakistan, backed by Washington, can ease Pakistani access to U.S. military equipment.

2. Oil prices and energy stability: India prefers low oil prices but needs stability. Moderate prices can help while it finds alternatives to Russian supplies.

3. Openings in Saudi Vision 2030: Saudi Arabia's Vision 2030, including AI data centres, can create investment and technology opportunities for India.

4. Space from limiting China: If U.S.–Saudi ties help **curb China's entry** into Saudi markets, the space for India widens. This makes it important for India to **prioritise a Comprehensive Economic Partnership Agreement (CEPA)** with Saudi Arabia to lock in long-term trade and investment gains..

5. IMEEC and regional connectivity: An emerging **modus vivendi between Saudi Arabia and Israel** can ease work on the **India–Middle East–Europe Economic Corridor**, which passes through Saudi territory. Better relations in the region support India's connectivity and trade plans.

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6. U.S. transactional approach and India: The U.S. now prioritises strategic economic gains over earlier concerns like human rights or proliferation while engaging with MbS. This signals that **pragmatic, economy-focused cooperation may help India strengthen ties with Washington**, despite value differences.

Conclusion

The renewed but reconfigured U.S.–Saudi alliance helps Washington **reclaim primacy in Riyadh** while giving MbS greater autonomy and regional leverage. As the partnership moves beyond a simple oil-for-security bargain into an uncertain, interest-driven framework, India must closely track security linkages with Pakistan, leverage emerging energy and connectivity openings, and actively position itself inside evolving Gulf economic and technological networks.

Question for practice

Discuss how the renewed U.S.–Saudi Arabia partnership under Trump 2.0 shapes regional geopolitics and what implications it holds for India.

Source: [The Hindu](#)

How Hayli Gubbi Volcanic Eruption in Ethiopia is Disrupting the Air Routes

Source: The post **"How Hayli Gubbi Volcanic Eruption in Ethiopia is Disrupting the Air Routes"** has been created, based on **"How Hayli Gubbi Volcanic Eruption in Ethiopia is Disrupting the Air Routes"** published in "Indian Express" on 26th November 2025.

UPSC Syllabus: GS Paper 2 -Governance

Context: The recent eruption of the **Hayli Gubbi volcano** in Ethiopia caused widespread disruptions in air traffic, including flights to India. Volcanic ash from the eruption can have severe impacts on aviation safety. **Volcanic ash** consists of fine particles that pose a significant threat to aircraft engines, visibility, and flight systems. Given its abrasive nature and the potential for widespread ash clouds, managing the risks associated with volcanic eruptions is a major concern for the aviation industry.

Impact of Volcanic Ash on Aircraft

1. **Engine Damage**:
   a. Volcanic ash is made up of fine, abrasive particles that can clog and damage aircraft engines.
   b. The particles can melt at high altitudes and form glass-like deposits inside the engine, causing severe damage, including engine failure.
   c. In some cases, as ash particles build up, they can completely stall the engine, leading to potentially catastrophic situations.
2. **Visibility Issues**:
   a. Ash clouds severely reduce visibility, making it difficult for pilots to see clearly. The loss of visibility can lead to navigation errors, especially when the ash is thick and widespread.
   b. Pilots rely on radar and other instrumentation to navigate safely, but ash clouds can interfere with these systems, making it more challenging to avoid dangerous areas.

3. **System Failures**:

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a. Volcanic ash can interfere with various aircraft systems. For example, it can clog **aircraft sensors**, **temperature gauges**, and **exhaust systems**, all of which are crucial for safe operation.

b. The ash particles can also disrupt critical **flight instruments** and **navigation systems**, making it harder for pilots to maintain control of the aircraft.

4. **Health Risks**:

a. Long-term exposure to volcanic ash can be harmful to passengers and crew inside the cabin, especially in cases where the aircraft flies through dense ash clouds. Respiratory issues, irritation of eyes and throat, and other health complications may arise due to the fine particles in the ash.

b. In addition, volcanic ash can compromise the **air quality** inside the aircraft, which may lead to discomfort and health hazards for passengers and crew.

Past Incidents:

1. **1982 British Airways Boeing 747 Incident:** A British Airways 747 encountered volcanic ash over Indonesia, causing all four engines to fail. The plane glided for several minutes before the pilots restarted the engines and made an emergency landing, raising awareness about the dangers of volcanic ash to aircraft engines.

2. **1989 KLM Boeing 747 Incident:** A KLM 747 flying from Amsterdam to Tokyo flew through ash from Alaska's Redoubt volcano, damaging its engines. The aircraft had to make an emergency landing, with over $80 million in damages, highlighting the need for improved ash detection and avoidance systems.

Regulatory Measures and Advisory Systems
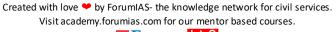
1. **DGCA and Global Advisory Systems**:
   a. The **Directorate General of Civil Aviation (DGCA)** in India, as well as aviation authorities worldwide, issue **urgent operational advisories** when volcanic eruptions occur. These advisories warn airlines and pilots about the presence of volcanic ash and advise them to avoid flying through affected areas.
   b. The **DGCA's advisory** regarding the **Hayli Gubbi eruption** warned pilots to **immediately report any suspected ash encounters**, including engine anomalies or issues like **cabin smoke**.\
   c. International bodies, such as the **International Civil Aviation Organization (ICAO)** and **Meteorological Agencies**, provide continuous updates and monitoring of volcanic activity, issuing alerts and flight restrictions as needed.
2. **Satellite and Radar Monitoring**:
   a. **Volcanic ash** is tracked by modern satellite systems and radar technologies. These systems help in the real-time monitoring of ash clouds, providing flight authorities and pilots with the necessary data to navigate safely.
   b. **Volcanic ash clouds** can travel vast distances, and advanced prediction models help in forecasting their movement, which allows for timely flight rerouting and cancellations.

Preventive Measures and Technologies

1. **Engine Design Improvements**:

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a. Over the years, aircraft engines have been designed to be more resilient to the effects of volcanic ash. Modern engines are equipped with features that reduce the risk of failure due to ash encounters.

b. Aircraft manufacturers continually improve engine materials to make them more resistant to high-temperature environments, thus reducing the likelihood of engine damage in ash-prone regions.

2. **Volcanic Ash Detection Systems**:
   a. New technologies have been developed to better detect volcanic ash clouds. **Volcanic Ash Detection Systems** (VADS) use satellite imagery, infrared sensors, and other tools to monitor and track ash clouds, providing real-time data to aviation authorities.
   b. These systems help pilots avoid ash clouds by providing warnings in advance, giving them the opportunity to adjust flight paths and altitude.

3. **Pilot Training and Safety Protocols**:
   a. Pilots undergo specialised training to handle volcanic ash encounters. Training focuses on how to identify ash clouds, how to respond to engine malfunctions caused by ash, and how to safely navigate away from hazardous zones.
   b. In case of an ash encounter, pilots are trained to follow strict protocols to ensure the safety of passengers and the aircraft.

Conclusion: Volcanic ash is a serious hazard to aviation safety, with the potential to damage engines, impair visibility, and disrupt flight systems. However, through advancements in technology, improved monitoring systems, and better regulatory measures, the risks associated with volcanic ash can be managed effectively. International cooperation and ongoing research into volcanic ash detection systems are essential to ensuring the safety of global air travel, particularly in regions prone to volcanic activity. With continued technological advancements and comprehensive safety protocols, the aviation industry can better mitigate the risks posed by volcanic ash, ensuring safe and efficient air travel during such natural events.

Question: Discuss the impact of volcanic ash on aviation safety and the measures to mitigate its risks.

POSH Act Needs a Spine Today

Source: The post **"POSH Act Needs a Spine Today"** has been created, based on **"A landmark law in 2013, it needs a spine in 2025"** published in "The Hindu" on 26th November 2025.

UPSC Syllabus: GS Paper 2 -Governance

Context: A recent case in Chandigarh saw a professor dismissed after a sexual harassment complaint was proven under the POSH Act, 2013. While hailed as "justice served," it highlights the low conviction rate and systemic gaps in the law, especially in educational institutions where power imbalances hinder justice. Despite the Act's intent, many women face challenges like institutional resistance, showing the need for reforms to ensure consistent and empathetic outcomes.

Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act, 2013 (POSH Act)

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1. The **Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act, 2013** (POSH Act) was enacted to protect women from sexual harassment in the workplace and provide a legal framework for redressal.
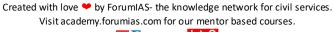2. The Act **defines sexual harassment, mandates the establishment of Internal Complaints Committees (ICC), and ensures the creation of a safe working environment for women.**
3. It aims **to safeguard women's dignity and offer a structured mechanism** for reporting and addressing grievances.

Flaws in the POSH Act:

1. **Inadequate Definition of Consent:** The POSH Act draws a **distinction between "consent" and "informed consent,"** but this crucial distinction is not well-addressed in practice.
2. The Act **fails to recognize how emotional manipulation or power imbalance distorts consent,** especially in workplace relationships. This leaves a significant gap in protecting women who may feel coerced into consenting due to fear or professional vulnerability.
3. **Ambiguity in Terminology:** The POSH Act refers to the **accused as the "respondent," rather than the "accused,"** diluting the gravity of the offence. This language issue weakens the seriousness of the charge and may impact the perception of sexual harassment as a crime.
4. **Burden of Proof on Victim:** The Act places **the burden of proof on the victim,** often forcing them to prove harassment within an institutional setting that is not always supportive. **This is problematic as women may face difficulties in gathering evidence and reporting harassment,** especially when institutional structures are ill-equipped to handle such complaints.
5. **Limitations in Investigative Framework:** While the POSH Act requires the formation of ICCs, these committees often **lack adequate training in handling sensitive issues like emotional and digital harassment.** They are not equipped to handle the complexities of modern-day harassment, especially with the rise of digital harassment.
6. **Lack of Provisions for Inter-Institutional Complaints:** The POSH Act is **silent on handling complaints that span multiple institutions.** For example, when a perpetrator moves from one institution to another, there is **no mechanism to track or address these complaints, leading to accountability gaps.**
7. **Digital Harassment and Technological Challenges:** With the advent of digital communication, **harassment has taken new forms, such as cyberbullying, online stalking, and inappropriate digital content.** The law, however, **does not address these new forms of harassment effectively.** The digital age requires updated protocols and evidence-gathering mechanisms to deal with online harassment.

Challenges in Implementation:

1. **Institutional Resistance:** Many educational institutions and workplaces still show reluctance in implementing the POSH Act. **Institutional biases, fear of reputational damage, and lack of training often lead to a failure in addressing complaints effectively.**
2. **Delayed and Inadequate Redressal:** The Act **stipulates that complaints must be filed within three months of the incident.** This time limit can be too restrictive, especially for victims who might face psychological trauma or fear retaliation, delaying their ability to report the incident.
3. **Inconsistent Application Across Institutions:** The **application of the law varies widely across different institutions.** Many educational and corporate institutions **do not have the necessary infrastructure or awareness to properly implement the provisions of the Act. T**his leads to

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inconsistencies in the redressal process and leaves women vulnerable to exploitation.

Way Forward:

1. **Clearer Definitions and Extended Timelines:** The **POSH Act needs clearer definitions, particularly concerning "informed consent" and "emotional harassment."** It is essential to expand the timelines for filing complaints, especially considering the trauma victims may experience, which often delays their ability to report incidents. A more flexible and victim-centric approach would ensure greater accessibility to justice.

2. **Recognition of Emotional and Digital Harassment:** The **Act must recognize and include emotional abuse, digital harassment, and online stalking as valid forms of harassment.** This would ensure that the law remains relevant in a rapidly changing digital landscape. Additionally, better training for ICC members on handling digital evidence and emotional abuse is essential.

3. **Improved Investigation Mechanisms:** ICCs **should be provided with comprehensive training to handle complaints effectively a**nd impartially. They should be **equipped with the tools to investigate cases of harassment,** including the ability to recognize informal behaviors and non-verbal cues that indicate harassment. Additionally, multi-disciplinary committees, including legal experts, psychological counselors, and human resource personnel, should be formed to ensure impartiality and competence in handling cases.

4. **Addressing Inter-Institutional Complaints:** A framework for handling complaints that span across institutions, especially in cases where the perpetrator moves between different workplaces or campuses, must be established. This can include collaboration between different institutions to ensure that the perpetrator is held accountable, no matter where the harassment occurs.

5. **Leveraging Technology:** The law must evolve to incorporate technology. This includes creating secure digital platforms for filing complaints and gathering evidence, such as screenshots or recorded conversations. Digital literacy for ICC members should be mandatory to handle such evidence effectively.

6. **Institutional Accountability and Cultural Change:** Workplaces and educational institutions must create a more supportive environment for women to report harassment without fear of retaliation. This involves changing institutional culture and ensuring that there are strong policies in place to protect complainants from further harm or victimization.

Conclusion: While the **POSH Act, 2013** has been a significant step forward in addressing sexual harassment in workplaces, it remains incomplete in its scope and implementation. To achieve its goal of providing a safe and supportive environment for women, the Act must evolve with the times. This includes clearer definitions, recognition of emotional and digital abuse, more robust investigative frameworks, and better institutional mechanisms to ensure justice is both accessible and effective. With these reforms, the POSH Act can become a more powerful tool in the fight against workplace harassment in India.

Question: Discuss the **Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act, 2013** (POSH Act) in the context of its flaws, challenges, and suggest the way forward.

Custodial Deaths in India

Introduction

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Custodial deaths in India expose a serious failure of policing, accountability and respect for basic human rights. Despite clear constitutional protections and Supreme Court guidelines, torture and high-handed methods remain common in police custody.

Data from official reports shows that investigations, convictions and relief to victims are rare, so this pattern of custodial torture and death continues to remain unchecked.

Data and facts related to Custodial Deaths in India
According to **Status of Policing in India Report (SPIR) 2025 – Torture and Police High-handedness,** police apathy and high handedness remains a major factor behind custodial deaths in India. Some of the data and facts related to Custodial deaths are given below:
1. Low conviction rate of guilty police officers - Not a single police officer has been convicted for 1,107 deaths in police custody between 2011 and 2022, according to NCRB data.

2. NHRC disposal pattern- In **2023**, the NHRC disposed of 281 **cases of deaths in police custody**. However, relief from custodial torture was granted in only 1 case out of 281 cases.

3. Low coverage of Judicial and magisterial inquiries- For 394 custodial deaths reported between 2018–22, **judicial inquiries** were ordered in **41%** of cases and **magisterial inquiries** in **34%**.
- Some smaller states reported **no inquiry of any kind** in any custodial death during this period.

Reason for Custodial Deaths in India
1. Torture as routine method: Torture and "third-degree" are widely used as standard tools to extract information and confessions, causing severe internal injuries and death.

- **For ex-** National Campaign Against Torture (NCAT) found that out of 1,731 custodial deaths in 2019, about 74% of police-custody deaths were linked to alleged torture or foul play. This shows that torture is not exceptional but systemic.

2. Militant policing mindset: A section of police justifies violence for "effective crime control" and believes fear of the police is necessary, normalising excess force.

- **For ex-** Over 55% of police personnel say it is important to use "tough methods to create fear among the public

3. Violation of safeguards of detention- Status of Policing in India Report (SPIR's) analysis of NCRB data shows that **around 60% of deaths in police custody between 2018–22 occurred within 24 hours of arrest**, *before* the person effectively reaches magistrate / lawyer protection. This indicates failure of arrest and production safeguards.

4. Delayed and compromised medical care- Injuries from custodial beatings are under-recorded. The medical treatment is often delayed or is superficial. This often turns **preventable harm** into **fatality**.

5. Targeting of the marginalised- Victims are often poor, Dalits, Adivasis, minorities or migrants, with weak legal and social protection, making them easy targets of custodial violence.

6. Impunity and weak accountability- FIRs, fair inquiries, sanction for prosecution and convictions against erring officers are rare. These encourage repeated custodial abuse.

7. Manipulated records and post-mortems- Arrest times, cause of death and injury details are fudged, hiding true causes and shielding perpetrators.

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8. Social acceptance and legal gaps- India has **not ratified the UN Convention Against Torture**, and lacks a specific anti-torture law.

Initiatives Taken to Overcome the Issue of Custodial Deaths in India
Constitutional Provisions:

1. Article 21: Constitution guarantees the right to life and personal liberty, which includes protection from torture and inhuman treatment.

2. Article 20(3): Protects individuals from being compelled to be witnesses against themselves, safeguarding them from coercive interrogation.

3. Article 39A: Ensures free legal aid to ensure that no citizen is denied justice due to economic or other disabilities.

4. Article 22: Provides safeguards against arbitrary arrest and detention, including the right to be informed of the grounds of arrest and the right to consult a lawyer.
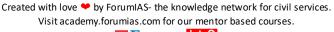
Legal Provisions

1. IPC- Sections 330 (voluntarily causing hurt to extort confession) and 348 (wrongful confinement to extort confession).
2. CrPC- Section 176 mandates a judicial inquiry into custodial deaths.
3. Protection of Human Rights Act, 1993- The Act established the NHRC and SHRCs to investigate custodial violence and recommend action.
4. BNS Provisions- The BNS maintains provisions related to wrongful restraint and illegal detention, which are often precursors to custodial abuse. E.g. Section 176 (causing hurt by public servant), Section 177 (causing grievous hurt by public servant), Section 178 (wrongful confinement by public servant).

Way forward
1. **Enact anti-torture law and ratify UNCAT-** Law Commission's 273rd Report (2017) urged a specific anti-torture law and ratification of the UN Convention Against Torture. India must do so at the earliest.
2. **Independent investigation & Police Complaints Authorities-** Supreme Court's direction in the *Prakash Singh* (2006) case for independent Police Complaints Authorities to probe custodial deaths, must be followed.

3. **Strict enforcement of arrest safeguards & CCTV-** SC guidelines for custodial torture must be followed in letter and spirit.

- SC guidelines in the *D.K. Basu* case provides for arrest memos, 24-hour production and medical checks.
- In *Paramvir Singh Saini* (2020) case, the SC has mandated CCTV in all police stations to deter torture.

4. **Early legal aid and magistrate vigilance-** SPIR shows most deaths occur within 24 hours of arrest. This calls for compulsory steps for private meetings with legal-aid lawyers and proactive questioning by magistrates.

5. **Independent, rights-based medical examination-** Adopting **Istanbul Protocol standards** for documenting torture, with independent forensic doctors and video-recorded examinations, would reduce false "natural death" certificates.

6. **Automatic judicial inquiry in every custodial death-** NHRC already insists on intimation within 24 hours. Making time-bound judicial inquiry and public reporting mandatory can close the current inquiry gaps.

Conclusion

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Custodial deaths are not isolated incidents but the result of routine torture, weak safeguards and deep impunity within the system. Data from NCRB, SPIR and NHRC shows almost no convictions and little relief for victims. Only firm legal reforms, independent oversight and early safeguards can make custody truly safe and lawful for every person, in every lockup.

For detailed information on **Custodial Violence in India** read this article here

Question for practice:
Examine the key reasons behind custodial deaths in India and suggest measures to address systemic failures in police accountability.

Source: The Hindu

Presidential opinion versus the federal structure

UPSC Syllabus Topic: GS Paper 2-issues and challenges pertaining to the federal structure.
Introduction

Recent developments, particularly the Supreme Court's response to the **16th Presidential Reference**, are seen as eroding *federalism*, a basic feature of the Constitution. The concern is that unelected constitutional authorities may override elected State governments, threatening democratic balance.

About 16th Presidential Reference

Trigger point

> • On **May 13, 2025**, President Droupadi Murmu referred **14 constitutional questions** to the Supreme Court under **Article 143**.

> • The reference followed the Supreme Court's ruling in **State of Tamil Nadu v. Governor of Tamil Nadu (2025)**, where a two-judge Bench suggested **finite timelines for Governors to act on Bills.**

Core of the reference

Questions relate to **Articles 200 and 201**, concerning Governor and President's powers over State legislation.

Issues raised include:
• Whether Governors must follow *aid and advice* of the State Cabinet.
• Whether timelines can be imposed for assent.
• Whether decisions are subject to *judicial review*.
• Can courts intervene even before a Bill becomes law?
• Can Article 142 substitute Governor/President actions?
• Does Article 361 provide absolute immunity?

The Supreme Court's Opinion on the 16th Presidential Reference

1. No time limit can be judicially imposed

> • The Constitution Bench stated that **courts cannot prescribe timelines** for assent under Articles 200 and 201.

> • It held that **absence of a constitutional time limit indicates deliberate intent**.

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2. **Limited judicial intervention**

- The Bench ruled that **courts cannot intervene before a Bill becomes law**, rejecting pre-enactment scrutiny.

- **Article 142 cannot override constitutional options** available to the Governor or President.

3. **Discretion of Governor and President upheld**

- The Court noted that these powers remain **unwritten and discretionary**, although subject to constitutional norms.

- It did not clearly state that Governors must strictly follow advice of State governments.

Concerns Related to the Supreme Court's Opinion

1. Risk to federalism : The Constitution treats the Union and the States as equal partners, with the Centre only as "first among equals". The concern is that, if this understanding is weakened, States may slowly turn into "shadow Union Territories". In such a situation, they will have elected legislatures in name, but very little real autonomy in practice.

2. Unelected authorities overriding democratic mandate: When Governors can delay, return or reserve Bills without any clear timelines, elected State Assemblies become effectively powerless. This arrangement allows unelected appointees to overrule or frustrate the will of the people expressed through their representatives. The piece therefore calls this situation the anti-thesis of democracy.

3. Arbitrary use of power without timelines: The absence of deadlines under Article 200 allows Governors to withhold Bills indefinitely, which is similar to exercising a pocket veto. Such open-ended power goes against the principles of reasonableness, fairness and non-arbitrariness that are central to constitutional governance.

4. Threat to judicial review: Judicial review is recognised as part of the basic structure of the Constitution. If actions of the Governor or President under Articles 200 and 201 are allowed to escape scrutiny, constitutional accountability is seriously weakened. The protection under Article 361 cannot be interpreted to override or dilute judicial review.

5. Evidence of increasing centralisation

- There is a wider pattern of centralisation that adds to these fears. Producing States have been denied full Goods and Services Tax compensation, and cess revenues collected by the Centre are not shared with States.

- Finance Commission devolution is not fully implemented, and central schemes often force States to share up to 50% of the cost despite their limited finances.

- There are also targeted financial transfers close to elections, such as the transfer of ₹10,000 to 1.21 crore women in Bihar, and a growing use of central agencies like the Enforcement Directorate, Central Bureau of Investigation and Income-Tax Department to pressure State leaders.

- In this background, the Governor's actions become the final tool to weaken the powers and autonomy of State governments.

Way Forward

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1. Reaffirm timelines to prevent misuse

• A reasonable time limit should be read into Article 200 to avoid indefinite delays.

• Earlier stance of two-judge Bench must be reconsidered to protect legislative autonomy.

2. Strengthen judicial oversight

• Governor and President must not escape scrutiny; their actions should remain **justiciable**.

• Judiciary must uphold *constitutional safeguards over procedural immunity*.

3. Reinforce democratic accountability

• Governor must act on **aid and advice of State Cabinet**, respecting the people's mandate.

• Avoid turning constitutional offices into political instruments.

4. Restore fiscal federalism

• Ensure **compensation mechanisms**, transparency in cess usage, and compliance with Finance Commission recommendations.

• Avoid conditional schemes that undermine State flexibility.

5. Prevent concentration of power

• Limit excessive reliance on central investigative agencies against elected State governments.

• Avoid politically motivated financial transfers that distort governance.

Conclusion

Federalism, democracy and judicial review form the *core of India's constitutional identity*. By allowing Governors and the President wide discretion without timelines or effective checks, the Supreme Court's opinion risks undermining this foundation.

The result may be an imbalance where States become dependent administrative units dominated by the Union. It is essential that institutions re-evaluate this trajectory. Protecting federalism is not merely preserving constitutional design—it is protecting India's democracy itself.

Question for practice:

Discuss how the Supreme Court's opinion on the 16th Presidential Reference affects India's federal structure and the balance of power between elected State governments and unelected constitutional authorities.

Source: The Hindu

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Reversing Brain Drain through Institutional Reform

Source: The post **"Reversing Brain Drain through Institutional Reform"** has been created, based on **"Reversing Brain Drain through Institutional Reform"** published in "Indian Express" on 26th November 2025.

UPSC Syllabus: GS Paper- 2- Governance

Context: India's plan to repatriate star Indian-origin faculty comes at a time when global academic environments, particularly in the US, are facing challenges to autonomy and stability. This initiative reflects India's urgency to strengthen its research ecosystem and reverse the persistent brain drain, especially in STEM fields.
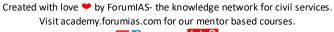
Rationale Behind the Initiative

1. Global political intervention in universities, especially in the US, has made many Indian-origin academics explore more stable research environments.
2. India needs to enhance its research capacity as it positions itself as a global knowledge economy.
3. The government's focus on priority STEM areas shows a strategic approach to national capacity building.

Key Challenges in Attracting Overseas Faculty

1. **Financial Constraints:** Indian salaries for full professors are substantially lower than those in the US and China, creating a large financial gap.
   a. Due to this gap, the value of returning must come from intellectual opportunities and institutional support rather than monetary incentives alone.
2. **Administrative and Structural Issues:** Returning academics often face bureaucratic delays in procurement, logistics, and laboratory setup.
   a. Fragmented fellowship-based schemes do not provide clear tenure or long-term career pathways.
   b. Many institutions lack well-defined intellectual property frameworks, which creates uncertainty for scientific research. Senior academics returning with families face difficulties concerning housing, schooling, and spousal employment.
3. **Cultural and Institutional Limitations:** Many Indian institutions still function within rigid and hierarchical structures that limit creativity and collaboration.
   a. Public institutions have limited experience in hosting international faculty, which leads to integration challenges for returnees.
   b. The VAJRA programme showed limited success due to procedural delays, funding uncertainties, and inadequate institutional backing.

Required Policy Reforms

1. **Administrative Insulation:** Institutions must create a "red carpet mandate" that ensures smooth and efficient handling of procurement, HR processes, and research setup. Expanded autonomy in non-government procurement should be used to support returning researchers.

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2. **Clear and Secure Career Pathways:** Institutions must adopt transparent tenure-track systems that provide long-term career stability. This would shift the model away from short-term fellowships toward permanent academic positions.
3. **Explicit Research and IP Policies:** Host institutions must clearly articulate intellectual property ownership and commercialization rules. Transparent policies will help build trust for returning scientists.
4. **Support for Family Relocation:** Institutions must provide proper housing facilities for returnees. Institutions must also facilitate schooling options for children and employment opportunities for spouses.

Required Cultural and Institutional Reforms

1. **Strengthening Academic Freedom:** The government must publicly assure academic freedom and protect faculty from excessive monitoring or political interference. Such autonomy will help India compete with countries that are enhancing academic freedom to attract researchers.
2. **Promoting Collaborative and Merit-Based Cultures:** Institutions must shift from rigid hierarchies and promote interdisciplinary collaboration. Merit-based evaluation systems should replace seniority-based decision-making.
3. **Improving Internationalisation:** Orientation programmes must be complemented with deeper training within institutions to integrate global faculty effectively. Institutions must adopt flexible governance structures that reflect international standards.
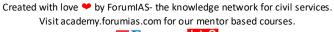
Broadening Institutional Scope

1. The scheme should not be limited to a handful of elite public research institutes.
2. Many high-performing research institutions today include central universities, state universities, and private universities.
3. Placement of returning academics should reflect this wider and rapidly evolving research landscape.

Potential Benefits

1. Returning faculty will not only bring high-quality research expertise but also global best practices in governance, pedagogy, and institutional management.
2. Their presence can catalyse improvements in the overall academic culture of Indian institutions.
3. The emotional motivation to return home can be leveraged, but it must be supported by strong structural reforms.

Conclusion: The government's repatriation initiative is a timely and promising opportunity for Indian higher education. Its success will depend on India's ability to undertake deep institutional reforms, protect academic freedom, simplify administrative processes, and create secure and rewarding academic careers. If these changes are implemented, India can convert the current brain drain into brain circulation and establish itself as a major global research hub.

Question: Examine the challenges India faces in attracting Indian-origin faculty from abroad and suggest the policy and institutional reforms required to make Indian universities globally competitive.

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Rise of Sovereign AI

Source: The post **"Rise of Sovereign AI"** has been created, based on **"Rise of Sovereign AI"** published in "Live Mint" on 27th November 2025.

UPSC Syllabus: GS Paper

Context: As the U.S. and China dominate global advances in artificial intelligence, many countries fear excessive dependence on these superpowers for a technology crucial to economic competitiveness and national security. South Korea has emerged as one of the few nations capable of building "sovereign AI" to protect its technological autonomy through large-scale investments, semiconductor expertise, and strong political commitment.

Meaning and Significance of Sovereign AI

1. Sovereign AI refers to a self-reliant national ecosystem that includes domestic capabilities in large language models, chipmaking, cloud storage, computing infrastructure, and data governance.
2. It seeks to ensure national control over sensitive data, reduce external vulnerabilities, and build resilience against disruptions in global technology supply chains.
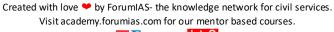
Rationale Behind South Korea's Sovereign AI Push

1. South Korea believes that even smaller nations can achieve AI autonomy due to its advanced tech base, strong industrial capacity, and semiconductor leadership through firms like Samsung and SK Hynix.
2. President Lee Jae Myung has warned that falling behind in AI even by a single day could mean lagging behind for an entire technological generation.
3. Countries worldwide are increasingly hesitant to rely on U.S. tech giants, which governments find difficult to regulate effectively.
4. Sovereign AI also provides resilience against geopolitical disruptions and promotes national security by reducing reliance on foreign cloud and AI providers.

South Korea's Institutional and Financial Commitments

1. The government plans to triple its AI development budget to roughly **$6.8 billion** next year.
2. It has established a **$102 billion National Growth Fund** to invest in strategic high-tech sectors, including AI.
3. A new presidential secretary for AI and future planning has been appointed to direct public–private collaboration.
4. South Korea recently signed a deal to acquire **260,000 Nvidia GPUs**, which will form the backbone of national AI computing infrastructure.
5. These chips will support government-led data centers, private cloud facilities, and the development of national large language models.

Role of National Conglomerates and Startups

1. Major Korean conglomerates—Samsung, SK, Hyundai, and LG—have pledged about **$540 billion** in domestic investments in AI data centers, chipmaking, and AI-driven manufacturing.

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2. Korean chip startups like **Rebellions** and **FuriosaAI**, which recently rejected a Meta acquisition offer, are developing indigenous neural-processing units that could reduce long-term dependence on Nvidia.
3. Software giants Naver and Kakao have already released Korean large language models to strengthen the country's AI software ecosystem.

Global Context and Comparisons

1. Other nations such as France, Germany, the U.K., India, Saudi Arabia, and the UAE are also building sovereign AI capabilities.
2. The U.S. is promoting the export of a "full-stack" American AI package, while China continues to pursue technological self-reliance.
3. According to Gartner, global AI spending—including services, software, and infrastructure—is expected to reach **$1.5 trillion** this year and exceed **$2 trillion** next year, reflecting intense global competition.
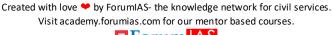
Key Challenges in Building Sovereign AI

1. Sovereign AI requires enormous power capacity for high-density data centers, creating infrastructural challenges.
2. South Korea remains dependent on U.S. export approvals for access to key technologies such as advanced Nvidia chips.
3. Over-reliance on Nvidia GPUs exposes Korea to supply-chain vulnerabilities.
4. A shortage of highly skilled AI engineers limits the pace of domestic innovation.

Way Forward

1. **Accelerate Domestic Chip Innovation:** Korea must strengthen indigenous chipmakers like Rebellions and FuriosaAI to reduce dependence on Nvidia and U.S. export-controlled technologies.
2. **Expand Power and Data-Center Infrastructure:** Large-scale investments in power generation, grid upgrades, and cooling systems are essential to support the huge computational needs highlighted in the article.
3. **Leverage Massive Conglomerate Investments:** The $540 billion pledged by Korean conglomerates should be coordinated through national platforms like the presidential AI office and the National Growth Fund to maximize impact.
4. **Build Korean-Language and Culture-Aligned AI Models:** Korea should scale Naver's and Kakao's LLMs to embed domestic culture, common sense, and history—reflecting Jensen Huang's call to "own your data" and your cultural intelligence.
5. **Balance U.S. Dependence with Autonomy Building:** Korea must negotiate stable long-term access to U.S. technologies while simultaneously expanding its indigenous alternatives to avoid strategic vulnerabilities.
6. **Strengthen National Talent Pipelines:** The country needs expanded AI talent programs, stronger university–industry collaboration, and global researcher recruitment to support sovereign AI growth.

Conclusion: South Korea's sovereign AI strategy represents one of the most ambitious efforts outside the U.S. and China to build a complete indigenous AI ecosystem. Its progress will serve as a benchmark for other nations seeking technological sovereignty in an era of intense geopolitical competition. With sustained investment,

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coordinated reforms, and a strong partnership between the government and industry, South Korea can become a global model for building a secure, resilient, and competitive sovereign AI ecosystem.

Question: With massive investments in chips, data centers, and AI models, South Korea is emerging as a test case for building a sovereign AI ecosystem. Discuss the significance of sovereign AI and evaluate Korea's approach based on recent developments

Without Great Powers on Board G-20 is adrift

Source: The post **"Without Great Powers on Board G-20 is adrift"** has been created, based on **"Sanjaya Baru writes: Without great powers on board, G20 is adrift"** published in "Indian Express" on 28th November 2025.

UPSC Syllabus: GS Paper-2- International Relations

Context: The G20 was established during the 2008 global financial crisis as the premier platform for global economic coordination among major developed and emerging economies. Despite its significant early success, the grouping has increasingly struggled to remain effective due to geopolitical tensions, unilateralism, and institutional stagnation, leading to a decline in its relevance.

Origins and Early Strength of the G20

1. **Crisis-Driven Formation:** The G20 emerged in 2008 in response to the global financial crisis, with leaders from major economies meeting in Washington to devise a coordinated response.
2. **Initial Effectiveness:** Early summits such as London (2009) and Pittsburgh (2009) delivered strong outcomes, including global financial reforms and institutional strengthening.
3. **Demonstrated Potential:** The group showed the ability to act collectively during global economic instability.

Transition into a Low-Impact Platform

1. **Reduced Deliverables:** Over time, the G20 shifted from crisis management to broad thematic dialogue, often failing to produce binding or actionable commitments.
2. **Symbolism Over Substance:** Summit declarations increasingly became aspirational documents without strong follow-up mechanisms.
3. **Inability to Address Core Issues:** The G20 struggled to provide solutions for issues such as climate change, global debt, food security, and sustainable development.

Geopolitical Rivalries Undermining G20 Cohesion

1. **Intensifying US–China Rivalry**
   a. **Unilateralism by the U.S.A.:** Trade wars and tariffs under the Trump administration weakened trust and disrupted cooperative spirit within the G20
   b. **G2 Concept Limiting Multilateralism:** Discussions around a possible "G2" arrangement between the U.S.A. and China implied a preference for bilateral power management rather than multilateral institutions.
   c. **Institutional Stagnation:** U.S.A.'s hesitation to accommodate China's rising power blocked reforms such as expanding the G8.
2. **Deepening Russia–West Tensions**

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a. **Post-Crimea Polarisation:** Russia's annexation of Crimea in 2014 created significant divides within the G20 framework.

b. **Ukraine Conflict Impact:** The Russian invasion of Ukraine further disrupted consensus-building, weakening G20 statements and outcomes

c. **Leader-Level Absences:** Putin's absence from recent summits highlighted Russia's growing isolation within the multilateral system.

3. **Absence of Key Leaders Reducing Influence**

a. **Major Power Disengagement:** The absence of Xi Jinping and Vladimir Putin from major recent summits indicated reduced prioritisation of the G20 by key actors.

b. **Shift Toward Middle Power Dominance:** Their absence shifted the balance of participation toward middle powers rather than major global players.

4. **Increasing Dominance of Middle Powers and Global South**

a. **Rise of Emerging Leaders:** Countries like India, Brazil, Indonesia, Saudi Arabia, and South Africa have increasingly shaped the G20 agenda due to great-power disengagement.

b. **Emphasis on Global South Issues:** The 2023 Delhi summit foregrounded development, climate finance, food security, and digital public infrastructure.

c. **Expanded Representation:** The inclusion of the African Union as a permanent member highlighted the shift toward inclusivity but also the retreat of major powers.

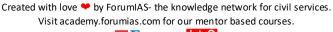5. **Alternative Groupings Eroding G20 Centrality**

a. **Strategic Platforms Taking Precedence:** The QUAD has emerged as a key forum for security and strategic issues in the Indo-Pacific, reducing reliance on the G20.

b. **Regional Forums Gaining Importance:** The East Asia Summit has become a crucial venue for Asia-Pacific geopolitics, sometimes overshadowing the G20.

c. **Fragmentation of Global Governance:** The rising number of minilateral and regional coalitions reflects disillusionment with large multilateral forums like the G20.

India's Strategic Approach Amid G20's Decline

1. **Balanced Utilisation of the G20:** India has used its presidency to highlight issues like climate action, digital transformation, and Global South priorities.

2. **Diversified Engagement Strategy:** India increasingly depends on platforms such as QUAD, Indo-Pacific strategies, and ASEAN partnerships for security and geopolitical coordination.

3. **Recognition of Limitations:** This shift indicates that even proactive emerging powers perceive the G20 as insufficient for addressing hard strategic issues.

Consequences of the Declining Relevance of the G20

1. **Weakening of Global Crisis-Management Capacity:** The decline in G20 cohesion has reduced its ability to provide coordinated responses to emerging economic and geopolitical crises.

2. **Reduced Legitimacy and Credibility:** The inability to produce strong communiqués, especially on the Ukraine crisis, has damaged the G20's credibility as a global rule-making body.

3. **Rise of Uncoordinated Plurilateralism:** The proliferation of regional and issue-specific groupings has resulted in fragmented global governance structures, lacking consistent policy alignment.

4. **Marginalisation of Developing Countries' Interests:** As major powers prioritise rivalry over cooperation, developing economies struggle to secure global solutions for debt relief, climate finance, and developmental needs.

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5. **Limited Progress on Global Public Goods:** Issues such as climate action, supply-chain resilience, and global health governance stagnate due to the G20's weakened collective decision-making capacity.

Way Forward for Revitalising the G20

1. **Reaffirming Multilateral Commitment:** Member states must reduce unilateral measures and recommit to constructive multilateral dialogue to rebuild trust.
2. **Institutional Reforms for Stronger Outcomes:** The G20 should introduce structured decision-making mechanisms and empower working groups with result-oriented mandates.
3. **Enhancing Global South Integration:** Greater participation of developing nations in agenda-setting and decision-making can strengthen the forum's inclusiveness and legitimacy.
4. **Prioritising High-Consensus Issues:** The G20 should focus on areas where cooperation is feasible, such as climate finance, technology sharing, disaster resilience, and pandemic preparedness.
5. **Establishing Channels to Manage Geopolitical Tensions:** Dedicated diplomatic mechanisms within the G20 could help defuse geopolitical conflicts and ensure smoother negotiations.
6. **Strengthening Coordination with Other Global Institutions:** Closer collaboration with the UN, IMF, World Bank, WTO, and regional bodies can help bridge global governance gaps.

Conclusion: The G20's declining relevance is rooted in geopolitical rivalries, unilateral actions, leader-level disengagement, and its inability to produce impactful outcomes. However, as the only forum that includes all major economies, the G20 retains immense potential to steer global governance. A renewed commitment to multilateralism, inclusive reform, and pragmatic cooperation is essential for restoring the G20's central role in addressing 21st-century global challenges.

Question: The relevance of the G20 has been declining in recent years. Discuss.

Rollback of Quality Control Orders

Source: The post **"Rollback of Quality Control Orders"** has been created, based on **"Rollback of quality control orders is good, but don't make haste"** published in "Indian Express" on 28th November 2025.

UPSC Syllabus: GS Paper- 3- Economy

Context: Quality Control Orders (QCOs) are mandatory product standards imposed under the Bureau of Indian Standards (BIS) Act to regulate imports and ensure quality. Over the last eight years, India shifted aggressively toward mandatory standards, covering more than 1,300 goods. Recently, the government suddenly withdrew over 20 QCOs, signalling a correction but also revealing systemic issues in the implementation of industrial regulation.

Evolution and Expansion of QCOs in India
1. **Limited Use Before 2014:** QCOs were marginal in India's import system, and control over imports was exercised mainly through tariffs, anti-dumping duties, and safeguard duties.
2. **Post-2017 Expansion:** The 2017 BIS Act gave ministries broad authority to impose mandatory standards. This led to a proliferation of QCOs across consumer goods, capital equipment, industrial inputs, textiles, plastics, and chemical intermediates.
3. Nearly 25% of QCOs covered **raw materials and upstream inputs**, not just final goods.

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Problems Arising from Aggressive and Hasty QCO Implementation

1. **Upstream Certification Bottlenecks:** Many QCOs required factory-level certification of every foreign supplier, creating double-certification traps.
MSMEs suffered because they needed BIS approval for both imported inputs and finished goods.
2. **Severe Supply Chain Disruptions:** In plastics, India imports many specialised polymers; foreign suppliers often choose not to comply because **India is a small market.** Import refusals pushed up global prices and created shortages for MSMEs in packaging, electronics, and medical devices.
3. **Impact on Textiles:** QCOs on inputs such as yarn and fibre, introduced in 2023, raised domestic fibre prices above world levels. Since synthetics account for 70% of global fibre consumption, Indian exporters became uncompetitive due to the unavailable certified inputs.
4. **NOC-Dependent Steel Trade:** The steel ministry required nearly all steel imports to obtain a No Objection Certificate (NOC) even if they were not covered by QCOs. This created long delays at ports such as Nhava Sheva and Mundra, with containers stuck for weeks.
5. **BIS Inefficiency:** BIS's foreign factory audit system became notorious for inconsistency and delays. Some applications were cleared quickly, while others languished for months, enabling de facto monopolies for the few suppliers who secured early certifications.

Reasons Behind the Government's Recent Rollback of QCOs

1. **High Compliance Costs and Industry Pushback:** MSMEs **faced unpredictable sourcing, inflated prices, and supply shortages,** prompting widespread criticism.
2. **International Pressure: Trading partners criticised India for non-transparent regulatory barriers,** complicating India's global trade relations.
3. **Gava Committee Review:** A committee chaired by former Cabinet Secretary Rajiv Gauba reportedly recommended action on 208 QCOs. **The committee suggested: Revoking 27 QCOs, Suspending 112, Deferring 69 and Scrapping the NOC regime.**
4. Although the report is not public, **the rollback indicates that many QCOs were not industry-tested** or transition-friendly.

New Emerging Risk
1. **Opposite Problem After Rollback:** With QCO barriers **removed abruptly, downstream industries fear a surge of cheap imports**, especially from China.
2. **Vulnerability of Capital-Intensive Sectors: Industrial raw materials are capital-intensive, and sudden exposure risks supply shocks** and unfair price competition. Producers who invested based on earlier restrictions may now face losses.

Consequences of Hasty QCO Expansion and Abrupt Rollback

1. **Industrial Uncertainty:** Constant changes in standards have created a climate of unpredictability, discouraging long-term industry planning.
2. **Weakening of Domestic Competitiveness:** Poorly designed QCOs increased input costs, affecting export competitiveness and reducing India's participation in global value chains.
3. **Loss of Credibility:** Frequent policy reversals weaken India's reputation as a predictable investment destination.
4. **Burden on MSMEs:** MSMEs bore the brunt of certification delays, higher costs, and disrupted supply chains.
5. **Potential Surge in Low-Quality Imports:** Abrupt removal of QCOs without alternative checks opens the possibility of dumping of low-quality or underpriced goods.

Way Forward for Rational and Effective Use of QCOs

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1. **Gradual and Predictable Implementation:** Mandatory standards should be introduced with sufficient transition time, especially for upstream raw materials.
2. **Strengthening BIS Capacity:** BIS must expand its testing facilities, digital processes, and audit infrastructure to ensure timely, consistent approvals.
3. **Consultation with Industry:** Stakeholder consultations should be mandatory before imposing or removing a QCO, particularly in critical value chains.
4. **Risk-Based Regulation:** Instead of blanket QCOs, India should prioritise safety-critical and strategically sensitive sectors.
5. **Aligning Standards With Global Norms:** Adopting internationally harmonised standards will reduce compliance burdens and increase export competitiveness.
6. **Alternative Tools to Prevent Dumping:** Anti-dumping duties, safeguard duties, and tariff calibration can be used to protect domestic industry without relying on mandatory certification.

Conclusion: The rollback of QCOs was necessary because their rapid expansion created severe supply chain disruptions, compliance burdens, and trade friction. However, the hasty removal of QCOs without adequate safeguards risks reversing earlier gains and exposing domestic industries to cheap imports. A balanced industrial policy requires **predictable regulation, strong institutional capacity, and a phased approach**, ensuring that India's quality ecosystem evolves without harming competitiveness or supply chains.

Question: What do the recent rollbacks of Quality Control Orders (QCOs) reveal about India's regulatory and industrial policy challenges? Discuss.

Enabling a Modern and Future-Ready Labour Ecosystem

UPSC Syllabus Topic: GS Paper 2 and paper 3 -Social Sector Initiatives & Labour Reforms.

Introduction

India has entered a new phase of labour governance with the enforcement of four modernised Labour Codes on November 21, 2025. These reforms come at a crucial time when India, with one of the world's largest and youngest workforces, is moving towards Viksit Bharat and Aatmanirbhar Bharat. The new labour framework aims to provide universal protection, improve working conditions, enhance enterprise competitiveness, and align labour laws with current and emerging economic realities.

Current status of India's labour force

• India has over **643 million workers**, expected to contribute **two-thirds of new global workforce entrants** in the coming years.

• Between **2017–18 and 2023–24, 16.83 crore jobs were added**, and **unemployment declined from 6% to 3.2%**. This reflects strong employment growth and improving market dynamics.

- **1.56 crore women entered the formal workforce** during this period, indicating a gradual shift towards inclusion and structured employment.

• As per **PLFS 2022–23**, about **57.3% workers are self-employed**, **20.9% are regular wage/salaried**, and **21.8% are casual labourers**.

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• In **2022, youth formed 82.9% of total unemployed persons (**India Employment Report 2024)

• **7.7 million gig and platform workers in 2020–21**, projected to reach **23.5 million by 2029–30**.

• India's **social protection coverage** has **doubled from 24.4% in 2021 to 48.8% in 2024** (ILO World Social Protection Report (WSPR) 2024-26)

Background of India's comprehensive Labour Codes

1. **Evolution of fragmented laws:** Over several decades, numerous labour legislations evolved independently. Many were from **pre- and early post-Independence periods (1930s–1950s)**, operating across different contexts and often creating overlap and confusion.

2.?**Recommendation for consolidation:** The **Second National Commission on Labour** suggested grouping existing laws into functional codes. Between **2015 and 2019**, extensive consultations were held with industry, employers, trade unions, and State governments.

3.**Timeline of enactment**

 • **Code on Wages (2019)** notified on **August 8, 2019**.

 • **Industrial Relations Code, Social Security Code, and the Occupational Safety, Health and Working Conditions (OSHWC) Code** notified on **September 29, 2020**.
 These represent one of the most comprehensive labour reforms since Independence.

Need for unified Labour Codes

1. **Multiplicity of laws and compliance burden:** There was a need to reduce the confusion created by **29 labour laws in practice**. Multiple registrations, licences and returns made compliance difficult for MSMEs.

2. **Fragmented enforcement system:** Different laws meant different authorities and procedures. This led to uneven enforcement and gaps in implementation. A unified code structure was needed for simpler, coordinated monitoring and enforcement.

3. **Outdated laws and changing work patterns:** Many labour laws were written in the 1930s–1950s. They did not match today's economy, where gig workers, platform workers and digital jobs are rising. The Codes bring the law in line with current realities.

Benefits of comprehensive Labour Codes

1. **Universal wage protection:** Workers are safeguarded through a universal minimum wage and a national floor wage. This prevents exploitation and ensures all workers receive fair compensation across States.

2. **Employment transparency:** Mandatory appointment letters create clarity in employment terms. It builds trust between employers and workers and helps prevent disputes over job roles or entitlements.

3. **Timely and predictable income:** The Codes mandate timely wage payment. This improves financial stability for employees and reduces stress, particularly among vulnerable worker groups.

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4. Regulated working hours and better health safety: The fixed 48-hour work week and free preventive health check-ups improve work–life balance and protect long-term worker health.

5. Stronger workplace safety standards: Improved safety rules and the creation of safety committees reduce workplace risks and accidents, making working conditions more secure.

6. Universal social security access:

> • Employees' State Insurance Corporation (ESIC) coverage is now available pan-India without location restrictions.

> • Employees' Provident Fund (EPF) procedures are simplified, and the National Social Security Fund extends protection to construction and informal workers.

7. Inclusion of gig and platform workers: Recognition of gig and platform workers ensures they receive social security benefits. This is crucial as their numbers are projected to grow from **1 crore in 2024–25 to 2.35 crore by 2029–30**.

8. Gender equity and fair treatment of contractual workers: Gender-neutral policies, pay parity, and safe night-shift work for women promote equality. Fixed-term employees now receive benefits similar to permanent staff.

9. Advancing formalisation and digital compliance: Digital compliance, including **Aadhaar-linked Universal Account Number**, facilitates portability of benefits across States. Inspector-cum-facilitator model encourages supportive compliance rather than fear-based inspections.

10. Support for enterprise growth and global alignment: Decriminalisation of minor offences and streamlined procedures support enterprise competitiveness. These reforms promote **Ease of Doing Business**, aligning India with global labour standards.

Conclusion

The enforcement of four comprehensive Labour Codes marks a transformative shift towards a fair, simplified, and future-ready labour ecosystem. By strengthening worker protections, expanding social security, and reducing compliance burdens, the reforms support both employment generation and enterprise resilience. With sustained consultations and careful implementation, these reforms can ensure inclusive growth and help power India's journey towards Viksit Bharat.

For detailed information on **New Labour Codes** read this article here

Question for practice:

Discuss how the Four Labour Codes help modernise India's labour ecosystem.

Source: **The Hindu**

Why India Struggles to Clear Its Air

UPSC Syllabus Topic: GS Paper 3-environment-pollution

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Introduction

Air pollution in India is a chronic public health and development crisis, not just a winter problem in Delhi. Harmful levels of pollutants such as $PM_{2.5}$, PM_{10} and toxic gases damage human health, reduce productivity and impose large economic losses. Despite advances in monitoring, clean-energy transitions and multiple government initiatives, persistent exposure and recurring smog episodes reveal deep gaps in governance, implementation and long-term planning.

What is Air Pollution and How is it Measured in India?

Air Pollution: Air pollution is the introduction of chemicals, particulates or biological materials into the atmosphere that cause discomfort, disease, or death to humans.

Measurement of Air Pollution In India:

In India, air pollution is measured according to the National Air Quality Index developed by the Central Pollution Control Board (CPCB) in 2014.
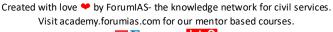
The measurement of air quality in the NAQI framework is based on eight pollutants, namely- **Particulate Matter (PM10), Particulate Matter (PM2.5), Nitrogen Dioxide (NO2), Sulphur Dioxide (SO2), Carbon Monoxide (CO), Ozone (O3), Ammonia (NH3) and Lead (Pb).**

Facts Related to India's Air Pollution

• In **2023**, air pollution was linked to **more than 2 million deaths in India**, with about **89% of these deaths caused by fine particulate matter (PM2.5).**

• Lost output from **premature deaths and morbidity** attributable to air pollution accounted for **economic losses of US$28.8 billion and $8 billion** respectively, in India in 2019. This **total loss of $36.8 billion** was **1.36% of India's gross domestic product (GDP).**

• The Confederation of Indian Industry estimates that air pollution costs **Indian businesses $95 billion, or 3 per cent of India's GDP every year**

• Poor air amounts to about **Rs 7 lakh crore of annual economic loss,** which is more than a third of our annual GST collection

India's Initiatives to Tackle Air Pollution

1. National Clean Air Programme (NCAP): The Government of India has launched the National Clean Air Programme (NCAP) as a five-year, mid-term national action plan (starting 2019) that targets to systematically improve air quality through city-level action plans and multi-sector coordination.

2. PRANA portal for NCAP monitoring: To monitor implementation, the government has created the PRANA portal, which tracks both physical and financial progress of city air-action plans and disseminates information on air quality management measures under NCAP.

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3. Swachh Vayu Sarvekshan (city ranking under NCAP): Under NCAP, the Ministry of Environment, Forest and Climate Change launched Swachh Vayu Sarvekshan to rank cities based on their clean air efforts and outcomes, thereby encouraging competition and better implementation.

4. SAFAR : The Ministry of Earth Sciences runs SAFAR (System of Air Quality and Weather Forecasting and Research) to provide location-specific, near real-time air quality data and short-term forecasts for major metropolitan cities, covering pollutants such as $PM_{2.5}$, PM_{10}, O_3, CO, NOx, SO_2 and volatile organics.

5. Commission for Air Quality Management (CAQM): Through the Commission for Air Quality Management in NCR and Adjoining Areas Act, 2021, the government created a statutory commission with powers to plan, coordinate, research and enforce measures on air quality across Delhi-NCR and neighbouring states.

6. Graded Response Action Plan (GRAP) for Delhi-NCR: The Commission implements the Graded Response Action Plan (GRAP), which is a set of staged emergency measures (Stage I–IV) that restrict activities like construction, DG-set use, and certain vehicles whenever AQI crosses specific thresholds to prevent further deterioration.

7. Bharat Stage (BS) VI emission norms: The Government of India notified migration to Bharat Stage VI emission norms from 1 April 2020 for 2-, 3- and 4-wheeled vehicles, significantly tightening limits on pollutants and requiring advanced emission-control technologies.

8. FAME India Scheme – Phase II (electric mobility): To reduce vehicular emissions, the government is implementing FAME India Phase II with an outlay of ₹10,000 crore, focusing on electrification of public and shared transport by supporting e-buses, e-3 wheelers, e-4 wheeler passenger cars and e-2 wheelers, along with charging infrastructure.

9. Pradhan Mantri Ujjwala Yojana (PMUY): The central government launched Pradhan Mantri Ujjwala Yojana in 2016 to provide deposit-free LPG connections to women in poor households, with the explicit objective of shifting families away from biomass fuels and thereby reducing indoor household air pollution and related health hazards.

10. Stricter standards for thermal power plants: Central Pollution Control Board (CPCB) and the environment ministry have notified stricter emission norms for thermal power plants, including tighter limits for particulate matter, sulphur dioxide and NOx, and mandated technologies such as flue-gas desulphurisation (FGD) for many coal-based plants (though implementation and later relaxations remain contested).

11. Pusa Decomposer and bio-decomposer programme: To tackle crop-residue burning, the government has promoted the Pusa Decomposer, a bio-decomposer developed by ICAR that has been used in Punjab, Haryana, Uttar Pradesh and Delhi on over 3.9 lakh hectares to manage about 2.4 million tonnes of straw by converting it into manure instead of burning it.

12. Clean air awareness and "Green Good Deeds": The MoEFCC also promotes public awareness activities and "Green Good Deeds" campaigns (such as promoting cleaner fuels, reduced open burning, and better waste management) as part of its broader Clean Air initiatives.

13. Adoption of WLTP: India plans to shift to the World Light Duty Vehicle Testing Procedure (WLTP) by 2027, which provides a more accurate measure of fuel consumption and emissions.

Limitations to India's Pollution Response

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1. **Fragmented air governance:** India's air-quality system is split across many ministries, boards, commissions, and municipal bodies. Each controls only a slice, so no one can drive an integrated clean-air agenda.

2. **Diffused accountability:** Because responsibility is scattered, no single institution is answerable for air-quality outcomes. This weakens enforcement, encourages blame-shifting, and makes coordination in regions like the NCR very difficult.

3. **Capacity and resource gaps:** Budgets, staff strength, and technical skills vary widely across States and cities. Shared constitutional powers and constant judicial pressure push officials towards quick action instead of steady, long-term planning.

4. **Seasonal and crisis mindset:** Pollution is treated as a winter emergency, not a year-round health threat. This leads to reactive behaviour and delay in structural reforms on fuel, transport, waste, and industry.

5. **Bias for visible quick fixes:** Governments favour measures such as smog towers, water sprinkling, odd-even rules, and festival bans. These create media visibility but have limited, short-lived impact on public exposure.

6. **Politics over science:** Short-term interventions suit political incentives more than scientific evidence. They avoid confronting powerful lobbies in construction, transport, and agriculture, while claiming that "something is being done".

7. **Intellectual trap:** Elite experts design technically sound policies that ignore municipal realities, informal economies, and weak records. Many strategies remain pilot projects or fail when scaled.

8. **Western trap:** Imported "best practices" assume strong enforcement, high trust, and low informality. In India's dense, negotiated urban spaces, such models often cannot work without serious adaptation.

9. **Ambition–capacity mismatch:** Policies assume higher staffing, coordination, and compliance than actually exists. Scientific tools and models stay disconnected from day-to-day administration, so implementation remains patchy and inconsistent. This keeps air quality gains small and fragile.

Way Forward

1. **Integrated, ongoing management:** Air quality must be managed continuously and built into routine governance, not treated as a winter crisis.

2. **Airshed-based coordination:** States and cities in the same airshed must plan together; much PM2.5 comes from outside city limits, so only joint action works.

3. **Stronger institutions and clear roles:** India needs clear leadership, mandates at Union–State–city levels, and agencies that can plan beyond election cycles.

4. **Adequate finance and capacity building:** Stable multi-year funding and capacity building are needed to hire staff, run monitoring networks, and enforce rules.

5. **Align clean air and climate action:** Clean-air pathways should build on energy transitions such as solar expansion, cutting both air pollutants and CO_2.

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6. **Science, data, and transparency:** Decisions must rely on science, open data, and visible enforcement so citizens and courts can demand compliance.

7. **Behavioural change and stakeholder engagement:** Businesses and citizens should shift to cleaner practices; policy must support this through incentives, regulation, and awareness.

8. **Leverage partnerships and expertise:** India should actively collaborate with domestic and global institutions (such as development banks, research bodies and technical agencies) to design airshed plans, access specialised expertise, pilot innovative approaches and then scale successful clean-air strategies across regions.

Conclusion

Air pollution in India is not a seasonal inconvenience but a permanent public health and development crisis. India has strong laws, programmes, and emerging clean-energy transitions, yet fragmented governance and quick fixes limit impact. Only sustained, well-funded, airshed-based, and India-specific implementation, supported by science and public participation, can make Indian air genuinely breathable.

Question for practice:

Examine how structural governance challenges and reliance on short-term interventions hinder India's ability to effectively tackle air pollution.

Source: [The Hindu](#)

Data Deficiencies: On India and IMF's Low Grading

UPSC Syllabus Topic: GS Paper 3 -Economy.

Introduction

India's national accounts have again received a **'C' grade** in the IMF's 2025 review, even as recent GDP growth numbers are strong. This low grade means that key data used to track the economy have shortcomings that hamper proper surveillance. The IMF links these gaps to outdated base years, methodological weaknesses and limited coverage, at a time when India is preparing a broad overhaul of its statistical system.

IMF's assessment of India's national accounts

Data adequacy assessment process and evolution

> • The IMF's assessment is part of its **Article IV consultations**, in which IMF staff visit India, examine the data, and discuss economic developments and policies with officials.
> • Till 2016, India's data were described as **"adequate for surveillance"**, and from **2017 to 2023** they were termed **"broadly adequate"**.
> • From **2024**, the IMF started using an explicit **A–D grading system**. In that year, India received an **overall 'B' grade** for its data and a lower **'C' grade for national accounts**. The **same grading** has been **repeated in the 2025 review**.

Major findings

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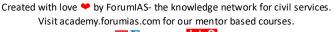Visit academy.forumias.com for our mentor based courses.

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1. **Overall grade and implication:** India's **overall data** received a **'B' grade**, but its **national accounts** were given a lower **'C' grade.** A 'C' grade means the data have shortcomings that **somewhat hamper surveillance** of the economy.

2. **Base year problem: India's** GDP series still uses the **2011-12 base year**, which the IMF considers **outdated** and in need of rebasing.

3. **Use of WPI instead of PPI:** India continues to use the **Wholesale Price Index** (WPI) as a deflator in many sectors because **Producer Price Indices** (PPI) are not available.

4. **GDP measurement discrepancies:** There are **sizeable discrepancies** between the **production** and **expenditure** approaches to GDP. This points to gaps in coverage and methods.

5. **CPI grade and impact:** The **Consumer Price Index receives a 'B' grade** because its base year, basket and weights are outdated. The heavy weight of food and the old base year make it harder to capture current price movements, which can impair **monetary policy decisions by the RBI**.

6. **Other data categories graded 'B':** Government finance statistics, external sector statistics, monetary and financial statistics, and inter-sectoral consistency** are all graded **'B'**.

7. **Informal sector coverage:** The IMF flags **inadequate coverage of the informal sector**, which weakens the reliability of overall growth estimates.

8. **Lack of seasonal adjustment:** Quarterly national accounts **are not seasonally adjusted**, and other statistical techniques also need improvement.

9. **Limited data granularity:** There is **limited granular detail**, especially in **investment data** and **quarterly breakdowns**, which restricts deeper analysis of trends.

Major Recommendations

1. **Improve data quality and timeliness:** The IMF recommends improving the **quality**, **availability**, and **timeliness** of macroeconomic and financial statistics to support better policy decisions.

2. **Regular revision of key statistics:** It suggests **regular revisions** of national accounts, prices, and other key statistics, in line with **international best practices**.

3. **Priority to population census:** The IMF advises conducting the **population census on a priority basis** to update core demographic and economic benchmarks.

4. **Timely consolidated fiscal accounts:** It calls for **timely provision of consolidated general government (Centre plus States) fiscal accounts** to strengthen overall macro-fiscal surveillance.

India initiative on its national accounts

1. **Updating GDP series**

- India is preparing a **new GDP series with 2022-23 as the base year**.

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• The first quarterly estimate under this series, for **October–December 2025**, along with the **second advance estimate for 2025-26**, will be released on **February 27, 2026**.

• The series will involve **changes in methodology** and **new data sources**.

2. New CPI and IIP series

• A **revised CPI series**, based on the **2023-24 Household Consumption Expenditure Survey with 2024 as the base year**, will be released on **February 12, 2026**.

• A **revised Index of Industrial Production** is also planned, using **2022-23 as the base year**.

3. **Improved methods:** The **2011-12 GDP series** had already improved estimation by using **MCA-21 corporate data** instead of the Annual Survey of Industries. The next round plans to **include GST data in GDP estimation**, enhancing coverage of the organised sector.

4. More frequent external sector data: The **Reserve Bank of India** intends to **publish Balance of Payments data monthly** in addition to quarterly releases, increasing frequency and timeliness.

Conclusion

India's **'C' grade for national accounts** is a clear warning that data gaps and delays are constraining economic surveillance and policy design. At the same time, the planned overhaul of GDP, CPI, IIP and Balance of Payments statistics shows that corrective steps are underway. Bridging these gaps quickly is essential for credible, inclusive and well-informed economic governance.

Question for practice:

Examine the IMF's major findings and recommendations on India's national accounts and their impact on economic policymaking.
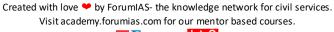
Source: [The Hindu, Indian Express](#)

India's disaster response, a slippery slope for federalism

Source: The post **"India's disaster response, a slippery slope for federalism "** has been created, based on **"India's disaster response, a slippery slope for federalism "** published in **"The Hindu"** on 29th November 2025.

UPSC Syllabus: GS Paper-3- Disaster and Disaster Management

Context: India's disaster-response financing system, created **under the Disaster Management Act, 2005,** was intended to strengthen cooperative federalism, but recent trends indicate a shift toward a more centralised and conditional model. The widening gap between States' assessed needs and the Union's actual disbursements, as seen during the 2024 Wayanad landslides, highlights the growing strain on fiscal federalism.

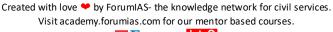**Key Issues in India's Disaster Financing Framework**

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1. India operates a **two-tier disaster financing mechanism** consisting of the **State Disaster Response Fund (SDRF)** and the **National Disaster Response Fund (NDRF),** but the system has increasingly drifted toward central control.
2. **For example:** The Union government approved only ₹260 crore for Kerala against its estimated loss of ₹2,200 crore during the Wayanad tragedy, reflecting a deepening imbalance between requirements and allocations.
3. The structural design appears balanced, but in practice, the funding process is dominated by Union discretion and lengthy approval stages.

Major Challenges in Disaster Response and Federalism

1. Outdated and Rigid Relief Norms: Relief norms have not kept pace with inflation or reconstruction needs, as compensation ceilings such as ₹4 lakh for each life lost and ₹1.2 lakh for a fully damaged home have barely changed in a decade.

2. Ambiguity in Classification of Severe Disasters: The Disaster Management Act does not clearly define what constitutes a "severe" disaster, giving the Union wide latitude in deciding which events qualify for NDRF assistance.

3. Procedural Delays in Fund Release: Disaster assistance is not automatically triggered and depends on several steps including State memoranda, central assessment, and high-level approvals, causing delays when immediate support is most critical.

4. Weaknesses in Allocation Criteria: The Finance Commission uses population and geographical area to determine allocations, which ignores real hazard patterns and actual vulnerability. Disaster vulnerability is measured using proxy indicators rather than a robust hazard-risk index, leading to misaligned funding and underestimation of local risk profiles.

5. Increasing Fiscal Stress on States: Climate shocks and frequent disasters impose significant fiscal pressure on States, and the insufficient central support undermines their ability to recover and rebuild effectively.

Way Forward

1. Update Relief and Compensation Norms: The Union should revise compensation amounts to reflect current costs and reconstruction needs so that States can provide meaningful relief to affected families.

2. Establish Clear and Objective Disaster Classification Criteria: Clear definitions of "severe disaster" and automatic triggers for NDRF eligibility are necessary to reduce discretion and ensure fairness in fund allocation.

3. Adopt a Hazard-Risk Based Allocation Formula: The Finance Commission should incorporate scientific parameters such as hazard frequency, climate vulnerability, and exposure risk rather than relying solely on population and area.

4. Ensure Timely and Predictable Fund Releases: Disaster-response funds should follow automatic, rule-based transfers to States, allowing faster mobilization of resources during emergencies.

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5. Strengthen Cooperative Federalism Mechanisms: Greater consultation between the Union and States, transparent formula-based disbursal, and joint preparedness planning can reinforce trust and collaboration.

6. Build State Capacities for Resilient Recovery: Investments in early warning systems, local infrastructure resilience, and capacity-building programs can reduce long-term dependence on central assistance.

Conclusion: India's disaster-response financing system, though well-intentioned, has gradually moved toward a centralised model that risks weakening cooperative federalism. Strengthening objectivity, transparency, and scientific basis in fund allocation along with upgrading relief norms and enabling timely support can restore balance and enhance India's ability to respond effectively to growing climate and disaster risks.

Question: India's disaster-response financing system increasingly reflects centralisation and conditionality, posing challenges to cooperative federalism. Discuss. Also suggest measures to strengthen federal balance in disaster management.

Draft Seeds Bill

Source: The post **"Draft Seeds Bill"** has been created, based on **"What does the draft Seeds Bill entail?"** published in "The Hindu" on 29th November 2025.
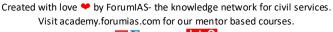
UPSC Syllabus: GS Paper-3- Indian Economy

Context: The draft Seeds Bill, released by the Union Agriculture Ministry on November 12, aims to modernise India's seed regulatory framework by ensuring quality seeds, promoting ease of doing business, and strengthening penalties for violations.

History and Background

1. **Need for Reform:** The seed industry has long argued that the Seeds Act of 1966 does not reflect technological and scientific advancements in seed development or changes in global trade patterns.
2. **Seed Availability Context:** In 2023–24, India required 462.31 lakh quintals of seeds and had an availability of 508.60 lakh quintals, resulting in a surplus of 46.29 lakh quintals.
3. **Stakeholder Positions:** While industry bodies welcome the draft as a modernisation step, farmer groups such as the Samyukt Kisan Morcha **oppose it, calling certain provisions "anti-farmer."**

Key Provisions of the Draft Seeds Bill

1. The Bill establishes a comprehensive regulatory mechanism to oversee the import, production and supply of quality seeds in the country.
2. The Bill does not restrict farmers from sowing, re-sowing, exchanging or selling their own seeds, unless the seeds are sold under a brand name.
3. The Bill clearly defines farmers, dealers, distributors and producers as separate regulated entities, each with specific roles and responsibilities.
4. **Institutional Structure:** The Bill proposes the creation of a 27-member Central Seed Committee and a 15-member State Seed Committee to guide seed regulation.
   a. The Central Seed Committee can recommend minimum standards for germination, purity, traits, seed health and genetic purity for seeds sold in the market.

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b. The State Seed Committees may advise their respective governments on the registration of seed producers, seed dealers, processing units and nurseries.

5. **Registration Requirements:** The Bill makes it mandatory for all seed processing units to register with the State government under the proposed legislation. The Union government is empowered to establish a central accreditation system for seed companies that operate across multiple States.

6. **Seed Testing and Regulation:** The Bill mandates the establishment of Central and State seed testing laboratories for analysing the quality and characteristics of seeds.

   a. The Bill proposes that a Registrar be appointed to maintain a National Register of all seed varieties available in the country.

   b. The Bill makes field trials mandatory to evaluate the Value for Cultivation and Use (VCU) of any seed variety before approval.

7. **Penalties and Enforcement:** The Bill stipulates that violations can attract monetary penalties ranging from ₹50,000 to ₹30 lakh and can also lead to imprisonment for up to three years.

   a. The roles of enforcement agencies, including those under the Bharatiya Nagarik Suraksha Sanhita, are clearly defined for inspecting seed premises and seizing spurious seeds.

Changes from the 2019 Draft

1. **Enhanced Penalties:** The previous penalty range of ₹25,000–₹5 lakh has been significantly increased in the new draft.

2. **Farmers' Rights Alignment:** The draft now explicitly links farmers' rights with the Protection of Plant Varieties and Farmers' Rights Act (PPVFR Act), 2001.

3. **Quality Standards:** The Bill tightens seed quality norms and liberalises the import of seeds compared to the earlier version.
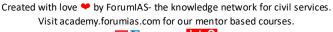
Concerns of Farmers

1. **Fear of Corporate Dominance:** Farmers believe the Bill may enable multinational and domestic corporations to control seed markets, threatening seed sovereignty.

2. **Risk to Legal Safeguards:** Farmers worry that the Bill may dilute protections under the PPVFR Act, Convention on Biological Diversity and other international commitments.

3. **Centralisation Issues:** Farmers argue that the proposed regulatory system is excessively centralised, reducing State and farmer participation.

4. **Threat to Biodiversity:** There are concerns that the Bill may undermine India's biodiversity conservation framework and weaken farmer-centric production systems.

Implementation Challenges

1. **Balancing Interests:** It is difficult to balance ease of doing business with the need to protect small farmers' rights and access to seed varieties.

2. **Institutional Capacity:** Many States may lack adequate infrastructure and trained personnel to run seed testing laboratories and seed committees effectively.

3. **Regulatory Trust Deficit:** There is a persistent trust deficit between farmers and seed companies, which complicates implementation.

4. **Uniform Enforcement:** Ensuring uniform standards across different States poses significant administrative challenges.

Way Forward

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1. **Strengthen Farmer Protections:** The Bill must align fully with the PPVFR Act to protect farmers' right to save, exchange and reuse seeds.
2. **Risk-Based Allocation:** A risk-based, decentralised regulatory system should be adopted to account for diverse agro-climatic realities.
3. **Balance Penalties:** Penalties should target fraudulent corporations while ensuring that small farmers are not criminalised for minor violations.
4. **Inclusive Consultation:** Wider consultations with farmer organisations, scientists and State governments are needed before finalising the Bill.
5. **Capacity Building:** States should receive financial and technical support to enhance seed testing, certification and regulatory enforcement.

Conclusion: The draft Seeds Bill is a timely attempt to modernise India's seed sector, strengthen quality assurance and regulate trade, but it must address farmers' concerns regarding centralisation and corporate dominance. A balanced, transparent and farmer-centric regulatory framework is essential for ensuring seed security, biodiversity protection and sustainable agricultural growth.

Question: The Draft Seeds Bill, 2025 aims to modernise India's seed regulatory framework but raises significant concerns about farmer rights, centralisation and seed sovereignty. Discuss the key provisions, concerns and the way forward.

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