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Mains Marathon

October, 2025
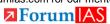
HISTORY
ECONOMICS
POLITY
SCIENCE AND TECHNOLOGY
GEOGRAPHY AND ENVIRONMENT

INDEX

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Critically analyze the proposition that reclaiming the district as a democratic commons is essential to revive national development and inclusive growth in India."

Introduction

With 65% of India's population under 35 (UNFPA, 2023) and 85% residing in districts of birth, reclaiming districts as democratic commons is pivotal to unlocking inclusive growth, youth empowerment, and equitable development.

District as a Democratic Commons: The Rationale

1. **Demographic Dividend & Local Anchoring**: India's demographic dividend risks becoming a **"demographic disaster" (ILO, 2023)** if youth remain excluded. Districts, where the majority live, are natural spaces to foster participatory governance.
2. **Economic Geography**: Cities covering **3% of land generate 60% of GDP (Economic Survey, 2022),** creating stark regional imbalances. District-led development decentralizes opportunity, reducing over-concentration and urban migration pressures.
3. **Democratic Fatigue & Political Centralization**: Centralized schemes reduce local agency. PRIs and district councils, constitutionally **mandated (73rd and 74th Amendments),** often remain under-utilized. Democratic commons empower elected representatives beyond mediating entitlements.

Districts as Engines of National Development

1. **Decentralized Accountability**: District-level monitoring of outcomes (**using indices like NITI Aayog's Aspirational Districts Programme)** ensures local transparency. Example: **Dantewada, Chhattisgarh** improved learning outcomes via community engagement in education.
2. **Inclusive Growth & Equity**: Focused district interventions bridge disparities. Kerala's Kudumbashree model of women's collectives, rooted in districts, showcases participatory planning yielding social and economic empowerment.
3. **Innovation Ecosystems**: Districts can act **as hubs of "glocal" innovation** — e.g., **Grain ATM (Annapurti)** pilots in Indian districts with WFP, replicable across Global South.
4. **Civic Participation & Ownership**: Transforming districts into democratic commons expands public life beyond welfare entitlements. Youth-led district councils in states like Kerala and Rajasthan reflect experiments in grassroots democratic engagement.

Critical Analysis: Challenges to District-Centric Democratic Commons

1. **Capacity Deficits**: District administrations remain bureaucrat-heavy, with weak planning capacity at Panchayat and Zila Parishad levels **(World Bank's *Decentralization in India* report).**
2. **Elite Capture & Inequality**: Decentralization risks local elite domination, marginalizing women, Dalits, and minorities unless safeguards exist.
3. **Fragmentation vs Cohesion**: Overemphasis on district autonomy may fragment policy coherence. National schemes **(e.g., PMGKY, MGNREGA)** require strong center-district alignment.
4. **Fiscal Federalism Constraints**: India's fiscal structure remains highly centralized. Districts lack adequate untied funds to experiment and sustain commons-driven development.

Way Forward

1. **Institutional Reforms**: Empower **District Planning Committees (Art. 243ZD)** with real authority.

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2. **Technology & Transparency**: Open data dashboards for district-level outcomes.
3. **Participatory Budgeting**: Extend **Kerala's *People's Plan Campaign* nationally**.
4. **Youth Mainstreaming**: District youth parliaments as democratic incubators.
5. **Private Sector Engagement**: CSR funds aligned with district development priorities.

Conclusion

As Amartya Sen in *Development as Freedom* reminds us, **true progress requires expanding participation.** Reclaiming districts as democratic commons bridges policy and people, ensuring inclusive growth and revitalizing India's democratic spirit.

Examine the geographical imperatives for India to increase domestic mining. Critically evaluate the role of the private sector in achieving resource security for Atmanirbhar Bharat.

Introduction

India imports over **90% of oil, 95% of copper, and 99% of gold**, despite having geological similarities to resource-rich regions like **Australia and Africa** (USGS 2022). Achieving *Atmanirbhar Bharat* necessitates tapping domestic mining potential.

Geographical Imperatives for Domestic Mining

1. **Favourable Geological Endowment**: India lies on the **Indian Shield**, rich in iron ore, bauxite, copper, gold, coal, and rare earths. Its **Precambrian rocks** host significant deposits comparable to South America and Africa.
2. **Strategic Minerals for New-Age Economy**: India holds **6th largest bauxite reserve** and substantial coal **deposits (BP Energy Outlook 2022).** Lithium, cobalt, and rare earths critical for EVs and renewable technologies remain underexplored.
3. **Import Dependence vs Potential**: Despite having 319 billion tonnes of coal reserves **(Ministry of Coal, 2023),** India imports ~20% coal demand. Large dormant mines like **Kolar Gold Fields** and underutilised resources highlight untapped potential.
4. **Regional Concentration**: Eastern and central states (Jharkhand, Odisha, Chhattisgarh) form India's **mineral heartland**, offering a geographical push for resource-led development.

Role of Private Sector in Resource Security

1. **Exploration and Risk-Taking**: Globally, small private explorers function like **start-ups**, spreading risk and driving discoveries (Canada's junior exploration model). India's auction-based regime discourages such risk-taking; liberalising private exploration could enhance reserves.
2. **Technology Infusion**: Private players bring cutting-edge mining technologies like **automation, AI-enabled exploration, and eco-friendly extraction**. Example: **Vedanta Resources** in bauxite and zinc has demonstrated efficiency and global competitiveness.
3. **Reviving Dormant Assets**: Many PSUs underperform (e.g., Hindustan Copper, Hutti Gold Mines). Public-private partnerships (PPPs) could unlock these through capital and modern methods.
4. **Level Playing Field**: Currently, PSUs receive preferential allocations and fiscal support. Private participation needs **transparent, non-discriminatory policy** to encourage entrepreneurship in mining.

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5. **Employment and Inclusive Growth:** Mining sector has a high **employment multiplier effect**. Domestic mining expansion could generate millions of jobs, reducing rural distress and supporting *Viksit Bharat 2047*.

Critical Challenges

1. **Environmental and Social Costs**: Mining-induced displacement (Niyamgiri, Odisha) shows conflict between resource extraction and community rights.
2. **Regulatory Bottlenecks**: Complex clearance system delays projects; need for **self-certification with post-audit accountability**.
3. **Global Transition**: Climate commitments under **Paris Agreement** require balancing fossil fuel extraction with renewable transition.

Way Forward

1. Adopt **National Mineral Exploration Policy 2019** in spirit by allowing small explorers.
2. Create **single-window clearance systems** with strict audit.
3. Promote **green mining technologies** to align with sustainability.
4. Strengthen PPPs for dormant asset revival.
5. Establish **strategic reserves of critical minerals** for national security.

Conclusion

As **Amartya Sen noted in *Development as Freedom***, true progress requires **economic capacity alongside social equity**. Harnessing India's rich geology through private sector dynamism can ensure *resource security* for **Atmanirbhar Bharat** while sustaining inclusive development.

Critically examine the potential for a 'fraught franchise' to emerge from a nationwide Special Intensive Revision (SIR) exercise. How can the Election Commission ensure electoral integrity?

Introduction

India, the world's largest democracy, has **96.8 crore registered electors (ECI 2024)**. However, Bihar's Special Intensive Revision (SIR), which deleted **65 lakh names**, reveals risks of exclusion and threatens democratic legitimacy.

Risks of a 'Fraught Franchise' in Nationwide SIR

1. **Massive Exclusions and Opaqueness**: In Bihar, 47 lakh deletions were later corrected after **Supreme Court intervention (2024)**, exposing procedural opacity. Disproportionate deletion of **women and marginalised groups** raises questions of systemic bias.
2. **Over-burdening Citizens**: Requirement of documents such as **birth and caste certificates**, often unavailable to poor, SC/ST/OBC, and migrant populations, risks disenfranchisement. Contradicts the principle of **universal adult suffrage under Article 326**.
3. **Administrative Capacity Constraints**: Conducting a **door-to-door SIR for 96 crore voters** is logistically complex. Errors in Aland (Karnataka, 2023) highlight ECI's technical vulnerabilities.

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4. **Trust Deficit**: Lack of consolidated exclusion lists and vague claims about "foreign nationals" risk creating political suspicion and **bogeymen narratives**. Could undermine **free and fair elections — a basic structure of the Constitution (Kesavananda Bharati, 1973)**.

5. **Gendered and Socioeconomic Dimensions**: **UN Women's reports** show women face higher risks of disenfranchisement due to **migration after marriage** and lack of property-linked documents. Similar exclusion was seen in **NRC Assam (2019)** where 19 lakh people, many poor and illiterate, were left out.

Safeguards for Electoral Integrity

1. **Inclusive Verification Mechanisms**: Adopt **door-to-door verification by booth-level officers (BLOs)**, used effectively in early 2000s revisions. Use **self-reporting plus physical verification**, not suspicion as default.

2. **Accept Widely Held Identity Documents**: Recognise **Aadhaar, voter ID, ration card, job cards**— already with majority citizens. Reduces barriers for vulnerable populations.

3. **Transparency and Due Process**: Publish reasons for each deletion **in advance**, with clear **appeals process at local level**. Digital dashboards to track exclusions, while ensuring **data privacy**.

4. **Technological Aids with Checks**: Use AI-enabled **de-duplication of rolls**, but with **human verification** to prevent wrongful deletions. Lessons from Estonia's **e-voting system** show that technology must be complemented with citizen trust-building.

5. **Independent Oversight and Accountability**: Empower **Election Observers** and civil society organisations to monitor roll revision. Regular audits by **CAG or independent commissions** to assess accuracy.

6. **Gender-Sensitive and Migrant-Friendly Approach**: Special campaigns for **migrant workers and women voters** with simplified registration norms. **UNDP's Electoral Assistance Division** emphasises gendered inclusivity in roll preparation.

Way Forward

A nationwide SIR must balance **roll purity (removing duplicates/ghost voters)** with **roll inclusivity (ensuring no legitimate voter is excluded)**. The focus should shift from suspicion of the electorate to empowerment of the electorate.

Conclusion

As B.R. Ambedkar reminded in the **Constituent Assembly Debates**, democracy rests not only on institutions but on **"social legitimacy and inclusion."** For India, electoral integrity requires **transparency, inclusivity, and trust**, not exclusionary suspicion.

Evaluate the potential of the National Clean Air Programme (NCAP) to deliver significant public health benefits. What policy and institutional tweaks are essential for its effective implementation?

Introduction

Air pollution causes **1.67 million deaths annually in India (Lancet, 2020)** and is the second leading risk factor for disease burden. The **NCAP (2019)** holds transformative potential for health-centric environmental governance.

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Potential of NCAP in Delivering Public Health Benefits

1. **Direct Health Co-benefits**: **IIT-Delhi & Climate Trends (2025)**: A **30% cut in pollution** reduces incidence of **heart disease, diabetes, anaemia, low birth weight**. WHO studies link PM2.5 to **COPD, stroke, lung cancer**, making NCAP a preventive healthcare strategy.
2. **Reduced Mortality & Morbidity**: **Lancet Planetary Health (2021):** Failure to meet WHO air standards caused **1.5 million deaths in India**. NCAP's **40% PM reduction target by 2026** could save thousands of lives annually.
3. **Economic Productivity Gains**: **World Bank (2019):** Air pollution cost India **1.36% of GDP**. Cleaner air reduces healthcare costs and improves labour productivity, adding an estimated **$95 billion annually (NITI Aayog, 2022)**.
4. **Climate & Environmental Synergy**: Tackling PM also reduces **black carbon**, aligning with India's **Paris Agreement NDCs** and enhancing climate resilience. Cleaner cities improve **urban liveability indices**, supporting SDG 3 (Health) and SDG 11 (Sustainable Cities).

Challenges Undermining NCAP Effectiveness

1. **Limited Geographical Coverage**: Focuses on **131 cities**, ignoring **rural and peri-urban regions** where biomass burning and crop residue contribute heavily.
2. **Institutional Weakness**: **SPCBs (State Pollution Control Boards)** lack manpower, autonomy, and monitoring capacity. Monitoring stations often placed in **low-density areas**, missing urban hotspots.
3. **Policy-Implementation Gap**: Funds underutilised, **Delhi NCR smog episodes** reveal lack of interstate coordination. Absence of strong enforcement despite NCAP's aspirational targets.
4. **Fragmented Jurisdiction**: Air pollution is **transboundary**, but cities are left to their own devices. Example: Punjab-Haryana crop burning impacts Delhi, but NCAP lacks a **federal coordination framework**.
5. **Weak Public Health Integration**: Pollution rarely linked with disease surveillance or healthcare planning. No structured framework for **public health advisories** during high AQI episodes.

Essential Policy and Institutional Tweaks

1. **Expand Coverage Beyond Cities**: Include **rural areas** with crop burning, brick kilns, and biomass fuel usage. Adopt **airshed management approach (like California Air Resources Board).**
2. **Strengthen Monitoring Infrastructure**: Install **high-density real-time monitors** in industrial and traffic-heavy zones. Promote **open-source AQI data platforms** for public awareness.
3. **Inter-State and Inter-Agency Coordination**: Establish **Regional Clean Air Authorities** (modeled on **CAQM in Delhi-NCR**). Ensure synergy between **MoHFW, MoEFCC, MoRTH, and state governments**.
4. **Mainstream Health in Air Policy**: Integrate NCAP with **National Health Mission**. Link **ICMR disease registries** with air quality data for targeted interventions.
5. **Capacity Building & Funding**: Increase budgetary allocation, ensure **timely fund utilisation** by ULBs. Strengthen SPCBs with trained staff, technology, and accountability mechanisms.
6. **Behavioural & Technological Shifts:** Promote **EV adoption, renewable energy, LPG/PNG transition**. Launch **community awareness campaigns**, replicating the success of **Swachh Bharat Abhiyan**.

Conclusion

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Health is central to human capability. For NCAP to succeed, India must adopt **health-centric air governance, regional coordination, and institutional accountability** to ensure clean air as a public good.

Examine the shifting frontiers of India-Pakistan security from airspace to the sea. Critically analyze the implications for India's maritime defence strategy and naval modernization.

Introduction

The **Operation Sindoor crisis (2025)** revealed a shift in India-Pakistan hostilities from airspace to maritime domains. With 95% of India's trade by sea, maritime security is now central to strategic stability.

Shifting Frontiers: From Air to Sea

Historical Context

1. **1971 War:** Indian Navy's blockade of Karachi crippled Pakistan's economy.
2. **Kargil 1999 & Balakot 2019:** Conflicts played out in land-air domains, with the sea peripheral.
3. **Post-2025 Crisis:** Naval deployments, live-fire drills, and asset dispersals underline a shift towards maritime deterrence.

Pakistan's Naval Signalling

1. Induction of **Hangor-class submarines** (Chinese-built) and **Babur-class corvettes** (Türkiye).

2. Development of **anti-access/area-denial (A2/AD)** doctrine.

3. Strategic dispersal of assets to **Gwadar**, reducing Karachi's vulnerability.

India's Naval Response

1. Operation Sindoor signaled readiness for forward deterrence.

2. Induction of **INS Nistar** (diving support vessel) and **stealth frigates**.

3. Joint patrols in the **South China Sea with the Philippines**, aligning with Indo-Pacific outreach.

4. Doctrinal emphasis: *"First to strike at sea in future conflict"* (as per Admiral Dinesh Tripathi, 2025).

Implications for India's Maritime Defence Strategy

1. **Escalation Dynamics**: **Higher risk of war threshold crossing** at sea than in air. Naval skirmishes are prolonged, unlike short-lived air encounters, making escalation harder to control.
2. **External Involvement**: **China's PLAN presence in Gwadar and Karachi**: Raises two-front challenge. **Türkiye's naval assistance**: Enhances Pakistan's maritime deterrence. India must prepare for a **regionalised crisis with external stakeholders**.

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3. **Deterrence Equation**: Pakistan's growing A2/AD capabilities reduce India's ability to coerce through blockade. India's traditional dominance is narrowing — requiring **qualitative edge over quantitative parity**.

Naval Modernization: Critical Requirements

1. **Fleet Modernization**: India's fleet aging; delays in **Project 75I submarines** and **aircraft carrier INS Vikrant**'s operational readiness remain concerns. Need to expand **nuclear submarine fleet (Arihant-class)** for credible second-strike capability.
2. **Maritime Domain Awareness (MDA)**: Satellite-linked **Information Fusion Centre–Indian Ocean Region (IFC-IOR)** must be integrated with QUAD allies. AI-driven unmanned systems for surveillance in choke points like **Strait of Hormuz**.
3. **Jointness and Doctrinal Shift**: Integration with **Air Force and Coast Guard** under the **Theatre Command framework**. Development of **maritime strike UAVs and hypersonic missiles** to counter Pakistan's evolving deterrence-by-denial strategy.
4. **Blue Water to Grey Zone Preparedness**: While Indo-Pacific projection remains vital, near-seas coercive capacity must not be diluted. Balancing **Indo-Pacific outreach** with **Arabian Sea deterrence** is now strategic necessity.

Conclusion

As it is observed, **"Whoever controls the sea controls commerce and destiny."** India's maritime defence must blend **blue-water ambition with grey-zone readiness**, ensuring credible deterrence against Pakistan while modernizing for wider Indo-Pacific security.

Examine the shifting frontiers of India-Pakistan security from airspace to the sea. Critically analyze the implications for India's maritime defence strategy and naval modernization.

Introduction

The 2025 Operation *Sindoor* crisis revealed a decisive shift in India–Pakistan hostilities from airspace to the maritime domain. With over 95% of India's trade moving by sea, maritime security now underpins strategic stability.

Shifting Frontiers: From Air to Sea

Historical Context

1. While the 1971 war showcased India's maritime dominance through the Karachi blockade, subsequent confrontations—from Kargil (1999) to Balakot (2019)—remained confined to land and air domains.

2. Post-2025, however, intensified naval signalling, live-fire drills, and asset dispersals mark a distinct shift toward **sea-based deterrence**.

Pakistan's Naval Signalling

1. Pakistan's recent induction of **Hangor-class (Chinese-built) submarines** and **Babur-class corvettes (from Türkiye)** demonstrates a move toward technological parity.

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2.   Its development of an **Anti-Access/Area-Denial (A2/AD)** doctrine and dispersal of assets from Karachi to **Gwadar** reflect strategic decentralization. The launch of **PNS Mangro** and ballistic missile tests indicate readiness to deter Indian coercion through maritime denial capabilities.

India's Naval Response

1.   Operation *Sindoor* marked India's shift toward a **forward deterrent posture**. The induction of **INS Nistar**, stealth frigates, and joint patrols with the Philippines in the **South China Sea** signal both capacity building and Indo-Pacific integration.

2.   Admiral Dinesh Tripathi's 2025 assertion that the Navy would be the "first to strike at sea" underscores doctrinal evolution. These measures align with India's **Maritime Security Strategy (2023)** and *SAGAR* vision for regional leadership.

Implications for India's Maritime Defence Strategy

1. Escalation Dynamic: Naval engagements carry higher risks of uncontrolled escalation. Unlike transient air skirmishes, maritime operations—being continuous—blur thresholds between peace and conflict. The **Institute for Defence Studies and Analyses (IDSA)** warns that miscalculation at sea could rapidly cross the "war threshold," complicating crisis management.

2. External Involvement: China's **PLA Navy (PLAN)** presence at Gwadar and Karachi and Türkiye's training and technology support introduce a **multi-actor maritime chessboard**. This externalization of regional security elevates the risk of a **two-front maritime dilemma**. India must, therefore, embed deterrence in a **multilateral Indo-Pacific framework**, strengthening ties with QUAD, ASEAN, and the Indian Ocean Rim Association (IORA).

3. Deterrence Equation: Pakistan's A2/AD posture narrows India's coercive leverage. India's traditional dominance, though intact, is eroding as Pakistan invests in asymmetric capabilities. The challenge is to sustain a **qualitative edge** through modernization, network-centric warfare, and integration of **C4ISR systems** (Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance).

Naval Modernization: Critical Requirements

1. **Fleet Modernization:** Accelerate **Project 75(I)** submarines and aircraft carrier programs; expand **Arihant-class SSBNs** for credible second-strike capability.
2. **Maritime Domain Awareness (MDA):** Enhance the **Information Fusion Centre–Indian Ocean Region (IFC–IOR)** with AI-driven unmanned systems for choke-point surveillance.
3. **Doctrinal Integration:** Advance **jointness** under the Theatre Command structure and deploy **hypersonic cruise missiles** and **maritime UAVs** for sea denial.
4. **Blue-Water and Grey-Zone Balance:** Prioritize near-sea coercive strength while sustaining Indo-Pacific outreach. Maritime diplomacy and coastal resilience must complement deterrence.

Conclusion

"Control of the sea means control of destiny." India's maritime strategy must merge blue-water aspirations with grey-zone preparedness, modernizing to deter Pakistan while securing the Indo-Pacific commons.

Justify treating employment as a national priority and analyze the need for a unified national framework in India. Evaluate its potential to enhance livelihood security.

Introduction

With over 133 million people entering India's workforce by 2047 (CII estimate), employment generation is central to sustaining demographic dividends, inclusive growth, and social stability—necessitating its treatment as a national policy priority.

Employment as a National Priority

1. Demographic Dividend and Growth Nexus: India's working-age population will peak by 2043 (UNFPA, 2024). Harnessing this window requires quality employment creation. The **World Bank (2023)** highlights that each 1% rise in employment elasticity can lift 10 million out of poverty annually.

2. Economic Equity and Social Stability: Employment ensures distributive justice and balanced regional growth. The **ILO's 2022 Employment Outlook** warns that underemployment and informality (over 80% workforce) can erode India's growth potential and deepen social inequalities.

3. Growth and Resilience Linkage: In a consumption-driven economy, job creation broadens the demand base. According to **CMIE (2024)**, India's labour participation rate stands at 41%, with female LFPR below 25%. Enhancing quality employment is thus vital for sustained GDP growth and gender equity.

Need for a Unified National Employment Framework

1. Despite multiple central and State schemes (PMKVY, MGNREGA, National Career Service, PM-DAKSH), India lacks a cohesive policy integrating **employment, skills, migration, and livelihoods**.

2. Fragmented approaches lead to duplication and inefficiency.

Integrated National Employment Policy (INEP)

1. **Integrated National Employment Policy:** As recommended **by NITI Aayog (2023),** should align industrial, trade, and education policies with labour market outcomes.

2. **Governance Architecture:** Empowered Group of Secretaries at the Centre, with **District Employment Committees** for localized planning.

3. **Time-bound Sectoral Targets:** Identifying high-employment sectors — textiles, construction, agro-processing, care economy, and tourism.

Labour Market and Skilling Reform

1. Mismatch between graduate employability (only 48% job-ready, India Skills Report 2024) and sectoral needs necessitates **Outcome-Based Skilling (OBS)** linked to industry demand, AI, and green technologies.

2. Timely implementation of **four Labour Codes (2019–20)** will formalize employment, improve flexibility, and ensure universal social security.

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Employment Mobility and Data Systems

1. A national framework must integrate **migration policy**, allowing seamless interstate worker movement.

2. Strengthened real-time data via **Periodic Labour Force Survey (PLFS)** and a National Employment Data Grid can inform evidence-based policymaking.

Enhancing Livelihood Security: The Three-Pillar Impact

1. Social Protection and Formalisation: Unified employment policy can converge welfare and work — linking **e-Shram**, **EPFO**, and **ESIC** platforms — to ensure portable, digital social security for 40 crore informal workers.

2. Gender-Inclusive Workforce Expansion: Policies like **Employment Linked Incentive (ELI)** for firms hiring women, formalization of **Anganwadi and ASHA roles**, and investment in childcare and gig platforms can raise female LFPR to 35% by 2030.

3. Green and Urban Jobs Transition: Emerging green sectors (EVs, renewables, circular economy) could create 3.5 crore jobs by 2047 (CEEW Report 2024). Urban employment guarantees in Tier-2 cities can cushion cyclical distress.

Way Forward

1. **Blended Finance for MSMEs:** Access to concessional capital for labour-intensive sectors.
2. **Gig Economy Regulation:** National registry and portable benefits for 9 crore expected gig workers by 2030.
3. **Data-Driven Governance:** Real-time dashboards linking PLFS, GSTN, and EPFO data.

Conclusion

As **Amartya Sen noted in Development as Freedom,** "Employment is the surest path to dignity and capability." A unified national framework can transform India's workforce into engines of equitable, resilient growth.

Critically analyze the role of Small Modular Reactors (SMRs) in making nuclear energy commercially viable. Examine how eased government restrictions can boost private sector participation.

Introduction

According to **the IAEA (2023), over 80 SMR designs** are under development globally, signalling a paradigm shift toward scalable, safer, and cost-efficient nuclear power vital for India's clean energy transition and net-zero targets.

The Promise of SMRs: Redefining Nuclear Energy

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Small Modular Reactors (SMRs) are advanced nuclear fission reactors with capacities typically below 300 MWe. Their modular design allows factory fabrication, rapid deployment, and scalability—addressing the high capital costs and delays of traditional large reactors.

1. **Economic viability:** SMRs reduce upfront costs by 30–50% compared to conventional reactors (World Nuclear Association, 2023). Their modularity supports phased investment and shorter construction timelines, improving the Levelized Cost of Electricity (LCOE).
2. **Safety and technology:** Passive cooling systems and underground siting enhance safety. Advanced designs like Molten Salt Reactors (MSR) and High-Temperature Gas-Cooled Reactors (HTGR) improve fuel efficiency and reduce waste.
3. **Grid flexibility and decarbonization:** SMRs can integrate with renewables, provide process heat for industries, and aid hydrogen production—key to India's National Hydrogen Mission and achieving Net Zero by 2070.

SMRs in India's Energy Landscape

India's nuclear installed capacity is ~7.5 GW (NPCIL, 2024), only 2% of total electricity generation. Large reactors face challenges of high costs, land acquisition, and delays (e.g., Kudankulam).

1. **Strategic necessity:** SMRs offer potential for decentralised deployment near industrial clusters or remote regions.
2. **Indigenous capability:** BARC and NPCIL have initiated feasibility studies on 220 MWe SMRs, supported by the Atmanirbhar Bharat initiative.
3. **Export potential:** Aligning with India's Act East and Neighbourhood First policies, SMRs can be exported to South Asia or Africa, strengthening India's energy diplomacy.

Commercial Viability Challenges

Despite technological promise, SMRs face hurdles in cost competitiveness and regulatory adaptation:

1. **Financing:** Private sector is reluctant due to long gestation periods and uncertain returns.
2. **Regulatory bottlenecks:** India's Atomic Energy Act, 1962 restricts nuclear operations to government entities, deterring innovation and foreign partnerships.
3. **Waste management and liability:** Ambiguities in the Civil Liability for Nuclear Damage Act (CLND), 2010 discourage private investment due to supplier liability risks.

Need for Eased Government Restrictions

Easing regulatory constraints can catalyse private participation and innovation:

1. **Amend the Atomic Energy Act** to allow joint ventures with private and foreign entities under strategic safeguards.
2. **Public-Private Partnerships (PPP):** Similar to the SpaceCom and Defence Corridor models, PPPs can share costs, technology, and risk.
3. **Regulatory modernisation:** The Atomic Energy Regulatory Board (AERB) must adopt adaptive licensing for modular technologies.
4. **Financial incentives:** Production-Linked Incentives (PLI) for SMR components, sovereign green bonds, and viability gap funding can de-risk investment.

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5. **Global collaboration:** Partnerships with the US, France, and Russia through Clean Energy Ministerial (CEM) and ITER consortium can accelerate technology adoption.

International Precedents

1. **USA:** NuScale Power's SMR gained NRC approval in 2022—the first globally.
2. **UK & Canada:** Fast-tracked licensing and fiscal incentives spurred Rolls-Royce and GE-Hitachi projects.
   India can emulate these regulatory models to enable market-led nuclear innovation.

Conclusion

As per **IEA's World Energy Outlook 2024,** SMRs bridge the trilemma of energy security, affordability, and sustainability. Reforming India's nuclear governance can unlock private innovation, securing a resilient low-carbon future.

Critically analyze the proposition that India's constitutional guarantee of a life with dignity must legally extend to dignity in dying. Examine the necessity of euthanasia reform.

Introduction

The **World Health Organization (2023) estimates over 5.4 million** Indians require **palliative care annually.** India's Article 21 promise of "life with dignity" increasingly demands ethical and legal recognition of "dignity in dying."

Constitutional and Ethical Context

1. The right to life under **Article 21** of the Indian Constitution has evolved through judicial interpretation—from Maneka Gandhi v. Union of India (1978) to Common Cause v. Union of India (2018)—to encompass dignity, autonomy, and freedom of choice.

2. The Supreme Court in Common Cause legalized **passive euthanasia** and recognized **advance directives**, stating that the right to die with dignity is inseparable from the right to live with dignity.

3. However, the implementation gap persists. Procedural rigidity—dual medical boards, judicial oversight, and unclear hospital protocols—renders the process inaccessible. As a result, families and physicians often make informal decisions, undermining legality and transparency.

Rationale: Autonomy and Beneficence

From the **bioethical** perspective, passive euthanasia aligns with two key principles —

1. **Autonomy:** Respecting the patient's informed choice to decline life-prolonging treatment.
2. **Beneficence and Non-Maleficence:** Preventing unnecessary suffering when medical intervention only extends pain.
3. However, **active euthanasia** (deliberate termination of life) remains ethically fraught. Given India's socio-economic inequalities, limited healthcare access, and familial dependence, it risks **coercive euthanasia**—where financial or emotional pressures may influence end-of-life choices.

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Comparative and Global Perspectives

1. Countries like **Netherlands, Belgium, and Canada** have legalized active euthanasia under strict safeguards. The **U.K.'s Terminally Ill Adults Bill (2025)** allows physician-assisted dying for those with less than six months to live.

2. Yet, India's fragmented healthcare system, low palliative care penetration **(only 2% of need met, Lancet Commission, 2022),** and weak institutional capacity make full emulation of Western models ethically risky.

3. India's approach—**ethical conservatism with compassionate pragmatism** is more contextually suited. The focus should be on refining passive euthanasia to ensure accessibility, accountability, and humane implementation.

Necessity of Reforming Passive Euthanasia

1. **Digital Integration:** A national digital registry for Advance Directives, linked with Aadhaar and verified by physicians, can streamline consent.
2. **Decentralised Ethics Oversight:** Empower **Hospital Ethics Committees** (including doctors, palliative specialists, and independent members) to approve withdrawal of life support within 48 hours.
3. **Legal Simplification:** Replace judicial clearance with statutory review mechanisms monitored by **State Health Commissions**.
4. **Mandatory Safeguards:** Cooling-off periods, psychological counselling, and family consent to prevent misuse.
5. **Public Awareness and Medical Training:** Medical curricula should integrate **end-of-life ethics** and **palliative care law**, reducing fear among healthcare professionals.

These reforms align with **One Nation–One Health Record** vision and India's **Digital Health Mission**, ensuring ethical oversight through technological efficiency.

Way Forward: Dignity, Compassion, and Legal Certainty

India must move from legality to practicality ensuring that the terminally ill are neither forced to live in pain nor die without dignity. Euthanasia reform should prioritize **procedural humanity**, not legislative haste.

Conclusion

As **Amartya Sen emphasized in "The Idea of Justice",** true freedom lies in expanding human capability. Ensuring dignified dying transforms law into compassion, fulfilling India's constitutional and moral conscience.

Critically analyze if imposing civil liability for marital disruption contravenes the spirit of the Joseph Shine verdict. Examine the legal validity of the alienation of affection concept.

Introduction

Post-Joseph Shine v. Union of India (2018), India decriminalised adultery under Article 21's privacy guarantee. Yet, Delhi High Court's Shelly Mahajan case revives the civil tort of "alienation of affection."

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From Criminal Adultery to Civil Wrong: The Legal Shift

1.   The **Joseph Shine** judgment struck down Section 497 IPC, holding adultery as a matter of personal morality rather than public penal concern. The Supreme Court declared that criminal law cannot police private sexual choices, emphasizing individual **autonomy, privacy**, and **gender equality**.

2.   However, it also clarified that **adultery remains a civil wrong**—a ground for divorce and possible civil consequences under tort law.

3.   The **Delhi High Court (2025)** in **Shelly Mahajan v. Bhanushree Bahl** has taken this opening to recognise the **common law tort of "Alienation of Affection (AoA)"**, allowing a spouse to sue a third party who intentionally and maliciously disrupted marital consortium.

The Tort of Alienation of Affection: Conceptual and Comparative Context

1.   Originating in **Anglo-American "heart balm" laws**, AoA allows a spouse to seek damages against a third party who caused the "loss of affection and companionship."

2.   Globally, it has faded. Only six U.S. states, **North Carolina, Utah, South Dakota, Hawaii, Mississippi, and New Mexico**, retain the tort with strict proof requirements. Others abolished it as **archaic, prone to misuse, and incompatible with gender-neutral marriage norms.**

3.   In **India**, the Supreme Court in Pinakin Mahipatray Rawal v. State of Gujarat (2013) observed that **"alienation of affection by a stranger, if proved, is an intentional tort."** Later, Indra Sarma v. V.K.V. Sarma (2013) extended its moral foundation, noting even children could have a cause of action if parental affection was alienated. However, these were **obiter dicta**, not enforceable precedents granting monetary damages.

Does Civil Liability Contradict Joseph Shine? — A Critical Analysis

1. Harmony with Joseph Shine: The Joseph Shine verdict decriminalised adultery but did not immunise it from civil consequences. Imposing civil liability for wrongful interference does not punish private morality but protects the **institutional sanctity of marriage** and **civil rights of the aggrieved spouse**. Hence, it **complements**, rather than contravenes, Joseph Shine.

2. Risk of Overreach: Yet, the Delhi HC's recognition of AoA risks reintroducing **state moral policing via civil law**, indirectly reviving patriarchal notions of "marital ownership." It may conflict with Puttaswamy (2017), where the Court underscored sexual autonomy as intrinsic to dignity and privacy.

3. Constitutional Scrutiny: Under **Article 19(1)(a)** and **21**, consenting adults have the right to intimate association. Holding a third party liable may infringe this liberty unless **wrongful inducement or coercion** is proven. Thus, the doctrine's survival depends on narrowly defined **mens rea** (malicious intent) and **causation** (direct link between conduct and marital disruption).

Jurisdictional and Institutional Validity

1.   The Delhi HC clarified that family courts handle disputes between spouses, while AoA claims are civil torts against outsiders—thus, civil courts retain jurisdiction. However, absent legislative backing or statutory codification, such claims risk **judicial overreach** and inconsistency in enforcement.

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2.   Reform could come via the **Law Commission**, defining tortious liability for "intentional interference in marital consortium," balancing **privacy, autonomy, and accountability**.

Policy Implications

1.   Reinstating AoA may restore a measure of **moral accountability** in extramarital conduct, but it risks reducing human affection to a compensable commodity.

2.   Instead, **restorative mediation** and **psychological counselling** might better preserve marital dignity without monetising intimacy.

Conclusion

As **Martha Nussbaum noted in "Frontiers of Justice**", dignity demands moral autonomy, not legal surveillance. India's marital jurisprudence must safeguard compassion, not commodify affection, in balancing rights with responsibility.

Evaluate the potential of a revitalised Gold Monetisation Scheme (GMS) to mobilize dormant assets for national growth. Critically analyze the institutional reforms needed to ensure trust-based participation.

Introduction

India's households hold over **25,000 tonnes of gold**—worth nearly **$2.4 trillion (≈55% of GDP, FY26)**—lying idle. A revitalised **Gold Monetisation Scheme (GMS)** can transform this dormant wealth into productive financial capital.

Potential of a Revitalised GMS

Mobilising Dormant Wealth for National Growth

1.   India imports nearly **87% of its gold demand**, contributing **8% to its import bill** and widening the **current account deficit**.
2.   A restructured GMS can **recycle domestic gold**, reducing import dependency and stabilising external balances.
3.   As per the **Economic Survey 2022-23**, a 10% mobilisation of household gold can release **$240 billion** of liquidity—sufficient to fund major infrastructure projects under **PM Gati Shakti** or boost capital formation in **MSMEs**.

Lower Cost of Capital Formation

1.   The **cost of funds** via GMS (estimated **4.5–6.5%**) is cheaper than **external commercial borrowings (~8–9%)**.
2.   Mobilised gold deposits can be channelled through **sovereign gold bonds, infrastructure funds, or green energy financing**, lowering India's dependence on volatile foreign portfolio inflows.

Enhancing Financial Inclusion and Formalisation

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1. With over **60% of household savings in physical assets**, GMS can shift the cultural orientation towards **financialised savings**, improving household balance sheets.
2. Digitised GMS accounts (linked to **Jan Dhan–Aadhaar–Mobile trinity**) can foster rural participation and integrate informal savings into the formal economy.

Strengthening Monetary Resilience

1. According to the **RBI's Report on Currency and Finance (2023)**, India's vulnerability to gold-import shocks can be reduced by **enhancing domestic liquidity in gold-backed assets**.
2. The move aligns with the **Atmanirbhar Bharat** vision—making India self-reliant in financial resources while easing pressure on the rupee.

Institutional Reforms for Trust-Based Participation

Strengthened Infrastructure and Transparency

1. Establish **BIS-accredited assaying and hallmarking centres** nationwide to ensure purity verification and fair valuation.
2. Create a **National Gold Exchange** (as proposed by SEBI) for transparent pricing and traceable transactions.
3. Introduce **blockchain-based tracking systems** for depositor assurance and traceability of gold flows.

Regulatory and Tax Rationalisation

1. **Remove GST and customs duties** on gold deposited under GMS to prevent double taxation.
2. Offer **tax-free interest** and **capital gains exemption** on redeemed gold deposits to attract participation.
3. A **dedicated GMS Act** can consolidate fragmented rules under RBI, BIS, and Ministry of Finance for policy coherence.

Banking and Institutional Linkages

1. Involve **scheduled commercial banks, NBFCs, and fintech platforms** to create hybrid "**Digital Gold Deposit Accounts**."
2. Encourage **public-private partnerships (PPPs)** to manage collection centres securely and efficiently.
3. Introduce **deposit insurance cover** through **DICGC** to enhance depositor confidence.

Awareness and Behavioural Transformation

1. Launch nationwide campaigns under **Jan Suraksha Abhiyan** to destigmatise gold surrender and build trust.
2. Promote **gold-backed microcredit** and **digital gold wallets** through fintech innovations.
3. Leverage religious trusts, SHGs, and women's cooperatives to facilitate grassroots mobilisation of household gold.

Critical Analysis

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1.   While GMS 2015 mobilised barely **25 tonnes** due to low awareness, valuation mistrust, and administrative friction, a **revitalised, digital, and incentive-driven model** can overcome these limitations.

2.   However, success hinges on building **institutional credibility**, **regulatory clarity**, and **cultural sensitivity**—recognising gold as both **economic capital** and **emotional wealth**.

Conclusion

As **John Maynard Keynes** observed, **"Capital development depends on confidence."** A trust-based, transparent GMS can unlock India's hidden wealth, enabling **Atmanirbhar financial growth** rooted in domestic resilience and collective confidence.

Critically analyze the strategy that India should prioritize manufacturing local market-serving semiconductor chips over the most advanced ones. Justify its impact on 'Atmanirbhar Bharat'.

Introduction

India's semiconductor consumption reached **$23.2 billion in 2023**, yet **imports met over 95%** of demand. Prioritizing indigenous, market-serving chip manufacturing can drive **Atmanirbhar Bharat**, technological sovereignty, and sustainable industrial transformation.

India's Semiconductor Landscape and Strategic Context

Global Semiconductor Dynamics

1.   The **semiconductor value chain** is concentrated—**Taiwan (TSMC)** dominates advanced nodes (3–7 nm), while **China, Malaysia, and Vietnam** focus on mid-range and mature nodes (28–90 nm).

2.   According to **McKinsey (2023)**, 70% of global semiconductor demand comes from "mature nodes" catering to **automobiles, IoT, defence, and industrial applications**—precisely India's growing markets.

3.   Thus, localising such chips aligns with India's consumption profile and industrial needs rather than chasing frontier technology controlled by a few global leaders.

India's Demand-Driven Opportunity

1.   India's domestic chip demand is projected to **exceed $80 billion by 2028**, driven by **EVs, 5G devices, defence electronics, and consumer durables**.

2.   **PLI Scheme (₹76,000 crore)** under the Semicon India Programme aims to create fabrication and packaging ecosystems for **mature node chips (28–65 nm)**.

3.   The **Micron ATMP facility in Gujarat (2023)** and **Tata's upcoming fab in Dholera** mark India's first major steps in this direction.

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Why Prioritise Market-Serving Chips Over Advanced Nodes

Economic Viability and Scale

1. **Capex intensity**: Advanced fabs (3–7 nm) demand investments exceeding **$20 billion**, while mature node fabs cost less than **$7 billion**, with faster breakeven.
2. **India's electronics market**—valued at **$155 billion (2023)**—depends mostly on mid-end chips used in **automotive ECUs, mobile sensors, and power management circuits**. Hence, focusing on domestic-grade chips ensures **demand certainty and economic sustainability**.

Technological Catch-Up and Ecosystem Building

1. Manufacturing advanced chips requires **EUV lithography machines** (controlled by **ASML** in the Netherlands) and sophisticated IP supply chains India lacks.
2. Starting with **mature nodes** helps India develop **design, packaging, testing, and R&D linkages** gradually—mirroring **Taiwan's 1980s phased strategy**. This "**technology laddering approach**" builds competence before moving toward advanced nodes.

Supply Chain Security and Strategic Autonomy

1. The **Russia–Ukraine war** and **U.S.–China tech decoupling** exposed vulnerabilities in global chip supply chains.
2. Local fabs serving critical sectors—**defence, space, railways, and telecom**—enhance **strategic autonomy**, reducing reliance on geopolitical hotspots.

Employment and Skill Multiplier

1. Each semiconductor fab generates **5,000–10,000 direct** and **50,000 indirect jobs**, according to **MeitY** estimates.

2. Focusing on mid-level manufacturing integrates India's **Skilling India** initiatives (e.g., **Chips-to-Startup programme**) with tangible job creation.

Critical Challenges and Counterpoints

1. Critics argue that focusing on older nodes may make India **technologically obsolete** as global demand shifts to advanced nodes (AI chips, quantum processors).
2. However, **Boston Consulting Group (2023)** notes that **mature-node chips will form 60% of global demand even in 2030**, ensuring long-term relevance.
3. The key lies in **design-led innovation**—developing indigenous chip architectures through **startups (e.g., Saankhya Labs, InCore Semiconductors)** and partnering with **global fabs** for technology transfer.

Impact on Atmanirbhar Bharat

1. **Economic Atmanirbharta:** Reduces a **$23 billion import dependence**, saving foreign exchange.
2. **Technological Sovereignty:** Enables domestic production for strategic sectors like **ISRO, DRDO, and automotive manufacturing**.

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"The Fortune at the Bottom of the Pyramid", growth thrives on local relevance. Prioritising market-serving chips empowers India's **Atmanirbhar** journey through pragmatic, scalable innovation.

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Critically analyze the doctrinal conflict where constitutional equality overrides tribal customs to secure inheritance rights for women. Examine the limits of judicial intervention.

Introduction

According to the 2011 Census, **tribal women constitute nearly 8% of Indias female population**, yet many remain excluded from property rights. The **2025 Supreme Court Gond inheritance verdict** redefines this exclusion through **constitutional equality**.

Doctrinal Context: Equality vs. Customary Autonomy

1.   Indias Constitution guarantees **formal equality under Articles 14 and 15**, while **Fifth and Sixth Schedules** protect **tribal autonomy and customary laws**. This dualism often produces what jurists term a **doctrinal conflict** between **constitutional supremacy** and **legal pluralism**.

   2.   **Article 13(3)(a)** classifies customs and usages as laws in force, making them subject to constitutional scrutiny.
   3.   However, **Article 244 read with the Fifth and Sixth Schedules** grants tribal communities legislative and administrative self-governance, including control over land and inheritance.

4.   The conflict arises when gendered customs often patriarchal — clash with the **constitutional morality** of equality.

Case Study: 2025 Supreme Court Verdict (Gond Inheritance Case)

In **Shelly v. Bahl (2025),** the Supreme Court held that **tribal women of the Gond community** are entitled to **inherit ancestral property** even in the absence of explicit custom.

Key observations:

   1.   **Burden of proof reversed** — courts should presume inclusion unless exclusion is proven by evidence.
   2.   **Justice, equity, and good conscience** become guiding principles when custom or statute is silent.
   3.   **Articles 14, 15(1), 38, and 46** were invoked to align customary law with the **constitutional vision of substantive equality**.
   4.   This marked a shift from earlier judicial restraint, notably the **Madhu Kishwar v. State of Bihar (1996)** judgment, where the Court upheld exclusionary customs to preserve social stability in Chotanagpur tribes.

The Constitutional Ethos of Equality and its Doctrinal Reach

   1.   **Evolution of Gender-Equal Property Rights**: The **2005 Hindu Succession (Amendment) Act** recognised daughters as coparceners in Hindu law, with its Statement of Objects and Reasons emphasising gender justice. Although not directly applicable to Scheduled Tribes (per Section 2(2) of the Act), the Court cited it to express the **constitutional morality** that should guide tribal contexts too.
   2.   **Constitutional Morality vs. Customary Pluralism**: As per **Dr. B.R. Ambedkar**, constitutional morality demands the subordination of social norms to constitutional values. However, excessive judicial intrusion risks undermining the **right to difference** and **cultural autonomy**, central to **tribal self-governance** under the Schedules.

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The Limits of Judicial Intervention

1. **Institutional Competence**: Courts lack granular understanding of localized customs, risking **judicial overreach** and cultural homogenization.
2. **Democratic Legitimacy**: The judiciarys substitution of community norms with constitutional principles may dilute **participatory justice**, best achieved through **legislative consultation** or **tribal councils**.
3. **Doctrinal Boundaries**: The Courts reliance on **justice, equity, and good conscience,** a **colonial-era residuary principle**, can introduce subjectivity without consistent jurisprudence.

A **balanced approach** would involve:

1. Codifying tribal customs under **State Scheduled Areas Acts**, ensuring gender inclusion.
2. Promoting **customary reform through Gram Sabhas**, supported by constitutional literacy initiatives.
3. Encouraging **tribal womens representation** in autonomous councils to evolve norms organically.

Comparative Insight

Globally, **South Africas Bhe v. Magistrate (2004)** case similarly struck down customary inheritance rules excluding women, affirming that **custom must evolve within the framework of constitutional rights**. Indias trajectory mirrors this progressive yet cautious stance.

Conclusion

Constitutionalism must temper custom without tyranny. The 2025 verdict embodies this balance— preserving tribal identity while ensuring **substantive equality**, thus harmonising diversity with justice.

Critically analyze Chinas strategic education model in the global talent race. Evaluate the necessary policy and institutional response India must adopt to remain competitive.

Introduction

According to the **UNESCO Science Report (2021),** China accounts for over **30% of global STEM graduates** and is projected to surpass the U.S. in PhD output by 2025—reshaping the global knowledge economy.

Chinas Strategic Education Model: A State-Directed Talent Revolution

Chinas educational transformation is not incidental but a **state-engineered strategy for innovation sovereignty**. Its approach integrates education, industrial policy, and global talent mobility within a unified national mission.

1. **Mass Literacy to Targeted Excellence:** The **1986 Compulsory Education Law** ensured a literate base. Subsequent programs, **Project 211 (1995)** and **Project 985 (1998),** elevated elite universities into world-class institutions through heavy state funding and R&D infrastructure.
2. **STEM-Centric Human Capital:** As per the **Australian Strategic Policy Institute (ASPI),** China produces nearly **50 lakh STEM graduates annually**, compared to Indias 26 lakh. This quantitative edge translates into a sustained innovation pipeline.
3. **Research Quality and Global Leadership:**

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- ○ **NISTEP Report (2022):** China leads in the **top 1% most-cited scientific papers**, surpassing the U.S.
- ○ **Nature Index (2023)** ranks the **Chinese Academy of Sciences** as the worlds top research institution.
- ○ Heavy state investment (~2.6% of GDP on R&D, per World Bank 2023) reflects strategic continuity.
4. **Reversal of Brain Drain:** Through the **Thousand Talents Plan and Changjiang Scholars Program**, China created **brain gain**, with over **1 million overseas scholars returning in 2021**. These returnees integrate global best practices into domestic innovation ecosystems.
5. **Integration of Industry, Academia, and National Strategy:** The **Made in China 2025 policy** aligns academic output with strategic industrial sectors AI, EVs, semiconductors, ensuring **supply-demand coherence** between universities and national economic goals.
6. **Soft Power and Knowledge Diplomacy:** Chinas expansion of **Confucius Institutes** and Belt and Road research collaborations projects educational power as a geopolitical tool, embedding influence within the global academic architecture.

Lessons and Policy Response for India

1. Strategic Integration of Education and Industrial Policy: India must align National Education Policy (NEP) 2020 with **Make in India**, **Startup India**, and **Digital India** to create a mission-oriented human capital strategy similar to Chinas innovation ecosystem integration model.

2. Strengthen R&D Ecosystem: Indias **GERD (Gross Expenditure on R&D)** remains below **0.7% of GDP** (UNESCO 2022). Raising it to **2%** is essential to drive translational research and reduce technological dependence.

3. Reverse Brain Drain through Diaspora Policy: Inspired by Chinas Thousand Talents Plan, India could introduce an **India Innovation Fellowship** to attract overseas researchers with funding, autonomy, and startup incubation support.

4. Foster Industry-Academia Synergy: Establish **Sectoral Innovation Hubs** under the PM Gati Shakti and Production-Linked Incentive (PLI) schemes to align university research with national industrial priorities in semiconductors, green tech, and defense manufacturing.

5. Emphasize Skill Deepening and STEM Diversity: India must enhance **STEM quality** through digital infrastructure, AI-enabled pedagogy, and **research-oriented curricula** under NEPs Multidisciplinary Research Universities framework.

6. Decentralize and Incentivize State-Level Innovation: Chinas provinces lead in R&D spending. Indian states must replicate this by **linking State Innovation Missions** to local industrial strengths under the Aspirational Districts Programme.

Conclusion

Education is the ultimate form of soft power. Indias competitiveness in the global talent race hinges on strategic synchronization of education, innovation, and industrial policy.

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Examine the policy challenges hindering Indias shift from coal. Critically analyze why the dip in its coal use is deemed temporary and how to make the energy transition structural.

Introduction

According to the **Ember Global Electricity Review 2025**, renewables overtook coal as the worlds largest electricity source. Yet in India, coals dip remains temporary, revealing deep structural and policy constraints in its energy transition.

Indias Coal Dependence and The Development Dilemma

Coal continues to anchor Indias energy security, providing **~70% of electricity generation** and employing over **500,000 workers** directly **(Coal India Limited, 2024).** Despite renewables reaching **50.1% of installed capacity**, actual generation remains coal-dominant due to **intermittency, storage gaps**, and **demand volatility**.

Why the Dip in Coal Use Is Deemed Temporary

The **Ember 2025 Report** calls Indias fall in coal use temporary compared to Chinas structural decline. The reasons are multifaceted:

1. **Demand-Driven Fluctuation:** The dip resulted from mild weather and slower industrial demand, not systemic clean energy substitution. As temperatures rise, coal plants again meet peak evening loads.
2. **Baseload Dependence:** Renewable intermittency, especially **solars duck curve problem,** forces reliance on thermal baseload to ensure grid stability during evenings or monsoon seasons.
3. **Discom Financial Stress:** State electricity distribution companies (DISCOMs) accumulate **losses exceeding ₹70,000 crore (2023–24, RBI Bulletin)**, undermining renewable purchase obligations and deterring investment in green infrastructure.
4. **Policy Inertia and Regulatory Lock-In:** Long-term power purchase agreements (PPAs) with thermal plants and ongoing coal mine expansion (targeting **1 billion tonnes annual output by 2026**, as per Coal Ministry) reinforce coals dominance.
5. **Storage and Grid Infrastructure Deficit:** Indias **battery storage capacity (13 GWh operational)** is grossly inadequate for balancing 185 GW of renewables. Transmission bottlenecks delay renewable evacuation, especially in Rajasthan and Gujarat.

Structural Gaps in Indias Energy Transition

Indias transition is policy-driven but lacks **systemic coherence**:

1. **Fragmented Institutional Design:** Overlaps between MNRE, CEA, and state regulators cause policy friction.
2. **Inadequate Carbon Pricing:** The absence of a **national carbon market** distorts energy economics in favor of coal.
3. **Skewed Subsidy Architecture:** Fossil fuel subsidies (₹1.4 lakh crore, IEA 2023) exceed renewable support.
4. **Socioeconomic Resistance:** Coal belts like Jharkhand and Chhattisgarh depend on coal royalties, jobs, and political patronage—making phaseout politically sensitive.

Making Indias Energy Transition Structural: The Way Forward

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A **just, planned, and structural transition** requires multi-dimensional reforms:

1. **Energy Storage Revolution: Expand Viability Gap Funding (VGF) to 43 GWh** and accelerate **pumped hydro (51 GW by 2032)** as per CEAs roadmap. Incentivize domestic **battery manufacturing under PLI** schemes.
2. **Green Baseload Development:** Deploy **Small Modular Reactors (SMRs)** and **biomass co-firing** to provide clean baseload power. Scale up Green Hydrogen Mission (target: **5 MMT by 2030**) to decarbonize industry and heavy transport.
3. **Market and Regulatory Reforms:** Operationalize **Carbon Credit Trading Scheme (2023)** for disincentivizing coal. Rationalize Renewable Purchase Obligations (RPOs) with fiscal penalties for non-compliance.
4. **Regional and Social Transition Planning:** Launch **Just Transition Commissions** in coal-dependent states, modeled on South Africas **Just Energy Transition Partnership (JETP).** Retrain coal labor for clean energy jobs via Skill India Energy Corps.
5. **Grid Modernization and Digitalization:** Invest in **AI-driven smart grids** and **inter-state transmission upgrades** under the Green Energy Corridor Phase-II.

Conclusion

As **Nicholas Sterns Climate Economics Review emphasizes**, **Sustainable growth is smart growth.** Indias coal transition must evolve from reactive substitution to structural transformation—anchored in resilience, inclusivity, and energy justice.

Examine the strategic necessity of Indias new railway links with Bhutan. Critically analyze its role in reinforcing Indias influence amid Chinas flexing across South Asia.

Introduction

According to the **Ministry of Railways (2024),** India announced two Indo-Bhutan cross-border railway projects worth **₹4,000 crore**. In an evolving Indo-Pacific order, infrastructure diplomacy becomes pivotal for Indias strategic and economic leverage.

Strategic Necessity of India–Bhutan Railway Links

1. **Geopolitical positioning:** Bhutan is the only South Asian country without diplomatic ties with China, making it a crucial partner in Indias Himalayan security calculus.
2. **Connectivity for integration:** The Kokrajhar–Gelephu (Assam–Bhutan) and Banarhat–Samtse (West Bengal–Bhutan) railway lines will connect Bhutan with Indias rail network, facilitating trade, tourism, and people-to-people connectivity.
3. **Landlocked dependency:** Bhutans landlocked geography necessitates access through India for imports, exports, and mobility—rail connectivity ensures greater resilience and reduces economic isolation.
4. **Strategic geography:** The routes pass near the **Siliguri Corridor (Chickens Neck)**, Indias narrow lifeline to the Northeast, enhancing strategic depth and logistical efficiency for both civilian and defence movement.

Reinforcing Indias Influence Amid Chinas Regional Assertiveness

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- **Countering Chinas infrastructure diplomacy:** Chinas **Belt and Road Initiative (BRI)** has encircled India with projects like Gwadar (Pakistan), Hambantota (Sri Lanka), and Kyaukpyu (Myanmar). Beijings recent plan to connect Xinjiang to Tibet through Aksai Chin underscores the urgency of parallel Indian efforts.
- **Soft power through development partnership:** Indias model—based on **Neighbourhood First** and **Act East** policies—emphasizes sustainable, non-coercive infrastructure financing compared to Chinas debt-driven approach. Bhutans **hydropower cooperation** with India, generating 30% of its GDP, exemplifies mutual interdependence without economic overreach.
- **Strategic signaling:** The railway projects signal New Delhis readiness to expand its regional presence and resist Chinese salami-slicing tactics in border and influence zones. Reinforces Indias image as a **net security provider** and **regional integrator** in South Asia.

Economic and Security Synergy

1. **Economic multiplier effect:** Enhanced logistics can raise Bhutans trade efficiency, support regional tourism, and improve livelihoods in border districts of Assam and West Bengal. Fosters **subregional connectivity** under BIMSTEC and BBIN frameworks, crucial for Indias Indo-Pacific outreach.
2. **Security preparedness:** The Doklam plateau standoff (2017) revealed vulnerabilities in troop mobilization; railways now offer **dual-use infrastructure**—civilian development and rapid military logistics. Complementary projects like the **Sela Tunnel**, **Darbuk–Shyok–DBO road**, and **Arunachal frontier highways** collectively form a strategic deterrent along the LAC.

Challenges and the Way Forward

1. **Environmental sensitivity:** Bhutans cautious development policy emphasizes Gross National Happiness (GNH) and ecological sustainability. India must ensure minimal ecological disruption.
2. **Sovereignty and cultural sensitivity:** Respecting Bhutans autonomy will be key to sustaining mutual trust.
3. **Institutional mechanisms:** Joint monitoring under **India–Bhutan Rail Cooperation Committees**, capacity-building, and multilateral funding (ADB, JICA) can strengthen implementation.

Conclusion

Strategic connectivity defines modern geopolitics. Indias rail links with Bhutan embody smart statecraft—merging security, economy, and diplomacy for resilient Himalayan geopolitics.

Critically analyze the role of regulatory and oversight gaps in recurrent public health tragedies like contaminated medicines. Examine the reforms needed to strengthen drug control mechanisms.

Introduction

According to the **WHO (2023), 1 in 10 medical products** in low- and middle-income countries is substandard or falsified. Indias recurring contaminated syrup tragedies expose deep regulatory and institutional fragilities.

The Recurring Public Health Tragedy: A Regulatory Failure

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1. **Historical continuity:** Since 1986, India has faced at least **five major diethylene glycol (DEG)** contamination episodes — from Mumbais J.J. Hospital deaths to incidents in The Gambia (2022) and Uzbekistan (2023).
2. **Recent episode:** The **2024 Coldrif cough syrup deaths** in Madhya Pradesh and Rajasthan again exposed the lack of proactive quality assurance. DEG, a toxic solvent used industrially, continues to leak into pharmaceutical supply chains.
3. **Systemic lapse:** Instead of targeting negligent manufacturers, enforcement agencies often scapegoat frontline practitioners—highlighted by the **arrest of a government paediatrician** instead of accountability within drug regulatory frameworks.

Role of Regulatory and Oversight Gaps

1. **Fragmented regulatory structure:** India has a **dual regulatory system** — the **Central Drugs Standard Control Organisation (CDSCO)** and **State Drug Controllers** — leading to overlaps and poor coordination. State authorities often lack laboratory capacity, manpower, and autonomy.
2. **Lax enforcement of standards:** The **Schedule M** (Good Manufacturing Practices) guidelines remain poorly implemented; only 15% of licensed units reportedly comply with full GMP norms (PIB, 2023).
3. **Inadequate surveillance mechanisms:** The **Pharmacovigilance Programme of India (PvPI)** lacks timely recall mechanisms and post-market surveillance. Risk-based inspections are infrequent and often reactive, following deaths rather than anticipating failures.
4. **Weak international credibility:** The **WHO global alert (2022)** on Indian-made syrups linked to child deaths in The Gambia and Uzbekistan dented Indias image as the pharmacy of the Global South. **Export regulatory oversight** is inconsistent — many small firms bypass stringent testing protocols for cost efficiency.
5. **Ethical and governance deficit:** The absence of **corporate accountability** and **public disclosure norms** encourages underreporting. Lack of whistleblower protection further erodes institutional transparency.

Broader Public Health and Ethical Implications

1. **Violation of Right to Health:** As recognized in **Paschim Banga Khet Mazdoor Samity v. State of West Bengal (1996),** access to safe medicines is integral to Article 21s Right to Life.
2. **Erosion of public trust:** Repeated incidents weaken public confidence in both domestic and export drug markets, undermining health diplomacy.
3. **One Health dimension:** Poor pharmaceutical waste management and chemical contamination have spillover effects on ecosystems and food safety, expanding the risk to zoonotic health.

Reform Measures to Strengthen Drug Control Mechanisms

1. **Institutional restructuring:** Establish a **National Drug Authority** on the lines of the **U.S. FDA**, ensuring uniform licensing, inspection, and recall powers.
2. **Digital and AI integration:** Use **blockchain-based supply chain monitoring** and **AI-enabled pharmacovigilance** to detect anomalies in real-time.
3. **Legislative modernization:** Expedite passage of the **Drugs, Medical Devices and Cosmetics Bill, 2023**, which mandates stringent compliance, penalizes non-conformity, and enhances recall provisions.
4. **Capacity building:** Enhance testing infrastructure—India has **only 38 central and state drug laboratories** for over 10,000 manufacturing units.

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5. **International collaboration:** Align domestic standards with **WHO-GMP certification** and **PIC/S guidelines** to ensure global credibility.
6. **Public transparency:** A publicly accessible **Drug Quality Index** can ensure accountability and empower consumers.

Conclusion

As **Amartya Sens Development as Freedom asserts**, **real development expands human capabilities.** Ensuring drug safety through robust regulation embodies freedom from preventable suffering—a moral and constitutional imperative for Indias health sovereignty.

Examine how bureaucratic red tape hinders scientific progress in India and the Global South. Critically analyze if South-South cooperation and solidarity can effectively tip these institutional hurdles.

Introduction

According to **UNESCOs Science Report (2021),** developing nations contribute over **30% of global research** output but face chronic bureaucratic delays, underfunding, and rigid procurement systems—stifling innovation and equitable scientific advancement in the Global South.

Bureaucratic Red Tape: A Systemic Impediment to Science

1. **Administrative Delays and Procedural Rigidities:** Lengthy **procurement cycles** in public universities — often exceeding six months — delay acquisition of essential reagents and instruments. Example: Indian labs waiting months for DNA sequencing machines that become obsolete upon delivery.
2. **Opaque Approval Systems:** Overlapping policies, oral directives, and non-transparent clearance processes discourage initiative. As seen in **wildlife research permits**, Indian scientists often wait for months without official communication.
3. **Outdated Procurement Rules:** Rigid **lowest-cost procurement norms** often override scientific specificity. Essential materials with single suppliers cannot be procured under such constraints, limiting access to critical reagents. The **Union Finance Ministrys 2024 reform**—raising direct purchase limits from ₹1 lakh to ₹2 lakh—is a small but insufficient correction.
4. **Chronic Underfunding:** According to the **UNESCO Institute for Statistics (2023)**, India spends only **0.7% of GDP on R&D**, far below the global average of 1.8%. Recurrent delays in **PhD stipends and research grants** disrupt continuity and morale among young scientists.
5. **Technological Obsolescence:** Slow procurement leads to outdated lab equipment, increasing dependence on foreign institutions. Result: brain drain and limited indigenous innovation capacity.

Broader Impact on Scientific Ecosystems

1. **Stifled Innovation and Publication Gap:** Red tape diverts time from research to paperwork—reducing Indias research efficiency. The **Nature Index (2024)** ranked India 14th globally in output but much lower in citation impact, reflecting systemic inefficiencies.
2. **Erosion of Research Autonomy:** Bureaucratic micromanagement in grant allocation fosters compliance over creativity, disincentivizing risk-taking.

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3. **Dependence on the Global North:** Lack of capacity forces Global South researchers to rely on Northern institutions for advanced analyses—perpetuating epistemic dependency and uneven intellectual ownership.

Can South-South Cooperation Tip the Bureaucratic Imbalance?

1. **Collaborative Optimism:** As Dr. **Sammy Wambua (Pwani University, Kenya)** suggested, South-South collaborations can circumvent rigid bureaucracies through Frameworks of Collaboration—provisional agreements allowing joint work while formal MoUs are processed. Example: **India–Africa partnerships in genomics and agriculture** (e.g., ICGEB and NEPAD programmes) have enabled shared infrastructure and cost-effective research.
2. **Pooling Resources and Expertise:** Joint research facilities (like the **India-Brazil-South Africa [IBSA] Fund**) promote shared access to technology and reduce dependence on expensive imports.
3. **Capacity Building and Knowledge Equity:** Collaborative training programmes—such as **Pan African e-Network Project (PAeNP)** and **C.V. Raman Fellowship**—enable skill transfer and reciprocal growth.
4. **Limitations:** Despite promise, **funding asymmetry, fragmented regulation, and lack of unified ethical frameworks** limit South-South synergy. Without parallel governance reforms and digital integration, cooperation may remain ad hoc and personality-driven.

The Way Forward

1. **Institutional Reforms:** Establish a **Single-Window Scientific Facilitation Authority** for clearances and procurement under GFR exemptions.
2. **Digital Governance:** Implement **e-procurement tracking systems** and AI-based monitoring to minimize delays.
3. **Funding Innovation:** Create **pooled South-South innovation funds** under the BRICS framework for shared R&D challenges.
4. **Global Research Equity:** Encourage open-access collaborations and shared data platforms to democratize knowledge production.

Conclusion

By pairing South-South solidarity with institutional reform, the Global South can democratize innovation and reclaim scientific agency.

Examine how protectionism in the developed world challenges Indias growth. Justify scale, skill, and self-reliance as the strategic answer for sustaining Indias contribution to global growth.

Introduction

According to **IMFs World Economic Outlook 2024,** India contributed over **16% to global growth**, yet rising protectionism in advanced economies—via tariffs, visa restrictions, and supply-chain barriers—poses systemic threats to Indias export-driven growth momentum.

Protectionism in the Developed World: A Resurgent Challenge

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1.   **Tariff and Non-Tariff Barriers:** The USs **100% tariff on branded pharmaceutical imports** and the EUs **Carbon Border Adjustment Mechanism (CBAM)** increase compliance costs for Indias pharma, steel, and chemical industries. Such measures represent neo-mercantilist tendencies, undermining global value chain integration.

2.   **Visa Restrictions and Labour Mobility:** The **$1,00,000 H-1B visa fee** hike discourages Indian IT firms, curbing service exports—Indias largest surplus sector ($325 billion in FY24). Curtailing skilled migration impacts remittances, which reached **$135 billion in 2024**—the highest globally.

3.   **Supply Chain Reorientation:** The China+1 diversification offers India opportunity but also exposes it to friend-shoring alliances that exclude it from Western production networks. WTO data shows global trade growth fell below 1% in 2023 due to rising trade fragmentation.

4.   **Technology and IPR Barriers:** Restrictive technology transfer regimes and tightened patent protections limit Indias access to frontier technologies—particularly in **semiconductors, AI, and green hydrogen**.

Why Indias Growth Faces Systemic Headwinds

1.   **Export-Led Vulnerability:** Merchandise **exports ($437 billion in 2024)** face market access constraints amid protectionist tendencies, particularly in pharmaceuticals, textiles, and IT-enabled services.
2.   **Global Demand Slowdown:** The IMF projects developed economies to grow below **1.4% in 2025**, dampening external demand for Indian goods.
3.   **Strategic Autonomy Concerns:** Overdependence on external capital and technology increases susceptibility to policy shocks, necessitating Atmanirbhar Bharat as a structural response rather than a slogan.

Scale, Skill, and Self-Reliance: Indias Strategic Counter

Scale: Building Capacity and Competitiveness

1.   Massive infrastructure expansion—**₹11 lakh crore public capex in FY25**—and digital public goods (UPI, ONDC, Aadhaar) enhance production and transaction efficiency.
2.   Indias manufacturing PMI of **57.7** and foreign exchange reserves above **$700 billion** reflect macroeconomic resilience and confidence.
3.   **Production Linked Incentive (PLI)** schemes in 14 sectors, with $24 billion outlay, have catalysed **$50 billion in investments** and over **300,000 jobs**, strengthening domestic value chains.

Skill: Leveraging the Demographic Dividend

1.   With a **median age of 28.4 years** and 65% population under 35, India is the worlds youngest major economy.
2.   The **Skill India Mission** and **National Education Policy (NEP 2020)** align curricula with Industry 4.0 needs—AI, robotics, and green technology.
3.   **Global Skill Partnerships** with Japan, UAE, and the UK enhance employability through internationally certified skilling models.

Self-Reliance: Strategic Atmanirbharta

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1. Self-reliance is **integration with independence,** not isolation.
2. **Make in India**, **Digital India**, and **Start-Up India** link domestic innovation with global competitiveness.
3. The **Anusandhan National Research Foundation (₹50,000 crore)** and semiconductor PLI push are fortifying indigenous R&D.
4. Indias **renewable capacity (220 GW)** and leadership in the **International Solar Alliance** showcase sustainable self-reliance.

Broader Global Impact

1. By building scale, skill, and self-reliance, India safeguards its role as a **net contributor to global growth**, ensuring supply-chain resilience for the Global South.
2. As the developed world builds tariff walls, Indias strategy emphasizes **open innovation, human capital export, and inclusive digital infrastructure**—a model of equitable globalization.

Conclusion

As **Amartya Sen notes in Development as Freedom**, resilience stems from capability. Indias triad of scale, skill, and self-reliance transforms vulnerability into strength—preserving global growth amid protectionist tides.

Examine the potential of the India-UK partnership as a launch pad for Indias growth amid US protectionism. Critically analyze the need for structural reforms to leverage trade deals.

Introduction

Amid renewed US protectionism—like 50% tariffs on Indian goods, Indias **Comprehensive Economic and Trade Agreement (CETA)** with the UK offers a strategic window to expand exports and diversify markets within a shifting global trade order.

The Context: Rising Protectionism and Trade Realignment

1. **US Tariff Barriers:** India faces **100% tariffs on pharma imports** and **50% duties** on goods under America First policies.
2. **Global Fragmentation:** WTO (2024) warns global trade growth has slowed below **1%**, reflecting deglobalization and supply-chain nationalism.
3. **Indias Exposure:** The US is Indias largest export destination (~$118 billion in 2024); overdependence creates vulnerability to unilateral policy shocks.
4. Hence, diversifying trade partners through strategic FTAs—like with the **UK, EU, UAE, and Australia**—is a geopolitical and economic imperative.

The India-UK CETA: A Launch Pad for Growth

1. **Scope and Ambition:** Covers **over 99% tariff lines** in industrial and agri-products. Targets doubling bilateral trade from **$56 billion (2024)** to **$120 billion by 2030**.
2. **Complementarities:** India enjoys a trade surplus with the UK in both goods ($23B) and services ($33B). The UKs demand structure aligns with Indias export strengths—textiles, gems, machinery, and pharmaceuticals.

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Key Opportunities:

1. **Textiles & Apparel:** UK imported $22.3B worth in 2023; Indias share only $1.6B. Zero-tariff access post-CETA enhances competitiveness vs. China (9–12% tariffs).

2. **Gems & Jewellery:** UKs $92.8B import market—Indias $0.6B share can expand as tariffs fall.

3. **Leather & Footwear:** UKs $8.5B import market; CETA reduces Indias 8% duty disadvantage.

4. **Strategic Hedge:** The UK can absorb part of Indias export losses due to US tariffs while strengthening the **Global Britain–Atmanirbhar Bharat synergy**.

Beyond Tariff Reductions: The Need for Structural Reforms

Reduced tariffs alone are insufficient; India must undertake systemic reforms to convert potential into performance.

1. **Trade Facilitation & Logistics:** According to the **World Bank Enterprise Survey (2024)**, average customs clearance time in India is **17.3 days**, compared to **6.7 in Bangladesh and 3.3 in China**. Implementing **National Logistics Policy (2022)** and **Gati Shakti Master Plan** can cut logistics costs (currently ~13% of GDP) to the OECD average of 8%.

2. **Regulatory and Institutional Efficiency:** As Manish Sabharwal notes, India suffers from **regulatory cholesterol**—overlapping compliance and approvals that hinder scale. Streamlining industrial regulations, digitizing trade documentation under **ICEGATE 2.0**, and simplifying SEZ rules are essential for export competitiveness.

3. **Access to Finance and Capital:** MSMEs face high credit costs (9–12%). Expanding **Export Credit Guarantee Corporation (ECGC)** coverage and operationalizing **NIRVIK scheme** can unlock export potential.

4. **Cluster-Based Industrial Strategy:** Integrated manufacturing clusters with shared testing and design facilities will enhance quality and reduce cost asymmetries. **PLI Schemes** and **PM MITRA parks** must align with FTA-driven sectoral opportunities.

5. **Human Capital & Skilling:** The **UK-India Global Innovation Partnership** can boost high-skill employment in green tech, AI, and biotech sectors. Skilling programmes must integrate **UKs T-levels and vocational benchmarks** to match labour mobility needs.

Strategic & Geoeconomic Significance

1. The UK is Indias **fifth-largest investor**, with cumulative FDI of **$33 billion**.
2. Cooperation in **critical minerals, defence manufacturing, and higher education** can deepen strategic ties.
3. CETA can act as a template for future FTAs with the **EU**, balancing Western protectionism with diversified alliances.

Conclusion

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As **Raghuram Rajan** argues in **The Third Pillar, reform, openness, and local empowerment drive** sustainable growth. Indias partnership with the UK must pair tariff gains with institutional and competitiveness reforms.

Examine the necessity of AI infrastructure development in Indian healthcare. Critically analyze its potential to transform clinical data into a multimodal learning system for public health.

Introduction

According to **NITI Aayog's National Strategy for Artificial Intelligence (2018),** India's healthcare AI could add **$25 billion** to GDP by 2025, if supported by robust data infrastructure and interoperable clinical systems.

Necessity of AI Infrastructure in Indian Healthcare:

1.   India's healthcare ecosystem faces a **triple challenge** — data fragmentation, workforce shortage, and inequitable access. With less than **1 doctor per 1,000 people (WHO, 2023)** and vast rural populations underserved, AI can bridge diagnostic and decision gaps.

2.   However, the **real bottleneck** is the absence of **AI infrastructure** — integrated data repositories, feedback loops, and digitized workflows. Without these, even advanced algorithms remain import-dependent and context-insensitive.

Key Necessities:

1. **Data Integration:** Currently, patient data is siloed across labs, hospitals, and government platforms. Unified Electronic Health Records (EHR) and National Digital Health Mission (NDHM) interoperability standards are essential.
2. **High-quality Multimodal Datasets:** AI thrives on diverse data — medical images, lab reports, genomics, and clinical notes. India's hospitals produce millions of such cases daily, yet lack systematic curation.
3. **Feedback Loops for Learning:** Imported AI models often misclassify diseases like tuberculosis as pneumonia due to dataset bias. Human-AI feedback loops can allow real-time correction and localized learning.

Transforming Clinical Data into a Multimodal Learning System

A **multimodal learning system** integrates text, imaging, and biological signals to enhance decision-making — moving from static diagnostics to dynamic learning healthcare systems (LHS).

Mechanisms of Transformation:

1. **Real-time Learning Flywheels:** Inspired by Scale AI's model, hospitals can continuously refine diagnostic accuracy through clinician feedback. Each corrected case strengthens system intelligence — a compound-learning model.
2. **Embedded Workflow Integration:** Embedding AI within radiology, pathology, and primary care workflows ensures decisions are augmented, not outsourced. This addresses algorithmic opacity and improves accountability.

3. **Federated Learning Models:** Rather than transferring sensitive patient data, hospitals can train local AI models collaboratively while ensuring data sovereignty — aligning with India's Digital Personal Data Protection Act, 2023.
4. **Public Health Surveillance:** AI-driven pattern recognition across datasets can detect epidemic outbreaks or drug resistance earlier than traditional systems, aligning with WHO's One Health Approach.

Case Studies and Initiatives:

1. **ICMR's AI Guidelines (2024):** Emphasize ethical deployment, patient safety, and localized datasets.
2. **AI4BHARAT and eSanjeevani:** Indigenous platforms developing domain-specific medical AI tools.
3. **Tata Memorial Hospital's Oncology AI:** Uses deep learning for cancer diagnostics from histopathology slides, reducing manual error rates by over **20%**.

Challenges and Reforms Needed

1. **Data Quality and Standardization:** Absence of national standards for clinical ontologies (like SNOMED CT, ICD-11) hampers dataset interoperability.

2. **Ethical and Privacy Risks:** Unchecked AI may compromise data confidentiality or amplify algorithmic biases.

3. **Regulatory Vacuum:** India lacks a dedicated Medical AI Regulatory Authority akin to the U.S. FDA's Digital Health Center of Excellence.

4. **Public-Private Collaboration:** Government must incentivize AI startups and healthtech firms to co-develop indigenous algorithms under Make in India for AI.

Way Forward

1. Establish **National Health Data Grids** linking public and private providers.
2. Promote **Open-Source AI Sandboxes** for safe innovation.
3. Implement **AI Ethics Audits** and continuous certification frameworks.
4. Create a **Public Health AI Mission** under NDHM to monitor, learn, and predict healthcare trends.

Conclusion

As **Eric Topol notes in "Deep Medicine",** the future of healthcare lies in intelligent systems learning from real patients daily — where India's AI infrastructure becomes its greatest healer.

Critically analyze the proposition that the DPDPA threatens to destroy the power of the RTI Act. Examine the need to harmonize data privacy and the right to know.

Introduction

India ranks **111th in the World Press Freedom Index (2024)**, reflecting democratic backsliding in transparency. The **Digital Personal Data Protection Act (DPDPA), 2023** risks eroding the hard-won transparency under the **Right to Information Act, 2005**.

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The Spirit and Power of the RTI Act

1.   The **Right to Information Act (RTI), 2005**, born from grassroots movements like the **MKSS campaign in Beawar**, transformed citizen–state relations. It operationalized **Article 19(1)(a)** of the Constitution — freedom of speech and expression — by recognizing that the **"right to know"** is integral to informed citizenship.

   2.   Since 2005, more than **3 crore RTI applications** have been filed, exposing major scams like **Adarsh Housing**, **Vyapam**, and **2G spectrum**.
   3.   The Act's **Section 8(1)(j)** balanced privacy and public interest by exempting personal information unrelated to public activity, yet allowing disclosure if public interest outweighed privacy.

4.   This equilibrium — between **transparency and accountability** — made RTI one of the world's strongest sunshine laws.

How the DPDPA Threatens RTI's Core Power

The **Digital Personal Data Protection Act (DPDPA), 2023**, while necessary for privacy in the digital age, **overreaches** into transparency frameworks.

1.   **Blanket Exemption through Section 44(3):** It amends **Section 8(1)(j)** of RTI to provide **absolute exemption** on "personal information", removing the earlier public interest override. This effectively means no citizen can seek the name, designation, or responsibility of an official involved in misconduct.

2.   **Deletion of the "Parliamentary Parity Clause":** The clause — "Information that cannot be denied to Parliament cannot be denied to any citizen" — is deleted, undermining the principle of **co-equality between citizens and legislators**.

3.   **Disproportionate Penalties:** Fines up to **₹250 crore** deter journalists, whistle-blowers, and civil society actors, chilling freedom of expression under **Article 19(1)(a)**.

4.   **Centralization and Discretion:** The power to override exemptions now rests solely with the **government**, removing citizens' ability to challenge denials — violating the principle of **administrative accountability** enshrined in S.P. Gupta v. Union of India (1981).

The Need to Harmonize Privacy and Right to Know

1.   Both privacy and transparency stem from the same constitutional ethos of **informational autonomy** and **democratic participation**.

2.   The Supreme Court in **K.S. Puttaswamy v. Union of India (2017)** recognized privacy as a **fundamental right**, but emphasized that it is **not absolute** — it must be balanced with public interest.

Harmonization Requires

   1.   **Definitional Clarity:** Restrict "personal data" to information unrelated to public duty rather than blanket protection.

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2. **Public Interest Test:** Reinstate Section 8(2) override — ensuring disclosure when public interest clearly outweighs privacy.

3. **Independent Oversight:** Establish a **Data Protection Board** autonomous from the executive to adjudicate conflicts between privacy and transparency.

4. **Proportionality Doctrine:** Adopt the **Puttaswamy four-fold test** — legality, necessity, proportionality, and safeguards — before restricting information flow.

5. **Digital Governance Architecture:** Link **DPDPA** and **RTI portals** through interoperable APIs to ensure selective anonymization, not secrecy.

Way Forward

1. **Strengthen Whistleblower Protection Act (2014)** to safeguard RTI users.
2. **Periodic Parliamentary Review** of privacy-transparency conflicts.
3. **Public Data Trusts** enabling anonymized, open access for researchers.
4. **Awareness Campaigns** to promote responsible use of both laws.

Conclusion

As Amartya Sen writes in **"Development as Freedom",** transparency empowers citizens to demand justice. Harmonizing **privacy and right to know** ensures democracy's integrity, not secrecy, becomes India's defining strength.

Critically analyze the proposition that engaging with the Taliban constitutes complicity, not diplomacy. Justify the ethical and diplomatic imperative of prioritizing Afghan women's rights in India's policy.

Introduction

According to **UN Women (2024)**, Afghanistan remains the only country in the world where girls are banned from secondary and higher education, symbolizing state-sponsored **gender apartheid** under Taliban rule since 2021.

India's Engagement with the Taliban

1. India's recent **diplomatic outreach to the Taliban** — including participation of Taliban officials in events at New Delhi (2025) — reflects a pragmatic shift to secure regional stability and humanitarian access.

2. However, such engagement risks **legitimizing a regime** systematically erasing women from public life — raising questions about **ethical diplomacy**, **normative legitimacy**, and India's commitment to **gender justice** under its constitutional and international obligations.

Taliban's Record of Gender Apartheid

Since seizing power in August 2021, the Taliban have institutionalized **gender persecution**, which the **UN Human Rights Council (2024)** classified as a crime against humanity.

Key manifestations:

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1. **Education Ban:** 1.1 million girls deprived of schooling **(UNESCO, 2024).**
2. **Employment Erasure:** Over **80% of women journalists** and **60% of female employees** dismissed (Afghanistan Media Support Organisation, 2025).
3. **Public Space Restrictions:** Women banned from parks, gyms, and long-distance travel without a male guardian.
4. **Legal Codification:** The **Propagation of Virtue and Prevention of Vice Law (2024)** forbids women's voices in public broadcasting, an act of **institutional misogyny**.

Such measures amount to **gender apartheid**, a system of domination denying women their personhood, political agency, and visibility.

Complicity vs. Diplomacy — The Dilemma

Engagement without accountability risks crossing the line from **pragmatism** to **complicity**.

1. Diplomatic Realism: Proponents argue engagement ensures **humanitarian coordination**, **counterterrorism cooperation**, and **regional security** under India's "Neighbourhood First" and **strategic autonomy** doctrines.

2. Complicity: However, when engagement is devoid of **normative conditionality** i.e., no public condemnation or demand for women's rights, it normalizes **gender persecution**. It undermines **India's soft power** built on democratic values and gender equality. It contradicts India's role in **UN Women's Executive Board** and its constitutional mandate of **Article 15(3)** (special provisions for women). It violates principles of **constructivist diplomacy**, where norms and identity shape legitimacy, not merely strategic convenience. As former UN High Commissioner **Michelle Bachelet** warned, "Silence in the face of systemic gender oppression amounts to moral complicity."

India's Diplomatic Imperative

India must adopt a **feminist foreign policy approach**, balancing realism with **moral responsibility**.

1. **Foundations:** Uphold the **"Responsibility to Protect (R2P)"** principle for gender persecution victims. Align with **CEDAW** (Convention on the Elimination of All Forms of Discrimination Against Women).

2. **Conditional Engagement:** Dialogue must explicitly demand restoration of girls' education and women's employment as preconditions for aid or recognition.
3. **Humanitarian Channels:** Direct support to **Afghan women-led NGOs**, teachers, and journalists through **UN OCHA** or **SAARC Development Fund**.
4. **Diplomatic Signaling:** Use platforms like **G20**, **BRICS**, and **UNGA** to internationalize gender persecution in Afghanistan.
5. **Knowledge Diplomacy:** Scholarships and remote education programs for Afghan girls via India's **SWAYAM** and **IGNOU digital learning platforms**.
6. Such actions combine **moral leadership with strategic foresight**, reinforcing India's image as a responsible democracy in the Global South.

Global Precedents and Lessons

1. **Nordic States' feminist foreign policy** links aid to gender rights, an instructive model.

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2. **South Africa's anti-apartheid diplomacy** demonstrates how moral isolation, not engagement, catalyzes internal reform.
3. Thus, diplomatic recognition without reform risks entrenching oppression rather than moderating it.

Conclusion

As we know silence enables tyranny. India's diplomacy must defend Afghan women's voices, for justice anywhere safeguards freedom everywhere.

Examine the potential of the Australia-India clean energy partnership in building a resilient regional ecosystem. Critically analyze the role of Australia's resources and India's workforce.

Introduction

According to the **IEA (2024), Indo-Pacific nations face the fastest-rising energy demand globally**. The Australia-India clean energy partnership offers a strategic opportunity to build a resilient, diversified, and sustainable regional clean energy ecosystem.

Context and Strategic Significance

1. The **India-Australia Renewable Energy Partnership (REP), launched in 2023**, aims to enhance cooperation across solar, hydrogen, energy storage, and critical minerals.

2. It builds upon frameworks like the **Quad Clean Energy Supply Chain Initiative** and aligns with **SDG 7 (Affordable and Clean Energy)** and **SDG 13 (Climate Action).**

3. Both nations face **common vulnerabilities**, climate change impacts and supply chain dependence on China, which refines 90% of rare earths and manufactures 80% of global solar modules.
4. By diversifying this dependency, the partnership strengthens the Indo-Pacific's **strategic autonomy** and **energy security architecture**.

Australia's Resources: The Resource Powerhouse

Australia holds nearly **45% of global lithium reserves**, along with significant deposits of cobalt, nickel, and rare earths. Yet, it exports most raw materials without refining.

1. **Potential Role:** Develop **downstream processing hubs** in collaboration with India. Joint R&D on refining technologies and battery storage solutions. Support India's **National Green Hydrogen Mission** (target: 5 MMT green hydrogen by 2030) with reliable input minerals. **Example:** The Critical Minerals Investment Partnership (2023) aims to supply lithium and cobalt for India's EV and battery industries.
2. **Challenge:** Australia's current lack of large-scale refining capability risks reinforcing its "extractive dependency," necessitating **joint industrial ecosystems**.

India's Workforce: The Human Capital Advantage

India, with **65% of its population below 35**, possesses a demographic dividend ready for green skill deployment.

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Strengths:

1. Skill India Mission and Green Jobs Initiative can produce over **1 million renewable energy technicians** by 2030 (ILO, 2023).
2. Production Linked Incentive (PLI) Schemes encourage domestic manufacturing of solar PV modules and batteries.
3. India's renewable capacity already reached **500 GW of non-fossil capacity by 2025**, five years ahead of target.

Potential Role:

1. Act as a **manufacturing and deployment hub** for clean energy technology.

2. Provide skilled manpower for installation, operation, and maintenance across the Indo-Pacific. **Example:** Indian firms like **ReNew Power and Adani Green Energy** are exploring collaborations with Australian firms in solar and hydrogen infrastructure.

Building a Resilient Regional Ecosystem

A resilient Indo-Pacific clean energy ecosystem requires **regional diversification, value addition, and innovation**.

1. The **Track 1.5 Dialogue** under REP brings together policymakers, industries, and academia for technology co-creation.
2. Joint investments in **Green Hydrogen Corridors** and **Battery Supply Chain Hubs** can reduce dependency on China and enhance regional self-reliance.
3. ASEAN and Pacific Island nations can benefit from the spillover effects—capacity building, knowledge transfer, and access to affordable clean technology.

Challenges and the Way Forward

1. **Policy Asymmetry:** Regulatory misalignment and investment barriers between the two nations.
2. **Financing Constraints:** Clean energy projects require long-term concessional financing and carbon pricing mechanisms.
3. **Geopolitical Sensitivity:** Balancing ties with China while building an alternate energy network under Quad and IPEF.

Way Forward:

1. Establish an Indo-Pacific Clean Energy Fund for project financing.
2. Institutionalize joint R&D centers under REP.
3. Promote circular economy principles to recycle rare earths and minimize waste.

Conclusion

As **Amartya Sen's Development as Freedom** reminds us, sustainable development empowers people and nations. A robust India-Australia clean energy partnership can anchor equitable, secure, and climate-resilient regional growth.

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Examine the factors causing gender imbalance in the higher judiciary. Critically analyze the potential of a national-level judicial competition to ensure gender equity.

Introduction

According to the **India Justice Report 2025,** women constitute only **14% of High Court judges** and **3.1% of Supreme Court judges**, exposing deep structural barriers to gender equity in Indias higher judiciary.

Understanding the Gender Imbalance in Higher Judiciary

1.   Despite constitutional guarantees of equality under **Articles 14, 15, and 16**, women remain underrepresented in judicial leadership roles.

   a.   **Current scenario is that o**ut of 34 Supreme Court judges, only **one is a woman**, and only **one High Court** has a woman Chief Justice.
   b.   **Trends,** since 1950, only **11 women** have ever been appointed to the Supreme Court.

4.   This imbalance reflects **structural, procedural, and cultural barriers** within Indias judicial ecosystem.

Key Factors Behind Gender Imbalance

1.   **Collegium System and Networked Selection**: The Collegium System — an opaque, informal and male-dominated structure — favours judges and lawyers within elite circles. Lack of diversity in the judicial pipeline reduces the chances of women being nominated.

2.   **Limited Representation at Bar and Bench**: Women constitute less than **15% of practising advocates** in the Supreme Court (Bar Council of India, 2024). The absence of women in senior advocacy limits their visibility for elevation.

3.   **Infrastructural and Institutional Barriers**: A Supreme Court Centre for Research and Planning (2023) study found that **20% of district court complexes lack separate toilets for women**, discouraging their participation. Long work hours, lack of childcare facilities, and gender bias deter women from higher judicial careers.

4.   **Socio-Cultural Constraints**: Persistent stereotypes about womens emotional nature or unsuitability for high-pressure decision-making reinforce gendered bias in appointments. **Justice Indu Malhotra noted** that unconscious bias, not competence, keeps women away from higher benches.

Potential of a National-Level Judicial Competition (AIJS)

1.   **Ensuring Meritocracy and Transparency**: Establishing an **All-India Judicial Service (AIJS)**, as proposed under Article 312, can create a **merit-based, transparent and gender-neutral selection mechanism**. The **UPSC model** demonstrates the success of competitive recruitment in ensuring inclusion. For instance, **11 of the top 25 UPSC candidates in 2024 were women**.

2.   **Promoting Diversity and Equal Access**: AIJS can bridge the gap between privileged law networks and talented candidates from underrepresented backgrounds, including women, OBC, SC, and ST aspirants. **President Droupadi Murmu (2023)** emphasized AIJS as an instrument to ensure representation of less-represented social groups.

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3. **Institutional Parallels and Evidence**: In the lower judiciary, where recruitment occurs via **State Judicial Service Examinations**, women constitute **38% of judges** — a stark contrast to higher courts. This indicates that **open competition correlates with gender inclusivity**.

4. **Addressing Concerns of Judicial Independence**: Critics argue that AIJS may cause executive interference, but evidence from UPSC and lower judiciary recruitment disproves this fear. Judicial independence can be safeguarded if the Supreme Court and High Courts supervise recruitment and training post-selection.

The Way Forward

1. **Institutionalize AIJS** under Supreme Court oversight with UPSC-conducted exams.
2. **Gender-sensitive training modules** and mentorship for women judges.
3. **Infrastructure upgrades** (childcare, restrooms, flexible work policies).
4. **Reservation or representation targets** for women in higher judiciary appointments.
5. **Transparency mechanisms** in Collegium recommendations.

Conclusion

Real change endures when it begins in the hearts of people. Gender-equitable judiciary strengthens both justice and democracy.

Examine the necessity of Global South collaboration in navigating the global economic transformation. Justify the construction of a New Economic Deal for equitable development.

Introduction

As per the **World Banks Global Economic Prospects (2024),** developing economies face a decadal low growth of 4%, underscoring the urgent need for South-South collaboration amid global economic fragmentation and inequality.

The Global Economic Transformation

The 21st-century economy is witnessing a geo-economic realignment driven by:

1. **US-China great power rivalry**, reshaping supply chains and trade flows.
2. **Technological disruptions** through AI, Big Tech dominance, and digital colonialism.
3. **De-dollarisation efforts** and the emergence of new monetary blocs (e.g., BRICS Pay, Petro-yuan).
4. **Decline of multilateralism**, with WTO paralysis and weaponisation of sanctions.

This environment challenges the **traditional neoliberal order and exposes structural asymmetries** faced by the Global South — home to 85% of the worlds population but controlling less than 40% of global GDP (IMF, 2023).

Necessity of Global South Collaboration

1. **Economic Sovereignty and Debt Sustainability**: Over 60% of low-income countries are in or at risk of debt distress (IMF, 2024). Collective bargaining via platforms like **G-77**, **BRICS**, and **New Development Bank**

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(NDB) can ensure fairer debt restructuring and escape the debt trap diplomacy of both Bretton Woods institutions and regional hegemons.

2. **Trade and Supply Chain Diversification**: The pandemic and Ukraine crisis exposed supply chain fragility. Initiatives like **Indias SAGAR**, **Africa Continental Free Trade Area (AfCFTA)**, and **ASEAN-India Trade in Goods Agreement** showcase South-led resilience through diversification and localised production.

3. **Technology and Digital Autonomy**: Digital colonialism by Big Tech demands **South-South cooperation in AI governance, data localisation, and cyber norms**. The **India Stack**, adopted by countries such as the Philippines and Morocco, exemplifies scalable South-origin technological models.

4. **Climate and Energy Justice**: The Global South bears 90% of climate-induced losses but receives only 25% of green finance. Platforms like the **International Solar Alliance (ISA)** and **Global Biofuel Alliance (2023)** highlight Indias leadership in equitable energy transition.

The Case for a New Economic Deal

A new economic architecture must reorient globalisation towards equity, sustainability, and human welfare.

1. **Institutional Reforms:** Democratisation of IMF, World Bank, and WTO voting structures to reflect present GDP shares.
2. **Fair Trade and Industrial Policies:** Preferential market access for developing economies; protection of infant industries akin to East Asian developmental states.
3. **Development Finance:** Expansion of the **BRICS Bank**, **Asian Infrastructure Investment Bank (AIIB)**, and creation of a **South Sovereign Wealth Fund** to finance infrastructure, health, and education.
4. **Debt-Relief Framework:** Inspired by the Heavily Indebted Poor Countries (HIPC) initiative but led by the Global South to prevent political conditionalities.
5. **Social Contract Renewal:** State-led investment in welfare, digital infrastructure, and education to reduce inequality and promote inclusive growth — resonating with **Amartya Sens capability approach** and **UNDPs Human Development Report (2023)**.

Indias Role as a Bridge

1. Indias presidency of **G20 (2023)** and **Voice of the Global South Summit** positioned it as a moral anchor, advocating One Earth, One Family, One Future.

2. Through its **Digital Public Infrastructure (DPI)** and **Vaccine Maitri diplomacy**, India demonstrates South-driven global public goods delivery.

Conclusion

Echoing **Joseph Stiglitzs Globalization and Its Discontents**, a new economic deal rooted in South-South solidarity is essential to democratise globalisation, ensure inclusive prosperity, and restore faith in multilateralism.

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Examine the challenges faced by public funding in heritage conservation in India. Justify the necessity of Public-Private Partnerships (PPPs) for the sustainable preservation of national assets.

Introduction

As per **UNESCO (2023),** India hosts over **40 World Heritage Sites**, yet the **ASI's annual budget allocation is barely 0.08% of total expenditure**, revealing a chronic underfunding crisis in heritage conservation.

Heritage as a National Asset

1.   India's cultural heritage, comprising **monuments, museums, crafts, and living traditions—** constitutes a crucial component of soft power and cultural economy.

2.   The **World Bank (2022)** estimates that cultural tourism contributes nearly **$250 billion** globally, yet India underutilises its vast heritage potential due to inadequate funding and fragmented governance.

Challenges Faced by Public Funding in Heritage Conservation

1.   **Budgetary Constraints and Low Prioritisation**: Despite being a civilisational repository, the **Archaeological Survey of India (ASI)** receives a meagre share of public funds. Between 2010–2023, allocations stagnated around ₹1,200–₹1,500 crore, insufficient to maintain over **3,600 protected monuments**.

2.   **Bureaucratic Inefficiency and Lack of Flexibility:** Rigid procurement norms and delays in fund release hinder restoration work. The **Comptroller and Auditor General (CAG) Report (2013)** noted that **70% of heritage structures under ASI were in a "neglected state"** due to bureaucratic delays.

3.   **Fragmented Institutional Framework:** Multiplicity of agencies—ASI, State Archaeology Departments, Municipal bodies—leads to duplication, weak accountability, and lack of integrated Heritage Management Plans.

4.   **Deficit of Expertise and Skilled Manpower:** Public departments lack multidisciplinary expertise in heritage engineering, conservation science, museology, and community engagement. UNESCO (2021) observed that India faces a **40% shortfall in trained conservation professionals**.

5.   **Community Disconnection and Economic Unsustainability:** Absence of participatory management results in vandalism, encroachment, and local apathy. Sites like **Elephanta Caves** and **Hampi** exemplify how neglect leads to cultural and economic loss.

Necessity of Public-Private Partnerships (PPPs)

1.   **Mobilisation of Financial Resources and Expertise:** PPP models such as the **"Adopt a Heritage" scheme (2018)** encourage corporate sponsorship for conservation and tourist infrastructure. Corporate entities can invest **CSR funds (2% of profits)** for heritage development under Schedule VII of the Companies Act, 2013.

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2. **Holistic Conservation Models:** Case studies like the **Elephanta Caves** and **Dr Bhau Daji Lad Museum** demonstrate that PPPs ensure end-to-end site management—including restoration, documentation, tourism planning, and community benefit—beyond mere monument repair.

3. **Enhancing Visitor Experience through Technology:** Private sector innovation—AR/VR-based tours, smart signage, ticketing platforms—enhances accessibility and engagement. The **Qutub Minar e-guide project (ASI-TCS collaboration)** illustrates how technology can merge preservation with education.

4. **Job Creation and Local Empowerment:** Heritage PPPs can integrate skill development, craft revival, and eco-tourism, benefiting local communities. The **City of Jaipur Heritage Project (UNESCO–INTACH)** exemplifies community-inclusive urban heritage regeneration.

5. **Global Benchmarking:** Countries like **Italy (Fondo Ambiente Italiano)** and **UK's National Trust** have shown that non-state participation ensures sustainability, transparency, and tourism-led economic growth.

The Way Forward

1. Develop **National Heritage PPP Policy Framework** ensuring accountability and transparency.
2. Build **capacity and training programs** for heritage professionals.
3. Encourage **community-led micro-enterprises** around heritage zones.
4. Integrate heritage conservation into **urban and regional planning**, aligning with UN SDG 11.4 (Protect the world's cultural and natural heritage).

Conclusion

Echoing **Amartya Sen's Development as Freedom**, sustainable heritage conservation demands shared responsibility, where public trust, private innovation, and community participation coalesce to preserve India's living legacy for future generations.

Critically analyze the revisionist campaign to sideline B.R. Ambedkar by elevating B.N. Rau as the Constitution's architect. Justify Ambedkar's central contribution.

Introduction

India's Constitution, the world's lengthiest democratic charter with **448 Articles and 12 Schedules**, embodies social justice ideals shaped by **Dr. B.R. Ambedkar's visionary leadership**, not mere technical expertise, as revisionist interpretations claim.

The Revisionist Narrative

1. Recent discourses attempt to reframe **Sir B.N. Rau**, the Constitutional Adviser (1946–47), as the "real architect" of the Indian Constitution, undermining **Ambedkar's moral, political, and representational role** as the Chairperson of the Drafting Committee.

2. This revisionism is not just academic; it carries **sociopolitical implications**, aiming to dilute **Dalit agency and Ambedkar's transformative constitutionalism**.

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B.N. Rau's Role: The Constitutional Engineer

1. **Technical and Preparatory Role:** Rau prepared a **"rough draft"** of 243 Articles and 13 Schedules based on comparative constitutional research (U.S., U.K., Canada, Ireland, Weimar Republic).
2. **Absence of Political Mandate:** He was not a member of the **Constituent Assembly (CA)**; his role was advisory, not deliberative.
3. **Consultative Influence:** Rau's discussions with scholars like **Felix Frankfurter** and **Harold Laski** refined structural provisions (federalism, judiciary, rights framework), but he neither debated nor defended them publicly.
4. **Contribution Recognition:** Ambedkar himself acknowledged Rau's technical input in his **Concluding Address (Nov 25, 1949)** — describing it as foundational yet incomplete.

Ambedkar's Leadership: The Constitution's Moral and Political Soul

1. **Democratic Legitimacy and Leadership:** As **Chairman of the Drafting Committee**, Ambedkar transformed Rau's draft into a **living moral document**, integrating the **Objectives Resolution (1946)** into actionable constitutional principles.
2. **Navigating Crisis:** Ambedkar led deliberations amid **Partition violence, Gandhi's assassination**, and ideological divides — ensuring national unity through consensus building.
3. **Innovative Constitutionalism:** He embedded doctrines of
   a. **Fundamental Rights and Social Justice (Articles 14–18)**
   b. **Directive Principles of State Policy (Part IV)**
   c. **Affirmative Action (Articles 15(4), 16(4))**
   d. **Constitutional Morality** — later echoed by the **Supreme Court (Navtej Singh Johar, 2018)** as Ambedkar's enduring legacy.
4. **Transformative Vision:** Through the **"Trinity of Liberty, Equality, and Fraternity"**, Ambedkar converted India's Constitution from a legal framework to a **social revolution charter** (Madhav Khosla, India's Founding Moment, 2020).

The Politics Behind Revisionism

1. **Caste and Cultural Anxiety:** The attempt to elevate Rau arises from **elite discomfort** with a Dalit intellectual shaping modern India's moral order.
2. **Depoliticising the Founding:** Reducing constitutional authorship to technical drafting erases the **radical social contract** embedded in Ambedkar's vision — that political democracy is untenable without social and economic equality.
3. **Selective Historicism:** Primary records — Constituent Assembly Debates, speeches by **Nehru, Patel, Rajendra Prasad** — unanimously credit Ambedkar as the principal architect, not Rau.

Broader Implications

1. Revisionism risks **hollowing the Constitution's emancipatory ethos** and eroding its inclusive foundations.
2. Recognising Ambedkar sustains **constitutional morality**, pluralism, and the Republic's commitment to social justice — principles vital to India's democratic resilience.

Conclusion

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As **Granville Austin** observed in **The Indian Constitution: Cornerstone of a Nation**, Ambedkar fused law with social revolution — proving that moral imagination, not mere draftsmanship, builds enduring democracies.

Examine the dilemma between moral clarity and tactical ambiguity in India's foreign policy. Justify the need for India to articulate its stance on global issues.

Introduction

India's foreign policy today straddles **moral idealism and strategic pragmatism**—balancing **principled non-alignment** with realpolitik choices amid crises like **Ukraine, Gaza, and Indo-Pacific tensions** (MEA Annual Report, 2024).

India's evolving foreign policy landscape

1.   Since independence, India's external posture has been rooted in **"Panchsheel" and "Non-Alignment"**, reflecting Jawaharlal Nehru's moral diplomacy.

2.   However, global power flux—**Ukraine war, West Asia conflict, US-China rivalry**—has compelled New Delhi to recalibrate between **moral clarity** and **tactical ambiguity**.

3.   The dilemma lies in reconciling **ethical leadership** with **strategic autonomy**—a hallmark of India's "**multi-alignment doctrine**".

The Nature of the Dilemma

Aspect	Moral Clarity	Tactical Ambiguity
Definition	Clear ethical positioning on global issues	Deliberate vagueness to preserve flexibility
Example	Opposing apartheid (1960s), supporting Palestine	Abstaining on UN votes over Ukraine (2022–23)
Advantage	Enhances moral authority and legitimacy	Preserves strategic space and avoids alienation
Challenge	Risks isolation or economic costs	May project indecision and erode credibility

Why the Dilemma Exists

1.   **Complex Geopolitical Multipolarity:** In a fragmented order, alliances are transactional. India trades oil with Russia, partners with the U.S. in the Quad, and engages China in BRICS—reflecting **"issue-based alignment"**.

2.   **Strategic Autonomy Imperative:** Rooted in the **Indira Doctrine (1980s)** and revived in the **Jaishankar Doctrine**, India aims to avoid bloc entrapment, maintaining **flexible diplomacy** amid power rivalries.

3.   **Economic and Energy Dependencies:** Moral clarity on sanctions or wars may hurt economic interests—e.g., **Russian crude oil (over 40% of India's imports in 2024)** ensures energy security amid global volatility.

4.   **Domestic Political Sensitivity:** Positions on Israel-Palestine or West Asia directly affect India's **8-million diaspora and energy corridors**, requiring nuanced articulation.

The Case for Moral Clarity

1.   **Leadership of the Global South:** As **G20 President (2023)** and host of the **Voice of Global South Summit**, India positioned itself as a bridge between developed and developing worlds—moral clarity enhances its **normative leadership**.

2.   **Upholding Democratic Values:** As the **world's largest democracy**, India's silence on human rights or aggressive wars contradicts its foundational values under **Article 51(c) of the Constitution**—promoting international peace and justice.

3.   **Enhancing Credibility in Multilateral Forums:** A clear, consistent voice on issues like **climate finance, equitable trade, and global health governance** enhances India's reputation as a **responsible stakeholder**, not a passive participant.

4.   **Shaping Global Norms:** Moral clarity strengthens India's influence in **UN reforms**, **WTO negotiations**, and **South-South Cooperation**, aligning with the **Vasudhaiva Kutumbakam** ethos.

Balancing Moral Clarity and Tactical Ambiguity

1. Adopt **"principled pragmatism"**—clear moral objectives guided by context-sensitive strategy.
2. Institutionalize **strategic communication** for clarity in global crises.
3. Anchor policies in **rules-based multilateralism**, not great-power competition.
4. Promote **human-centric diplomacy** through initiatives like **Vaccine Maitri** and **International Solar Alliance**.

Conclusion

As **Henry Kissinger** notes **in Diplomacy,** power without purpose breeds instability. India's moral clarity—tempered **by strategic prudence**—must define its global role as a principled yet pragmatic civilizational power.

Examine the potential and constraints of China-India cooperation in leading global governance reform. Critically analyze its impact on multilateralism and the Global South.

Introduction

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Together representing **36% of the world's population and nearly 18% of global GDP (IMF, 2024)**, China and India hold pivotal potential to reshape global governance toward multipolarity, equity, and sustainable multilateralism.

Global Governance at a Crossroads

1. The post-1945 international order—anchored in the **UN, IMF, World Bank, and WTO**—is increasingly questioned for its Western dominance, inequitable representation, and policy conditionalities.

2. The **Global South**, often marginalized, demands a reformed, inclusive governance architecture responsive to new economic realities.

3. In this backdrop, **China-India cooperation** offers both opportunity and complexity.

Potential for Joint Leadership in Global Governance Reform

1. **Shared Platforms and Institutions: BRICS**, **SCO**, and the **G20** enable Beijing and New Delhi to co-shape multilateral norms. Institutions like the **New Development Bank (NDB)** and the **Asian Infrastructure Investment Bank (AIIB)** reflect their joint effort to democratize financial governance, offering development finance without political strings.

2. **Global Governance Initiatives (GGI) and Voice of Global South:** China's **Global Governance Initiative (2025)** emphasizes sovereign equality, rule of law, and people-centric multilateralism. India's **Voice of Global South Summit (2023)** articulated "human-centric globalization." Together, they provide an alternative narrative to Western-centric globalism.

3. **Promoting Multipolarity:** Both nations emphasize **"reformed multilateralism"**—India's term at the **G20 Delhi Declaration (2023)**—and **"a community with shared future for mankind"**—China's guiding philosophy under Xi Jinping. Their convergence can strengthen the **UN Charter**, climate justice mechanisms, and technology-sharing regimes.

4. **Representation and Equity for the Global South:** Joint advocacy for **UN Security Council reform**, **WTO dispute settlement restoration**, and **climate financing** reflects a push for institutional equity. In forums like **COP28**, coordinated stances could amplify the Global South's collective voice on "Common but Differentiated Responsibilities (CBDR)."

Constraints and Structural Challenges

1. **Strategic Mistrust:** Border tensions (Galwan 2020), India's participation in the **Quad**, and China's close ties with Pakistan create enduring security suspicions. Competing Indo-Pacific visions—India's "Free and Open Indo-Pacific" vs. China's "Belt and Road Initiative (BRI)"—reflect divergent strategic outlooks.

2. **Economic Asymmetry:** China's GDP (~$17.8 trillion) dwarfs India's (~$3.9 trillion), leading to **power asymmetry** in multilateral forums. India's trade deficit with China (>$100 billion, 2024) limits economic leverage.

3. **Governance and Ideological Divergence:** China's **state-capitalist authoritarianism** contrasts with India's **liberal democratic pluralism**—creating differing conceptions of rule-based international order. India's emphasis on "strategic autonomy" often diverges from China's bloc-based alignments.

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4. **Global Perceptions and Trust Deficit:** Western powers view closer Sino-Indian cooperation as revisionist; developing nations fear potential **"duopoly of influence"** replacing Western hegemony.

Impact on Multilateralism and the Global South

Positive:

1. Joint development banks and vaccine diplomacy (e.g., **BRICS Vaccine R&D Center, 2022**) enhance South-South cooperation.
2. Promotes **inclusive globalization**, resilient supply chains, and equitable technology access.

Negative:

1. Lack of coherent policy coordination dilutes collective bargaining power in trade, climate, and digital governance.
2. Geopolitical competition risks fragmenting rather than strengthening the Global South's unity.

Conclusion

As **Kishore Mahbubani** notes in **The Great Convergence**, a stable multipolar world demands Sino-Indian synergy—where cooperative leadership, not rivalry, ensures just, inclusive, and effective global governance.

Critically evaluate the efficacy and role of the National Commission for Minorities (NCM) in securing the constitutional rights of minorities in India. Examine the need for its reform.

Introduction

India, home to over **20% religious minorities (Census 2011)**, established the **National Commission for Minorities (1992)** to safeguard their constitutional rights, yet persistent marginalization questions its **efficacy, autonomy, and institutional relevance**.

1. Constitutional and Institutional Mandate: The **National Commission for Minorities (NCM)** was constituted under the **NCM Act, 1992**, following Articles **29 and 30** of the Constitution, which protect **cultural and educational rights** of minorities.
Its functions include:

- Evaluating safeguards for minorities under the Constitution and laws.
- Monitoring the implementation of government schemes.
- Investigating complaints regarding deprivation of minority rights.
- Advising the Union and State governments on minority welfare.

The notified minority communities currently include **Muslims, Christians, Sikhs, Buddhists, Parsis, and Jains (since 2014)**.

2. The Efficacy Question: Achievements vs Limitations

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Areas	Achievements	Limitations / Challenges
Educational & Cultural Rights	Promoted awareness of **Articles 29–30**; coordinated with **NCMEI (2004)** for minority education	Weak enforcement power; NCM's recommendations are **advisory, not binding**
Grievance Redressal	Investigated hate speech and communal violence cases	Lacks **suo motu powers** like NHRC; limited to **civil court powers (Section 9, NCM Act)**
Representation & Autonomy	Symbolic inclusion at national level	Recurrent **vacancies**, absence of Chairperson (2024), **political appointments** dilute credibility
Policy Influence	Involved in **Ranganath Misra Commission (2005)**, **Sachar Committee (2006)** indirectly guided	**Low implementation rate** of its recommendations; no monitoring mechanism
Budgetary Role	Annual outlay (~₹35–40 crore) supports awareness & welfare	Outputs disproportionately low; **CAG reports** flagged poor performance metrics

Structural and Functional Weaknesses

1. **Non-Constitutional Status:** Unlike the **National Commission for SCs (Article 338)** or **STs (338A)**, NCM lacks **constitutional backing**, limiting independence.
2. **Absence of Enforceable Powers:** It cannot penalize violations or ensure compliance—rendering it a **"toothless tiger."**
3. **Politicization and Bureaucratic Dependence:** Appointments often lack transparency and reflect **political patronage**, undermining impartiality.
4. **Overlapping Jurisdiction:** With **NHRC, NCW, NCMEI**, and state minority commissions, mandates overlap without coordination.
5. **Underutilization:** The **Sachar Committee (2006)** and **Post-Sachar Evaluation Committee (2014)** found little evidence that NCM's work tangibly improved socio-economic indicators among minorities.

The Case for Reform

1. **Grant Constitutional Status:** Inclusion of NCM through an amendment (similar to Article 338B for OBCs) can ensure **autonomy and enforceability**.

2. **Institutional Restructuring:** Introduce **fixed tenure**, transparent appointments via **collegium model**, and strengthen **financial independence** through parliamentary oversight.

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3. **Enhanced Powers:** Empower NCM with **suo motu jurisdiction**, **contempt powers**, and integration with **National Data Analytics Portal** for real-time minority welfare tracking.

4. **Coordination with State Commissions:** Create a **federal network** for synchronized grievance redressal and monitoring, ensuring horizontal accountability.

5. **Periodic Reporting to Parliament:** Mandate annual reports for **legislative scrutiny**, aligning with the **Paris Principles (1993)** for effective national human rights institutions.

Way Forward: Beyond Symbolism

1. Reform should transform NCM from a **reactive advisory body** to a **proactive rights enforcement institution**.
2. Incorporate **data-driven policy monitoring**, like **Minority Development Index (NITI Aayog proposal)**.
3. Promote inclusivity by expanding scope to **intra-minority backward groups** (as proposed by **Justice Ranganath Misra Commission, 2007**).

Conclusion

As **Granville Austin** observed in *The Indian Constitution: Cornerstone of a Nation*, institutions ensure justice only when empowered. A reformed, autonomous NCM is vital to secure **India's plural constitutional promise**.

Examine the new global realities contributing to a 'friendless world' for India. Critically analyze the adaptations necessary for India's foreign policy to secure its strategic interests.

Introduction

In an era of **multipolar volatility**, India faces a "friendless world" driven by **shifting global power equations, transactional diplomacy, and diminishing multilateralism**, demanding recalibration of its foreign policy to sustain strategic autonomy and global relevance.

The Emerging Global Realities: Causes of a 'Friendless World'

1. **Erosion of Multilateralism:** Post-2020 geopolitics has witnessed **declining faith in multilateral institutions** (UN, WTO, WHO). The **Russia–Ukraine war** and **U.S.–China strategic competition** have fragmented global consensus. India's voice in the **UNSC reform** and **WTO agricultural subsidies** debate has faced stiff resistance, reflecting weakening collective diplomacy.
2. **Transactionalism in Global Politics:** The **"America First"** legacy, visible under **Donald Trump** and continued as **"strategic pragmatism"** under Joe Biden, prioritizes **short-term national gains** over alliances. India's exclusion from the **Gaza peace process (2025)** and limited role in **Afghanistan's reconstruction** post-U.S. withdrawal underline this shift.
3. **China's Expanding Influence:** China's **Belt and Road Initiative (BRI)** and **Regional Comprehensive Economic Partnership (RCEP)** have consolidated its leadership across Asia and Africa. Through **debt diplomacy** and **digital Silk Road expansion**, China has eroded India's regional sphere of influence. Even traditional partners like **Nepal, Bangladesh, and Sri Lanka** engage Beijing for economic leverage.

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4. **Regional Volatility and Strategic Isolation:** The **Gen Z revolution in Nepal**, **Bangladesh's democratic crisis**, and **Afghanistan-Pakistan instability** expose India's limited leverage in South Asia. The **Saudi–Pakistan Defence Pact (2025)** further dilutes India's strategic depth in West Asia.

India's Diplomatic Dilemmas

1. **From Non-Alignment to Multi-Alignment:** India's strategic culture, rooted in **Nehruvian Non-Alignment**, struggles to adapt to a **competitive multipolar system**. Balancing ties among **Quad**, **BRICS**, **SCO**, and **Global South** forums reflects an **identity dilemma**—between strategic autonomy and coalition-building.
2. **Moral Clarity vs Tactical Ambiguity:** India's cautious neutrality on issues like **Ukraine** and **Gaza** preserves autonomy but limits moral leadership. As an aspiring **"Vishwaguru"**, India must balance ethical posturing with pragmatic interest-based diplomacy.
3. **Erosion of Soft Power:** Despite initiatives like **International Solar Alliance** and **Vaccine Maitri**, global perceptions of India as a **bridge-builder** have diminished. Rising domestic polarization occasionally undermines India's image as a **plural democracy**.

Adapting India's Foreign Policy: The Way Forward

1. **Strategic Realignment and Minilateralism:** Deepen engagement through **issue-based coalitions**— Quad for maritime security, I2U2 for West Asian connectivity, and BIMSTEC for Indo-Pacific outreach. Promote **"multi-vector diplomacy"** akin to France and ASEAN models.
2. **Reimagining Neighbourhood Policy:** Rebuild trust through **economic interdependence**, cross-border **digital infrastructure**, and **disaster diplomacy**. Leverage **Project Mausam** and **Sagarmala** for cultural and maritime influence.
3. **Economic Diplomacy as Foreign Policy Anchor:** Implement **"Supply Chain Resilience Initiative (SCRI)"** with Japan and Australia. Use **semiconductor, green hydrogen, and AI cooperation** as tools of geo-economic leverage.
4. **Strategic Communication and Global South Leadership:** India's **G20 Presidency (2023)** and **Voice of Global South Summit (2023)** showcased its potential as a **normative power**. Institutionalize this by leading climate finance reform and **UNGA democratization efforts**.
5. **Institutional Reform and Foresight:** Establish a **National Strategic Council** for integrated long-term foreign policy planning. Invest in **diplomatic human capital** and strategic think tanks for anticipatory governance.

Conclusion

As **Henry Kissinger** noted, **nations survive by adapting to shifting power equations**. India's future relevance depends on **flexible realism**, blending strategic autonomy with proactive global leadership amid systemic unpredictability.

Examine how lower global oil prices provide a short-term fiscal advantage to India. Critically analyze the structural factors that make this relief cyclical and unsustainable.

Introduction

With India importing over **85% of its crude oil**, every **$1 fall in oil price improves its current account by $1.6 billion** (RBI, 2024). Yet, this fiscal relief remains transient and cyclical.

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Short-Term Fiscal Advantages of Lower Global Oil Prices

1. **Improved Fiscal Balance:** Lower crude prices reduce India's import bill (worth $137 billion in 2024–25). This leads to improved **Current Account Deficit (CAD)**, reduced fiscal pressure, and higher **macroeconomic stability**. According to the **IMF (2024)**, a $10/barrel decline in crude prices can improve India's CAD by **0.3% of GDP**.
2. **Reduced Inflationary Pressure:** Cheaper crude lowers **transportation and manufacturing costs**, curbing **Consumer Price Index (CPI)** inflation. For a consumption-driven economy, this raises **real disposable income**, boosting **aggregate demand**. As per **NCAER (2023)**, every 10% decline in oil price reduces inflation by nearly **0.5 percentage points**.
3. **Fiscal Space for Public Investment:** The government often retains part of the benefit by **not fully passing on price cuts** to consumers. This improves **revenue buoyancy** and enables higher **capital expenditure** in infrastructure, renewable energy, and welfare.
4. **Exchange Rate and Monetary Stability:** Lower oil imports reduce dollar demand, strengthening the **rupee** and aiding **RBI's external stability goals**. It also gives the central bank room for **monetary easing** to spur growth.
5. **Energy Security and Geopolitical Leverage:** With cheaper oil, India can diversify its suppliers beyond Russia or OPEC+ and enhance its **strategic petroleum reserves (SPR)**, increasing resilience to future price shocks.

Structural Factors Making Relief Cyclical and Unsustainable

1. **Cyclical Nature of Oil Market:** The global oil market is inherently **volatile**, driven by **OPEC+ production cuts**, **U.S. shale output**, and **geopolitical disruptions**. Historical cycles (e.g., 2014–16, 2020–21) show temporary dips followed by rebounds.
2. **Low Domestic Energy Self-Reliance:** India's **import dependency (85%)** exposes it to **external supply shocks**. Despite investments in renewables, domestic crude output has stagnated around **30 million tonnes annually** for a decade (Petroleum Ministry, 2024).
3. **Fiscal Myopia in Utilizing Windfall Gains:** Instead of building a **sovereign oil stabilization fund**, India often uses windfall savings for **consumption-based subsidies**, which are politically popular but fiscally unsustainable.
4. **Exchange Rate Pass-Through and Volatility:** A weakening rupee or strong dollar can **neutralize gains** from cheaper crude. The **rupee depreciated 3.5% in 2023–24**, offsetting part of the oil-price advantage.
5. **Energy Transition and Climate Constraints:** Global shifts toward **decarbonization** and **EV adoption** are transforming oil demand patterns. This "demand plateau" phase makes price movements unpredictable, complicating India's **energy planning and fiscal projections**.
6. **External Sector Vulnerabilities:** Lower oil prices depress **remittances** and **exports** to West Asia (India's largest labour market), offsetting gains in the trade balance. For instance, a 10% slowdown in Gulf economies cuts remittances by **$2–3 billion**.

Way Forward

1. **Diversify the Energy Basket:** Accelerate investments in **solar, green hydrogen, and ethanol blending** to reduce import dependence.
2. **Institutionalize an Oil Stabilization Fund:** To absorb fiscal shocks from price fluctuations.
3. **Rationalize Fuel Taxes:** Introduce a **flexible tax mechanism** that smooths price volatility without hurting consumers.

4. **Enhance Strategic Petroleum Reserves:** Target 90 days of imports (currently ~30 days) for energy security.
5. **Promote Demand Efficiency:** Encourage EVs, public transport, and **BEE-led** industrial energy optimization.

Conclusion

Oil wealth is fleeting without reform. India's true resilience lies in fiscal prudence, energy diversification, and strategic foresight beyond transient price windfalls.

Critically analyze the proposition that the future of global cooperation depends on rebuilding the legitimacy of multilateral institutions. Justify the need for citizen-centric reform.

Introduction

As the United Nations marks its 80th year amid geopolitical flux, global trust in multilateralism is eroding. According to Pew Research (2023), **64% citizens perceive global institutions as elitist and ineffective.**

Erosion of Multilateral Legitimacy: The Emerging Crisis

1. **Institutional Stagnation and Structural Inequality:** The UN Security Council still mirrors **1945 power realities**, not today's multipolar world. The **P5 veto** undermines the principle of sovereign equality, limiting representativeness for emerging powers like India, Brazil, and Africa. Example: The UNSC's paralysis over Ukraine and Gaza has eroded its moral authority.
2. **Decline of Collective Leadership:** U.S. withdrawal from **UNESCO** and the **Human Rights Council**, alongside **China–U.S. rivalry**, reflects a shift from collective globalism to transactional diplomacy. As per Susan Rice, former U.S. Ambassador to the UN, "We are not playing on the fields we traditionally led."
3. **Rise of Minilateralism and Regional Blocs:** Countries are increasingly preferring **issue-based coalitions** like **Quad**, **BRICS**, and **IBSA**, bypassing large multilateral forums. While efficient, this **fragmentation dilutes universality**—the UN's moral backbone.
4. **Perception of Technocracy and Elitism:** Global institutions are seen as serving elites rather than people. As David Goodhart's "Somewheres vs Anywheres" thesis notes, globalization has alienated those rooted in traditional communities, fueling populist backlash against institutions. Examples: **Brexit**, **Trumpism**, and **Orbánism** embody skepticism toward global governance.

Why the Future of Global Cooperation Depends on Legitimacy

1. **Normative Authority over Enforcement Power:** Multilateral bodies like the UN, WHO, and WTO derive influence not from force but from **perceived fairness and credibility**. Legitimacy enhances compliance and collective action in areas like climate change and trade. Example: The **Paris Climate Accord** succeeded due to moral legitimacy and inclusive participation, not coercion.
2. **Global Interdependence and Transnational Challenges:** In the age of "**problems without passports**" (Kofi Annan), no nation can unilaterally address climate change, pandemics, or cyber threats. The **COVID-19 pandemic** exposed institutional weaknesses but also highlighted the necessity of global coordination through **COVAX** and WHO.

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3. **Restoring Faith through Equity and Transparency:** According to the **UNDP 2022 Human Development Report**, trust deficits in governance have risen sharply. Without reform, citizens view multilateralism as distant from their everyday concerns—eroding the foundation of cooperative globalism.

The Case for Citizen-Centric Multilateral Reform

1. **Democratizing Global Governance:** Institutions must amplify the voices of the Global South and civil society. **India's G20 presidency (2023)** emphasized "Vasudhaiva Kutumbakam" — promoting inclusive human-centric globalization.
2. **Linking Global Policy to Local Impact:** A **"citizen-first" approach** can translate abstract diplomacy into tangible benefits — jobs, security, health, and dignity. The **SDGs** exemplify this bottom-up globalism, aligning global agendas with local aspirations.
3. **Digital Accountability and Participatory Multilateralism:** Platforms like the **UN75 People's Forum** and **Global Digital Compact** reflect a shift toward participatory policy design using **e-governance, open data, and AI ethics frameworks.**
4. **Institutional Reform for Legitimacy:**
   o **UNSC Expansion:** Inclusion of India, Africa, and Latin America.
   o **Financial Fairness:** Reforming IMF and World Bank voting shares.
   o **Global Health and Climate Governance:** Strengthening WHO's autonomy and ensuring equitable carbon financing.

Way Forward

1. Foster **polycentric governance**—empowering regional and local institutions while retaining a universal rules-based order.
2. Build **trust-based multilateralism** through transparency, accountability, and participatory mechanisms.
3. Promote **South-South cooperation** to balance structural inequities in decision-making.

Conclusion

As **Amartya Sen's "The Idea of Justice"** reminds us, legitimacy sustains cooperation. Rebuilding citizen trust—not bureaucracy—will decide whether multilateralism remains a relic or a renewed force for global equity.

Evaluate the requirement of labelling AI-generated content as a start to regulate synthetic media. Examine its efficacy in ensuring digital integrity and combating misinformation.

Introduction

According to the **World Economic Forum's Global Risks Report 2024**, AI-driven misinformation ranks among the top five global threats. Labelling synthetic media represents India's nascent yet crucial step toward ensuring digital transparency and trust.

The Rise of Synthetic Media and the Policy Context

1. **Explosion of Deepfakes and AI "Slop":** With generative AI tools like **Midjourney, DALL·E 3**, and **Sora**, creating realistic deepfakes has become effortless. A 2024 **Deeptrace Report** estimated over

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85% increase in AI-generated fake visuals online. Political misuse: Deepfake videos circulated during the **2024 Lok Sabha elections** and similar incidents in the **U.S. presidential primaries** show its potential to distort public discourse.

2. **Governmental Response — The Labelling Mandate:** The Union government's proposed **amendment to the IT Rules, 2021** mandates that AI-generated content be labelled. This aligns India with international trends, such as the **EU's AI Act (2024)** and the **U.S. AI Bill of Rights**, which emphasize content authenticity.

3. **Global Industry Support:** Leading firms like **Meta** and the **Coalition for Content Provenance and Authenticity (C2PA)** have voluntarily adopted digital watermarking and metadata-based provenance tracking, signaling private sector readiness for compliance.

Efficacy of Labelling in Ensuring Digital Integrity

1. **Promoting Transparency and Authenticity:** Labelling synthetic content enhances **digital provenance**—the ability to trace origin and alteration. It strengthens **information integrity systems**, helping citizens distinguish between authentic and manipulated media.

2. **Enhancing Electoral and National Security:** During elections, deepfakes can alter voter perception. Proper labelling acts as a **soft deterrent**, preserving **information hygiene** and supporting **democratic resilience**. Case in point: Taiwan's **2024 AI Transparency Initiative** curbed electoral misinformation by mandating provenance labels on political content.

3. **Building Trust in Digital Ecosystems:** As India expands its **Digital Public Infrastructure (DPI)**, trust becomes central. Labelling fosters **algorithmic accountability** and complements frameworks like the **Digital Personal Data Protection Act, 2023**.

Limitations and Structural Challenges

1. **Technological Limitations:** AI models evolve faster than detection tools. Sophisticated **generative adversarial networks (GANs)** can bypass watermarking or labelling, creating a **cat-and-mouse dynamic** between regulators and developers.

2. **Implementation and Jurisdictional Gaps:** Subordinate legislation through IT Rules, rather than a **Parliamentary Act**, limits oversight and legitimacy. Moreover, India's vast linguistic diversity and low **digital literacy** complicate effective enforcement.

3. **Risk of Over-regulation:** Excessive or ambiguous rules could stifle **innovation in creative AI sectors**, particularly for startups and artists experimenting with generative design and virtual production.

4. **Global Interoperability Issues:** Without standardized global labelling norms, cross-border digital content flow may dilute the effect. **UNESCO's "Ethics of AI" Recommendation (2023)** calls for **harmonized governance frameworks.**

Way Forward

1. **Comprehensive AI Regulation:** Move from reactive labelling to a holistic **AI Governance Act**, incorporating ethical AI, transparency audits, and grievance redressal.

2. **AI Literacy and Citizen Awareness:** Public awareness campaigns akin to **"Fake News Buster"** can empower users to identify synthetic content.

3. **Technological Co-regulation:** Collaboration between government, tech firms, and academia for watermarking, digital forensics, and **AI provenance blockchain systems**.

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4. **Periodic Review Mechanism:** Continuous adaptation of norms as AI models evolve, ensuring regulatory agility.

Conclusion

As **Yuval Noah Harari cautions in Homo Deus**, "Clarity is power." Labelling synthetic media is the first step toward digital clarity—vital for safeguarding truth, trust, and democratic integrity online.

Examine the enduring relevance of the United Nations (UN) as a symbol of possibility in global affairs. Critically analyze the necessity of its reform at the 80-year mark.

Introduction

According to the **United Nations 2025 Annual Report**, over **70% of global humanitarian aid** and **peacekeeping efforts** are coordinated through UN agencies—proving that despite limitations, the UN remains humanity's enduring instrument for cooperation.

The UN: A Symbol of Possibility in Global Governance

1. **Historical Foundation and Idealism:** Founded in **1945** after World War II, the UN embodied the ideals of collective security, sovereign equality, and human dignity. It was, as Dag Hammarskjöld said, "not to take mankind to heaven, but to save humanity from hell."
2. **Humanitarian and Developmental Impact:** The UN's specialized agencies have played a transformative role—
   o **UNHCR** shelters over **36 million refugees** worldwide (UNHCR, 2024).
   o **WFP** and **FAO** provide critical food security interventions in crisis regions like Sudan and Gaza.
   o **UNICEF** safeguards child health, while the **WHO** led coordinated responses to COVID-19, Ebola, and now pandemic preparedness through the **Pandemic Accord 2024**.
   o The **SDGs (2015–2030)** represent a universal framework for inclusive, sustainable development.
3. **Peace and Security Role:** UN Peacekeeping Operations have been instrumental in stabilizing fragile regions such as **Namibia, East Timor, and Sierra Leone**, though they failed in **Rwanda (1994)** and **Srebrenica (1995)**—reflecting both promise and peril of collective action.
4. **Normative and Symbolic Relevance:** Beyond operations, the UN's true power lies in **norm entrepreneurship—institutionalizing principles** of **human rights (UDHR, 1948)**, **gender equality (CEDAW)**, and **climate justice (Paris Agreement, 2015)**. It remains a forum of moral legitimacy and symbol of multilateral hope amid fractured geopolitics.

The Case for Reform: Addressing Institutional and Structural Stagnation

1. **Security Council Paralysis:** The **UNSC** still reflects the **power distribution of 1945**, dominated by the P5 (U.S., U.K., France, Russia, China). Emerging powers like **India, Brazil, Germany, and South Africa (G4)** remain excluded, undermining legitimacy and effectiveness. India, the **largest democracy** and a **major troop contributor to peacekeeping**, lacks permanent representation—an anomaly in the 21st century's multipolar order.

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2. **Erosion of Multilateralism:** Rising **nationalism**, **geopolitical rivalries**, and **selective multilateralism** have weakened global cooperation. The **Ukraine war**, **Gaza conflict**, and **climate deadlock** highlight how veto politics block moral consensus.

3. **Financial and Bureaucratic Challenges:** Chronic **funding deficits**—exacerbated by arrears from major donors like the U.S.—have forced hiring freezes and program cuts. Bureaucratic inertia and fragmented mandates hinder rapid crisis response.

4. **Technological and Thematic Lag:** The UN's governance mechanisms are ill-equipped for **cyber warfare**, **AI regulation**, and **digital misinformation**—21st-century challenges transcending state boundaries.

The Path Forward: Reform for Relevance

1. **Comprehensive UNSC Expansion:** Broaden permanent and non-permanent membership to include the **Global South**, reflecting contemporary geopolitical realities and enhancing **representative legitimacy.**

2. **Financial Autonomy:** Introduce assessed contributions for new domains (digital, climate) and streamline funding transparency.

3. **Institutional Agility:** Adopt **Mission-Based Governance** with real-time crisis response units leveraging AI and satellite data.

4. **Moral Renewal:** Restore UN credibility through consistent application of international law, equitable humanitarian intervention, and depoliticized peacekeeping.

5. **Global Digital Governance:** Champion norms for AI ethics, data sovereignty, and cyber stability, integrating the UN into future-oriented multilateralism.

Conclusion

As **Kofi Annan** wrote in **Interventions: A Life in War and Peace, "The UN is humanity's imperfect instrument of hope."** Reform, not rejection, will preserve its relevance in an uncertain world.

Examine the necessity of a holistic framework to monitor medicine use for children. Justify the need to recognize and enforce the health rights of India's children.

Introduction

According to **UNICEF's State of the World's Children 2024 Report**, nearly **one in every five Indian children** faces unsafe or irrational drug exposure—highlighting the urgent need for a robust paediatric pharmacovigilance framework.

The Context: A Crisis of Neglect in Child Health Governance

1. The recent tragedy of **25 child deaths due to contaminated cough syrup in Madhya Pradesh** exposed deep structural weaknesses in India's drug regulation ecosystem.

2. Despite the **Union Health Ministry's 2025 ban** on certain paediatric syrups, lapses in enforcement and oversight underline a systemic failure to uphold children's **constitutionally guaranteed health rights (Article 39(f))**.

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3.   Children constitute **39% of India's population**, yet the pharmacological frameworks governing medicine safety largely focus on adult physiology, leaving children—whom Dr. Harry Shirkey termed "**therapeutic orphans**"—vulnerable to inappropriate dosages and unsafe formulations.

Why a Holistic Monitoring Framework is Necessary

1. **Unique Pharmacodynamics and Clinical Gaps:** Children are **not small adults**. Their **metabolism, organ maturity, and drug absorption** differ drastically, but clinical trials are rarely conducted on them due to ethical constraints. Consequently, most paediatric prescriptions are **"off-label" or extrapolated from adult guidelines**, increasing risks of toxicity and overdose.

2. **Regulatory Fragmentation:** The **Central Drugs Standard Control Organisation (CDSCO)** oversees major manufacturers, while **State Drug Controllers** regulate local producers. Lack of inter-agency coordination, delayed recall systems, and poor quality audits often lead to **regulatory capture and accountability voids**.

3. **International Models of Oversight:**
    ○ **EU's Paediatric Use Marketing Authorisation (PUMA)** and the **U.S. Best Pharmaceuticals for Children Act (BPCA)** incentivise research and monitoring of paediatric formulations.
    ○ In contrast, India lacks a **Paediatric Medicines Act**, relying instead on general guidelines under the **Drugs and Cosmetics Act, 1940**. These global frameworks demonstrate how child-specific regulation can align innovation with safety.

4. **Essential Medicines for Children (EMLc):** The **WHO's Essential Medicines List for Children (EMLc)** offers a blueprint for ensuring equitable access to safe, affordable, and quality paediatric drugs. India's **National List of Essential Medicines (NLEM)** updates adult drugs periodically but neglects paediatric formulations—an omission that perpetuates inequity.

5. **Economic and Ethical Dimensions:** Unsafe or ineffective medicines impose **catastrophic health expenditures** on poor families, pushing them deeper into poverty. From an ethical standpoint, failure to ensure drug safety violates the **UN Convention on the Rights of the Child (UNCRC, 1989)**, ratified by India.

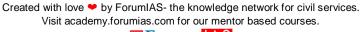6. **Data and Indigenous Research Deficit:** India lacks **nationwide pharmacovigilance data for children**. Most paediatric drug efficacy data are imported from Western contexts, ignoring local **genetic, nutritional, and environmental variations** that influence drug toxicity and response.

The Way Forward: Towards a Child-Centric Health Governance Framework

1. **Paediatric Drug Authority:** Establish an autonomous **National Paediatric Pharmacovigilance and Drug Safety Commission** to coordinate between CDSCO, AIIMS, ICMR, and State agencies.

2. **Mandatory Labelling and Dosage Guidelines:** Enforce child-specific labelling and storage instructions for all over-the-counter (OTC) and prescription drugs.

3. **Periodic EMLc Revision:** Institutionalize biannual reviews of paediatric essential medicine lists aligned with WHO norms.

4. **Awareness and Capacity Building:** Integrate safe medicine practices into **ASHA and Anganwadi training**, and promote caregiver education through the **National Health Mission (NHM)**.

5. **Zero Tolerance for Substandard Medicines:** Adopt **Good Manufacturing Practice (GMP+)** standards and real-time tracking of paediatric drug supply chains through **blockchain-based monitoring**.

Conclusion

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As Amartya Sen's **Development as Freedom** asserts, health is foundational to human capability. Safeguarding India's children through a scientific, rights-based pharmacovigilance system is both a moral and developmental imperative.

Examine the geopolitical significance of ASEAN as a stable partner for India. Critically analyze the strategy needed to enhance ties amid the ongoing flux and regional urges.

Introduction

In an era of Indo-Pacific flux, ASEAN's centrality and **India's "Act East Policy"** have emerged as pivotal. With ASEAN constituting India's 4th-largest trading partner (US$110 billion, 2023), strategic synergy is indispensable.

Geopolitical Significance of ASEAN for India

1. **Strategic Maritime Importance:** ASEAN lies at the heart of the **Indo-Pacific maritime architecture**, controlling the **Straits of Malacca**, a vital chokepoint through which nearly **55% of India's trade** and **80% of its energy imports** transit. The grouping acts as a geopolitical buffer between India and China, ensuring **regional multipolarity** and preventing Chinese hegemony in the Indo-Pacific.
2. **Economic and Connectivity Linkages:** India's partnership with ASEAN is anchored in the **ASEAN-India Free Trade Agreement (AIFTA, 2010)**, covering goods, services, and investments. Flagship projects like the **India-Myanmar-Thailand Trilateral Highway** and **Kaladan Multi-Modal Transit Transport Project** exemplify India's **connectivity diplomacy** linking South and Southeast Asia.
3. **Diplomatic and Multilateral Leverage:** ASEAN's **centrality in the East Asia Summit (EAS)**, **ASEAN Regional Forum (ARF)**, and **ADMM+** provides India a crucial voice in shaping the Indo-Pacific's evolving security architecture. India's vision of a **"Free, Open, and Inclusive Indo-Pacific" (FOIIP)** resonates strongly with ASEAN's **Outlook on the Indo-Pacific (AOIP)**.
4. **Security and Defence Cooperation:** India has intensified maritime cooperation under **Security and Growth for All in the Region (SAGAR)** and conducted joint exercises like **SIMBEX (Singapore)** and **MILAN (Visakhapatnam)**. Counter-terrorism training, cyber security cooperation, and disaster relief coordination reinforce ASEAN's role as India's **security stabilizer**.

The Ongoing Flux and Regional Urges

1. **China's assertiveness** in the South China Sea and coercive Belt and Road Initiative (BRI) projects have unsettled ASEAN nations, many of which seek **strategic hedging** through deeper engagement with India.
2. The **US-China rivalry** and **fragmentation of global supply chains** post-COVID-19 have enhanced the attractiveness of India as a **trusted production and security partner**.
3. Domestic challenges within ASEAN — like political instability in Myanmar and resource competition — make **India's non-interventionist and developmental diplomacy** more acceptable.
4. As **ASEAN seeks diversification**, India must project itself not just as a balancing power but as a **developmental and normative partner** rooted in shared values of democracy and pluralism.

Strategies to Enhance Ties

1. **Deepening Economic Integration:** Rationalize AIFTA to address trade deficits (currently **~$43 billion** in ASEAN's favour). Integrate with **Regional Comprehensive Economic Partnership (RCEP)**

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norms through sectoral cooperation. Promote **digital economy partnerships** and green technology investments under **"Act East 2.0."**

2. **Connectivity and Infrastructure:** Expedite the **Trilateral Highway Extension to Vietnam**. Integrate **ASEAN Master Plan on Connectivity 2025** with India's **PM Gati Shakti** and **Sagarmala** projects. Establish an **ASEAN-India Maritime Logistics Hub** in the Andaman-Nicobar region.

3. **Strategic and Security Collaboration:** Institutionalize **ASEAN-India Maritime Dialogue** and enhance joint patrols in the Andaman Sea. Promote **defence technology co-development** and **capacity building** under **Make in India for the Indo-Pacific**.

4. **People-to-People and Cultural Diplomacy:** Strengthen educational exchanges via the **ASEAN-India Network of Think Tanks**. Promote **Buddhist and maritime heritage corridors** linking Nalanda, Bodh Gaya, and Southeast Asia to revive India's soft power narrative.

5. **Multilateral Coordination:** Use platforms like **Quad**, **IORA**, and **EAS** for converging ASEAN's regional security goals with India's Indo-Pacific Vision. Reinforce ASEAN centrality through **inclusive multilateralism** rather than alliance politics.

Conclusion

As Amartya Sen reminds in **The Idea of Justice**, cooperation thrives on inclusive fairness. India and ASEAN must co-create a resilient Indo-Pacific order anchored in equality, stability, and mutual growth.

Justify self-sufficiency in pulses and oilseeds as a critical step for India's nutritional security. Evaluate its potential to enhance soil health and water conservation.

Introduction

India imports **60% of its edible oils and 15% of its pulses**, despite being the **world's largest pulse consumer**. Achieving self-sufficiency aligns with **FAO's "Nutrition through Sustainable Agriculture" vision.**

Self-Sufficiency and Nutritional Security

1. **Addressing Protein Deficiency and Malnutrition:** Pulses are the **primary protein source for 70% of vegetarians** in India. According to **NFHS-5**, **36% of children under five** suffer from stunting due to protein-energy malnutrition. Enhancing domestic pulse production under the **₹11,440 crore "Mission for Aatmanirbharta in Pulses (2025–31)"** can meet per capita nutritional requirements while reducing import dependence.

2. **Reducing Import Dependence and Price Volatility:** India spends nearly **₹1.5 lakh crore annually** on edible oil imports, impacting the current account and food inflation. Self-sufficiency would stabilize domestic prices, protect consumers from global shocks (as seen post-Ukraine conflict), and strengthen **food sovereignty** under the **Atmanirbhar Bharat Abhiyan**.

3. **Boosting Agricultural Income and Crop Diversification:** Currently, 80% of India's irrigated area is under rice and wheat. Diversifying toward pulses and oilseeds aligns with **NITI Aayog's Model Act on Crop Diversification (2022)**, ensuring remunerative income, especially in rainfed regions that constitute **55% of cultivated land**. Example: **Madhya Pradesh's success in soybean revolution** through supportive MSP and extension services illustrates how diversification can boost income and soil health.

Enhancing Soil Health

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1. **Natural Nitrogen Fixation and Reduced Fertiliser Dependence:** Pulses such as **gram, pigeon pea, and lentil** fix atmospheric nitrogen through **rhizobium symbiosis**, adding 30–40 kg N/ha to soil, reducing chemical fertiliser use. India's average **Soil Organic Carbon (SOC)** at **0.3%**—below the ideal 1% recommended by **Rattan Lal (World Food Prize, 2020)**—can improve through pulse-based cropping systems and regenerative practices.
2. **Regenerative Agriculture and Soil Biodiversity:** Integration of pulses and oilseeds in rotations (e.g., **rice–mustard**, **cotton–soybean**) promotes **microbial activity, carbon sequestration**, and **soil structure restoration**. **Indian Council of Agricultural Research (ICAR)** studies indicate a **25% increase in soil fertility index** under pulse-based intercropping systems.
3. **Reduced Agrochemical Load:** Oilseed crops like **groundnut and mustard** require fewer pesticides compared to rice-wheat monocropping. This mitigates **soil toxicity and nutrient leaching**, ensuring long-term soil resilience.

Conserving Water and Ecological Balance

1. **Low Water Footprint Crops:** Pulses require only **300–500 mm of water**, compared to **2,000–3,000 mm for paddy**, making them ideal for **semi-arid and rainfed regions**. Promoting pulses in Punjab-Haryana could save **60 billion cubic metres of groundwater annually** (CSE, 2023).
2. **Reduced Pollution and Climate Benefits:** Replacement of water-guzzling crops reduces the need for stubble burning, curbing **PM2.5 emissions** in North India. Moreover, nitrogen-fixing crops cut N_2O **emissions**, a potent greenhouse gas, aligning with India's **National Mission on Sustainable Agriculture (NMSA)** and **INDC targets**.
3. **Integration with Agroecology and Traditional Knowledge:** Indigenous practices such as **mixed cropping (Baranaja in Uttarakhand)** and **pulse-based rotations in Bundelkhand** enhance resilience against droughts and ensure **nutritional and ecological sustainability**.

Way Forward

1. **Policy Reorientation:** Crop-neutral subsidies under **PM-KUSUM** and rationalised MSPs for pulses and oilseeds.
2. **R&D and Innovation:** Investment in high-yielding, biofortified varieties through **ICAR-IIPR** and **AIM-ANRF**.
3. **Market and Processing Infrastructure:** Strengthen **e-NAM integration**, storage, and value chain support for oilseed refineries and dal mills.
4. **Awareness and Incentives:** Promote **nutri-cereal-pulse combinations** under **POSHAN Abhiyaan** for public nutrition and environmental co-benefits.

Conclusion

As **M.S. Swaminathan noted, "If agriculture goes wrong, nothing else will go right."** Self-sufficiency in pulses and oilseeds ensures nutrition, soil revival, and sustainable water stewardship for India's future.

Examine the primary threats leading to IUCN red-flagging the Western Ghats. Critically analyze the interplay of hydropower projects and climate change on this biodiversity hotspot.

Introduction

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According to **IUCN's World Heritage Outlook 4 (2025),** the **Western Ghats—one of the world's eight "hottest biodiversity hotspots"—**face **"significant concern"** due to climate change, tourism pressure, and unregulated hydropower expansion.

Ecological Significance of the Western Ghats

1.   Stretching over 1,600 km across six Indian states, the **Western Ghats** host nearly **30% of India's plant and animal species**, with **325 globally threatened species (UNESCO).**

2.   It regulates monsoon patterns, serves as a major **carbon sink**, and provides ecosystem services worth **₹1.6 lakh crore annually (TERI, 2021).**
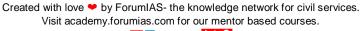
Primary Threats Leading to IUCN Red-Flagging

1. **Climate Change:** Rising temperatures and erratic rainfall have caused **altitudinal migration** of species like the **Nilgiri flycatcher** and **black-and-orange flycatcher**. Increased forest fires and **shifts in phenology** (timing of flowering and breeding) threaten ecological stability. As **per IPCC AR6 (2023),** the Western Ghats could lose **up to 23% of endemic flora** by 2050 under current warming scenarios.
2. **Hydropower Expansion:** Over **750 dams and hydropower projects** fragment habitats, altering river hydrology and sediment flow (MoEFCC, 2023). Projects like **Sillahalla Pumped Storage (₹5,843 crore)** in the Nilgiris disrupt riparian ecosystems and **aquatic biodiversity corridors**. Hydroelectric reservoirs release **methane**, undermining their role as "clean energy."
3. **Tourism Pressure:** Unregulated eco-tourism generates waste and wildlife conflict—elephants consuming garbage, forest trampling, and noise pollution. Tourist footfall increased by **over 250% in last decade** (India Tourism Statistics, 2023).
4. **Invasive Alien Species & Plantations:** Exotic species like eucalyptus and acacia outcompete native flora, affecting water retention and soil quality. Plantation expansion for tea, coffee, and cardamom erodes **ecological connectivity**.
5. **Infrastructure & Urbanization:** Road and rail expansion leads to **habitat fragmentation** and **wildlife roadkill** (notably in Wayanad and Bandipur corridors).

Interplay of Hydropower Projects and Climate Change

1. **Hydrological Disruption:** Dams alter **microclimates**, leading to reduced groundwater recharge and increased local warming. The Energy-Water-Biodiversity Nexus is severely imbalanced.
2. **Carbon Feedback Loop:** Submerged vegetation releases greenhouse gases, worsening climate change impacts.
3. **Cumulative Stress:** With climate-induced rainfall variability, reservoirs face siltation and reduced efficiency—thus negating the long-term sustainability of hydropower.
4. **Species Isolation:** Dams fragment river systems, impeding migration of aquatic species like Tor khudree (Deccan mahseer).
5. **Socio-ecological Impact:** Climate-driven rainfall extremes lead to **landslides and floods** (e.g., 2018 Kerala floods), magnified by dam mismanagement.

Way Forward: Sustainable Conservation Measures

1. **Implement Gadgil & Kasturirangan Reports:** Balance ecological sensitivity zoning (ESZ) with local livelihoods.

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2. **Integrated River Basin Management (IRBM):** Regulate hydropower through cumulative impact assessments.
3. **Community-Based Conservation:** Replicate **Sinharaja Reserve Model (Sri Lanka)** involving local youth and Panchayats.
4. **Eco-tourism Regulation:** Enforce carrying capacity norms and waste management.
5. **Restoration Ecology:** Rewild degraded corridors using native species.
6. **Climate-Resilient Policy:** Align with **Kunming-Montreal Global Biodiversity Framework** and India's LiFE Mission (2022).

Conclusion

As **Madhav Gadgil notes in "Ecology is Permanent Economy",** preserving the Western Ghats demands synergizing ecological prudence with human needs—only sustained, science-driven stewardship can ensure resilience against cascading climate threats.

Critically analyze the threat posed by deepfakes to India's democracy and digital maturity. Justify the argument that effective regulation acts as a 'steering wheel', not a brake.

Introduction

According to **NASSCOM (2024),** India's deepfake incidents surged by **150% in a year**, eroding democratic trust and digital integrity. Deepfakes blur truth, challenge governance, and test India's readiness for ethical AI maturity.

Understanding Deepfakes and the Democratic Threat

1. Deepfakes are **AI-generated synthetic media** that manipulate videos, images, or audio to impersonate real individuals. Powered by **Generative Adversarial Networks (GANs)**, they represent the darker side of the **AI revolution**.

2. In democracies like India, where **900 million citizens** are digitally connected, such misinformation can **undermine electoral integrity**, **erode institutional trust**, and **polarize public opinion**. For example, a 2023 video of an Indian political leader fabricated using AI went viral, influencing voter sentiment before it was debunked.

The Multi-Dimensional Threat Landscape

1. **Political Manipulation and Electoral Integrity:** Deepfakes can distort campaign narratives, impersonate candidates, or spread hate speech. **Brookings Institution (2022)** warned that deepfakes can trigger "information warfare," eroding public trust in democracy faster than fact-checks can respond.

2. **Social Polarization and Psychological Manipulation: MIT research (2021)** found fake news spreads **six times faster** than genuine news online. Deepfakes exploit **cognitive biases** and linguistic diversity in India, enabling hyperlocal misinformation.

3. **National Security Risks:** AI-generated videos of military orders or diplomatic statements could create **strategic confusion** and **information sabotage**. The **EU DisinfoLab (2023)** highlights how deepfakes could weaponize hybrid warfare.

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4. **Gendered Harassment and Privacy Violations:** Over **90% of deepfakes online are non-consensual pornographic content** (Sensity AI, 2023). Indian women face rising digital sexual violence, undermining gendered safety and online dignity.

India's Digital Maturity: Governance and Gaps

India has strong digital architecture—**Aadhaar, CoWIN, UPI**—showcasing digital inclusion. Yet its **"information hygiene"** remains weak. The **Information Technology Rules (2021)** lack specific deepfake provisions. The proposed **MeitY 2024 Amendment** introduces key innovations:

· Defining "synthetic media" legally.

· Mandatory **watermarking and 10% visual disclaimers**.

· Automated detection systems.

· Retention of **safe-harbour protection** for compliant intermediaries. These align India closer to the **EU AI Act (2024)**, which mandates watermarking and provenance tracking.

However, implementation challenges persist—**low AI literacy**, **weak detection algorithms**, and **jurisdictional ambiguity** across states.

Regulation as a 'Steering Wheel', Not a Brake

Effective governance must **guide innovation**, not **stifle it**.

1. **Steering Function:** Regulation ensures **authenticity infrastructure**, similar to Aadhaar's identity verification—each content piece can carry a **digital provenance signature**.
2. **Tiered Accountability:** Platforms creating, hosting, or monetizing synthetic media should bear **graduated responsibility**.
3. **AI Literacy and Citizen Empowerment:** Embedding AI awareness in school curricula and media literacy campaigns builds societal immunity against manipulation.
4. **Collaborative Governance:** A multi-stakeholder approach—MeitY, academia, civil society, and startups—can balance innovation with integrity.

Global parallels:

1. **China's "Deep Synthesis Regulation" (2023)** demands state pre-approval.
2. **US "AI Commitments Pact" (2024)** relies on voluntary watermarking. India can pioneer a **"third way"**—democratic, transparent, and innovation-friendly.

The Way Forward

1. Establish a **National Deepfake Monitoring Cell** under CERT-In.
2. Incentivize R&D in **AI-authenticity algorithms**.
3. Strengthen **Digital India Act (2025)** to codify synthetic media rules.
4. Foster **cross-platform early-warning systems** for virality detection.

Conclusion

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As **Yuval Noah Harari cautions in "Homo Deus", technology without trust endangers truth itself**. India's deepfake regulation must not curb innovation—it must steer democracy toward digital responsibility.

Evaluate the sluggish progress in the ASEAN-India Trade in Goods Agreement review. Justify why policymakers must prioritize long-term strategic gains over minor short-term inconveniences for stronger ties.

Introduction

According to **ASEAN Secretariat (2024), India-ASEAN trade** touched **$131 billion**, yet tariff disputes and review delays under AITIGA hinder deeper integration. Revisiting this pact is vital for sustained Indo-Pacific economic resilience.
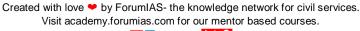
ASEAN–India Trade in Goods Agreement (AITIGA)

1. Signed in **2009** and implemented in **2010**, AITIGA was designed to promote free trade between India and the **10 ASEAN nations** by reducing tariffs on over **80% of goods**.

2. However, since its launch, India's **trade deficit with ASEAN** has widened — from **$7 billion in 2010 to $43 billion in 2023** (Ministry of Commerce data).

3. This asymmetry triggered India's demand for a review in **2019**, which remains slow and incomplete.

Causes Behind the Sluggish Progress

a. Structural Asymmetry and Tariff Sensitivities: ASEAN enjoys greater export competitiveness in electronics, palm oil, and machinery, whereas India's exports—textiles, pharma, and IT—face **non-tariff barriers (NTBs)**. Example: Thailand's complex sanitary standards restrict Indian agricultural imports. India's request for **rules of origin (ROO)** verification to curb "third-country routing" (especially via China) has slowed negotiations.

b. Institutional Delays and Divergent Priorities: ASEAN operates on **consensus-driven diplomacy**, making decision-making incremental. India, post its **RCEP withdrawal in 2019**, has adopted a cautious trade posture emphasizing **"fair and balanced"** agreements. This policy asymmetry creates inertia.

c. Pandemic and Geoeconomic Reprioritization: COVID-19 disrupted review timelines; subsequent global fragmentation led India to focus on **supply chain resilience (SCRI with Japan and Australia)** rather than ASEAN-specific liberalization.

d. Digital and Services Neglect: While global trade shifts towards **digital commerce and services**, AITIGA remains goods-centric, excluding high-value sectors like **AI, fintech, and e-commerce**, weakening India's comparative advantage.

The Strategic Case for Revitalizing AITIGA

1. **Indo-Pacific Economic Architecture**: Revamping AITIGA aligns with India's Act East Policy and Indo-Pacific Oceans Initiative (IPOI), enhancing its credibility as an **economic as well as security partner**. ASEAN accounts for **over 11% of India's global trade**, making it the **fourth-largest trading partner**.

2.   **Geopolitical Imperatives: Countering China's Influence:** China's dominance through **RCEP and Belt and Road Initiative** challenges India's regional leverage. Deeper ASEAN engagement through AITIGA strengthens **"strategic autonomy"** and **rules-based trade order** in the Indo-Pacific.

3.   **Supply Chain Diversification and Resilience**: ASEAN–India collaboration in electronics, renewable energy, and critical minerals supports **"China+1"** diversification. **Example: India–Vietnam cooperation in rare earths (2023)** signals potential for strategic industrial synergy.

4.   **Socioeconomic and Developmental Synergy:** Enhanced trade promotes ASEAN-India Vision 2030 goals—sustainable growth, MSME integration, and food security. It complements India's **"Viksit Bharat 2047"** vision and ASEAN's **Community Vision 2045**.

Prioritizing Long-Term Gains Over Short-Term Inconveniences

Short-term costs like tariff adjustments or transitional revenue loss must be weighed against broader benefits:

1. **Economic Multiplier:** Market access for India's manufacturing, agriculture, and digital goods.
2. **Strategic Leverage:** Greater presence in the Maritime Southeast Asian corridor.
3. **Geopolitical Signaling:** Reinforces India's role as a First Responder and trusted partner.
4. **Sustainable Development:** Promotes green transitions, food security, and blue economy initiatives under the ASEAN–India Year of Maritime Cooperation (2026).

Global precedents show that initial trade liberalization pains often yield high dividends — as witnessed in the **EU Single Market (1993)** and **NAFTA (1994)** transitions.

The Way Forward

1. **Accelerate AITIGA Review Mechanism** with time-bound deliverables.
2. Integrate **services, digital economy, and value-chain partnerships**.
3. Establish a **Trade Facilitation Council** for NTB resolution.
4. Strengthen **Track 1.5 and 2 dialogues** for business–policy synergy.
5. Foster **MSME linkages** for equitable benefits across sectors.

Conclusion

As **Amartya Sen observed in "Development as Freedom",** growth must serve shared prosperity. AITIGA's revival demands patience—short-term pains are justified by the promise of long-term regional resilience.

Examine the potential consequences of US-China flux on Asian nations following President Trump's visit. Critically analyze the balance between continuity and adjustment in US foreign policy.

Introduction

With U.S.–China trade exceeding **$760 billion (2023)** and both controlling nearly **40% of global GDP**, shifts in their relations influence Asia's geopolitical architecture. Trump's Asia visit signals continuity with tactical recalibrations.

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The U.S.–China Relationship: A Structural Rivalry

1.   For nearly a century — from World War II cooperation to the Cold War rupture, Nixon's **1972 détente**, and the recent decoupling — the U.S.–China relationship has shaped the Asian balance of power.

2.   According to the **U.S. National Security Strategy (2022)**, China is the "most consequential strategic competitor."

3.   Trump's tenure intensified **tech decoupling, tariff barriers, and supply-chain diversification**, labeling China a "strategic adversary" (2017 NSS).

4.   The current phase suggests neither confrontation nor reconciliation — but **managed strategic competition**.

Consequences of the Flux for Asian Nations

Impact Area	Implications for Asian Nations
Strategic Uncertainty	Fear that the U.S. might bargain on **Taiwan, South China Sea, or Indo-Pacific priorities**, leaving regional partners vulnerable.
Economic Security Concerns	Countries dependent on Chinese supply chains face pressure to shift toward U.S.-aligned alternatives (e.g., **"friend-shoring"**, "China+1").
Alliance Strengthening	Strengthening of alliances: reaffirmation of **AUKUS**, "golden age" of U.S.–Japan partnership, and expanded QUAD cooperation.
Technological Bifurcation	Asian economies must choose between **U.S. technological ecosystem (chip alliances)** vs China's **Digital Silk Road**.

Example: **Vietnam and Philippines** deepening defense cooperation with the U.S. due to China's South China Sea assertiveness.

The India Factor: Entrapment vs Abandonment Dilemma

1.   India's concerns emerge from two anxieties: **Entrapment**, being dragged into a conflict as a U.S. junior partner. **Abandonment**, U.S. cutting a deal with China compromising Indian interests.

2.   India's power asymmetry with China — seen in border tensions along LAC (2020 Galwan) — makes U.S. support crucial. However, India must avoid overdependence and instead enhance **strategic autonomy** through: Economic reforms, Defense modernization, Technology partnerships (semiconductors, cyber, AI).

3.   The U.S.–India technology initiative (iCET, 2023) shows Washington now sees India as a **balancing power** in the Indo-Pacific.

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Continuity and Adjustment in U.S. Foreign Policy

Continuity in U.S. Strategy	Adjustment Under Trump
Maintaining alliances (Japan, South Korea, ASEAN, Australia)	Less emphasis on multilateral frameworks; more transactional bargaining.
Countering China's rise in Indo-Pacific	Tactical willingness to explore truce with China (trade/technology).
Upholding Taiwan's security	Fear Trump may use Taiwan as a **negotiation chip**.

Trump's Asia visit reaffirmed:

- Commitment to **AUKUS**,
- Critical minerals diversification,
- Supply chain restructuring to reduce China dependency.

Thus, the U.S. is **refining**, not abandoning, its Indo-Pacific strategy.

What Asian Nations Should Do

a) **Hedge and diversify** partnerships rather than choosing blocs.
b) Join **minilateral coalitions** (QUAD, IPEF).
c) Build indigenous capabilities in semiconductors, AI, cyber defense.

The future of Asia lies not in alignment, but **multi-alignment**.

Conclusion

As **Henry Kissinger notes in "World Order",** power shifts must be managed, not feared. Asian nations, including India, must leverage U.S.–China flux to deepen autonomy and strategic leverage.

Critically analyze the proposition that restricting urban planning to land-use planning hinders growth. Examine how a holistic approach is essential for achieving 'Viksit Bharat' by 2047.

Introduction

UN projects **50% of India will be urban by 2047**, contributing nearly **75% of GDP**. Restricting planning to land-use undermines economic dynamism, climate resilience, and livability—critical for achieving Viksit Bharat.

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How land-use–centric planning restricts India's growth

1. **No linkage with economic vision**: Master Plans largely focus on zoning and permissible land use. Cities are treated as physical spaces, not as **economic growth hubs**. **Example:** Most Master Plans do not assess economic drivers or job-creation potential, violating the idea of **strategic spatial planning** advocated by UN-Habitat.
2. **Ignores rapid demographic and employment transitions**: Urban population increases by **25–30 million yearly** (MoHUA). Current planning extrapolates past growth trends rather than projecting jobs-driven migration.
3. **Neglect of natural resource and carrying-capacity constraints**: Cities like Bengaluru and Chennai face **severe groundwater depletion** (NITI Aayog Composite Water Index Report). Land-use planning ignores **resource budgeting**, leading to water scarcity, flooding, and heat islands.
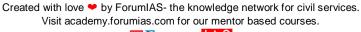4. **Fragmented planning within municipal boundaries**: Urban expansion occurs beyond municipal limits—metros now spill into **peri-urban regions**. Lack of **metropolitan governance** leads to duplication of infrastructure and unplanned growth (case: Gurugram).
5. **Environmental degradation and poor mobility outcomes**: Transportation contributes **40% of particulate pollution in urban India** (CSE). Master Plans miss **Comprehensive Mobility Plans, climate resilience pathways**, and **environmental risk assessments**.

Thus, a **zoning mindset** results in **spatial growth without economic or ecological strategy.**

Why a holistic planning approach is essential for Viksit Bharat (2047)

A modern planning paradigm must integrate the following pillars:

Element of Holistic Planning	Strategic Outcome
Economic planning + job mapping	Aligns cities with national GDP and employment goals.
Natural resource budgeting & climate action plans	Ensures resilience and reduces vulnerability (SDG-11).
Comprehensive mobility planning	Reduces congestion, emissions; promotes TOD, NMT.
Regional planning beyond city limits	Enables industrial expansion into smaller towns; supports Make in India.
Data-driven governance (GIS, digital twins)	Real-time service delivery, predictive management.

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Case studies demonstrating holistic success

- **Ahmedabad BRTS (Janmarg)**: Integrated mobility planning → increased modal shift to public transport, reducing congestion & pollution.
- **Indore Waste Management Model**: Zero-landfill approach using **PPP + behavioral nudges**; ranked **India's cleanest city** (Swachh Survekshan).
- **Singapore Urban Planning Model** Resource **budgeting + mixed-use planning + transit-oriented development (TOD) → top global liveability index.**
- **Delhi NCR Regional Plan (NCRPB)**: Planning at regional scale enabled Noida–Gurugram industrial corridors.

These examples demonstrate that **planning for economy + ecology + equity** drives sustainable development.

The Way Forward: Reforms Needed

1. Shift from **zoning-based land-use → strategic economic and ecological planning**.
2. Mandate **City Economic Vision Papers** before Master Plans (as recommended by NITI Aayog Urban Strategy 2047).
3. Integrate **urban mobility, climate action, natural resource budgeting** into planning statutes.
4. Build a new cadre of **urban planners, climate economists, GIS experts**—aligning education to future needs.
5. Strengthen **Metropolitan Planning Committees (Article 243ZE)** for interdepartmental coordination.

Conclusion

Cities thrive when planning nurtures people and markets. A holistic urban strategy is indispensable for a Viksit Bharat.

Examine the potential for Norway and India to become green maritime partners. Justify their shared responsibility in tackling common oceanic challenges and promoting global good.

Introduction

With **90% of global trade moving through oceans (IMO)** and maritime emissions contributing **3% to global GHGs**, collaboration between emerging maritime India and green-technology leader Norway is critical for sustainable ocean governance.

Why Norway–India Partnership Has Strong Potential

1. **Complementary Strengths**
   - **Norway**: leader in green maritime technology, hydrogen- and ammonia-powered vessels, and autonomous electric ships (e.g., **Yara Birkeland**, world's first zero-emission autonomous container ship).
   - **India**: fast-growing shipbuilding hub, skilled workforce, strategic location along major sea lanes.
2. **Institutional Mechanisms Already in Place**: **India–Norway Ocean Dialogue (2019)** and **Task Force on Blue Economy** focus on: marine pollution reduction, sustainable ocean management and

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green shipping innovation. **TEPA (India–EFTA Trade and Economic Partnership Agreement, 2025)** boosts technology transfer, investment flows, and seafarer exchange.

3. **Green Shipping Corridors**: Both countries support **IMO Net-Zero Framework**, aiming at **net-zero emissions from shipping by 2050**. Potential India–Norway green corridor between **Cochin Shipyard ↔ Norwegian ports** to facilitate low/zero-emission fleet movement.

4. **Shipbuilding and Recycling Synergies**: About **10% of new ships ordered by Norwegian Shipowners' Association are built in India**. Cochin Shipyard recently received **14-vessel orders from Norway's Wilson ASA**, proving India's reliability. India is advancing as a global leader in **safe, environmentally compliant ship recycling**, aligning with the **Hong Kong Convention**.

5. **Human Capital Cooperation**: Indian seafarers constitute the **2nd largest workforce on Norwegian-controlled vessels**. TEPA facilitates **training and mobility of seafarers**, enhancing maritime capacity-building.
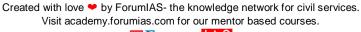
Shared Responsibility Toward Global Good

1. **Tackling Marine Pollution**: Both nations support initiatives on combating **microplastics and oil spill management**. Contributing to global action aligns with **SDG-14: Life Below Water**.

2. **Climate and Biodiversity Commitments**: Norway aims to cut maritime emissions by **50% by 2030** (compared to 2005). India's **Maritime India Vision 2030 and Amrit Kaal 2047** promote clean ports, LNG/ammonia-based fuels, and digital port management.

3. **Democratising Ocean Governance**: As "major ocean nations," they advocate **rules-based order** in the Indo-Pacific and Arctic, reinforcing UNCLOS principles of freedom of navigation.

4. **Women and Inclusivity in Maritime Sector**: Norway supports gender inclusion initiatives like **Maritime SheEO Conference**, with increasing participation of Indian women seafarers.

Way Forward

Priority Area	Policy Direction
Green fuel development	Joint R&D on hydrogen/ammonia propulsion
Green shipping corridors	Create Norway–India emission-free maritime routes
Capacity building	Training exchanges, seafarer skilling
Digital port solutions	Use AI, IoT for efficient port operations

Conclusion

As **Buckminster Fuller** said, "We are all astronauts on the same spaceship Earth." Norway–India green maritime cooperation is not partnership—it is stewardship toward oceans, climate responsibility, and global good.

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Evaluate the Paris Agreement's success as an example of working multilateralism. Critically analyze the forces driving the purportedly "unstoppable" global energy transition a decade later.

Introduction

Adopted in 2015, the Paris Agreement shifted projected warming from ~4–5°C to ~2–3°C (UNEP Emissions Gap Report). It showcases how **collaborative, bottom-up climate multilateralism** can influence global energy trajectories.

Paris Agreement: A success of multilateralism

Unlike previous treaties (Kyoto Protocol), Paris introduced a **flexible, nationally determined** climate architecture:

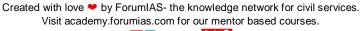| Feature	Why it strengthened multilateralism
NDCs (Nationally Determined Contributions)	Allowed countries autonomy; enhanced participation from 196 parties.
"Common but Differentiated Responsibility + National circumstances (CBDR-RC)"	Recognized historical responsibility while enabling equity.
Global stocktake every 5 years	Creates collective accountability.

Achievements within a decade:

1. Renewables became **cheapest energy source** in most regions (IEA, 2024).
2. Emissions trajectory shifted downward; previously 4–5°C warming projection moderated to ~2–3°C.
3. Climate finance flows increased to **$1.3 trillion in 2023**, though still below needs.
4. The **International Solar Alliance (ISA)**—co-created by India and France—grew to **120+ member nations**, enhancing solar capacity in developing economies.

5. Thus, Paris demonstrated that **multilateral consensus can drive global behavioral change**.

Why the global energy transition appears "unstoppable"

The decade post-Paris witnessed a structural shift in energy economics and technology:

1. Economics: Renewables are now cheaper: Solar costs fell **89% between 2010–2023** (IRENA). In 2024, **90% of new power capacity added globally was renewable** (IEA). Electric Vehicles rose from <1% (2015) to **~20% of global car sales** (IEA, 2024). Markets—not just morality—are driving decarbonization.

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2.   Technology breakthroughs: Storage cost reduction: **lithium-ion battery prices fell 83% since 2015**. Offshore wind, green hydrogen, and carbon capture became commercially viable.

3.   Geopolitical shifts: Energy security post-Ukraine war accelerated renewable adoption as EU REPowerEU plan aims for **45% renewable share by 2030**.

4.   National initiatives

·   **India:** 50% installed capacity from non-fossil sources—achieved 5 years early.

·   **U.S.:** Inflation Reduction Act ($369 billion green investment).

·   **China:** World's largest producer of solar panels, batteries, and EVs.

These shifts lock in a future **where fossil investments risk becoming stranded assets**.

Critical Gaps and Limitations

Challenge	Evidence
Insufficient emission cuts	Current NDCs lead to **2.5–2.9°C warming (IPCC AR6).**
Global climate finance gap	Developing countries need **12x current funding (OECD, 2024).**
Adaptation injustice	Less than **8%** of climate finance goes to adaptation **(UNFCCC).**

Thus, while the transition is progressing, **equity and finance are weak links**.

Conclusion

As **Nicholas Stern noted in The Economics of Climate Change**, climate action is a growth opportunity. The Paris Agreement proves multilateralism works, but accelerated ambition and equitable finance must define the next decade.

Examine the socio-economic factors perpetuating gender wage disparity in India's informal labour market. Critically analyze how discrimination affects women's access to wage employment.

Introduction

India's informal sector employs **over 90%** of its workforce (NSSO), yet women earn **30–40% less than men (ILO, 2023).** Persistent gender norms, occupational segregation, and wage discrimination deepen labour market inequality.

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Informal labour market: A gendered ecosystem

1.   Despite rising female workforce participation (PLFS 2024), most women remain concentrated in **low-productivity** and **unpaid family work**.

2.   Increase in rural women's participation is driven by agriculture-based **self-employment and unpaid labour**, often misclassified as work.
3.   Women are predominantly engaged in **disguised unemployment i.e. petty, residual and subsistence-level activities**, reinforcing income precarity.
4.   Existence of **glass floor effect**, women trapped at the bottom of wage ladder due to structural constraints.

Socio-economic factors perpetuating gender wage disparity

Socio-economic Factor	Effect on Women	Evidence / Report
Patriarchal norms & care burden	Restricts mobility and job choice	Women perform **312 minutes/day** unpaid care vs. men's **29 minutes** (Time Use Survey 2019).
Lower human capital formation	Limited skills, lower bargaining power	Female enrolment in skill-based ITI training < **20% (MSDE).**
Occupational segregation (horizontal segregation)	Women pushed into stereotypical sectors (domestic help, handicraft)	PLFS reveals women concentrated in 4–5 low-paying job categories.
Lack of financial & asset ownership	Limits access to credit and entrepreneurship	Only **13%** women own land **(Agricultural Census 2015–16).**
Social norms on "primary breadwinner"	Women's income treated as supplementary, lowering wage expectations	Reflected in **backward-bending labour supply curve** in upper deciles..

Discrimination limiting women's access to wage employment

Despite low productivity in informal sector, **gender discrimination persists** in hiring, wages and job roles:

1.   PLFS unit-level analysis shows **women earn less than men across all categories**: **Self-employment, casual wage work and regular wage employment.**
2.   Employers prefer men due to assumptions around: maternity-related disruptions, "lower physical productivity" stereotype and lack of overtime flexibility.

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3. Wage employment is **less accessible to women**, pushing them to **self-employment** where earnings are often meagre and unpaid family work remains invisible.
4. Absence of formal contracts, maternity benefits, and grievance redressal exacerbate exploitation.

Case Study: Beedi industry

● Women constitute **70% of workers** (Labour Ministry), yet earn **30–50% lower wages** than men performing similar tasks due to home-based piece-rate work.

Consequences of wage discrimination

1. **Lack of bargaining power** in household decision making
2. **Perpetuation of feminisation of poverty**
3. Economic growth loss: reducing gender gaps can raise India's GDP by **27%** (McKinsey Global Institute).

Way Forward

Reform	Mechanism
Strengthen **Code on Wages, Code on Social Security**	Mandate equal-pay audits, enforce gender-neutral minimum wage.
Invest in **gender-responsive skilling** (Digital, STEM)	Improves access to better-paying wage jobs.
Expand **childcare infrastructure (crèches)**	Reduces unpaid care burden, increases labour market hours.
Promote **collective bargaining** for informal women workers	Self-help groups & cooperatives improve wage negotiation.

Conclusion

As **Amartya Sen** argues in **Development as Freedom,** empowerment needs choice and agency. Ensuring equitable wages in India's informal sector is not just economic reform—it is social transformation.

Examine the rationale for introducing AI curriculum from Class 3. Critically analyze the pedagogical challenges and ethical concerns associated with mainstreaming AI education in schools.
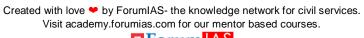
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India plans to introduce AI curriculum from **Class 3 (MoE, 2024)**, as AI is projected to add **$15.7 trillion** to **global GDP by 2030 (PwC).** Early literacy may foster digital readiness and future workforce capability.
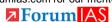
Rationale behind introducing AI curriculum from early schooling

Reason	Explanation
Building AI literacy early	The focus for Classes 3–6 is on AI literacy, not programming—understanding datasets, bias, and critical thinking.
Future job readiness & skilling	By 2030, **69% of jobs in India will require AI and data skills (NASSCOM)**. Early exposure builds a pipeline for STEM careers.
Digital empowerment and reducing AI illiteracy	With AI embedded in daily life (e.g., WhatsApp, Meta AI), not teaching AI risks creating a knowledge asymmetry.
Alignment with NEP 2020	NEP emphasizes coding, computational thinking, and 21st-century skills. AI curriculum aligns with NEP's vision of experiential learning.
Youth adoption is already happening	A Youth Pulse Survey (500 students) showed **88% of students are already using AI tools**, not just for study, but even for emotional conversations.

Pedagogical Challenges

Pedagogical Barrier	Critical Analysis
Digital divide & infrastructure gap	25% schools lack electricity **(U-DISE 2023).** Expanding AI education without electricity or computers risks deepening inequalities between urban vs rural students.
Teacher preparedness	Half of Indian teachers lack required professional qualifications (MoE). Expecting them to teach AI without proper training may result in superficial learning.
Curriculum overload	Overburdening young students risks shifting focus from foundational numeracy and literacy (ASER Report—only **25% of Class 3 students can read Class 2 text**).

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Rapidly changing technology	AI tools evolve every 6–12 months; by the time content is written, it might be outdated. **Example: "prompt engineering"** is predicted to become obsolete.

Ethical & Psychological Concerns

Concern	Critical Risks
Dis-education (Stuart Russell, Berkeley)	Continuous reliance on AI reduces motivation to think or learn—students fail to replicate an AI-generated answer in their own words.
Data privacy & emotional vulnerability	42% students chat with AI about personal issues—raising risk of data misuse, profiling, and emotional manipulation.
Algorithmic bias and misinformation	AI responses are only as good as the data they are trained on; biased datasets can reinforce stereotypes or spread misinformation.
Screen dependency & mental health	Excessive interaction with chatbots may reduce interpersonal bonding and emotional maturity among young children.

Way Forward

To ensure responsible AI education:

1. Introduce **AI literacy**, not technical AI skills, till Class 6.
2. Incorporate **offline / unplugged AI activities** to reduce inequality (as suggested in article).
3. Mandatory **teacher training modules** under **NISHTHA and DIKSHA.**
4. Strict implementation of **age-gated chatbot interactions** under Digital Personal Data Protection Act, 2023.
5. Develop AI tools in **local languages**, ensuring inclusivity.

Conclusion

As **Alvin Toffler wrote in Future Shock, "The illiterate of the 21st century will be those who cannot learn, unlearn, and relearn."** AI education must empower—without compromising equity, ethics, and curiosity.

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