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Mains Marathon

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HISTORY
ECONOMICS
POLITY
SCIENCE AND TECHNOLOGY
GEOGRAPHY AND ENVIRONMENT

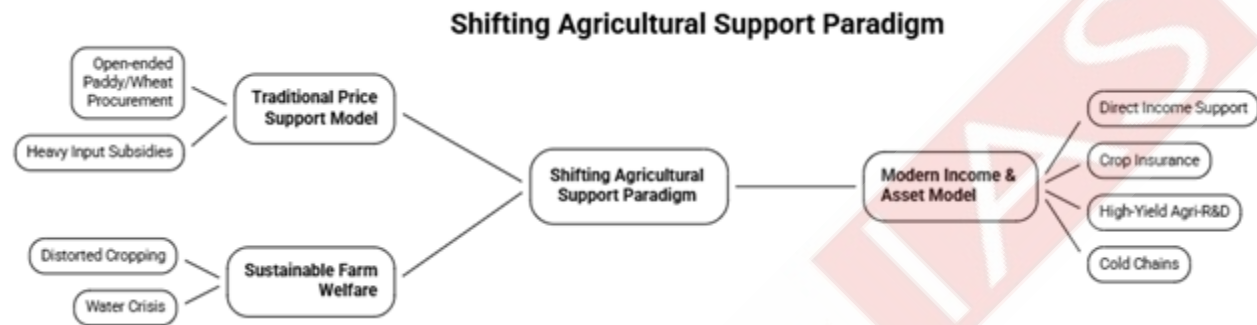
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Examine why shifting from price support mechanisms to direct income support, Agri-R&D, and rural infrastructure is crucial for sustainable farm income in India.

Introduction

India's agricultural support architecture historically relied on price intervention via the MSP and heavy input subsidies (power, fertilizer, and water). However, rising fiscal burdens, ecological distress, and limited reach have sparked a consensus toward structural reform, transitioning from price distortion mechanisms to direct income support, targeted risk mitigation, and capital-intensive infrastructure creation.



Need to Shift Beyond Price Support Mechanisms

Economic Sustainability

1. **Reduces fiscal burden** of open-ended MSP procurement and input subsidies, freeing resources for productive investments. Example: FCI food subsidy.
2. **Minimises market distortions**, allowing prices to reflect actual demand and supply. Example: Crop diversification.
3. **Encourages private investment** in agri-value chains by reducing excessive state intervention. Example: Food processing.

Social Equity

1. **Expands coverage** beyond procurement-centric regions, as MSP benefits barely 12–15% of farmers (Shanta Kumar Committee estimates around 6% procurement beneficiaries). Example: Eastern India.
2. **Supports small and marginal farmers** through direct transfers irrespective of marketed surplus. Example: PM-KISAN.
3. **Reduces regional disparities** by delinking benefits from procurement infrastructure. Example: Aspirational districts.

Environmental Sustainability

1. **Discourages water-intensive monocropping** promoted by MSP. Example: Punjab groundwater.
2. **Promotes climate-resilient crops** like pulses, oilseeds and millets. Example: International Year of Millets.
3. **Reduces excessive fertiliser and electricity use**, improving soil and water health. Example: Nutrient balance.

Why Direct Income Support, Agri-R&D and Infrastructure Matter

1. **Income without Distortion:** Decouples support from crop choice, enabling market-led production decisions (PM-KISAN). Provides predictable cash flow during market and climate shocks.

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Strengthens rural demand, generating multiplier effects across the rural economy. Example: Consumption boost.

2. Raising Long-Term Productivity: Develops climate-resilient, high-yielding varieties, improving farm resilience (Drought-tolerant seeds). Promotes precision agriculture for efficient use of water and fertilisers (Precision-farming). Enhances competitiveness through bio-fortified and export-oriented crops. Example: ICAR innovations.

3. Connecting Farms to Markets: Reduces post-harvest losses (estimated 15–20% for perishables). Improves market access through roads, warehouses and e-NAM integration (PMGSY). Facilitates value addition, increasing farmers' share in consumer prices. Example: Food processing clusters.

4. Agri-Aggregation & Bargaining Power: Strengthens Farmer Producer Organisations (FPOs) for aggregation and bargaining power. Example: 10,000 FPO Scheme.

5. Agri-Tech Diffusion: Expands digital agriculture through AgriStack, satellite advisory and AI-enabled extension. Example: Precision farming.

6. Global & Trade: Reduces WTO concerns over trade-distorting subsidies while encouraging Green Box investments in research and infrastructure. Example: WTO AoA.

Challenges

1. Political Sensitivity Political sensitivity surrounding MSP reforms continues to delay necessary changes. Example: Farmer protests.

2. Tenant Exclusion Exclusion of tenant farmers from land-linked income support remains widespread. Example: Lease farming.

3. Extension Weakness Weak extension services severely limit technology adoption among rural farmers. Example: Low outreach.

4. Infrastructure Gaps Regional infrastructure deficits hinder progress in eastern and rainfed areas. Example: Storage gaps.

Way Forward

1. Gradually rationalise inefficient subsidies while protecting vulnerable farmers through calibrated transition. Example: Phased reforms.

2. Expand direct income support with inclusion of tenant and sharecropper farmers. Example: Land leasing reforms.

3. Increase public investment in Agri-R&D to at least 1% of Agri-GDP, as recommended by experts. Example: ICAR strengthening.

4. Scale up Agriculture Infrastructure Fund for cold chains, warehouses and processing units. Example: Rural logistics.

5. Promote Price Deficiency Payment (PDP) for pulses and oilseeds instead of universal procurement. Example: Madhya Pradesh model.

6. Strengthen PMFBY, e-NAM and FPOs to create an integrated risk-management and marketing ecosystem. Example: Market integration.

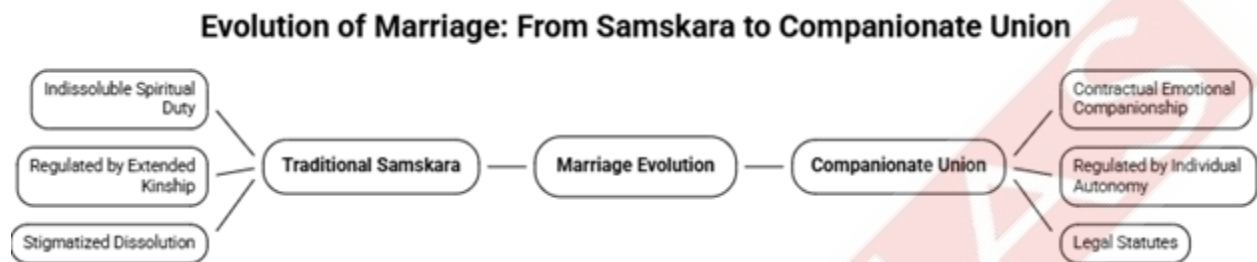
Conclusion

Echoing Dr. M.S. Swaminathan's vision of an "evergreen revolution", sustainable farm prosperity demands shifting public investment from price distortions towards income security, innovation and resilient rural infrastructure for inclusive growth.

Examine why faith-based dating remains niche in India despite endogamous matrimonial traditions. Is marriage losing its sacramental value in modern society?

Introduction

Economic Survey 2025–26 highlights demographic transition and changing family structures, while Pew Research finds over 95–99% Indians marry within their faith, revealing a paradox between enduring endogamy and limited faith-based dating.



Why Faith-Based Dating Remains Niche Despite Endogamous Traditions

Family-Centric Institution vs Individual-Centric Dating

1. Marriage in India is primarily an alliance between families, whereas dating is viewed as an individual choice. *Example: Arranged marriages.*
2. Religious endogamy is enforced through kinship networks, caste associations and elders, not dating platforms. *Example: Samaj institutions.*
3. Matrimonial platforms succeed because they accommodate parental participation. *Example: Shaadi.com.*

Endogamy Extends Beyond Religion

1. Marital preferences combine religion, caste, sub-caste, gotra, language, region, horoscope and socio-economic status, making faith alone an inadequate filter. *Example: Kundali matching.*
2. Faith-based dating apps fail to capture India's layered social identities. *Example: Sect preferences.*

Dating–Matrimony Cultural Dichotomy

1. Dating is often associated with exploration and companionship, while matrimony signifies commitment and social legitimacy. *Example: Family approval.*
2. Consequently, youth prefer secular dating apps before entering community-based matrimonial platforms. *Example: Tinder to Shaadi.*

Social Norms and Moral Surveillance

1. Publicly identifying on faith-exclusive dating apps may attract community scrutiny, honour concerns and moral policing. *Example: Conservative communities.*
2. Women often face greater social monitoring than men. *Example: Gender norms.*

Technological Evolution Without Cultural Shift

1. General dating apps already provide religion and language filters, reducing demand for dedicated faith-based platforms. *Example: Bumble filters.*

2. AI-based recommendations increasingly rely on behavioural compatibility rather than religious identity. *Example: Algorithmic matching.*

Is Marriage Losing Its Sacramental Value?

Arguments Suggesting a Shift

1. **Rise of Individual Autonomy:** Marriage is increasingly viewed as a companionate partnership based on emotional compatibility. *Example: Urban millennials.* Delayed marriages and informed partner choice reflect expanding personal agency. *Example: Career-first decisions.*
2. **Legal and Constitutional Transformation:** Special Marriage Act, 1954 enables civil marriages beyond religious boundaries. *Example: Inter-faith unions.* Judicial recognition of live-in relationships and privacy strengthens individual choice. *Example: Right to privacy.*
3. **Urbanisation and Economic Change:** Higher education, women's employment and migration weaken traditional community control. *Example: Metropolitan cities.* Digital platforms expand marriage markets beyond local caste networks. *Example: Online matchmaking.*

Why Sacramental Values Continue to Endure

1. **Ritual and Religious Continuity:** Ceremonies such as Saptapadi, Nikah and Anand Karaj retain deep spiritual and cultural legitimacy. *Example: Religious rites.*
2. **Persistence of Family Institution:** Families continue to influence partner selection, wedding negotiations and post-marital integration (*Joint families*). Marriage remains linked with dharma, lineage and social stability. *Example: Grihastha Ashrama.*
3. **Empirical Evidence:** Pew Research reports 95–99% of Indians marry within their religion, indicating the enduring strength of endogamy. Most Indians also oppose inter-faith and inter-caste marriages, reflecting continuing community influence.

Way Forward

1. Promote relationship education alongside family counselling. *Example: Premarital guidance.*
2. Strengthen safeguards against honour crimes and coercion. *Example: Safe reporting.*
3. Encourage matrimonial and dating platforms to integrate trust, privacy and safety-by-design. *Example: Verified profiles.*
4. Foster constitutional values of fraternity and dignity while respecting cultural diversity. *Example: Inclusive citizenship.*
5. Support research on changing family structures through institutions like ICSSR and universities. *Example: Evidence-based policy.*

Conclusion

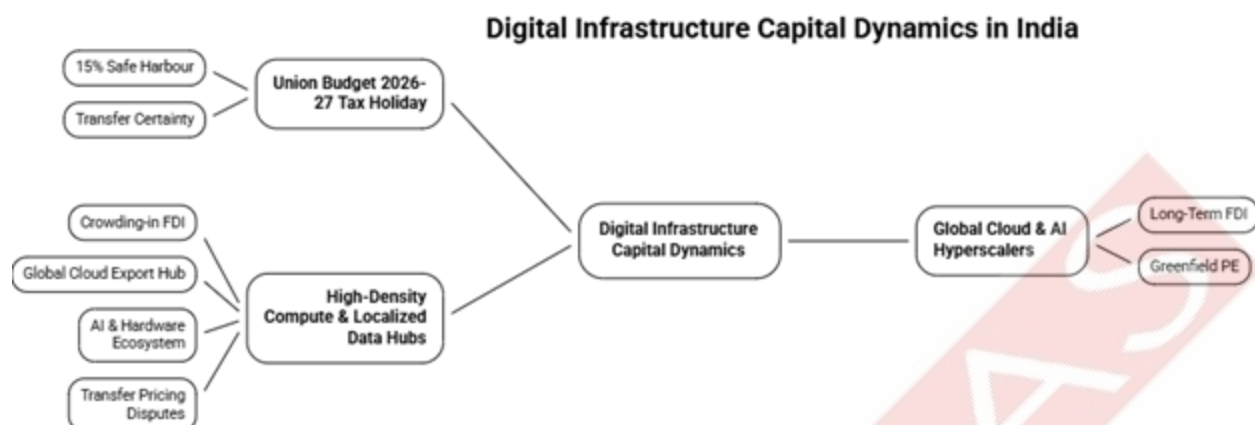
As Dr. B.R. Ambedkar observed, fraternity is democracy's moral foundation. Marriage in India is evolving from sacrament to companionship, yet its enduring cultural legitimacy continues to bind families, communities and society.

How can the 2047 tax holiday for foreign cloud providers transform India's digital infrastructure? What investment and policy challenges persist?

Introduction

With global data-centre investments exceeding US\$270 billion in 2025 (UNCTAD), the Union Budget 2026–27 announced a long-term tax holiday till 2047 for eligible foreign cloud service providers offering global services

using India-based data centres, alongside a 15% safe harbour margin on related-party services., positioning India as a global AI-cloud infrastructure hub under Viksit Bharat.



How the 2047 Tax Holiday can Transform India's Digital Infrastructure

- Hyperscale Investment:** Tax certainty till 2047 lowers policy risk for capital-intensive hyperscale investments. Encourages greenfield AI data centres, fibre networks and cloud campuses. Supports India's transition from IT-services exporter to digital infrastructure owner. Example: MAANG (Meta-Apple-Amazon-Netflix-Google) expansion.
- Positioning India as Global Cloud Export Hub:** Foreign companies can serve global customers using Indian data centres without worldwide income taxation. Integrates India into global digital value chains, enhances services exports and invisible earnings. Example: Global cloud workloads.
- Accelerating AI Ecosystem Development:** AI requires high-density GPU clusters and low-latency computing. Large data centres create demand for: AI research, semiconductor design, edge computing, high-performance networking. Complements IndiaAI Mission and India Semiconductor Mission 2.0. Example: AI compute clusters.
- Hardware Manufacturing:** Higher demand for servers, cooling equipment, storage devices and networking hardware. Supports: ECMS, Make in India, PLI ecosystem, generates multiplier effects across manufacturing. Example: Server manufacturing.
- Transfer Pricing Certainty: 15% Safe Harbour** reduces transfer-pricing disputes, faster compliance for multinational cloud companies; improves Ease of Doing Business. Example: Cost-plus entities.
- High-Skilled Employment:** Creates high-skilled employment: cloud engineers, cybersecurity experts, AI specialists and data scientists. Encourages startup innovation around cloud-native applications. Example: SaaS ecosystem.
- Digital Sovereignty:** Digital infrastructure is becoming strategic national infrastructure. Reduces dependence on overseas cloud hosting. Enhances digital sovereignty and trusted data ecosystems. Strengthens India's Indo-Pacific digital leadership. Example: Digital Public Infrastructure.
- Institutional Investment:** Data centres increasingly attract institutional investments. Savills India (2026): Data centres accounted for 38% of real-estate PE investments during Apr-Jun 2026. Generates long-term infrastructure financing. Example: Digital economy.

Key Investment and Policy Challenges

Challenge	Operational Bottlenecks
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Grid Power & Energy Intensity	AI-driven data centres consume massive continuous electricity; reliance on fossil-heavy grids threatens sustainability goals unless backed by firm green energy.
Water Stress & Spatial Bottlenecks	Liquid-cooling systems require continuous freshwater access; land acquisition in coastal cable landing corridors (e.g., Mumbai, Chennai) faces soaring real estate costs.
Reseller Entity Dual-Tax Friction	The requirement to route domestic operations through an Indian reseller entity creates structural tax segmentation that requires clear compliance guidelines.
Regulatory & Utility Dependencies	Fiscal incentives alone cannot offset operational delays caused by state-level power utility approvals, high open-access charges, and land-use conversions.

Way Forward

1. Develop Green Data Centre Corridors powered by renewable energy. Example: Zero-carbon parks.
2. Grant National Infrastructure Status to hyperscale data centres.
3. Harmonise Central-State incentives through a common framework. Example: Duty waivers.
4. Promote indigenous cloud hardware under ISM 2.0.
5. Encourage waste-water recycling and energy-efficient cooling technologies.
6. Strengthen cybersecurity, DPDP compliance and trusted AI standards.
7. Support Tier-II & Tier-III data-centre clusters to reduce regional imbalance.

Conclusion

The 2047 tax holiday marks a decisive policy shift to anchor critical digital assets within domestic borders. To fully realize India's ambition as a global digital hub, tax incentives must be matched by robust grid modernisation, sustainable cooling technologies, and streamlined land infrastructure.

Examine how the Supreme Court's ruling on sex work reframes anti-trafficking discourse. Evaluate the challenges in balancing constitutional dignity with statutory enforcement.

Introduction

Recognising dignity over moral paternalism, the Supreme Court in *Prajwala v. Union of India* (2026) invoked Articles 21, 23, 32 and 142 to distinguish voluntary sex work from trafficking, advancing a rights-based constitutional framework.



Supreme Court's Ruling Reframing Anti-Trafficking Discourse

- 1. From Rescue Model to Rights-Based Model:** Rejects automatic conflation of prostitution with trafficking. Recognises agency and informed consent of voluntary adult sex workers. Consent becomes the primary legal threshold before rescue. Example: Threshold inquiry.
- 2. Constitutionalisation of Sex Workers Rights:** Affirms Article-21 dignity, privacy, bodily autonomy and livelihood. Reinforces Article-14 (equal protection) and Article-19(1)(g) (occupation, subject to law). Victims remain rights-holders despite social stigma. Example: Bodily autonomy.
- 3. Distinguishing Trafficking from Voluntary Sex Work:** Article 23 prohibits trafficking and forced labour—not consensual adult sex work. Focus shifts towards coercion, deception and exploitation, aligns with the UN Palermo Protocol. Example: Forced exploitation.
- 4. Reforming Police-Centric Enforcement:** Restricts indiscriminate raids and forced institutionalisation. Directs magistrates to verify voluntariness before detention, prevents misuse of rescue operations. Example: Magistrate oversight.
- 5. Humanising Welfare:** Children cannot be separated solely because their mother is a sex worker. Encourages rehabilitation through consent, not coercion. Example: Child custody.
- 6. Public Health Perspective:** Prohibits treating possession of condoms as evidence of solicitation. Supports HIV prevention and public health goals. Example: Safe-sex rights.

Institutional Harms vs. Constitutional Mandates

Area	Anti-Trafficking Statutory Framework (ITPA)	Supreme Court's Constitutional Ruling
Coerced Detention	Indefinite institutionalization in "protective/corrective homes."	Detention against consent violates liberty; mandates immediate release of non-coerced adults.
Evidence & Policing	Possession of health tools (e.g., condoms) treated as proof of soliciting.	Ban on using health materials as evidence; protects right to health and safety.
Criminalization	Associated acts (running brothels, living on earnings) remain criminal under ITPA.	Affirms that while brothels remain unlawful, voluntary work itself is not illegal.

Key Challenges & Persisting Paradoxes

1. **Institutional Paradox of Recognition:** While the judiciary adopted rights-based arguments built by grassroots sex workers, it failed to formally consult or acknowledge worker-led collectives (such as the National Network of Sex Workers), leaving decision-making centralized.
2. **Over-reliance on Police Discretion:** Ground-level law enforcement frequently conflates ITPA provisions (pimping, soliciting) to harass voluntary workers, blunting judicial protections.
3. **Stigma and Civil Invisibility:** Access to banking, housing, health services, and legal aid remains constrained without legislative amendments explicitly decriminalizing associated activities.

Way Forward

1. Amend the Immoral Traffic (Prevention) Act to distinguish trafficking from voluntary adult sex work. Example: Legislative harmony.
2. Institutionalise consent-based rescue protocols through standard operating procedures. Example: Due process.
3. Include sex-worker collectives in policy formulation and monitoring. Example: Participatory governance.
4. Establish independent oversight of shelter homes and rehabilitation centres. Example: Accountability.
5. Strengthen access to welfare, healthcare, legal aid and financial inclusion. Example: Social protection.
6. Conduct nationwide police and judicial sensitisation programmes. Example: Behavioural reform.
7. Integrate rehabilitation with Mission Shakti and NALSA support services. Example: Convergence approach.

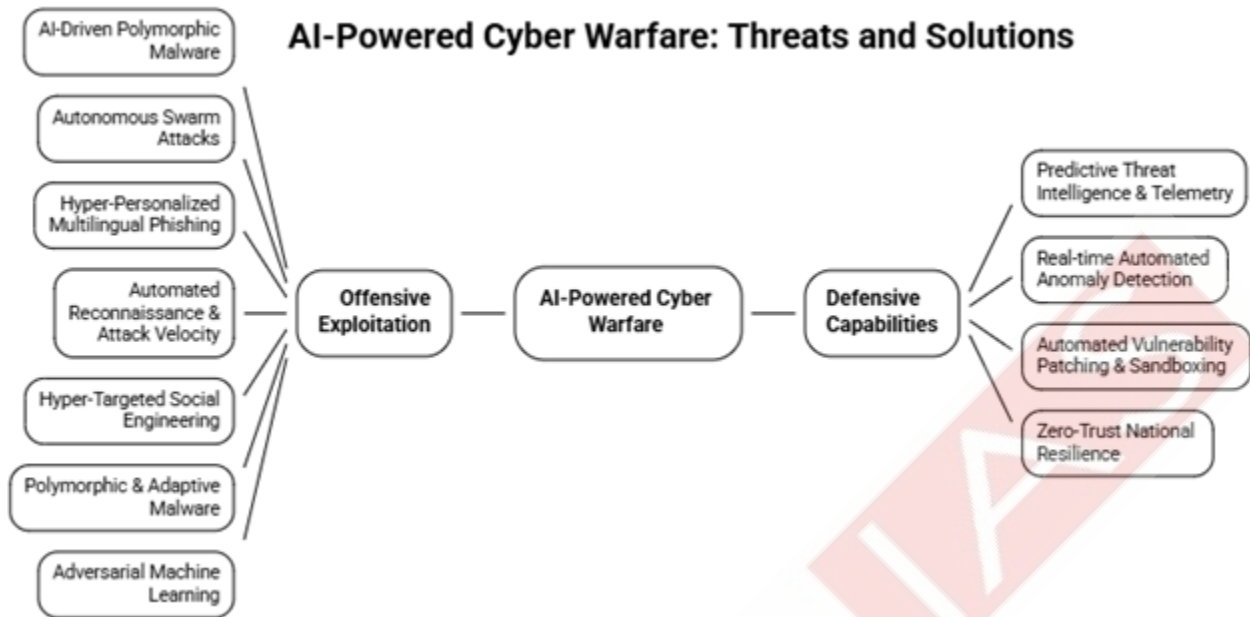
Conclusion

Echoing Justice D.Y. Chandrachud's constitutional morality jurisprudence and the Supreme Court's Prajwala vision, India's anti-trafficking framework must replace paternalism with dignity, ensuring rights-based rehabilitation, participation and legislative coherence.

Analyze the evolving threat landscape at the intersection of Artificial Intelligence and cybersecurity. How can India build a resilient national defense framework? (500 Words)

Introduction

The convergence of Artificial Intelligence (AI) and cybersecurity creates a “double-helix” security paradigm. Economic Survey 2025–26 identifies AI as a strategic growth frontier, while Budget 2026–27 strengthens the IndiaAI Mission. Simultaneously, AI-driven cyber threats necessitate resilient, sovereign, and intelligence-led national cybersecurity architecture.



AI-Cyber Convergence

1. **AI-Powered Offensive Cyber Operations:** Autonomous vulnerability discovery enables machine-speed identification and exploitation of zero-day flaws. Frontier AI models demonstrate exploit chaining beyond human capability. Example: Anthropic Mythos.
2. **Hyper-Personalized Social Engineering:** Generative AI produces multilingual phishing, synthetic identities, deepfake videos and cloned voices. Weakens traditional Identity & Access Management (IAM). Example: CEO voice fraud.
3. **Adaptive & Polymorphic Malware:** Reinforcement learning enables malware to mutate continuously, bypassing signature-based antivirus systems. Traditional perimeter security becomes obsolete. Example: AI ransomware.
4. **Adversarial AI & Model Poisoning:** Training-data poisoning and adversarial prompts manipulate AI systems controlling critical infrastructure. Risks extend to power grids, defence logistics and financial markets. Example: Smart-grid attacks.
5. **Autonomous Cyber Warfare:** AI agents conduct reconnaissance, privilege escalation and lateral movement without human intervention. Shrinks cyber kill-chain timelines from weeks to hours. Example: Agentic AI.
6. **Cognitive Warfare & Information Manipulation:** Deepfake campaigns distort elections, military narratives and public trust. AI blurs cyber warfare with psychological operations. Example: Election misinformation.
7. **Geopolitical AI Arms Race:** AI sovereignty is becoming central to strategic competition among the US, China and Europe. AI infrastructure increasingly determines military and economic influence. Example: Compute controls.

India's Cybersecurity Preparedness

Institutional Strengths

1. **CERT-In:** Operates AI-enabled threat intelligence and incident response platforms.
2. **NCIIPC:** Secures Critical Information Infrastructure (power, banking, telecom).
3. **DPDP Act, 2023:** Mandates reasonable security safeguards.

4. **IndiaAI Mission (₹10,371 crore):** Builds sovereign compute, datasets and responsible AI ecosystem.

Persisting Gaps

1. Absence of an updated National Cyber Security Strategy.
2. Heavy dependence on imported chips and network hardware.
3. Acute shortage of AI-cybersecurity professionals.
4. Fragmented cyber coordination between Centre, States and private operators.
5. Shortage of specialized AI-cyber talent persists. Example: Certified Security Professional in Artificial Intelligence (CSPAI) program deficit.

Building a Resilient National Defence Framework

1. **Autonomous Threat Response:** Institutionalise AI-enabled threat hunting, automated patching and predictive intelligence across government networks. Example: CERT-In automation.
2. **Zero-Trust Security Architecture:** Replace perimeter security with “Never Trust, Always Verify” authentication across defence and critical infrastructure. Example: Continuous verification.
3. **Technological Sovereignty:** Accelerate indigenous AI models, secure cloud infrastructure and semiconductor ecosystem under IndiaAI Mission. Example: IndiaAI Compute.
4. **Supply-Chains Integrity:** Mandate Software Bills of Materials (SBOMs), hardware certification and periodic security audits. Example: Trusted hardware.
5. **Critical Asset Resilience:** Conduct AI-enabled red-teaming, cyber range simulations and resilience audits for strategic sectors. Example: Power-grid drills.
6. **Human Capital Augmentation:** Launch specialised AI-cybersecurity certification, defence AI fellowships and university Centres of Excellence. Example: Cyber skilling.
7. **Normative Governance Framework:** Finalise National Cyber Security Strategy, strengthen DPDP implementation and deepen cooperation through Quad, BIMSTEC and UN cyber norms. Example: Quad cyber.
8. **Collaborative Innovation Ecosystem:** Partner with startups, academia and industry to develop indigenous cyber defence solutions and threat intelligence exchanges. Example: Deep-tech ecosystem.

Way Forward

1. Adopt AI-native cyber deterrence integrated across defence agencies.
2. Establish a National AI Security Centre for frontier AI risk evaluation.
3. Promote explainable and trustworthy AI for defence decision-making.
4. Develop indigenous secure chips and quantum-safe cryptography.
5. Embed cyber resilience within Digital Public Infrastructure and Smart Cities.
6. Expand international cyber diplomacy while preserving digital sovereignty.

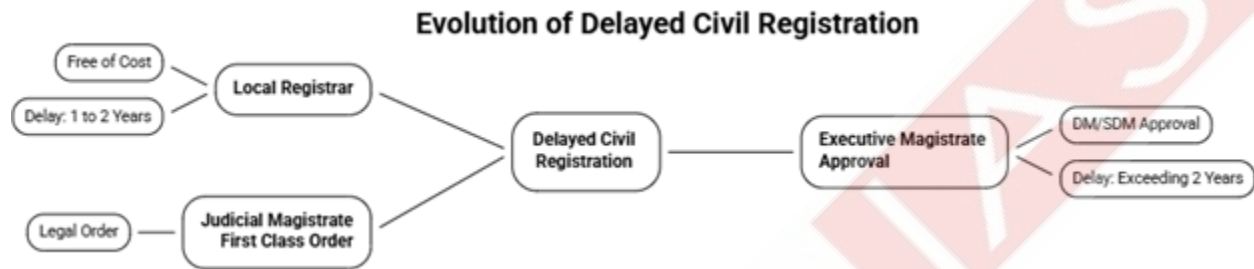
Conclusion

As AI and cyber capabilities become inseparable, national security depends on shifting from reactive incident response to proactive, AI-driven deterrence. Strengthening sovereign tech capabilities, enforcing robust data governance, and training skilled cybersecurity professionals will secure India's digital public infrastructure against next-generation threats.

Examine the societal and demographic implications of tightening delayed birth and death registration rules under the Civil Registration System in India.

Introduction

The Registration of Births and Deaths (Amendment) Bill, 2026 amends Section-13 of the 1969 Act to make delayed civil registration provisions significantly more stringent. By shifting delayed approvals exceeding two years from executive authorities to a Judicial Magistrate First Class (JMFC), the legislation aims to enforce timely reporting, prevent documentation fraud, and safeguard the structural integrity of India's demographic databases.



Why tightening delayed registration matters

The 2026 Amendment introduces a two-tier verification mechanism:

1. Delay of 1–2 years: Approval by DM/SDM/Executive Magistrate.
2. Delay beyond 2 years: Mandatory order of Judicial Magistrate First Class (JMFC) after verification.
3. This follows the 2023 amendment, which made birth certificates the foundational identity document for education, passports, Aadhaar, electoral rolls and government services, increasing the need for stronger authenticity.

Demographic implications

1. **Improves quality of population statistics:** Reliable CRS strengthens estimation of: TFR, IMR, Sex Ratio at Birth, Life Expectancy. Better demographic indicators improve planning for health, education and nutrition. Example: Population projections.
2. **Strengthens evidence-based governance:** The Economic Survey 2025–26 emphasizes data-driven policymaking, while ORGI's CRS statistics support planning for maternal health, immunisation and social welfare. Example: Aspirational Districts.
3. **Protects integrity of DPI:** Accurate birth records strengthen interoperability across: Aadhaar, passport, voter ID, school admissions, social welfare databases. Example: Digital identity.
4. **Reduces identity fraud:** Judicial scrutiny discourages: age manipulation, fake citizenship claims, duplicate identities, welfare fraud. Example: Forged certificates.

Societal implications

1. **Identity and legal empowerment:** Legal identity enables access to: education, healthcare, banking, inheritance and government employment. Aligned with **SDG 16.9 (Legal Identity for All)**. Example: Child rights.
2. **Improved welfare targeting:** Authentic records improve delivery of: PM Poshan, PM-JAY, pensions, scholarships. Example: DBT efficiency.

3. **Public health surveillance:** Timely death registration improves: epidemic surveillance, cause-of-death statistics, disaster response. Example: Pandemic planning.

Challenges

1. **Risk of exclusion of vulnerable groups:** Delayed registrations are common among: tribal populations, migrant labour, nomadic communities, disaster-affected families, home births. Higher procedural requirements may deny genuine applicants. Example: Remote villages.
2. **Greater procedural burden:** Applicants may require: affidavits, historical records, witnesses, court appearances and increasing transaction costs. Example: Poor households.
3. **Judicial workload:** Routing registrations beyond two years to JMFCs may: increase pendency, delay certificates, divert judicial resources. Example: District courts.
4. **Gender concerns:** Single mothers, abandoned children and undocumented births may face greater social and procedural barriers. Example: Informal births.
5. **Constitutional concerns:** Balancing: Article 21 (Right to life and identity), Article 14 (Equality) with fraud prevention remains critical. Excessive gatekeeping should not undermine substantive justice. Example: Due process.
6. **Administrative capacity gaps:** Uniform implementation requires: trained registrars, standard verification protocols, digital integration, public awareness; otherwise regional disparities may widen. Example: Capacity deficit.

Way Forward

1. Adopt risk-based verification instead of uniform procedural rigidity.
2. Strengthen District Legal Services Authorities (DLSA) support for poor applicants.
3. Conduct special registration drives in tribal, border and migrant areas.
4. Integrate CRS with Ayushman Bharat Digital Mission and Digital Public Infrastructure.
5. Issue uniform evidentiary guidelines through ORGI.
6. Build Panchayat- and Anganwadi-led awareness for registration within 21 days.
7. Use AI-enabled anomaly detection to identify fraudulent registrations while protecting genuine citizens.
8. Periodically audit implementation through NITI Aayog's governance monitoring framework and State CRS reviews.

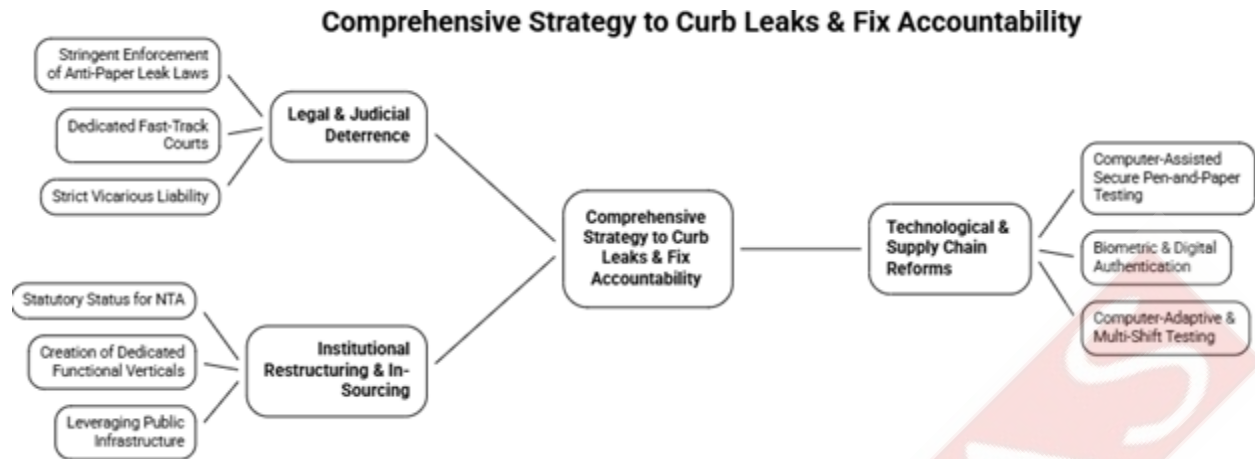
Conclusion

Securing the authenticity of civil registers is vital for robust social welfare governance and demographic planning. However, policy implementation must ensure that administrative gatekeeping does not inadvertently marginalize vulnerable citizens, keeping India's CRS both authentic and inclusive.

What can be done to curb paper leaks and ensure institutional accountability?

Introduction

Recurrent question paper leaks and organized malpractices in high-stakes public recruitment and entrance examinations (e.g., NEET, CUET, SSC, state PSCs) severely undermine meritocracy, public trust, and the aspirations of millions of youth.



Why Paper Leaks Have Become a Systemic Governance Challenge

Governance & Institutional Weaknesses

1. Weak accountability across examination authorities, printers and logistics agencies. Example: State recruitment exams.
2. Fragmented examination ecosystem with varying security protocols. Example: Multiple recruiting bodies.
3. Lack of specialized institutional capacity, testing bodies NTA have historically operated with contractual staff rather than permanent, domain-specific security and technical cadres. Example: Patent Examiner Exam Scam.

Technological Vulnerabilities

1. Digital transmission without end-to-end encryption. Example: Question paper servers.
2. Insider access to confidential databases. Example: Credential misuse.
3. Lack of AI-enabled anomaly detection. Example: Suspicious downloads.

Criminal-Political Nexus

1. Organised cheating mafias exploit recruitment demand. Example: Vyapam legacy.
2. Collusion involving coaching centres, officials and intermediaries. Example: Leak syndicates.
3. Cross-border digital fraud through encrypted platforms. Example: Telegram networks.

Comprehensive Strategy to Curb Leaks & Fix Accountability

Legal & Judicial Deterrence

1. **Stringent Enforcement of Anti-Paper Leak Laws:** Enforce provisions of the Public Examinations (Prevention of Unfair Means) Act, 2024 and its subsequent amendments, which categorize organized exam fraud as cognizable, non-bailable, and non-compoundable offences with imprisonment up to 10 years and fines up to ₹10 crore.
2. **Dedicated Fast-Track Courts (FTCs):** Establish special fast-track courts across High Court jurisdictions to ensure time-bound investigation and trial (within 3 months) of cheating syndicates, preventing long legal delays.
3. **Strict Vicarious Liability:** Hold private test service providers and test center operators personally liable with severe financial penalties, property attachment, and blacklisting for security breaches.

Technological & Supply Chain Reforms

1. **Computer-Assisted Secure Pen-and-Paper Testing (CPPT):** Adopt recommendations of the Dr. K. Radhakrishnan Committee (2024):
 - Electronically transmit multi-layer encrypted question papers to secure servers at examination centers shortly before the exam start time.
 - Print papers locally under high security, eliminating the risk of paper leaks during physical transit and storage.
2. **Biometric & Digital Authentication:** Deploy continuous multi-stage candidate verification across registration, entry, and admission stages to eliminate candidate impersonation. Example: DIGI-EXAM framework.
3. **Computer-Adaptive & Multi-Shift Testing:** Shift away from single-day, single-paper physical exams toward multi-shift Computer-Based Tests (CBT) to localize and contain the fallout of any potential breach.

Institutional Restructuring & In-Sourcing

1. **Statutory Status for NTA:** Transform testing bodies into autonomous, statutory entities (on par with the UPSC) with functional autonomy, independent funding, and an empowered governing body.
2. **Creation of Dedicated Functional Verticals:** Establish specialized internal verticals within testing agencies, focusing on Information Security, Cyber Forensics, Test Center Infrastructure, and Vigilance managed by permanent, domain-expert cadres.
3. **Leveraging Public Infrastructure:** Prioritize the use of government institutions like Kendriya Vidyalayas (KVs), Jawahar Navodaya Vidyalayas (JNVs), and Central Universities, as primary examination centers rather than unverified private institutions.

Way Forward

1. Implement Radhakrishnan Committee recommendations in mission mode. Example: Steering committee oversight.
2. Mandate third-party cybersecurity audits and whistleblower portals. Example: Independent verification.
3. Integrate student mental-health support and transparent grievance systems. Example: AI chatbots.
4. Ensure uniform state adoption of the central anti-leak law. Example: Regulatory harmonisation.

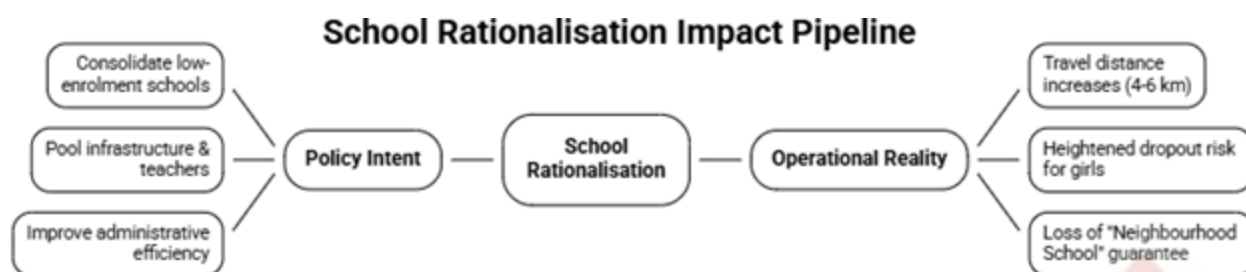
Conclusion

While the Public Examinations Act, 2024 creates a strong legal deterrent against organized cheating, punitive law alone cannot prevent breaches. A holistic transformation requires combining legal deterrence with secure technological infrastructure, rigorous administrative oversight, and strict institutional accountability.

Examine the drivers behind government school rationalisation in India. How do widespread school closures impact educational equity and Right to Education mandates?

Introduction

NITI Aayog and UDISE+ 2023–24 report nearly 94,000 government school closures over a decade, while Economic Survey 2025–26 stresses inclusive human capital, making neighbourhood schooling central to equitable demographic transformation.



Drivers Behind Government School Rationalisation

Administrative Efficiency (NEP 2020)

1. Consolidation of low-enrolment schools to optimise infrastructure and teacher deployment. Example: School complexes.
2. Reduction in administrative expenditure and duplication of facilities. Example: Resource pooling.
3. Improved pupil-teacher ratio through teacher redistribution. Example: Composite schools.

Demographic & Migration Changes

1. Rural depopulation due to urban migration reduces school enrolment. Example: Aspirational districts.
2. Declining fertility in several States leaves many schools underutilised. Example: Southern States.
3. Seasonal migration interrupts continuous schooling. Example: Migrant labour families.

Expansion of Private Schooling

1. Rising preference for affordable private schools due to perceived quality gaps. Example: Low-fee private schools.
2. English-medium aspirations accelerate migration from government schools. Example: Urban fringes.
3. Government enrolment declined from 71% (2005) to 49.24% (2024–25). Example: NITI Aayog.

Fiscal & Governance Considerations

1. Rationalisation intended to improve efficiency under Samagra Shiksha. Example: Infrastructure utilization.
2. Budgetary constraints encourage consolidation over expansion. Example: Cost optimization.

State-Level Implementation

1. Large-scale mergers in Uttar Pradesh, Madhya Pradesh and Jammu & Kashmir. Example: UDISE+ data.
2. Over 4,300 schools merged in J&K, increasing travel distances. Example: Mountain regions.

Impact on Educational Equity and RTE Mandates

1. **Constitutional & Legal Implications:** Dilutes Article-21A guaranteeing free and compulsory education. Weakens Section 6, RTE Act, 2009, requiring neighbourhood schools (1 km primary; 3 km upper primary). Challenges Article 14 by disproportionately affecting vulnerable groups.

2. **Social Equity:** SC, ST, OBC, EWS and minority children depend predominantly on government schools. Example: NSS evidence. Increased commuting raises dropout risks among girls due to safety concerns. Children with disabilities face greater accessibility barriers. Example: Inclusive education.
3. **Educational Outcomes:** Longer travel reduces attendance and classroom engagement. Example: Daily absenteeism. Multi-grade teaching persists despite consolidation. Example: Teacher shortage. Community-school relationships weaken. Example: Local accountability.
4. **Demographic Implications:** Distorts universal enrolment necessary for harnessing India's demographic dividend. 7.37 lakh children in Madhya Pradesh remain unmapped, while 11.38 lakh are in the "Drop Box" category. Example: State audit.
5. **Economic Implications:** Higher transportation costs discourage poor households. Human capital losses reduce long-term productivity. Example: Opportunity cost.
6. **Governance Implications:** School Management Committees (SMCs) remain weak despite RTE provisions. Limited consultation reduces community ownership. Example: Poor participation.

Limitations of Existing Framework

1. RTE primarily ensures enrolment, not accessibility after rationalisation. Example: Compliance gap.
2. Concurrent List creates Centre-State coordination challenges. Example: Entry 25.
3. Absence of binding national norms on school closures. Example: Policy vacuum.

Way Forward

1. **Accessibility-Centred Rationalisation:** Mandatory geographical and social impact assessment before mergers. Free transport or bicycle support where schools exceed RTE norms. Example: Equity audit and Safe commute.
2. **Strengthen Public School Quality:** Fill teacher vacancies and modernise infrastructure. Expand ECCE under NEP 2020 to improve foundational learning. Example: Digital classrooms, Balvatika.
3. **Community Participation:** Mandatory approval of School Management Committees before closure. Gram Sabha consultation for rural rationalisation. Example: Social accountability.
4. **Technology & Governance:** GIS mapping of school accessibility using UDISE+ data. AI-based enrolment forecasting to prevent arbitrary closures. Example: Spatial planning and Predictive governance.
5. **Policy & Financial Measures:** Link Samagra Shiksha funding to accessibility indicators, not merely enrolment. Issue national guidelines balancing efficiency with equity. Example: Outcome financing and Uniform standards.

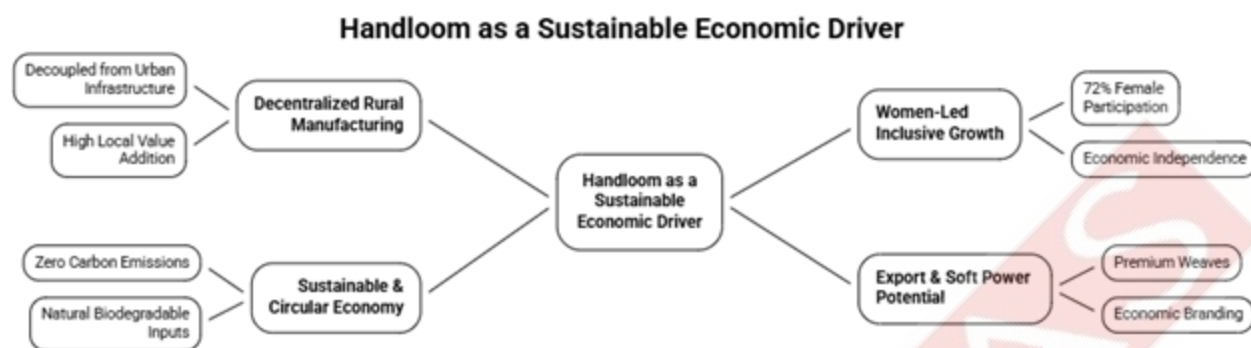
Conclusion

Echoing President Droupadi Murmu's emphasis on inclusive education and the Kothari Commission's vision of equal opportunity, administrative efficiency must reinforce—not weaken—the constitutional promise of accessible, neighbourhood public schooling.

How can revitalizing India's handloom sector transform rural manufacturing and sustainable economic growth? Evaluate the structural constraints hindering its full potential.

Introduction

Economic Survey 2025–26 identifies labour-intensive manufacturing as vital for inclusive growth, while the National Handloom Development Programme (NHDP) supports over 35 lakh artisans, positioning handlooms as a cornerstone of sustainable rural industrialisation.



Handloom Sector Catalyst for Rural Manufacturing & Sustainable Growth

- 1. Decentralised Rural Manufacturing:** Creates non-farm employment without heavy industrial infrastructure. Promotes local value addition through village-based production systems. Reduces distress migration by generating local livelihoods. Example: Aspirational districts.
- 2. Women-led Inclusive Development:** Over 25 lakh women constitute nearly 70–72% of the workforce, strengthening financial inclusion. Supports SHGs, producer companies and cooperative enterprises. Enhances household income and rural entrepreneurship. Example: Weaver collectives.
- 3. Sustainable & Green Economy:** Operates largely on manual power with negligible carbon emissions. Encourages natural fibres and eco-friendly dyes. Aligns with SDGs, circular economy and climate-resilient manufacturing. Example: Green textiles.
- 4. Cultural Economy & Soft Power:** Preserves India's intangible cultural heritage and indigenous knowledge. GI-tagged products strengthen Brand India globally. Promotes cultural diplomacy through exports. Example: India Handloom Brand.
- 5. Export & Employment Multiplier:** Produces nearly 15% of India's cloth with minimal capital investment. Example: Meets rising global demand for ethical and handcrafted luxury products. Generates high employment elasticity compared to mechanised textiles. Example: Inclusive manufacturing.
- 6. Tourism & Creative Economy:** Handloom villages integrate textiles with rural tourism. Designer-weaver collaborations create premium niche markets. Example: NIFT partnerships.

Structural Constraints Hindering the Sector

Areas	Bottlenecks & Structural Vulnerabilities
Input & Capital Costs	Rising yarn prices, shortage of quality raw material (natural dyes, hank yarn), and limited access to affordable institutional credit (MUDRA loans).
Unfair Competition	Encroachment by power looms producing counterfeit handloom designs at lower costs, despite the Handlooms (Reservation of Articles for Production) Act, 1985.
Market Disintermediation	Dependence on middleman networks and master weavers reduces profit margins for primary artisans.

Inter-Generational Exit	Low remuneration, poor occupational health standards, and a lack of modern design exposure drive younger generations away from traditional weaving.
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Government Initiatives

1. **National Handloom Development Programme (NHDP):** Cluster development, marketing, infrastructure and welfare. Example: Integrated support.
2. **India Handloom Brand:** Quality certification and branding. Example: Premium identity.
3. **National Handloom Day (7 August):** Promotion and awareness. Example: Swadeshi legacy.
4. **GeM, ONDC and e-commerce integration** for direct marketing. Example: Digital marketplace.

Way Forward

1. **Technology-led Modernisation:** Upgrade ergonomic looms, CAD systems and Common Facility Centres. Promote AI-driven design forecasting and digital catalogues. Example: Fashion analytics.
2. **Market & Brand Expansion:** Strengthen India Handloom Brand with QR-code and blockchain traceability. Expand exports through FTAs and GI-based branding. Example: Premium exports.
3. **Financial & Institutional Reforms:** Universal credit access through Weaver MUDRA and interest subvention. Strengthen producer companies and artisan cooperatives. Example: Collective enterprise.
4. **Human Capital Development:** Skill upgradation through IIHTs, NIFT and NID collaborations. Attract youth through entrepreneurship and innovation incentives. Example: Startup weaving & Design incubation.
5. **Sustainable Growth Strategy:** Promote natural fibres, eco-labels and carbon-neutral certification. Develop handloom tourism circuits under Dekho Apna Desh. Example: Craft tourism & Green branding.

Conclusion

Echoing Dr. A.P.J. Abdul Kalam's PURA vision and Mahatma Gandhi's Swadeshi philosophy, revitalised handlooms can transform India's villages into sustainable manufacturing hubs, combining heritage, livelihoods, green growth and global competitiveness.

Examine the tension between fiscal equity and performance-linked efficiency in Indian federalism in light of the Sixteenth Finance Commission's mandate.

Introduction

Article 280 entrusts the Finance Commission with balancing India's fiscal federalism. Economic Survey 2025–26 and Budget 2026–27 reaffirm cooperative federalism, yet the Sixteenth Finance Commission sharpens the equity-versus-efficiency debate.



Equity vs Efficiency

1. The Finance Commission (Article 280) is the constitutional arbiter of fiscal federalism, mandated to correct:
 - Vertical imbalance (Centre–State fiscal mismatch).
 - Horizontal imbalance (inter-state disparities).
2. The 16th Finance Commission (2026–31) retains 41% vertical devolution but increasingly emphasizes performance-linked transfers, creating a trade-off between redistributive justice and economic efficiency.

Why Fiscal Equity Remains Central to Indian Federalism

1. **Constitutional Commitment to Balanced Development:** Upholds Articles 38, 39 and 275 by reducing regional inequalities. Enables minimum standards of public services across States. Example: Bihar, Jharkhand.
2. **Correcting Historical Disadvantages:** Income Distance (42.5%) channels greater resources to poorer States. Compensates for weaker tax bases and developmental deficits. Example: North-Eastern States.
3. **Social Justice & Inclusive Growth:** Supports expenditure on health, education and nutrition, reduces inter-generational poverty. Example: Aspirational Districts.
4. **National Integration:** Balanced regional development strengthens cooperative federalism, prevents widening regional disparities. Example: Article 1 spirit.

Growing Shift Towards Performance-linked Efficiency

1. **Rewarding Economic Contribution:** FC-16 introduces 10% weight for GSDP contribution; encourages productive and industrialized States. Example: Tamil Nadu, Maharashtra.
2. **Incentivising Fiscal Prudence:** Greater emphasis on tax effort and debt sustainability; encourages responsible fiscal management. Example: FRBM compliance.
3. **Demographic Responsibility:** 10% weight for demographic performance rewards population stabilization; recognizes successful implementation of family planning. Example: Kerala.
4. **Outcome-Oriented Transfers:** Conditional grants encourage governance reforms; improves accountability in public expenditure. Example: Local body grants.

Key Friction Points and Structural Concerns

Fiscal Dimension	Equity Concerns	Efficiency & Autonomy Concerns
Shrinking Divisible Pool	Proliferation of Centre's cesses and surcharges (excluded from the divisible pool) reduces effective state transfers below the headline 41%.	Constrains sub-national fiscal space, making states heavily dependent on conditional central grants.
GSDP & Growth Weightage	Rewarding GDP contribution risks exacerbating regional divergence, leaving middle- and low-income states under-funded.	Industrialized states argue that contributing more to the national exchequer without proportional returns penalizes growth engines.
Grant Discontinuation	Phasing out non-formulaic Revenue Deficit Grants (RDGs) leaves fiscal-	Encourages strict state-level fiscal discipline but risks forcing cuts in capital expenditure.

	deficit states vulnerable to revenue shocks.	
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Way Forward

1. **Restore the Equalisation Principle:** Preserve Income Distance as the primary horizontal criterion. Example: Fiscal justice.
2. **Rationalise Cesses & Surcharges:** Gradually merge long-standing cesses into the divisible pool. Example: Cooperative federalism.
3. **Balanced Performance Incentives:** Reward tax effort and governance without reducing support for disadvantaged States. Example: Composite Index.
4. **Revive Targeted Article 275 Grants:** Continue need-based grants for States with structural disabilities. Example: Hill States.
5. **Strengthen Fiscal Dialogue:** Institutionalize Centre-State consultations through Inter-State Council and GST Council. Example: Cooperative governance.
6. **Transparent Devolution Formula:** Publish objective evaluation of every criterion to improve trust. Example: Predictable transfers.

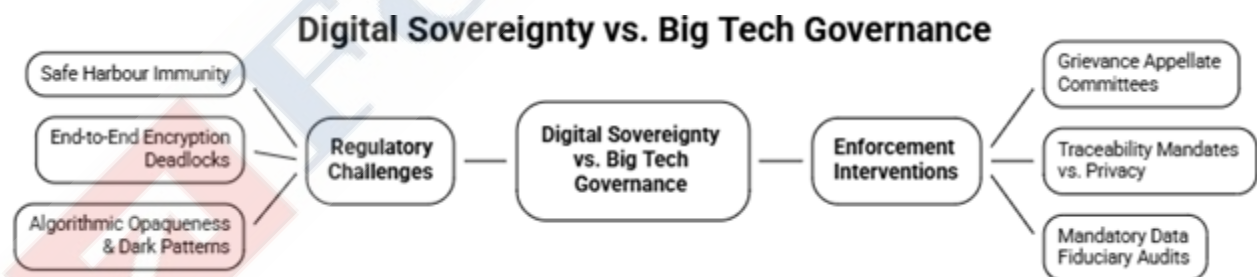
Conclusion

As Dr. B.R. Ambedkar envisioned India's federal Constitution, fiscal transfers must combine efficiency with distributive justice, ensuring cooperative federalism strengthens both competitive growth and equitable national development across every State.

Examine the challenges in enforcing platform compliance on Big Tech. How can India balance digital sovereignty, platform accountability, and user rights?

Introduction

India's 900-million-plus internet ecosystem is entering an era of active platform governance: the IT Rules, DPDP framework and recent Big Tech scrutiny increasingly make accountability a condition for digital-market access.



Why platform compliance is increasingly difficult

1. **Safe Harbour Immunity Abuse:** Section 79 of the IT Act protects intermediaries, but algorithmic curation and targeted advertising blur the line between passive conduit and active platform. Example: Meta algorithms.
2. **Encryption vs. Traceability Friction:** Platforms utilizing End-to-End-Encryption (E2EE), resist requirements to trace the "first originator", citing systemic cybersecurity vulnerabilities and breaches of individual privacy rights. Example: Signal.

3. **Jurisdictional & Structural Extraterritoriality:** Global firms, foreign servers and multinational corporate structures complicate enforcement of Indian orders. Example: Telegram.
4. **Dark Patterns & Algorithmic Harms:** Platforms can amplify deepfakes, scams and polarising content without transparent accountability mechanisms. Example: AI deepfakes.
5. **Rapid technological change:** Regulation often follows innovations such as AI agents, synthetic media and new platform architectures. Example: AI governance.

Comparative Regulatory Matrix

Regulatory Dimension	Intermediary Rules (2021/2023) & DPDP Act, 2023	Global Benchmarks (EU DSA / DMA)
Grievance Redressal	Mandates Chief Compliance Officers and Grievance Appellate Committees (GACs).	Mandates independent, out-of-court dispute settlement bodies.
Data & Design Protection	Penalizes "Dark Patterns"; mandates consent managers under DPDP Act.	Prohibits targeted ads to minors and manipulative UX design.
Penal Consequences	Loss of Section 79 Safe Harbour protection and financial penalties.	Systemic fines up to 6% of global annual turnover.

Recent Interventions Reveal The Changing Regulatory Approach

1. Scrutiny of Meta, Google, Telegram and Signal illustrates a transition from regulating content alone towards examining platform architecture and design.
2. Telegram's restrictions concerning examination-paper circulation demonstrate preventive platform intervention. Example: NEET controversy.
3. Concerns over WhatsApp usernames illustrate regulation of potentially harmful design features, not merely posts. Example: Identity spoofing.
4. Meta's controversies over moderation and AI-generated misinformation highlight the need for demonstrable compliance rather than post-facto apologies. Example: Deepfake videos.
5. Thus, India is gradually moving from "intermediary responsibility" to "systemic platform responsibility."

International lessons

Model	Key approach	Lesson for India
EU DSA/DMA	Risk-based systemic regulation	Regulate dominant platforms proportionately
EU GDPR	Strong privacy framework	Strengthen user control
US	Courts + competition enforcement	Preserve innovation and speech
India	Hybrid, sectoral approach	Combine sovereignty with proportionality

Way Forward

1. **Enacting the Digital India Act (DIA):** Replace outdated IT Act, 2000 with a modern framework that categorizes intermediaries by risk and function rather than applying blanket rules. Example: Risk-based classification.

2. **Algorithmic Transparency & Co-Regulation:** Establish statutory auditing frameworks for algorithmic recommendations and dark patterns while involving tech platforms in formulating technical standards. Example: Accountability-by- Design.
3. **Harmonizing Security with Fundamental Rights:** Implement privacy-preserving compliance tools, metadata analysis and hash-matching, to combat illegal content without compromising E2EE or fundamental rights under Article 21. Example: Whole-of-stakeholder-Approach.
4. **Regulatory Coordination:** Create interoperability among MeitY, CCI, CERT-In and sectoral regulators. Example: Joint oversight.
5. **AI-content Provenance:** Encourage watermarking and content credentials for synthetic media. Example: Deepfake detection.
6. **International Cooperation:** Strengthen MLATs and cross-border data-access mechanisms. Example: Cybercrime cooperation.
7. **Regulatory Sandboxing:** Allow startups to innovate under proportionate compliance regimes. Example: AI sandbox.

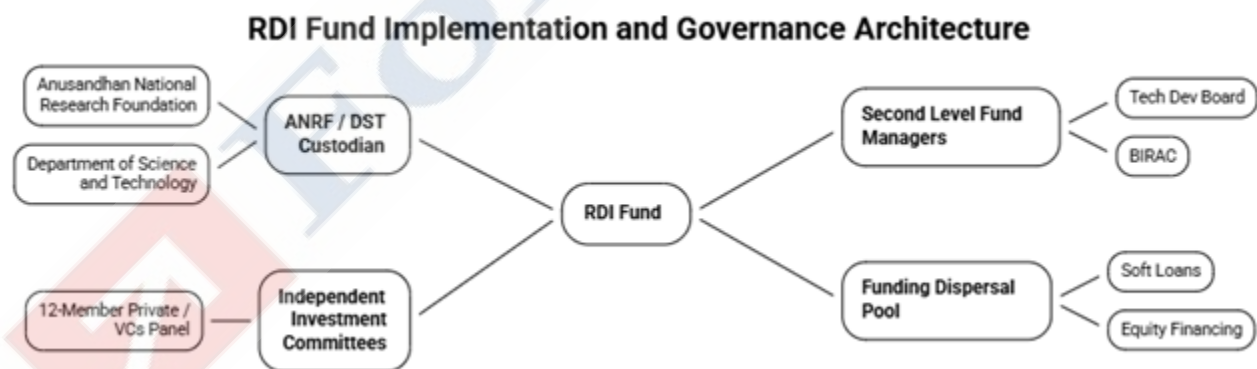
Conclusion

Digital sovereignty cannot mean state overreach, nor can platform autonomy mean lawlessness. By building transparent, rule-based accountability frameworks, India can protect user safety and national security while maintaining an open, innovative digital economy.

Critically analyse how India's RDI Fund accelerates deep-tech innovation while addressing governance and conflict-of-interest challenges in public fund allocation.

Introduction

India's RDI Fund marks a strategic shift from public-only research towards state-enabled private innovation. With ₹1 lakh crore over six years, it targets India's low business R&D intensity and financing gap.



Accelerating Deep-Tech Innovation

1. **Patient capital:** Primarily unsecured, long-tenor, low-interest finance can cover up to 50% of project cost, addressing deep-tech's "valley of death". Example: TRL-4+.
2. **Crowding-in R&D:** India's GERD is only 0.64% of GDP, with business contributing 41%; the Fund directly tackles weak industry participation. Example: Private R&D.
3. **Commercialisation architecture:** ANRF's Special Purpose Fund channels resources through SLFMs such as TDB and BIRAC, combining expertise. Example: Lab-to-market.

4. **Strategic technology:** Quantum, robotics, space, AI, biotechnology, advanced materials and clean energy strengthen technological sovereignty amid geopolitical restrictions. Example: Semiconductors.
5. **Early evidence:** By July 2026, TDB had approved 22 projects with ₹2,192 crore RDI support against ₹4,744 crore total project cost; BIRAC shortlisted eight projects worth ₹390.35 crore. Example: Scale-up.
6. **Ecosystem and inclusion:** NITI Aayog's Pathways to Progress highlights deep-tech's capital intensity, specialised skills; it also notes metro concentration. Wider SLFMs can deepen university-industry translation. Example: Innovation clusters.

Governance and Conflict-of-Interest Challenges

1. **Structural conflict:** It was found that 15 of 22 beneficiaries had investment ties to seven committee members, involving over ₹1,377 crore. This does not prove wrongdoing, but raises concerns.
2. **Safeguards versus perception:** Disclosure, mandatory recusal, super-majority voting reduce influence; government says conflicted members had zero involvement in evaluation/sanction. Yet indirect network effects remain.
3. **Public-money asymmetry:** Unlike private venture capital, the State bears downside exposure; corporate-style disclosure may therefore be insufficient for public legitimacy. Example: Fiduciary duty.
4. **Selection bias:** TRL-4+ eligibility can favour already-funded ventures with networks, sidelining first-time innovators. Example: Network advantage.
5. **Accountability gap:** SLFM multiplication can dilute responsibility without transparent monitoring. Example: Audit trail.

Way Forward

1. **Public conflict register:** Disclose indirect, fund and family interests. Example: Disclosure.
2. **Independent appraisal:** Separate scientific eligibility from commercial valuation through peer panels. Example: Dual appraisal.
3. **Rotation and cooling-off:** Rotate members and restrict linked investments after tenure. Example: Cooling-off.
4. **Independent oversight:** Add non-voting observers and independent performance audits. Example: Outcome audit.
5. **Outcome metrics:** Track TRL progression, patents, domestic value addition, exports, jobs and spillovers. Example: KPI dashboard.
6. **Diversified fund management:** Add SLFMs and quarterly disbursement reviews, as recommended by the Parliamentary committee. Example: Competition.
7. **Risk-sharing:** Use milestone-based tranches, clawbacks and first-buyer routes for strategic technologies. Example: Milestone funding.

Conclusion

President Droupadi Murmu's 2026 Republic Day address celebrated scientists and entrepreneurs advancing self-reliance; RDI must ensure innovation is matched by integrity, inclusion, accountability and public trust for Viksit Bharat 2047.