ForumIAS

Mains Marathon

3rd Week June, 2026

HISTORY
ECONOMICS
POLITY
SCIENCE AND TECHNOLOGY
GEOGRAPHY AND ENVIRONMENT

INDEX

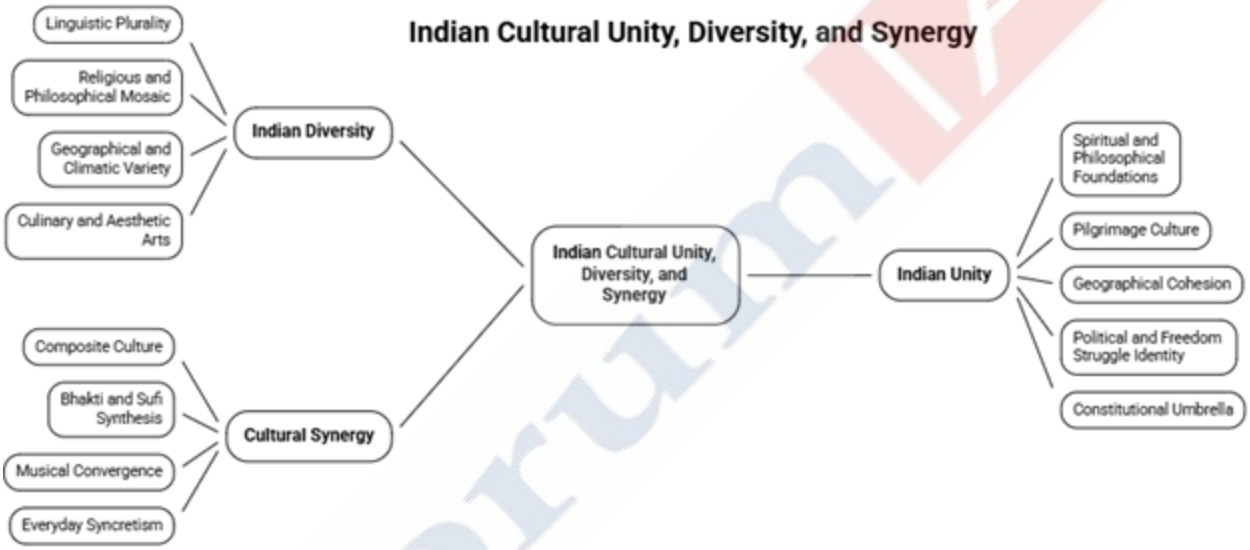
Enumerate the cultural elements that foster fraternity in India, and evaluate how this psychological solidarity acts as a bulwark against communal polarization.

Introduction

Dr. B.R. Ambedkar famously warned that without Fraternity which he defined as "a sense of common brotherhood of all Indians", the constitutional guarantees of Liberty and Equality would remain "no deeper than coats of paint." While liberty and equality provide the legal and institutional structure of democracy, fraternity represents its emotional and social foundation.

Cultural Elements Fostering Fraternity in India and Its Role Against Communal Polarization

Fraternity, enshrined in the Preamble, transcends mere coexistence. Ambedkar viewed it as the psychological foundation that binds liberty and equality into a functioning social democracy. In a civilizational state marked by extraordinary diversity, fraternity converts constitutional citizenship into lived solidarity.



Cultural Elements Fostering Fraternity in India

1. **Civilizational Ethos of Inclusiveness:** Ancient ideals such as "Vasudhaiva Kutumbakam", "Sarva Dharma Sambhava" and "Ekam Sat Vipra Bahudha Vadanti" promote universalism and respect for diversity. Encourages coexistence without assimilation.
2. **Shared Spirituality:** Saints such as Kabir, Guru Nanak and Nizamuddin Auliya emphasized spiritual equality over sectarian identity. Created shared cultural spaces cutting across religious boundaries.
3. **Ganga-Jamuni Tehzeeb and Composite Culture:** Shared festivals, folk traditions, music, cuisine and crafts foster everyday social interaction. Examples include communal participation in local fairs and Urs celebrations.
4. **Linguistic and Literary Interactions:** Languages such as Hindustani and Urdu evolved through cultural exchange. Literature from Rabindranath Tagore to Premchand reflects pluralistic values.
5. **Constitutional Morality and Shared Citizenship:** Articles 14, 15, 25–30 and Fundamental Duties institutionalize respect for diversity. Creates a civic identity above religious affiliations.

6. **Community Networks and Seva Traditions:** Practices such as Langar, community kitchens, voluntary service and disaster relief cultivate empathy. Strengthened during floods, pandemics and humanitarian crises.
7. **Shared Public Spaces and Democratic Participation:** Schools, markets, Panchayats, Self-Help Groups and electoral participation facilitate inter-group interactions. Builds social capital across identities.

Fraternity as a Bulwark Against Communal Polarization

1. **Weakening Us versus Them Narratives:** Fraternity emphasizes common citizenship over religious identities. Makes communal stereotyping less persuasive.
2. **Creating a Reservoir of Social Trust:** Political scientist Ashutosh Varshney demonstrated that strong inter-community civic networks reduce the likelihood of communal violence. Regular interaction prevents rumor-driven escalation.
3. **Protecting Constitutional Democracy:** Fraternity ensures majoritarian power is moderated by concern for minority rights. Converts legal equality into social acceptance.
4. **Grassroots Peacebuilding:** Informal neighborhood networks, Mohalla Committees and civil society organizations diffuse tensions before they escalate. Example: Mumbai's post-1993 community peace initiatives.
5. **Countering Digital Polarization:** Psychological solidarity reduces susceptibility to online hate campaigns and misinformation. Encourages fact-checking and inter-community dialogue.
6. **Development dividend:** Social trust lowers transaction costs and encourages cooperation. NITI Aayog has repeatedly emphasized social cohesion as a prerequisite for inclusive growth.
7. **Strategic Cohesion:** Internal unity reduces vulnerability to divisive propaganda and external attempts to exploit social cleavages. Reinforces national resilience.

Modern Structural Challenges to Social Solidarity

Threat Vector	Socio-Political Manifestation	Impact on Constitutional Goals
Digital-Echo-Chambers	The rapid spread of online hate speech, misinformation, and targeted communal narratives.	Ervades everyday trust and weakens the psychological bond of shared citizenship.
Ghettoization of Urban-Spaces	Increasing residential segregation along communal and caste lines in modern cities.	Reduces the opportunities for natural, cross-community interaction and shared childhood spaces.

Way Forward

1. **Value Education:** Mainstream fraternity-oriented constitutional education through experiential learning. Highlight syncretic histories in school curricula.
2. **Institutional Measures:** Revitalize Mohalla Committees, interfaith councils and youth exchange programmes. Strengthen local dispute-resolution platforms. Preventive harmony
3. **Technological Measures:** Promote algorithmic accountability and digital literacy. Expand fact-checking ecosystems.

4. **Inclusive Citizenship:** Reduce spatial segregation through inclusive urban planning. Encourage mixed-community public spaces and welfare delivery.
5. **Living Pluralism:** Support festivals, museums and cultural initiatives celebrating composite traditions. Promote people-to-people engagement.

Conclusion

Fraternity is the essential glue that holds India's diverse constitutional democracy together. As Dr. Ambedkar sharply noted, structural laws alone cannot guarantee a stable nation if the underlying society lacks mutual respect and solidarity.

Evaluate the socio-economic implications of the Supreme Court recognizing homemakers as economic entities. Suggest measures to institutionalize the monetary valuation of unpaid domestic labor.

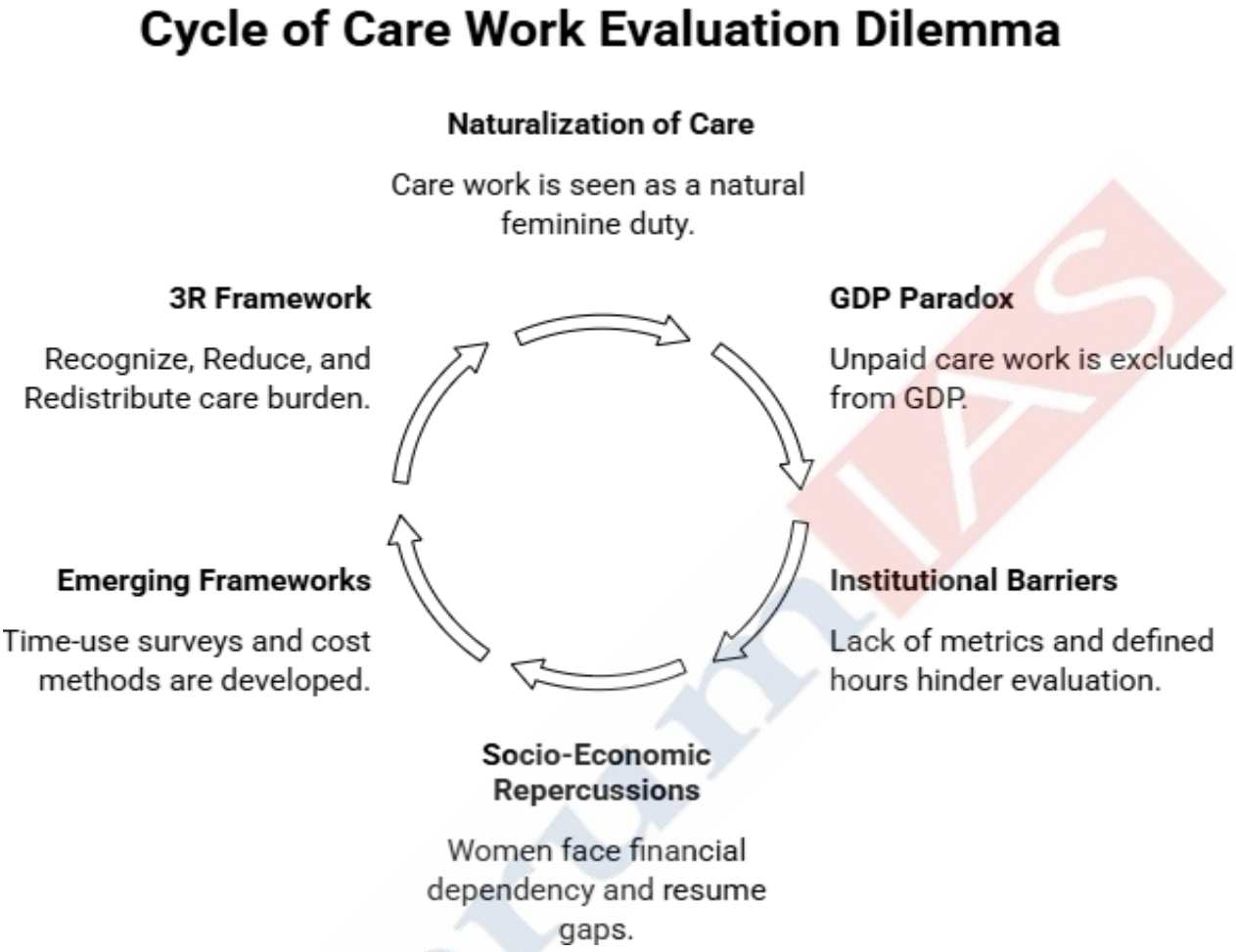
Introduction

Recognising homemakers as economic entities, the Supreme Court's 2026 judgment aligns with Time Use Survey findings that women spend nearly three times more hours on unpaid work, exposing a long-ignored pillar of India's economy.

Socio-Economic Implications of the Judicial Recognition

1. **Advancing Gender Justice and Constitutional Equality:** Reinforces substantive equality under Articles 14, 15 and 21 by acknowledging unpaid care work as productive labour. Challenges the patriarchal notion of homemakers as dependents. Strengthens constitutional morality envisioned by Dr. B.R. Ambedkar. Example: Gender justice.
2. **Transforming Compensation Jurisprudence:** Supreme Court introduced a separate head of compensation loss of domestic care with a baseline valuation of ₹30,000 per month. Moves beyond arbitrary notional income calculations in accident and insurance claims. Ensures dignified compensation to surviving families. Example: Motor-Accident-Claims-Tribunal (MACT) reforms.
3. **Correcting Macroeconomic Blind Spots:** NSO Time Use Survey shows women spend around 299 minutes daily on unpaid domestic work against 97 minutes by men. Unpaid care work sustains labour-force participation of earning members while remaining invisible in GDP. Encourages evidence-based policy on the care economy. Example: Care economy.
4. **Strengthening Household Economics:** Recognises that domestic labour creates economic value through childcare, eldercare, budgeting and household management. Enhances women's bargaining power within families. Supports more equitable asset-sharing norms. Example: Intra-household equity.
5. **Social and Human Capital Benefits:** Homemakers function as children's "first teachers", contributing to educational and behavioural outcomes. Improves recognition of caregiving as investment in human capital. Example: Child development.
6. **Labour Market and Economic Dimensions:** Highlights the hidden subsidy unpaid work provides to the formal economy. Can influence debates on female labour force participation and care infrastructure. Supports NITI Aayog's emphasis on women-led development. Example: Women-led growth.
7. **International and SDG Relevance:** Advances SDG 5 (Gender Equality) and aligns with global calls for recognising unpaid care work. Enhances India's standing in gender-sensitive economic policymaking. Example: SDG-5.

Structural Challenges in Monetary Valuation



1. **Economic:** Replacement-cost method undervalues multitasking care work. Opportunity-cost method may disproportionately favour highly educated homemakers.
2. **Legal:** Absence of a uniform statutory framework for valuation. Diverse judicial interpretations may create inconsistency.
3. **Measurement:** No standard metrics for caregiving quality, emotional labour or household management. Difficulties in quantifying non-market contributions.
4. **Social:** Risk of commodifying care and emotional relationships. Persistent gender norms may hinder implementation.

Policy Roadmap to Institutionalize the Valuation of Domestic Labor

1. **Create a National Care Economy Satellite Account:** Incorporate unpaid household work into national accounting through a Satellite Account System. Periodically estimate contribution to GDP. Example: Australia model.
2. **Enact Comprehensive Care Economy Legislation:** Provide statutory valuation guidelines for courts, insurance and compensation authorities. Establish standard assessment frameworks. Example: Uniform valuation.
3. **Reform Marital Property Laws:** Recognise homemakers' contribution in acquisition of marital assets. Move towards a community-of-property regime. Example: Shared ownership.

4. **Universal Social Security for Homemakers:** Co-contributory pension, accident insurance and health coverage. Link with PM Jan Dhan and social protection architecture. Example: Pension security.
5. **Expand Care Infrastructure:** Invest in crèches, daycare centres and elder-care facilities under women-centric schemes. Reduce unpaid care burden and expand economic choices. Example: Care services.
6. **Technology-Enabled Time Use Monitoring:** Conduct periodic digital Time Use Surveys and care-work audits. Generate gender-sensitive policy datasets. Example: Data governance.
7. **Fiscal Recognition:** Explore caregiver credits, pension points or targeted tax incentives. Reward socially productive unpaid labour. Example: Care credits.

Conclusion

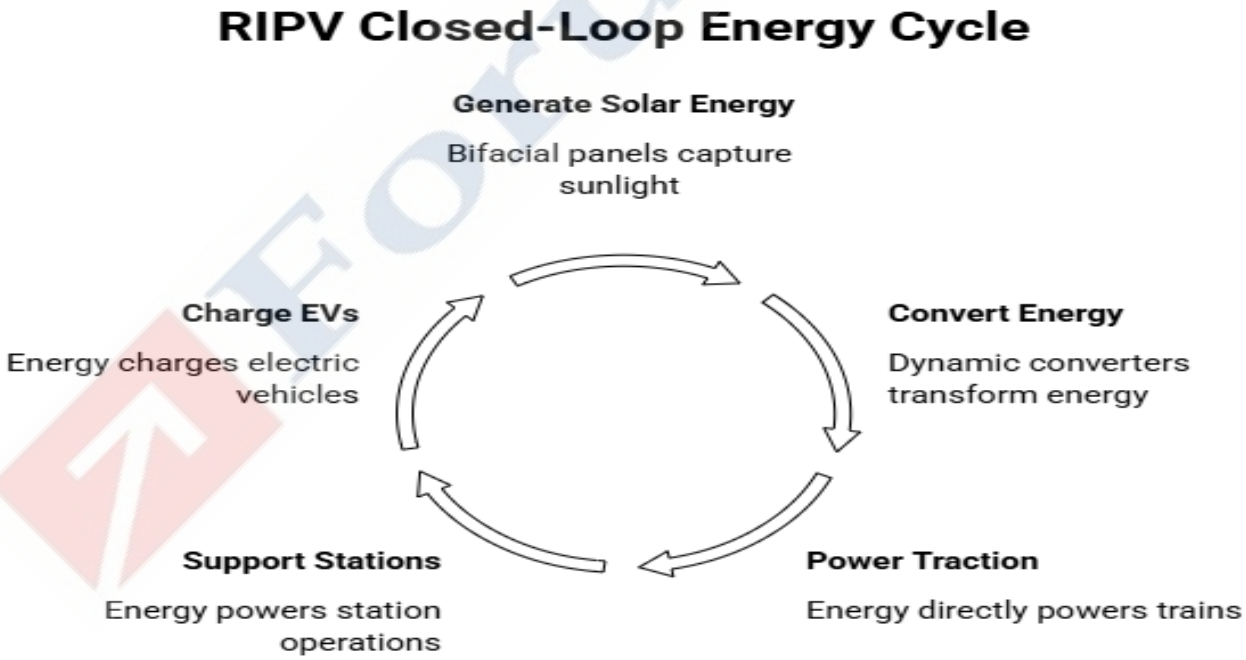
Echoing President Droupadi Murmu's vision of women-led development and Dr B.R Ambedkar's commitment to substantive equality, valuing unpaid domestic labour is essential for building a just, inclusive and economically truthful India.

How solar-integrated rail and road infrastructure can power India's clean energy transition?

Introduction

With India's non-fossil capacity exceeding 51.9% by December 2025 and Budget 2026-27 strengthening green infrastructure, Rail/Road-Integrated Photovoltaics (RIPV) can transform transport corridors into decentralized clean-energy assets.

RIPV Converting Transport Infrastructure into Energy Infrastructure



Strategic Significance for India's Energy Transition

1. **Land-Neutral Renewable-Energy Expansion:** Addresses India's biggest renewable bottleneck-land acquisition. Utilizes medians, rail tracks, station roofs, viaducts and right-of-way corridors. Indo-

German Solar Partnership estimates 150+ GW RIPV potential (≈79 GW railways, ≈75 GW highways). Prevents land-use conflicts with agriculture. Example: Solar-on-Track.

2. **Accelerating Net-Zero Railways:** Indian Railways has achieved near-complete route electrification. Solar energy can directly feed traction substations and overhead electrification systems. Supports Indian Railways' Net-Zero-2030 target. Reduces dependence on thermal power. Example: Namo-Bharat-Corridor.
3. **Decarbonizing Road Transport:** Highway solar can power EV charging plazas and logistics hubs. Creates localized charging ecosystems for freight electrification. Reduces stress on rural distribution networks. Example: Delhi-Dehradun-Expressway.

Economic and Infrastructure Benefits

1. **Reduced Transmission Losses:** Electricity generated near consumption points which minimizes wheeling and transmission costs. Strengthens Distributed Renewable Energy (DRE) architecture. Example: Local Microgrids.
2. **Infrastructure Productivity Enhancement:** Converts passive assets into revenue-generating infrastructure. Enhances return on public capital expenditure. It aligns with PM GatiShakti's integrated infrastructure vision. Example: Multi-functional Corridors.
3. **Long-Term Fiscal Efficiency:** Avoids expensive land procurement, generates recurring revenue through power sales. Attracts PPP investments in transport-energy convergence. Example: Infrastructure InvITs.

Environmental and Climate Advantages

1. **Lower Carbon Footprint:** Replaces fossil-fuel-based electricity used in transport systems. Contributes to India's 2070 Net-Zero commitment. Supports National Green Hydrogen and decarbonization pathways. Example: Clean Mobility.
2. **Resource Efficiency:** Promotes circular infrastructure utilization and embodies Mission LiFE's sustainability principles. Enhances climate-resilient infrastructure. Example: Green Corridors.
3. **Urban Environmental Gains:** Solar noise barriers reduce sound pollution and canopies reduce urban heat absorption. Protect roads from UV degradation. Example: Netherlands NBPV.

Technological and Innovation Advantages

1. **Advanced Solar Technologies:** Bifacial modules capture reflected sunlight (albedo effect). Smart inverters enable real-time energy management and AI-enabled predictive maintenance improves efficiency. Example: Smart-Grid-Integration.
2. **Energy Storage Integration:** Coupling with Battery Energy Storage Systems (BESS) supports uninterrupted traction and EV charging. Economic Survey 2025-26 highlights rising storage requirements for renewable integration.
3. **Indigenous Manufacturing Push:** Boosts domestic solar manufacturing ecosystem, supports Atmanirbhar Bharat in renewable technologies and enhances supply-chain resilience. Example: Solar Modules.

Geopolitical and Strategic Relevance

1. **Energy Security:** Reduces imported fossil-fuel dependence and limits vulnerability to global energy shocks. Example: Oil Price Volatility.
2. **Climate Leadership:** Demonstrates innovative infrastructure-led decarbonization and strengthens India's position in the International Solar Alliance. Example: Global-South Leadership.

3. **Strategic Infrastructure Resilience:** Distributed generation reduces risks from centralized grid failures. Improves energy availability along strategic transport corridors. Example: Freight-Corridors.

Challenges

Challenge Area	Description
The Soiling & Dust Vector	Passing freight trains and vehicles create heavy aerodynamic turbulence, spraying micro-dust, oil residue, and debris onto flat-lying panels, dramatically diminishing conversion efficiency.
Extreme Mechanical Load	Pavement-integrated panels must endlessly endure harsh braking forces, heavy multi-ton truck axle weights, and relentless temperature cycling without cracking.
Strict Safety Guidelines	High mechanical and electrical safety guardrails are required; a crashing vehicle or train derailment cannot cause secondary explosive electrical arc flashes or structural collapse.

Global & Indian Milestones

The immense macro-viability of this framework has triggered massive global interest:

1. **The Global Scale:** Switzerland successfully rolled out removable solar panels between active railway lines. Concurrently, the Netherlands operates highly efficient solar noise barriers supplying green power directly to local communities.
2. **The Indian Frontier:** Given India's vast 1.4 lakh km of national highways and 99,000 km of railway tracks, a study under the Indo-German Solar Partnership estimates a staggering 150+ GW of RIPV potential.
3. **Active Pilots:** The NCRTC has deployed solar-on-track concepts across the Namo Bharat semi-high-speed network. Simultaneously, the NHAI is scaling up elevated solar setups along the new Delhi-Dehradun Expressway.

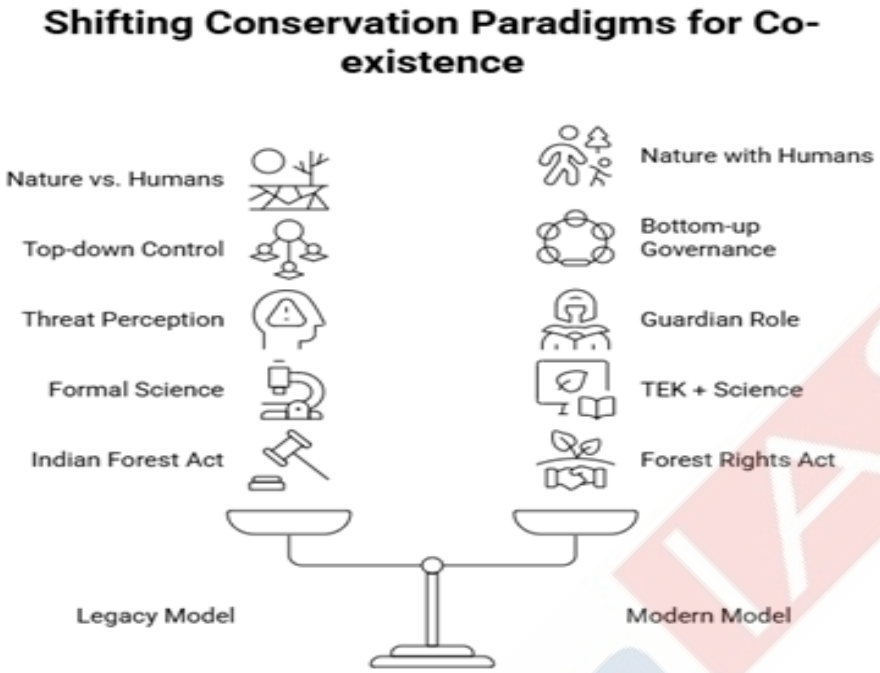
Conclusion

As Dr. A.P.J. Abdul Kalam wrote in Wings of Fire: "The ignited mind of the youth is the most powerful resource on earth." India's ignited infrastructure, every highway, every railway must now become its most powerful energy resource.

Critically Evaluate the Fortress Conservation Paradigm in Managing India's Forest Ecosystems. Discuss How Community-Led Governance Can Effectively Reconcile Biodiversity Protection with Tribal Livelihood Development.

Introduction

India hosts nearly 18% of the world's population but only 2.4% of global land area, while over 275 million people depend on forests. For decades, global and domestic environmental policies operated under the fortress conservation paradigm an exclusionary approach that viewed biodiversity preservation as a zero-sum choice between protecting nature and meeting human needs.



Critical Evaluation of the Fortress Conservation Paradigm

1. **Social Justice Deficit:** Excludes Scheduled Tribes and forest dwellers despite centuries of coexistence with ecosystems. Forced displacement often results in livelihood loss and cultural disintegration. Violates principles of environmental justice and participatory governance. Example: Tiger Reserve Relocations.
2. **Weakening Traditional Ecological Knowledge:** Indigenous communities possess valuable knowledge on biodiversity, fire management and sustainable harvesting. Exclusion creates a disconnect between conservation policy and ground realities. Example: Nyishi Hornbill Protection.
3. **Poverty-Biodiversity Nexus Ignored:** Nature Sustainability study (2025) found forests with greater poverty and fuelwood dependence exhibited lower tree-species diversity. Poverty becomes a driver of unsustainable extraction when alternatives are absent. Example: Fuelwood Dependency.
4. **Human-Wildlife Conflict Intensification:** Fragmented habitats and neglected corridors increase wildlife intrusion into settlements. Leads to crop loss, livestock depredation and retaliatory killings. Example: Elephant Corridors.
5. **Administrative and Enforcement Limitations:** Alienated communities may not cooperate with conservation authorities. Forest departments lose critical local intelligence against poaching and illegal logging. Example: Anti-Poaching Networks.

Contributions of Fortress Conservation

A balanced assessment requires acknowledging its achievements:

1. **Ecological Gains:** Recovery of flagship species through protected-area networks. Expansion of tiger numbers under Project Tiger. Protection of critical habitats and biodiversity hotspots. Example: Corbett Landscape.
2. **Legal Protection:** Strengthened implementation of the Wildlife Protection Act, 1972. Established inviolate core habitats for endangered species. Example: Critical Tiger Habitats. However, ecological success has often come at significant social costs.

Community-Led Governance

1. **Constitutional and Legal Foundations: Forest Rights Act (FRA), 2006** recognizes Community Forest Resource (CFR) rights. PESA Act, 1996 strengthens Gram Sabha participation. Reflects Article 21's right to life and Directive Principles promoting environmental protection. Example: Mendha-Lekha Village.
2. **Community Forest Resource (CFR) Governance:** Empowers Gram Sabhas to regulate access, monitor forests and conserve biodiversity. Generates local ownership and accountability. Example: Gadchiroli CFR Model.
3. **Sustainable Livelihood Diversification:** Promoting value chains for Minor Forest Produce (MFPs). TRIFED's Van Dhan Vikas Kendras improve tribal incomes. Reduces destructive extraction pressures. Example: Tendu Leaf Enterprises.
4. **Community-Based Ecotourism:** Shares tourism revenue directly with local residents. Converts conservation into an economic asset. Example: Periyar Eco-development Committees.
5. **Payment for Ecosystem Services (PES):** Communities compensated for protecting watersheds, forests and carbon sinks. Aligns ecological outcomes with economic incentives. Example: Carbon Stewardship.
6. **Integrating Traditional and Scientific Knowledge:** Combines local ecological wisdom with GIS mapping, drones and biodiversity monitoring. Enhances adaptive ecosystem management. Example: Snow Leopard Conservancy.

Wider Developmental Benefits

1. **Economic:** Strengthens green livelihoods and tribal entrepreneurship. Supports SDG-1 (No Poverty) and SDG-15 (Life on Land).
2. **Environmental:** Improves species diversity and ecosystem resilience. Enhances climate adaptation and carbon sequestration.
3. **Governance:** Deepens participatory democracy through Gram Sabhas. Reduces conflict between communities and forest departments.
4. **Climate:** Community-managed forests act as significant carbon sinks. Supports India's Net-Zero 2070 commitment.

Way Forward

1. **Institutional Reforms:** Fast-track recognition of CFR rights. Strengthen Joint Forest Management through Gram Sabha leadership.
2. **Economic Incentives:** Expand Van Dhan and MFP value-addition chains. Introduce large-scale PES mechanisms.
3. **Landscape-Level Conservation:** Develop wildlife corridors with community participation. Promote agroforestry and buffer-zone livelihoods.
4. **Technology Integration:** Community-operated biodiversity monitoring using GIS, drones and mobile applications.
5. **Benefit Sharing:** Mandate revenue-sharing from ecotourism and carbon markets with local communities.

Conclusion

Echoing ecologist Madhav Gadgil's vision, India's forests cannot be conserved against people but with them. Empowered communitie s transform biodiversity protection from exclusionary control into sustainable ecological stewardship.

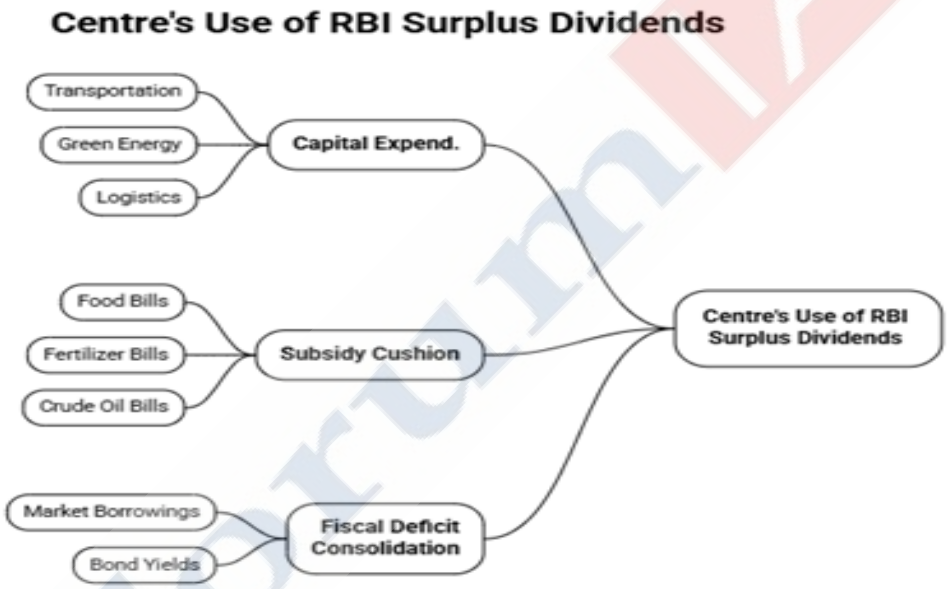
Analyze the macroeconomic implications of RBI's record surplus transfers to the Centre. Evaluate its impact on central bank autonomy and federal fiscal devolution.

Introduction

With the RBI transferring a record ₹2.87 lakh crore surplus to the Centre in FY26, amid Budget 2026-27's fiscal-deficit target of 4.3% of GDP, debates on fiscal stability, autonomy, and federalism have intensified.

RBI's Growing Fiscal Role

1. Under Section 47 of the RBI Act, 1934, surplus profits are transferred to the Union Government.
2. The Bimal Jalan Committee (2019) introduced the Economic Capital Framework (ECF) and Contingent Risk Buffer (CRB) to balance payouts with financial stability.
3. FY26 witnessed a record ₹2.87 lakh crore transfer, supported by higher forex earnings, government securities income, and a growing RBI balance sheet.



Macroeconomic Implications of Record Surplus Transfers

1. **Strengthening Fiscal Consolidation:** Acts as a major non-tax revenue source, reducing pressure on taxation and borrowing. Supports the Union Government's fiscal-deficit target of 4.3% of GDP.
2. **Protecting CAPEX Momentum:** Enables continued investment in infrastructure, logistics and green energy without expenditure compression. Crowds-in private investment through multiplier effects. Example: Gati Shakti.
3. **Reduced Government Borrowing Requirement:** Lower market borrowing moderates G-Sec yields. Frees financial resources for private-sector credit. Example: Corporate bond market.
4. **Minimize Debt:** Help meet deficit targets without excessive market borrowing, containing bond yields. Example: Lower debt servicing..
5. **External Sector Stability:** Reflects robust earnings from foreign exchange reserve management. Enhances confidence in India's macroeconomic fundamentals. Example: Forex reserve operations.

6. **Risks of Quasi-Fiscal Financing: D**ependence on RBI profits may blur distinction between fiscal and monetary functions. Risk quasi-fiscal financing if used for consumption, potentially stoking inflation. Example: Subsidy cushioning.
7. **Inflationary Concerns:** Though surplus transfer itself is not money printing, excessive revenue spending from windfalls can fuel demand-side inflation. Requires prudent expenditure management. Example: Consumption subsidies.

Impact on Central Bank Autonomy

Positive

1. **Rule-Based Framework:** Adherence to Bimal Jalan Committee's Economic Capital Framework (ECF) maintains Contingent Risk Buffer (CRB) at 5.5-6.5%. Example: Risk buffer preservation.
2. **Operational Independence Intact:** RBI continues to independently determine: repo rate, inflation targeting, exchange-rate management and liquidity operations.

Concerns

1. **Pressure for Higher Future Transfers:** Record dividends may create expectations of recurring payouts. Risks politicisation of reserve management. Example: Fiscal stress years.
2. **Reduced Risk Buffers:** Over-extraction to the floor level limits resilience against; currency shocks, financial crises and dollar-volatility. Particularly relevant amid geopolitical uncertainties. Example: Commodity shocks.
3. **Institutional Credibility Risk:** Central bank independence is considered essential by: IMF, BIS and OECD. Perceived fiscal dominance can affect investor confidence. Example: Emerging-market experiences.

Key Implications on Federal Fiscal Devolution

1. **Fiscal Centralisation:** RBI Surplus is non-Tax Revenue; retained by centre. States receive no direct share despite contributing to economic growth.
2. **Vertical Fiscal Imbalance:** States undertake nearly two-thirds of developmental expenditure. Yet access a smaller proportion of revenue resources. Example: Health-education spending.
3. **Cooperative Federalism Concerns:** Growing reliance on: RBI surplus, cess-surcharges reduces the effective shareable revenue pool.
4. **State Development Constraints:** Lower untied resources can affect: welfare schemes, infrastructure projects and climate adaptation initiatives.
5. **Finance Commission Debate:** The issue may gain prominence before future Finance Commissions regarding broader resource-sharing mechanisms. Example: Fiscal federalism discourse.

Way Forward

1. **Strict Adherence to ECF:** Preserve rule-based surplus determination.
2. **Maintain Adequate Risk Buffers:** Prioritize long-term financial resilience over short-term fiscal gains.
3. **Productive Utilisation of Windfalls:** Channel transfers towards capital expenditure rather than revenue consumption.
4. **Strengthen Fiscal Federalism:** Explore mechanisms for compensating states when non-divisible revenues rise substantially.

5. **Enhance Transparency:** Publish detailed disclosures on surplus generation and reserve management.
6. **Diversify Government Revenue Sources:** Reduce dependence on exceptional central bank transfers through tax buoyancy and economic growth.

Conclusion

Echoing former President A.P.J. Abdul Kalam's vision of strong institutions powering national development, RBI surplus transfers must balance fiscal support with monetary independence and cooperative federalism to ensure sustainable, inclusive growth.

Examine how the Supreme Court gender-neutralized and formalized the economic value of unpaid domestic labor in tort compensation. Suggest policy steps to institutionalize this value.

Introduction

India's 2019 Time Use Survey found women spend nearly 299 minutes daily on unpaid domestic services versus 97 minutes by men. The Supreme Court's 2025 Shishupal v. Surjeet judgment transforms this invisible labor into legally recognized economic value.

Supreme Court's Formalization of Unpaid Domestic Labour in Tort Compensation

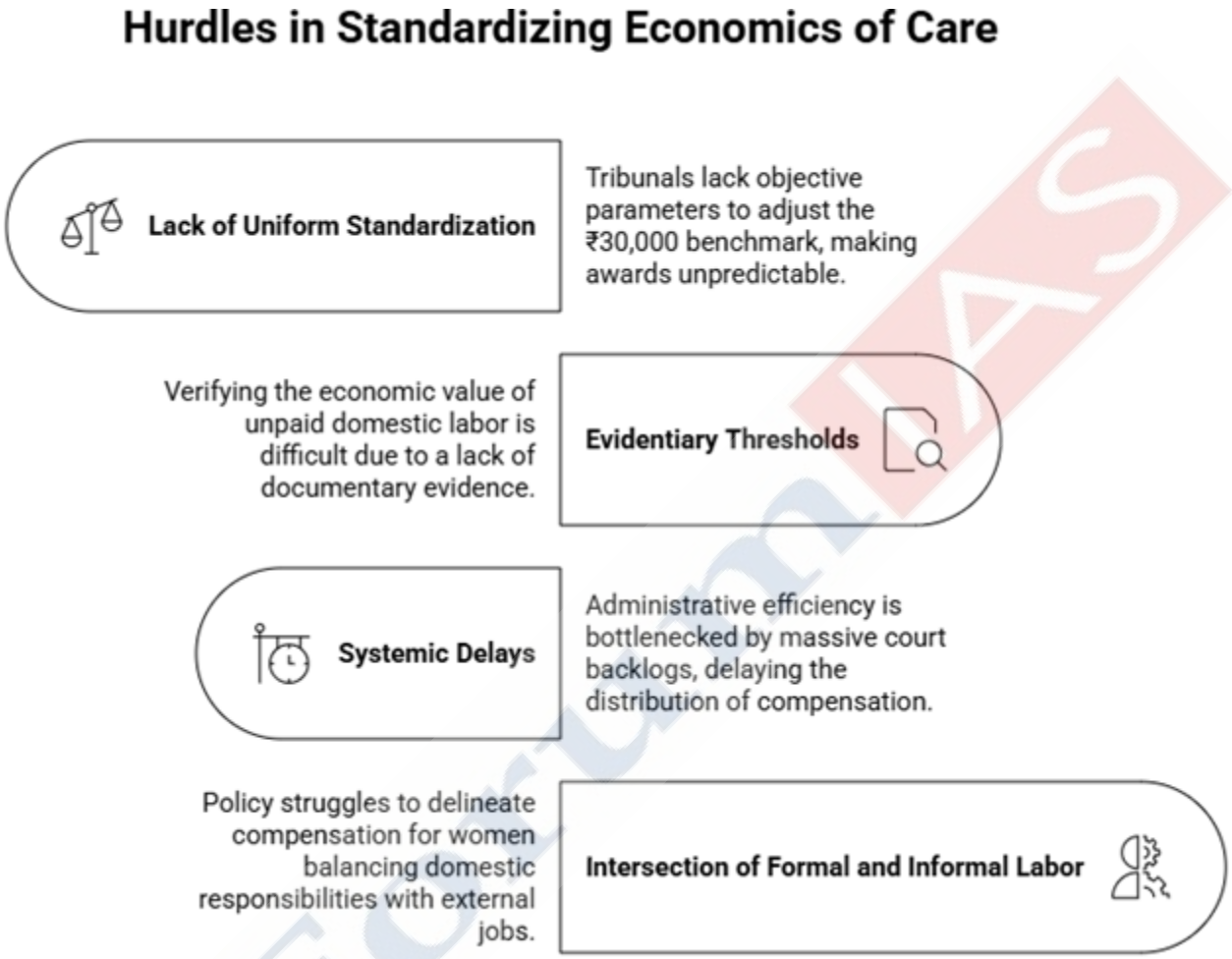
The Supreme Court's judgment in Shishupal @ Shish Ram v. Surjeet (2025) marks a paradigm shift from viewing homemakers as economic dependents to recognizing them as **"nation builders"** whose labour generates measurable economic value.

1. **Creation of a Distinct Head:** The Court introduced Loss of Domestic Care as an independent compensatory head under motor accident claims. Moves beyond the traditional "loss of dependency" framework. Recognizes emotional, caregiving, managerial and household functions. Example: MACT claims.
2. **Standardized Monetary Valuation:** Fixed a minimum notional income of ₹30,000 per month for non-earning homemakers. Directed 10% cumulative increase every three years, drawing from inflation-adjustment principles in Pranay Sethi. Example: Dynamic valuation.
3. **Recognition of Opportunity Cost:** Acknowledged that homemakers sacrifice: career opportunities, professional advancement and income generation prospects. Aligns with modern labour economics and care-economy frameworks. Example: Career sacrifice.
4. **Gender-Neutral Interpretation:** Court explicitly held that domestic labour is not exclusively female. Recognized that male homemakers can also perform unpaid caregiving work and deserve equal legal protection. Advances substantive equality under Articles 14 and 15. Example: Gender neutrality.

Significance of the Judgment

1. **Constitutional:** Upholds Article 14 (Equality) and Article 21 (Dignified Life). Advances Directive Principles promoting social justice. Example: Constitutional morality.
2. **Economic:** Corrects long-standing GDP underestimation of unpaid care work. NITI Aayog and several UN studies have highlighted the economic significance of the care economy. Example: Care economy.
3. **Social:** Challenges patriarchal assumptions that household work is non-productive. Enhances recognition of women's invisible labour. Example: Gender justice

4. **Legal:** Builds upon precedents such as: Lata Wadhwa (2001), Kirti v. Oriental Insurance (2021). Establishes greater uniformity in compensation awards. Example: Judicial consistency.
5. **International:** Aligns with SDG 5.4, which calls for recognition and valuation of unpaid care work. Reflects recommendations of UN Women and the ILO. Example: Global best practice.



Challenges in Institutionalizing Domestic Labour Valuation

1. **Absence in National Income Accounting:** Unpaid domestic work remains outside conventional GDP estimates.
2. **Lack of Uniform Family Law Standards:** Maintenance and alimony calculations continue to vary significantly.
3. **Social Perception Barriers:** Household labour is often treated as a natural duty rather than productive work.
4. **Weak Social Security Coverage:** Homemakers remain largely excluded from pensions and insurance systems.

Policy Steps to Institutionalize the Economic Value of Domestic Labour

1. **Integrate Unpaid Care Work into National Accounts:** Conduct regular Time Use Surveys through NSO. Develop Satellite Accounts under MoSPI to estimate unpaid care contributions. Example: Australia model.

2. **Reform Matrimonial Property Laws:** Recognize marriage as an economic partnership. Ensure equitable division of matrimonial assets irrespective of direct income contribution. Example: Community property principle.
3. **Standardize Maintenance and Alimony:** Frame judicial guidelines using the "Loss of Domestic Care" benchmark. Reduce arbitrariness in family court decisions. Example: Uniform maintenance norms.
4. **Establish Social Security for Homemakers:** Introduce: universal pension schemes, accident insurance and health coverage. Recognize lifelong care contributions. Example: Care pension.
5. **Amend the Motor Vehicles Act, 1988:** Statutorily incorporate Loss of Domestic Care. Ensure nationwide consistency in compensation awards. Example: Legislative codification.
6. **Strengthen Financial Inclusion:** Promote: individual bank accounts, digital financial literacy and credit access for homemakers. Enhance economic agency. Example: Jan Dhan linkage.
7. **Invest in Care Infrastructure:** Expand: crèches, eldercare centres and community care facilities. Reduce disproportionate care burdens. Example: Care economy mission.
8. **Encourage Data-Driven Policymaking:** NITI Aayog and MoSPI should create a National Care Economy Index. Facilitate evidence-based welfare interventions. Example: Care metrics.

Way Forward

1. Institutionalize valuation of unpaid work through legislation.
2. Mainstream care-economy accounting into development planning.
3. Expand social security architecture for homemakers.
4. Ensure gender-neutral recognition of domestic labour across all laws.
5. Link judicial valuation principles with welfare and pension reforms.
6. Promote societal recognition of caregiving as productive economic activity.

Conclusion

Echoing President Droupadi Murmu's emphasis on women's contributions to nation-building, the Supreme Court's recognition of unpaid domestic labour must evolve into comprehensive legal, economic and social protection frameworks.

Examine how India can balance tactical cooperation with Washington while preserving its strategic autonomy amidst unpredictable shifts in US foreign policy.

Introduction

Amid rising trade fragmentation and geopolitical volatility, the Economic Survey 2025-26 highlights strategic autonomy as a pillar of economic sovereignty. Simultaneously, the India-US COMPACT initiative reflects deepening cooperation despite policy unpredictability.

India-US Relations: From Strategic Convergence to Strategic Hedging

1. India-US relations have evolved from the post-Cold War rapprochement to a Comprehensive Global Strategic Partnership encompassing defence, technology, trade, energy and Indo-Pacific security.
2. The launch of the India-US COMPACT and TRUST initiatives in 2025 reflects unprecedented institutionalisation of ties.
3. However, tariff actions, sanctions threats, H-1B uncertainties, divergent approaches on Russia and West Asia, and transactional diplomacy underline the need for calibrated engagement.

Why Tactical Cooperation with Washington Remains Necessary?

1. **Strategic and Security Imperatives:** Indo-Pacific stability and maritime security through Quad cooperation. Defence interoperability via COMPACT, BECA, COMCASA and LEMOA frameworks. Intelligence sharing on terrorism and cyber threats. Example: Indo-Pacific maritime domain awareness.
2. **Critical Technology Partnership:** Cooperation in AI, semiconductors, quantum computing, biotechnology and space. TRUST framework seeks resilient technology ecosystems and secure supply chains. Example: Semiconductor collaboration.
3. **Economic and Investment Benefits:** Bilateral trade expansion under Mission-500 target. US remains a major source of FDI, venture capital and innovation ecosystems. Example: GCCs and digital economy.
4. **Diaspora and Human Capital Linkages:** Over four million Indian-origin persons strengthen educational, technological and entrepreneurial ties. Example: Silicon Valley leadership.

Why Strategic Autonomy Remains Non-Negotiable?

1. **Historical:** Legacy of Non-Alignment and issue-based alignment. India avoids bloc politics and military alliances. Example: Strategic autonomy doctrine.
2. **Geopolitical Multipolarity:** Simultaneous engagement with US, Russia, EU, Japan, ASEAN and Gulf countries. Preserves diplomatic flexibility during crises. Example: Multi-alignment policy.

3. **Energy Security Considerations:** Diversified crude imports reduce vulnerability to sanctions regimes. Example: Russia-Gulf balancing.
4. **Global South Leadership:** India's G20 presidency and G7 outreach emphasize inclusive development and equitable partnerships. PM Modi's IMPACT proposal reflects this approach. Example: Voice of Global South.
5. **Economic Sovereignty:** Economic Survey 2025-26 warns of power-driven trade relations and technology restrictions, requiring stronger domestic capabilities. Example: Atmanirbhar Bharat.

Challenges Posed by Unpredictable US Foreign Policy

Areas	Emerging Challenge
1. Trade	Sudden tariffs and market access restrictions
2. Defence	Policy shifts with changing administrations
3. Technology	Export controls and supply-chain weaponisation
4. Immigration	Visa uncertainties for skilled Indians
5. Geopolitics	Pressure regarding Russia, Iran and China
6. Maritime	Hormuz disruptions affecting energy flows

Balancing Cooperation and Autonomy

1. **Institutionalize Sector-Specific Cooperation:** Deepen defence, AI, semiconductor and space cooperation without alliance commitments. Example: COMPACT framework.
2. **Diversify Strategic Partnerships:** Strengthen ties with EU, Japan, Australia, ASEAN and Gulf states. Example: India-EU FTA momentum.
3. **Build Domestic Technological Capabilities:** Budget 2026-27 emphasis on AI, deep-tech and semiconductor manufacturing. Example: India AI Mission.
4. **Strengthen Maritime Hedging:** Enhance SAGAR, Indo-Pacific Oceans Initiative and anti-piracy mechanisms. Example: Strait of Hormuz preparedness.
5. **Preserve Strategic Decision-Making Independence:** Continue issue-based diplomacy rather than bloc alignment. Example: Russia-Ukraine peace advocacy.
6. **Expand Minilateral Diplomacy:** Utilize Quad, I2U2, IMEC and technology coalitions. Example: Flexible coalitions.

Way Forward

1. Conclude a pragmatic Bilateral Trade Agreement while safeguarding sensitive sectors.
2. Build trusted technology supply chains through friend-shoring, not dependence.
3. Strengthen indigenous defence production under Defence Industrial Corridors.
4. Institutionalize strategic dialogues irrespective of political transitions in Washington.
5. Enhance Global South partnerships to prevent over-reliance on any single power centre.
6. Adopt multi-alignment with resilience as the core foreign-policy framework.

Conclusion

Echoing Dr. S. Jaishankar's The India Way, India's success lies in pursuing partnerships without dependence, cooperating with Washington where interests converge while preserving sovereign choices in an increasingly multipolar world.

NFHS-6 highlights that while health interventions drive progress, dietary shifting toward processed foods creates an illusion of diversity. Evaluate India's persistent nutritional challenges.

Introduction

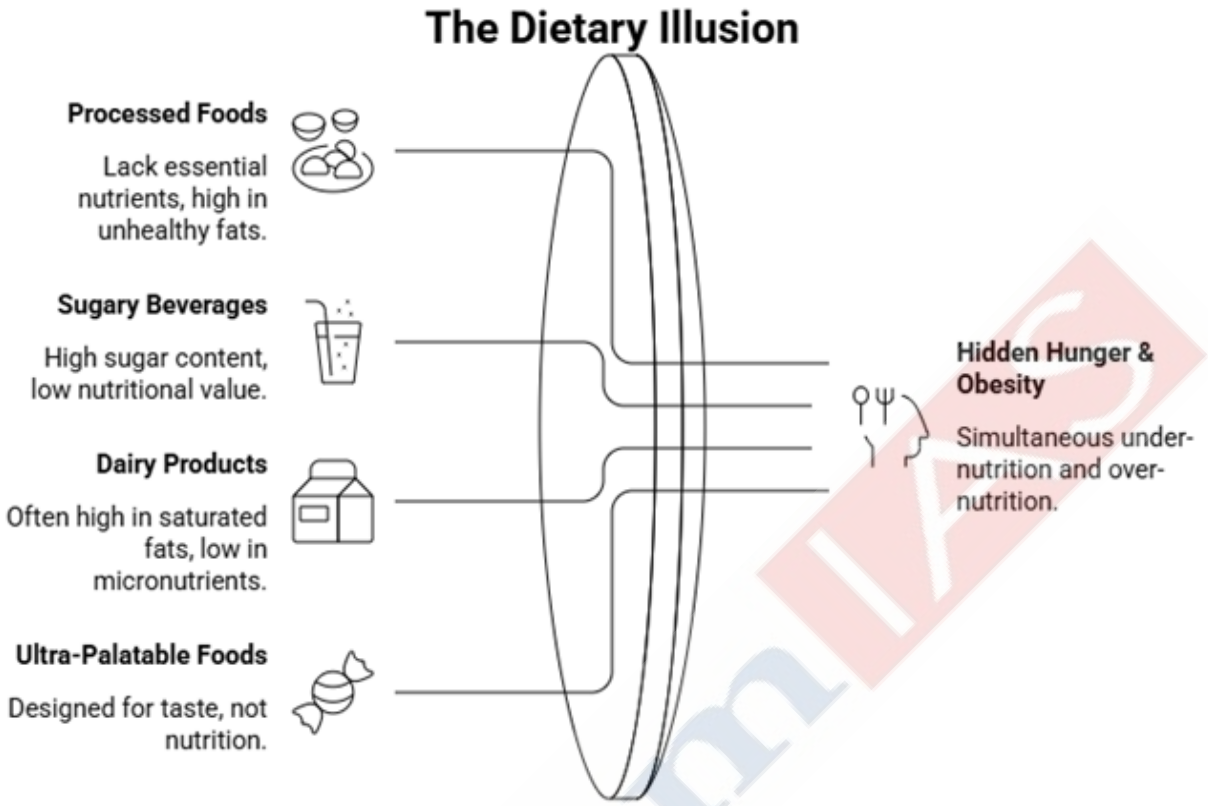
NFHS-6 (2023-24) reflects India's nutrition paradox: stunting declined to 29.3% and institutional deliveries crossed 90%, yet only 15.1% of children receive an adequate diet, exposing persistent dietary and micronutrient deficiencies.

India's Nutrition Paradox Health Gains Amid Dietary Insecurity

1. India has achieved notable improvements in maternal and child healthcare through POSHAN Abhiyaan, Mission Indradhanush, Anaemia Mukt Bharat, Jal Jeevan Mission, and strengthened frontline health networks.
2. However, NFHS-6 reveals that improved healthcare access alone cannot guarantee nutritional security.
3. The challenge has shifted from mere food availability to dietary quality, diversity, affordability, and behavioural practices.

Health Interventions Driving Progress

1. **Improved Maternal and Child Healthcare:** Institutional deliveries increased to 90.6%, skilled birth attendance exceeded 91%. Full immunisation reached nearly 87%. Example: Mission Indradhanush.
2. **Reduction in Chronic Undernutrition:** Stunting declined from 35.5% to 29.3%, severe wasting reduced from 7.7% to 5.2%. Reflects gains from sanitation, maternal education, and healthcare access. Example: POSHAN Abhiyaan.
3. **Better Public Health Infrastructure:** Expansion of Health and Wellness Centres. Improved antenatal and postnatal care coverage. Example: Ayushman Bharat.



The Illusion of Dietary Diversity

1. **Shift Towards Processed Food Consumption:** Recent Consumer Expenditure Surveys indicate declining cereal consumption but increasing expenditure on: processed foods, sugary beverages, ultra-processed snacks and convenience foods. This creates an appearance of dietary diversification without nutritional adequacy.
2. **Micronutrient Deficiency Amid Calorie Sufficiency:** Hidden hunger persists despite adequate calorie intake. Deficiencies in iron, zinc, Vitamin A, Vitamin B12 and folate remain widespread. Example: Persistent anaemia burden.
3. **Double Burden of Malnutrition:** NFHS-6 highlights simultaneous prevalence of: undernutrition among children and obesity and NCDs among adults. Overweight/obese women increased from 24% to 30.7%; men from 22.9% to 27.3%. Example: Urban obesity surge.

Persistent Structural Nutritional Challenges

1. **Maternal Time Poverty:** Working women face childcare constraints. Limited crèche facilities affect breastfeeding and complementary feeding. Example: Rural farm households.
2. **Poor Infant Feeding Practices:** Exclusive breastfeeding declined from 63.7% to 55.8%. Only 15.1% children (6–23 months) receive adequate diets. Example: Delayed complementary feeding.
3. **Affordability Gap:** According to the FAO's State of Food Security and Nutrition reports, nutritious diets remain unaffordable for large sections of the population. Fruits, vegetables, pulses and animal proteins remain costly. Example: Protein affordability crisis.
4. **Regional Inequalities:** Economic growth alone has not improved nutrition outcomes. Gujarat records lower adequate child diet indicators than Jharkhand despite higher income levels. Example: Nutrition-growth disconnect.

5. **Cereal-Centric Food System:** MSP and procurement largely favour rice and wheat. Limited incentives for pulses, millets, fruits and vegetables. Example: Monoculture bias.
6. **Weak Nutrition-Sensitive Agriculture:** NITI Aayog's nutrition strategy advocates diversification toward nutrient-dense crops.Example: Millet Mission.
7. **Institutional and Governance Issues:** Nutrition requires coordinated action across: health, agriculture, women and Child Development and water and sanitation. Yet convergence remains inadequate. Example: Fragmented implementation.
8. **Data Utilisation Deficit:** Large-scale Anganwadi growth-monitoring data often remains underutilised for local interventions. Example: District nutrition planning.

Emerging Challenges

1. **Technological:** Aggressive digital marketing of ultra-processed foods targets children. Example: Online food advertising.
2. **Legal and Regulatory:** Delayed Front-of-Pack Labelling (FOPL) regulations. Weak restrictions on unhealthy foods. Example: FSSAI reforms pending.
3. **Human Capital:** First 1,000 days determine cognitive development. Malnutrition reduces productivity and learning outcomes. Example: Demographic dividend risk.

Way Forward

1. **Food System Reforms:** Diversify PDS with millets, pulses and fortified foods. Example: PM Poshan integration.
2. **Behaviour Change Communication:** Strengthen counselling by ASHAs, AWWs and ANMs. Promote breastfeeding and complementary feeding. Example: Annaprasana campaigns.
3. **Nutrition-Sensitive Agriculture:** Incentivise horticulture, pulses and bio-fortified crops. Example: Nutri-garden model.
4. **Regulatory Measures:** Implement Front-of-Pack Warning Labels. Restrict marketing of ultra-processed foods to children. Example: Chile model.
5. **Strengthen Care Infrastructure:** Expand community crèches and childcare centres. Reduce maternal time poverty. Example: NGO crèche models.
6. **Data-Driven Governance:** Deploy district nutrition analysts and digital monitoring systems. Example: Real-time growth tracking.

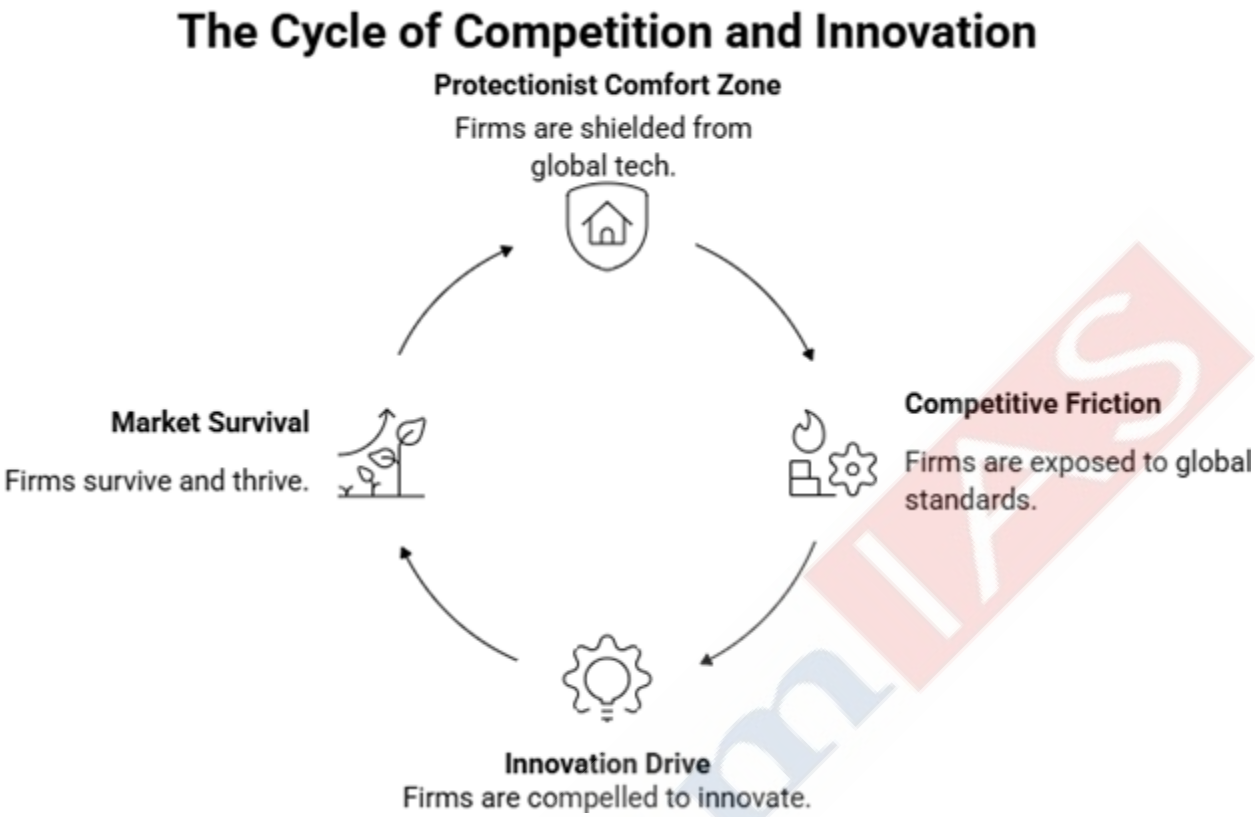
Conclusion

Echoing Dr. M.S. Swaminathan's vision that nutrition security is true food security, NFHS-6 reminds India that healthcare saves lives, but affordable, diverse and nutritious diets build human capital.

The missing ingredient in India's innovation story is not ambition. It is competition and better policy. Comment

Introduction

Economic Survey 2025-26 notes India's GERD remains only 0.64% of GDP, with private firms contributing merely 36% of R&D spending despite rising corporate investments, revealing that innovation deficits stem more from weak competitive pressures than lack of ambition.



India's Innovation Potential and Ambition Is Not the Constraint

1. India has emerged as the world's 38th-ranked innovation ecosystem in the Global Innovation Index 2025, hosts nearly 2 lakh DPIIT-recognised startups, and is investing heavily in semiconductors, AI, green hydrogen, and space technologies.
2. Yet, innovation-led economies typically spend 2–5% of GDP on R&D, whereas India remains stuck at 0.64%, indicating a structural innovation gap.

Why Competition Remains the Missing Ingredient

1. **Protectionist Comfort Reduces Innovation Incentives:** Higher tariffs and Quality Control Orders often shield domestic firms from global competition. Firms can maintain profitability without investing in frontier technologies. Result: preference for assembly and adaptation over invention. Example: Import substitution without deep technology ownership.
2. **Large Domestic Market Creates Complacency:** India's expanding consumer base ensures demand even for technologically average products. Boards prioritize capacity expansion over uncertain R&D investments. Example: Infrastructure and petrochemical investments vs limited proprietary technology creation.
3. **Technology Adoption Over Technology Creation:** Many industries rely on imported patents, licensing, and technology transfer. This generates manufacturing capability but not intellectual property leadership. Example: Electronics assembly ecosystem.
4. **Weak Market Discipline:** Globally, innovation flourishes when firms face existential competitive pressure. South Korean and Taiwanese firms upgraded because they competed internationally. Example: Samsung, TSMC transformation.

Policy Bottlenecks Hindering Innovation

1. **Suboptimal R&D Investment:** High cost of capital discourages long-gestation research and venture funding remains concentrated in digital services rather than deep-tech. Example: Hardware innovation gap.
2. **Institutional Voids:** India faces a "Valley of Death" situation between laboratory research and commercialization. Weak academia-industry collaboration slows technology transfer. Example: Patent-rich but product-poor ecosystem.
3. **Permissionless vs. Permissive Frameworks:** Lowest-cost (L1) tendering penalizes innovative products and public demand rarely rewards indigenous technological breakthroughs. Example: Government procurement bias.
4. **Regulatory-Cholesterol:** Policy unpredictability discourages long-term R&D commitments. Frequent tariff and compliance changes create investment uncertainty. Example: Manufacturing sector planning risks.
5. **Human Capital:** NITI Aayog-backed Ease of Doing Research survey found 76% researchers report limited industry support for R&D. Industry-academia talent mobility remains weak. Example: Research commercialization deficit.

Why Better Policy Is Equally Important

1. **Budgetary Push:** Government has operationalised the Anusandhan National Research Foundation (ANRF) and announced a ₹1 lakh crore Research, Development and Innovation Fund to crowd-in private investment.
2. **Strategic Technology Missions:** National Quantum Mission, IndiaAI Mission, Semiconductor Mission and Green Hydrogen Mission these initiatives create enabling conditions, but innovation ultimately depends on private-sector risk-taking.

Way Forward

1. **Competition-Led Reforms:** Time-bound tariff rationalisation. integration into global value chains and competitive export orientation.
2. **Innovation Financing:** ANRF-industry co-funding mechanisms with deep-tech venture capital ecosystem and patent commercialization funds.
3. **Procurement Reforms:** Shift from L1 to Value-Based Procurement and prefer indigenous intellectual property.
4. **Research Ecosystem Reforms:** Industry-linked PhDs, university technology transfer offices and research parks and innovation clusters.
5. **Governance Reforms:** Stable regulatory environment, faster IP approvals and simplified compliance framework.

Conclusion

As former President A.P.J. Abdul Kalam argued in India 2020, nations achieve technological sovereignty through innovation, not imitation. Competition-driven reforms and enabling policies must transform India from technology consumer to creator.

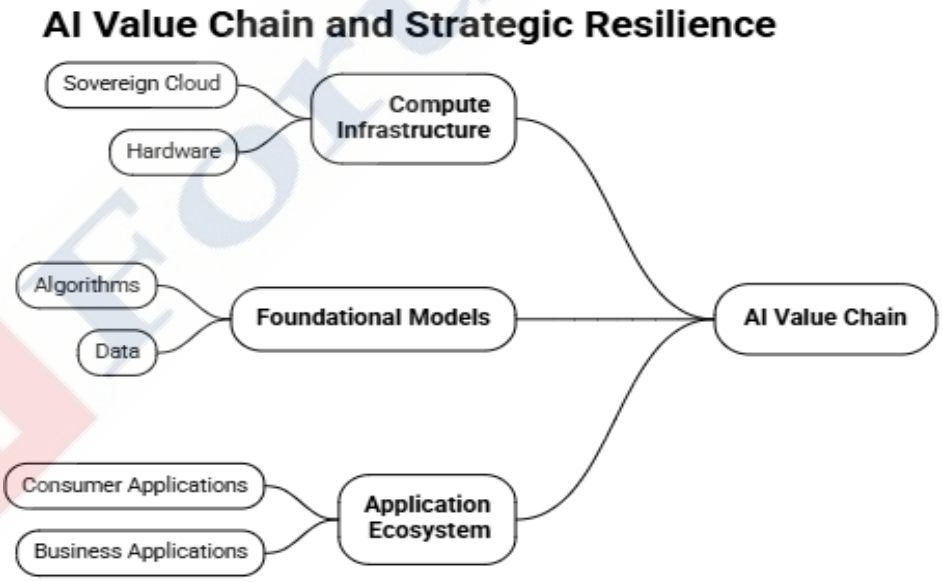
How does weaponized technological interdependence impact sovereign strategic autonomy of India? Analyze the policy choices available for a country like India to achieve digital resilience.

Introduction

With India's digital economy projected to contribute nearly 20% of GDP by 2030 and Budget 2026-27 reinforcing semiconductor and AI investments, technological sovereignty has become a strategic imperative amid rising geopolitical weaponization of technology.

Weaponized Technological Interdependence

1. **Chokepoint Vulnerabilities:** Dependence on foreign AI models, cloud services, and semiconductor ecosystems creates risks of sudden denial of access. The Anthropic model restrictions illustrate how commercial access can be overridden by national-security considerations. Example: AI blackout risk.
2. **Strategic and Geopolitical:** Technology is increasingly becoming a tool of statecraft alongside sanctions and military power. Export controls on advanced chips and AI hardware demonstrate the rise of techno-nationalism. Example: US-China chip war.
3. **Economic:** Digital disruptions can affect fintech, IT services, manufacturing automation, and e-governance. Economic Survey 2025-26 notes that innovation-led growth requires stronger technological capabilities and reduced external vulnerabilities. Example: Supply-chain shocks.
4. **National Security:** Critical sectors such as defence, cyber-security, power grids, and telecom depend on digital infrastructure. External control over strategic technologies may compromise operational continuity. Example: Critical infrastructure risk.
5. **Data Sovereignty and Legal:** Article 21's evolving jurisprudence recognizes privacy as a fundamental right. Dependence on foreign-controlled platforms raises concerns regarding jurisdiction, surveillance, and data governance. Example: Cross-border data control.
6. **Diplomatic:** Even trusted partnerships may not guarantee uninterrupted access to frontier technologies. Strategic autonomy requires diversification beyond any single technology bloc. Example: Multi-alignment diplomacy.



Why Complete Technological Self-Reliance Is Not Feasible

1. The AI ecosystem spans: semiconductor fabrication, compute infrastructure, foundational models, data ecosystems and application layers.

2. No country, including India, can efficiently dominate every layer. Excessive techno-protectionism may increase costs and reduce competitiveness. Example: Innovation slowdown.

Policy Choices for Achieving Digital Resilience

1. **Build Sovereign Digital Infrastructure:** Accelerate sovereign cloud initiatives and indigenous data centres. Ensure sensitive government and defence workloads remain under Indian control. Example: Sovereign cloud architecture.
2. **Strengthen Frontier Technology Capabilities:** Scale up the IndiaAI Mission, semiconductor mission, and National Quantum Mission. Focus on strategic sectors rather than attempting universal self-sufficiency. Example: Defence AI systems.
3. **Promote Open-Source Ecosystems:** Reduce dependence on proprietary foreign platforms. Encourage indigenous adaptation of open-source AI models. Example: Open-source LLMs.
4. **Increase Domestic R&D Investments:** India's GERD remains around 0.6-0.7% of GDP, far below major innovation economies. Operationalize ANRF and deepen academia-industry collaboration. Example: Deep-tech innovation.
5. **Secure Semiconductor and Compute Supply Chains:** Expand semiconductor manufacturing incentives. Diversify sourcing through trusted partnerships with Japan, Taiwan, Europe, and the US. Example: Trusted supply chains.
6. **Regulatory and Cybersecurity Preparedness:** Strengthen CERT-In, Digital Personal Data Protection implementation, and AI governance frameworks. Adopt sector-specific cyber resilience standards. Example: Cyber resilience.
7. **Strategic Multi-Alignment:** Leverage Quad, I2U2, Indo-Pacific partnerships, and Global South cooperation. Avoid dependence on a single technological ecosystem. Example: Diversified partnerships.

Way Forward

1. Identify critical technologies through a National Technology Security Strategy.
2. Adopt a strategic autonomy stack for AI, cloud, semiconductors, and cybersecurity.
3. Shift from mere digital consumption to innovation-led technological leadership.
4. Integrate NITI Aayog's AI-for-All vision with national-security priorities.
5. Develop trusted public digital infrastructure globally through the India Stack model. Example: DPI diplomacy.

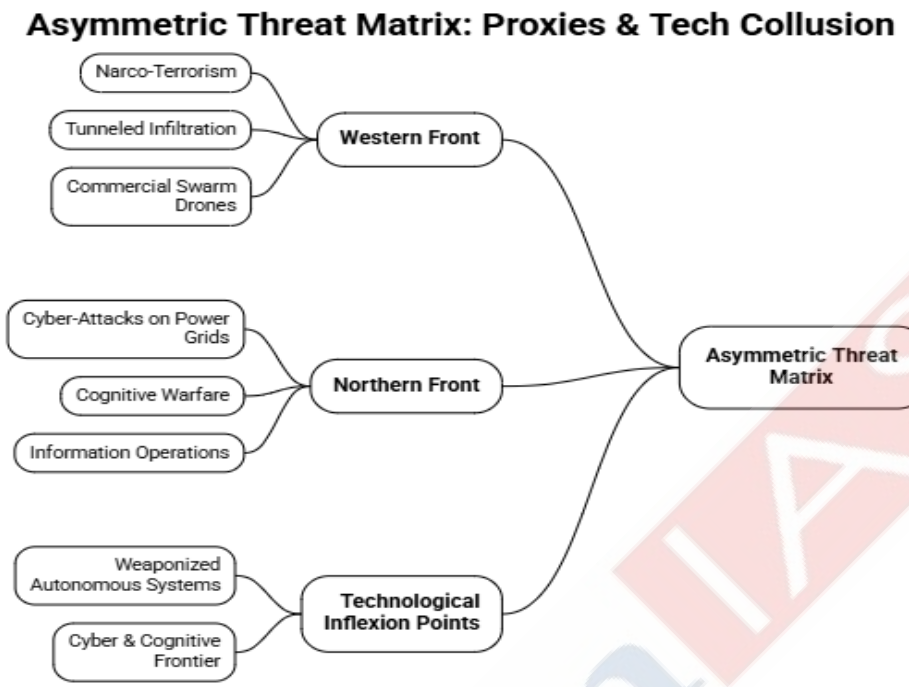
Conclusion

Echoing Dr. A.P.J. Abdul Kalam's vision in India 2020, genuine strategic autonomy in the digital age demands technological capability, resilient institutions, and innovation-driven sovereignty rather than dependence-driven efficiency.

Evaluate the impact of asymmetric warfare on India's national security. Discuss how advanced technology and cross-border proxy conflicts demand new defence doctrines.

Introduction

With defence allocations crossing ₹7 lakh crore in Budget 2026-27 and India emerging as a major digital economy, asymmetric warfare increasingly exploits technological vulnerabilities, demanding doctrinal transformation beyond conventional battlefield-centric security paradigms.



Asymmetric Warfare Redefining India's Security Landscape

Asymmetric warfare refers to conflicts where state or non-state actors employ unconventional methods, proxy groups, cyber tools, drones, and information operations to impose disproportionate costs on a stronger adversary. India today confronts a persistent No War, No Peace (NWNP) environment across its western and northern frontiers.

Impact on India's National Security

1. **Threat to Territorial Sovereignty:** Cross-border terrorism, infiltration and narco-terror networks continuously challenge India's territorial integrity. Drone-assisted smuggling of weapons and narcotics across Punjab and Jammu has bypassed traditional border fencing. Example: Punjab drone drops.
2. **Internal Security Destabilisation:** Proxy actors exploit local grievances, radicalisation and social divisions. Hybrid warfare blurs distinctions between external aggression and internal unrest. Example: Social media radicalization.
3. **Economic and Infrastructure Vulnerability:** Critical infrastructure such as power grids, banking networks and communication systems face cyber threats. Economic Survey 2025-26 highlights cyber resilience as essential for sustaining digital economic growth. Example: Power grid attacks.
4. **Information and Cognitive Warfare:** Deepfakes, AI-generated propaganda and coordinated disinformation campaigns influence public perception. Adversaries attempt to weaken social cohesion and military morale. Example: Deepfake operations.
5. **Strategic and Geopolitical Challenges:** Adversaries deliberately operate below the threshold of conventional war, limiting traditional military responses. Grey-zone tactics complicate diplomatic and legal attribution. Example: Salami-slicing tactics.

How Advanced Technology Amplifies Asymmetric Threats

1. **Drone and Loitering Munition Revolution:** Low-cost drones provide surveillance, logistics and precision-strike capabilities. Ukraine and West Asia conflicts demonstrate how inexpensive drones can neutralise expensive military assets. Example: Swarm drone attacks.
2. **Cyber Warfare as a Strategic Weapon:** State-sponsored cyber groups target critical infrastructure and military networks. The Defence Cyber Agency increasingly views cyberspace as an active operational domain. Example: Malware infiltration.
3. **AI-Enabled Information Warfare:** Artificial Intelligence facilitates automated misinformation, behavioural manipulation and psychological operations. NITI Aayog's AI strategy warns about emerging security implications of AI misuse. Example: Algorithmic influence campaigns.
4. **Encrypted Communication Ecosystems:** Terror networks increasingly utilise encrypted platforms and dark-web channels. Intelligence gathering becomes significantly more challenging. Example: End-to-end encryption.

Need for New Defence Doctrines

1. **Multi-Domain Operations (MDO):** Future conflicts require integrated operations across land, air, sea, cyber, space and cognitive domains. Joint Doctrine for Multi-Domain Operations reflects this transition. Example: Indian Maritime Doctrine 2025 (IMD-25).
2. **Integrated Theatre Commands:** Theatreisation enhances jointness, resource optimisation and rapid response. Proposed Northern, Western and Maritime Commands seek unified operational control. Example: Theatre command model.
3. **Counter-Drone and AI Defence Architecture:** Development of directed-energy weapons, smart air defence systems and AI-enabled surveillance. Indigenous anti-drone systems are becoming operational priorities. Example: Hard-kill systems.
4. **Cyber and Space Preparedness:** Strengthening the Defence Cyber Agency (DCyA) and Defence Space Agency (DSA). Real-time Intelligence, Surveillance, and Reconnaissance (ISR) and cyber deterrence are becoming indispensable. Example: Space-based surveillance.
5. **Atmanirbhar Defence Ecosystem:** Indigenous development of drones, EW systems, AI tools and missile technologies reduces strategic dependence. Defence startups under iDEX are accelerating innovation. Example: Indigenous UAVs.

Way Forward

1. Establish a comprehensive National Counter-Asymmetric Warfare Strategy.
2. Accelerate Integrated Theatre Commands and joint force structures.
3. Expand AI-enabled border surveillance and predictive intelligence systems.
4. Strengthen civil-military coordination through a Whole-of-Nation security framework.
5. Invest in indigenous cyber, drone, semiconductor and quantum technologies.
6. Enhance international cooperation on cyber norms and counter-terror financing.
7. Institutionalise cognitive warfare and information security capabilities.

Conclusion

For India, maintaining national security no longer means simply guarding physical borders, it requires dominating the electromagnetic spectrum, protecting digital networks, and possessing the structural agility to counter multi-domain threats before they escalate into open warfare.

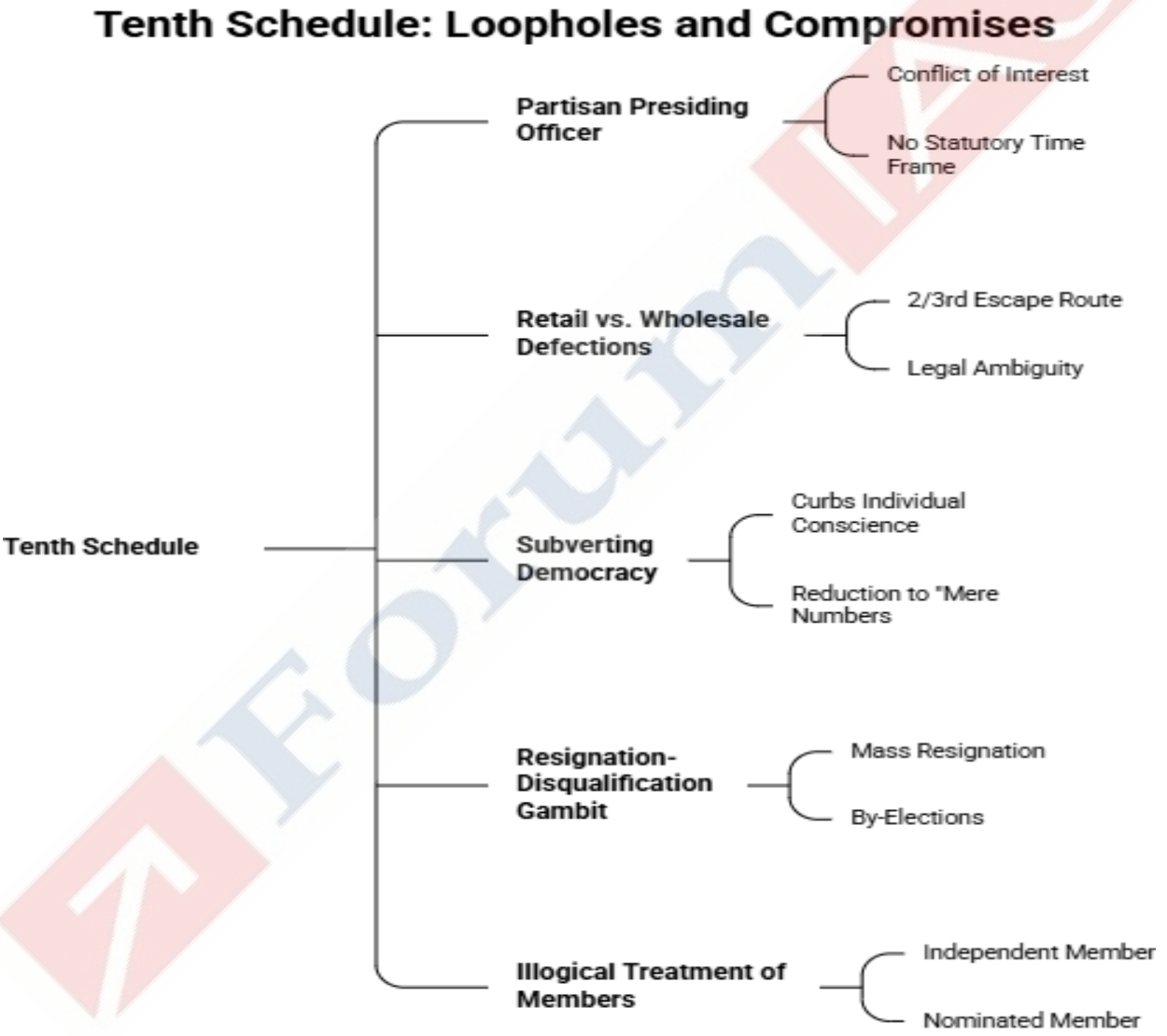
How can unprincipled political defections be tackled when the Tenth Schedule's 2/3rd merger exception is routinely weaponized to legitimize engineered splits?

Introduction

Despite the anti-defection law, engineered political defections continue to destabilize governments. Recent parliamentary crossovers expose how the Tenth Schedule's 2/3rd merger exception has transformed a constitutional safeguard into a political loophole.

Unprincipled Political Defections and the Weaponisation of the 2/3rd Merger Exception

Constitutional Objective vs Political Reality



1. The **52nd Constitutional Amendment Act (1985)** inserted the Tenth Schedule to curb the infamous "Aaya Ram, Gaya Ram" culture and strengthen democratic stability.

2. The **91st Constitutional Amendment (2003)** removed protection for one-third splits but retained the two-thirds merger exception. However, instead of preventing defections, it has incentivized engineered mass defections disguised as mergers.

Why the Present Framework Fails?

1. **Distortion of the Merger Provision:** Paragraph 4 treats a two-thirds legislative split as a valid merger. Legislators often claim merger even when the parent political party continues independently. Converts defections into legally protected political transactions.
2. **Partisan Role of the Speaker:** Speaker acts as adjudicating authority despite political affiliations. Delayed decisions effectively become a "pocket veto". Supreme Court in Keisham Meghachandra Singh (2020) criticized such delays. Example- Manipur case.
3. **Weak Democratic Accountability:** Defectors retain seats without seeking fresh public approval. Violates voters' mandate and weakens representative democracy. Example: Mandate betrayal.
4. **Judicial Delays and Legal Ambiguity:** Pending constitutional questions regarding merger interpretation encourage opportunistic defections. Legal uncertainty creates incentives for political manipulation. Example: Constitutional vacuum.

Implications

1. **Political:** Frequent government collapses and instability. Encourages coalition blackmail and opportunistic politics.
2. **Constitutional:** Undermines constitutional morality and collective responsibility. Dilutes spirit of Articles 75 and 164 regarding stable governments.
3. **Governance:** Administrative paralysis during political crises. Development priorities get subordinated to survival politics.
4. **Economic:** Frequent regime changes affect investor confidence and policy continuity. Economic Survey repeatedly stresses institutional predictability for growth.
5. **Social:** Erodes public trust in democratic institutions. Strengthens perception of politics as transactional rather than ideological.
6. **Governance:** Encourages horse-trading, inducements and abuse of public office. Violates standards of probity in public life.

Judicial and Committee-Based Reforms

Key Judicial Principles

1. **Kihoto Hollohan (1992):** Speaker's decision subject to judicial review.
2. **Ravi S. Naik (1994):** Conduct can imply voluntary resignation.
3. **Keisham Meghachandra Singh (2020):** Suggested independent tribunal and timely disposal.

Committee Recommendations

1. **Dinesh Goswami Committee:** Restrict disqualification mainly to confidence votes.
2. **NCRWC:** Three-month disposal limit and Speaker neutrality.
3. **2nd ARC & ECI:** Transfer adjudicatory power to President/Governor on ECI advice.

Way Forward:

1. **Independent Adjudication Authority:** Transfer powers from Speaker to an independent tribunal or ECI-based mechanism. Enhances neutrality and credibility.
2. **Strict Statutory Timeline:** Mandate disposal within 90 days. Automatic suspension from House proceedings upon prolonged delay.
3. **Strengthen the "Twin Test" for Merger:** Require merger of both: legislative party; and parent organizational party. Prevents factional hijacking of party identity.

4. **Increase Cost of Defection:** Defectors should resign and seek re-election. Bar defectors from ministerial posts and remunerative offices for the remainder of the term.
5. **Reform the Whip System:** Restrict whip only to confidence motions, no-confidence motions and Money Bills. Protects legislative deliberation while preventing instability.

Conclusion

As Dr. B.R. Ambedkar cautioned in the Constituent Assembly, constitutional success depends upon constitutional morality. Preserving democracy requires closing merger loopholes and restoring the Tenth Schedule's original purpose.

Examine the socio-economic and political challenges in implementing the Ecologically Sensitive Area (ESA) framework in the Western Ghats. Suggest a sustainable way forward.

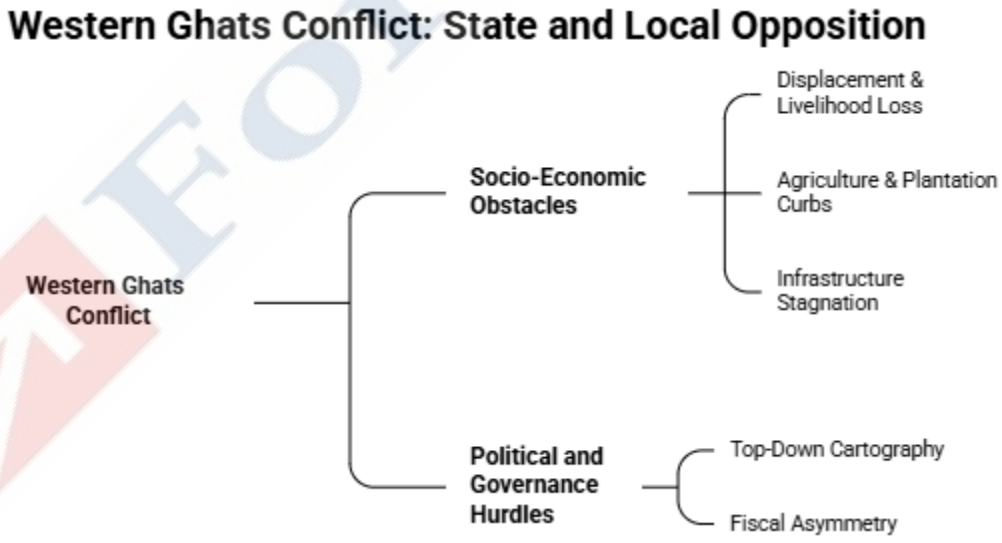
Introduction

Recognised as a UNESCO World Heritage landscape and source of major peninsular rivers, the Western Ghats faces a 12-year ESA deadlock, reflecting the challenge of balancing ecological security, federalism, livelihoods and development.

The ESA Framework & Proposed Restrictions

Under Section 3 of the EPA-1986, the MoEFCC aims to declare approximately 56,000 km^2 across six states as an ESA. This framework relies on the K. Kasturirangan Committee report (2013), which recommended:

1. **Complete Prohibitions:** A blanket ban on highly polluting Red-category industries, new mining/quarrying, thermal power plants, and large construction projects exceeding 20,000 m^2.
2. **Regulated Activities:** Strict environment impact monitoring for infrastructure expansion, hydro-power, and large hospitality units.



Socio-Economic And Political Challenges

Socio-Challenges

1. **Livelihood and Settlement Concerns:** Millions depend on plantation agriculture, horticulture and allied activities within proposed ESA regions. Fear of restrictions on land-use conversion, housing expansion and commercial activities creates local resistance. Example: Cardamom Hills (Kerala).
2. **Impact on Regional Economies:** Restrictions on mining, quarrying and red-category industries may reduce state revenues and employment opportunities. Cash-crop economies such as coffee, tea, rubber and spices fear growth constraints. Example: Kodagu plantations.
3. **Infrastructure Deficit Risks:** Rural roads, power transmission lines, hospitals and tourism infrastructure may face procedural delays due to environmental clearances. Example: Hill connectivity projects.

Political and Governance Challenges

1. **Centre–State Federal Tensions:** States bear conservation costs while ecological benefits accrue nationally. Karnataka and Kerala have repeatedly sought revisions, highlighting fiscal asymmetry. Example: Karnataka Cabinet rejection.
2. **Contestation over Mapping:** ESA demarcation relied heavily on remote sensing and satellite imagery. States argue that revenue villages, plantations and settlements were wrongly classified as ecologically sensitive. Example: Ground-truthing disputes.
3. **Democratic Deficit:** Local communities perceive ESA decisions as top-down and technocratic. Limited Gram Sabha participation weakens legitimacy. Example: Wayanad protests.
4. **Constitutional and Legal: Article 48A** directs the State to protect the environment. Article 51A(g) imposes a citizen duty to safeguard nature. ESA notification derives legal authority from Section 3 of the EPA 1986. Balancing environmental protection with livelihood rights reflects the principle of sustainable development. Example: Vellore Citizens Case.

Environmental and Climate

1. **Rising Ecological Vulnerability:** Unregulated quarrying, slope modification and deforestation have increased disaster risks. Recent landslides and floods demonstrate ecosystem fragility. Example: Wayanad landslides.
2. **Ecosystem Service Loss:** Western Ghats sustains rivers such as Godavari, Krishna, Cauvery and Periyar, supporting agriculture, hydropower and drinking water. Ecosystem degradation threatens long-term water security. Example: Peninsular river systems.

The Need for Urgent Conservation

1. The economic anxieties must be weighed against escalating ecological vulnerabilities.
2. Recent climate anomalies, such as the catastrophic Wayanad landslides and frequent flash floods across the Konkan belt, serve as stark evidence that anthropogenic pressures (like illegal quarrying and slope modification) have severely destabilized the fragile Shola and mountain ecosystems.

Way Forward

1. **Participatory ESA Delineation:** Conduct village-level ground verification with Gram Sabhas, local bodies and state governments. Example: Community mapping.
2. **Green Fiscal Federalism:** Introduce Payments for Ecosystem Services (PES) and dedicated Finance Commission grants for conservation-performing states. Example: Ecosystem compensation.
3. **Promote Sustainable Livelihoods:** Incentivise agroforestry, organic farming, non-timber forest products and eco-tourism. Example: Community eco-tourism.

4. **Technology-Enabled Conservation:** Use GIS, LiDAR, AI-based monitoring and real-time ecological audits. Example: Digital ecosystem monitoring.
5. **Differential Regulation:** Distinguish between natural landscapes and cultural landscapes instead of uniform restrictions. Example: Landscape zoning.
6. **Cooperative Federalism Framework:** Establish a permanent Western Ghats Council involving Centre, States, scientists and local communities. Example: Inter-state coordination.

Conclusion

Ecological security cannot be sustained on public discontent. To safeguard the Western Ghats, India must pivot from a restrictive protectionist environmental outlook to a collaborative participatory model that balances human aspirations with ecological imperatives.

Examine how dependence on foreign digital infrastructure threatens India's strategic autonomy, and evaluate the policy measures required to ensure comprehensive digital sovereignty.

Introduction

With India's digital economy becoming a key growth engine and the Economic Survey 2025–26 emphasizing AI-led transformation, digital sovereignty has emerged as a strategic imperative amid rising techno-geopolitical rivalries and cyber vulnerabilities.

Why Dependence on Foreign Digital Infrastructure Threatens Strategic Autonomy

1. **National Security & Defence Risks:** Modern warfare is software-defined; foreign OEM-controlled code may create vulnerabilities through backdoors or remote restrictions. Dependence on foreign GPS systems exposed limitations during the Kargil War (1999). Risks to critical sectors—power grids, telecom, defence networks and financial systems.
2. **Data Sovereignty Challenges:** Critical government, fintech and enterprise data are stored on foreign-controlled cloud ecosystems. Extraterritorial laws such as the U.S. CLOUD Act can potentially create jurisdictional conflicts over data access. Leads to data colonialism where economic value generated from Indian data accrues abroad. Example: Cloud dependence.
3. **Technological Chokepoints:** Reliance on foreign operating systems (Android, iOS, Windows) and productivity suites creates strategic vulnerabilities. Export controls on advanced chips, GPUs and semiconductor equipment can derail domestic AI ambitions. US-China chip war demonstrates weaponization of technology supply chains. Example: Semiconductor controls.

4. **Economic Vulnerability:** Vendor lock-ins increase costs and reduce bargaining power. ervice disruptions can affect digital commerce, banking and governance. India's expanding services-led economy depends heavily on uninterrupted digital infrastructure. Example: Digital trade.
5. **Cybersecurity Risks:** Foreign hardware and software reduce auditability of critical systems. Exposure to cyber espionage, ransomware and supply-chain attacks. CCTV security breaches linked to foreign software platforms highlight vulnerabilities. Example: Surveillance risk
6. **Geopolitical:** Power Transition Theory suggests rising powers face technological containment by established powers. Technology sanctions increasingly serve as instruments of geopolitical coercion. Example: US-China rivalry.
7. **Constitutional & Governance Concerns**: Digital sovereignty is linked to citizens informational privacy under Article 21. Foreign control over digital ecosystems can weaken democratic accountability. Example: Privacy concerns.

India's Existing Efforts Towards Digital Sovereignty

1. **Digital Public Infrastructure (DPI):** UPI, Aadhaar, DigiLocker, ONDC and RuPay have reduced dependence on foreign platforms. Widely recognized as global public digital goods. Example: UPI success.
2. **Semiconductor & Electronics Push:** Semiconductor Mission and PLI schemes. Budget 2026–27 continued emphasis on domestic manufacturing and semiconductor ecosystem development. Example: Gujarat fabs.
3. **AI & Frontier Technologies:** IndiaAI Mission aims to build domestic AI capabilities and technological sovereignty. National Quantum Mission and indigenous compute ecosystem. Example: IndiaAI Labs.
4. **Data Governance:** Digital Personal Data Protection (DPDP) Act, 2023, CERT-In cyber security framework and Data Protection Board operationalization.

Policy Measures for Comprehensive Digital Sovereignty

1. **Build Sovereign Digital Infrastructure:** Establish sovereign cloud architecture for government and strategic sectors. Mandatory domestic mirroring of critical national data. Promote indigenous platforms such as BharOS and domestic productivity suites.
2. **Accelerate Semiconductor Self-Reliance:** Expand semiconductor fabrication, ATMP facilities and chip design ecosystem. Secure critical mineral supply chains through trusted partnerships. Strengthen iCET and Quad technology cooperation. Example: Micron project.
3. **Create a National Technology Security Strategy:** Define strategic technologies and non-negotiable digital red lines. Integrate cyber, AI, telecom and semiconductor security under a unified framework. Similar to national security doctrines of major powers. Example: Tech security doctrine.
4. **Invest in Indigenous R&D:** Raise R&D expenditure from below 1% of GDP toward global standards. Strengthen academia-industry-defence collaboration. Promote open-source ecosystems and national code repositories. Example: AI-OS ecosystem.
5. **Strengthen Cyber Resilience:** Continuous audit of critical digital infrastructure. Indigenous encryption and cyber defence tools. Sector-specific cyber emergency protocols. Example: CERT-In strengthening.
6. **Strategic Technology Partnerships:** Pursue trusted interdependence rather than isolation. Expand collaborations in semiconductors, AI and quantum technologies. Model: BrahMos joint development. Example: Technology co-development.

7. **Human Capital & Digital Skills:** Build AI, semiconductor and cybersecurity talent pipelines. Align Skill India with frontier technologies. Promote indigenous innovation ecosystems. Example: Deep-tech workforce.

Way Forward

1. Mandate sovereign cloud for all critical data. Example: Sovereign Cloud Stack.

2. Universalize the adoption of indigenous operating systems across all critical government and defense architectures. Example: BharOS.

3. Expand deep-tech venture funding and secure alternative supply lines through minilateral tech partnerships. Example: US-India iCET.

4. Create a dedicated, cross-ministry National Technology Security Strategy to formally draw non-negotiable "red lines" in trade and free-trade agreements (FTAs).

Conclusion

Complete isolationist self-sufficiency is an impossibility in a highly globalized technology ecosystem. Strategic autonomy in the digital age demands indigenous innovation, resilient institutions, and technological self-reliance without abandoning global cooperation.