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HISTORY
ECONOMICS
POLITY
SCIENCE AND TECHNOLOGY
GEOGRAPHY AND ENVIRONMENT

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The success of GST 2.0 hinges on a bedrock of trust. Examine the governance measures required to build confidence among the government, industry, and consumers for a well-oiled tax system.

Introduction

India's "Goods and Services Tax (GST), hailed as **the biggest tax reform since Independence,** contributes **nearly 28% of total revenues (Economic Survey 2024),** yet its legitimacy depends fundamentally on stakeholder trust."

Trust Deficit in GST 1.0

1. **Multiplicity of slabs and disputes**: 4-rate structure caused "classification litigations" and inverted duty structures, disproportionately burdening MSMEs.
2. **Compliance overload**: Small businesses lacked capacity to handle frequent filings and refund delays.
3. **Consumer disconnect**: Savings from rate cuts were not always passed on; inflation persisted in essentials.

These issues eroded confidence in the tax architecture, demanding a governance reset in GST 2.0.

Governance Measures to Build Trust in GST 2.0

Institutional Credibility and Transparency

1. **Simplified rate structure** (5%, 18%, 40%) reduces ambiguity, curbing disputes and improving predictability.

2. GST Council functioning must be **federal, participatory, and data-driven**, preventing perceptions of central dominance.

3. OECD's "Best Practices for Consumption Taxes" stress **policy stability** as a trust-enhancing mechanism.

Consumer Confidence

1. **Anti-profiteering enforcement**: Ensure firms pass on rate cuts, monitored via DGAP and consumer forums.

2. **Price transparency**: Mandated disclosure on labels showing "pre- and post-GST price" during transition.

3. **Inflation moderation**: RBI projects that simplified GST could lower CPI by ~0.3–0.4%, benefiting middle- and lower-income households.

Industry Confidence

1. **Ease of compliance**: Faster refunds, "One Nation, One Return" system, and **GSTN digitisation** for automated reconciliation.

2. **Litigation minimisation**: Pre-ruling authorities, real-time classification guidance, and risk-based audits.

3. **Level playing field**: MSMEs given simplified quarterly filing, stock adjustment relief, and targeted capacity-building programs (via CII, FICCI).

Government Confidence & Fiscal Sustainability

1. **Revenue neutrality**: Though short-term loss is projected at **"₹70,000–80,000 crore" (CRISIL 2025),** buoyancy will recover through higher compliance, consumption, and formalisation.

2. **Robust IT backbone**: Strengthening GSTN, plugging invoice mismatches with AI-driven analytics **(NITI Aayog 2025 report).**

3. **Feedback loops**: A statutory **GST Dispute Redressal Authority** and periodic rate rationalisation review to resolve bottlenecks.

Citizen–State Compact

1. **Trust through fairness**: Taxpayer charter ensuring respect, accountability, and grievance redress.

2. **Awareness campaigns**: CII's ongoing awareness drives exemplify public-private trust-building.

3. **Social contract logic**: As per Amartya Sen's idea of **"participatory development,"** legitimacy arises when citizens see tangible benefits in reduced costs and better services.

Way Forward

1. GST 2.0 must integrate **technology-driven monitoring**, continuous dialogue with industry, and citizen-focused accountability.
2. Success hinges on **predictability, transparency, and participatory governance**—ensuring trust is not merely promised but institutionally secured.

Conclusion

As it is being observed cooperative trust determines systemic success; GST 2.0 can deliver inclusive growth only if governance ensures fairness, transparency, and shared gains.

Criminal defamation is incompatible with democratic debate." Evaluate the growing use of criminal defamation proceedings and discuss how it undermines free speech and public discourse in a democracy.

Introduction

"India ranks **159/180 in the World Press Freedom Index (2025),** reflecting shrinking democratic space, where criminal defamation—validated in **Subramanian Swamy v. Union of India (2016)**—increasingly curtails constitutionally guaranteed free speech."

The Nature of Criminal Defamation

1. Defined under **Sections 499–500 of IPC**, prescribing imprisonment up to 2 years.
2. Intended to protect individual reputation as part of **Article 21 (right to life)**.
3. However, it clashes with **Article 19(1)(a) freedom of speech**, since restrictions under **Article 19(2)** must be "reasonable."

Growing Use & Judicial Concerns

1. Justice M.M. Sundresh (2025) expressed unease at rising misuse of criminal defamation to intimidate critics.
2. Cases:
    1. Rahul Gandhi (2023, Surat court conviction) leading to disqualification.
    2. Editors of The Hindu (Jayalalithaa govt.) facing multiple summons.
    3. Defamation cases by political leaders (Nitin Gadkari, Arun Jaitley vs. Arvind Kejriwal, 2012–14) delaying governance.
3. Trial courts often issue summons mechanically, without assessing the "threshold of defamatory speech."

Why It Undermines Democratic Debate

1. **Chilling Effect on Free Speech**: Threat of imprisonment fosters **self-censorship**, particularly among journalists, activists, and opposition leaders. Small-town journalists face harassment through distant court appearances.
2. **Tool of Political Retribution**: Weaponisation of defamation suits to silence rivals. Example: Criminal complaints used as **lawfare**—strategic litigation to exhaust opponents.
3. **Disproportionate Remedy**: Reputational harm is intangible and reparable via **civil remedies** (damages, injunctions, retractions). Criminal sanction with jail is **disproportionate under "principle of proportionality"** (Justice K.S. Puttaswamy v. Union of India, 2017).
4. **Global Practice**: U.K. (2009), Ghana, and the U.S. have decriminalised defamation. UN Human Rights Committee (General Comment No. 34) urges states to abolish criminal defamation as inconsistent with **ICCPR Article 19**.

Way Forward

1. **Decriminalisation & Civil Remedies**: Shift to **civil defamation** ensuring compensation and apology as proportional remedies. Strengthen **fast-track civil courts** to address reputational harm.
2. **Judicial Safeguards**: Supreme Court guidelines for trial courts to apply **prima facie speech thresholds** before issuing summons. Adopt "actual malice" standard (New York Times v. Sullivan, U.S.) in political speech cases.
3. **Institutional Support for Free Press**: Strengthen **Press Council of India** and create independent ombudsman for media grievances. Support whistleblowers under **Whistleblower Protection Act, 2014**.
4. **Democratic Maturity**: Encourage tolerance for dissent as part of **"marketplace of ideas"** (Justice Holmes, U.S. SC). Political actors must use counter-speech, not criminal law, to address criticism.

Conclusion

As **John Stuart Mill argued in On Liberty**, **silencing opinion robs society of truth**; abolishing criminal defamation is essential to protect India's democratic discourse, constitutional morality, and informed citizenship.

The UN is facing a crisis of relevance. Critically evaluate whether the institution can move beyond ceremony to offer genuine service in humanitarian aid and conflict resolution in a multipolar world.

Introduction

Marking its **80th anniversary, the United Nations—founded in 1945** to ensure peace—faces a legitimacy crisis, with over **170 ongoing conflicts and record 362 million requiring humanitarian** aid **(UNOCHA, 2024).**

The UN's Crisis of Relevance

1. **Institutional Paralysis**: Veto politics: Russia's veto stalled Security Council resolutions on Ukraine; U.S. vetoes blocked ceasefire calls on **Gaza (2023–25).** Security Council remains **P5-dominated, unrepresentative of Global South**—no African or Latin American permanent members.
2. **Humanitarian Weakness:** Funding crisis, UN's humanitarian appeals are only **36% funded (UNOCHA 2024)**, the lowest in a decade. UNRWA in Gaza, crippled by U.S. and donor cuts, yet remains the only lifeline for **6 million Palestinians**.
3. **Peacekeeping Fatigue**: Troops sent without equipment, arrears in reimbursements (~$1.3 billion in 2023). Failures in Rwanda (1994), Srebrenica (1995), and more recently in Mali, South Sudan, Haiti raise doubts about credibility.
4. **Great Power Contestation**: Multipolar disorder, U.S. treats multilateralism à la carte, funding selective mandates; China emphasizes **"Global Development" rhetoric** with thin contributions; **Europe reduces commitments under domestic pressure**. **Regional coalitions (AU-led in Somalia, ASEAN diplomacy in Myanmar, Gulf-led aid in Yemen)** increasingly bypass **UN frameworks.**

Yet, Why the UN Still Matters

1. **Normative Legitimacy**: **Charter of the United Nations** still embodies collective security principles; **150+ states still address the General Assembly annually**. Norms on human rights (UDHR, 1948), refugee protection (1951 Convention), and climate (Paris Agreement, 2015) retain moral weight.
2. **Essential Service Provider**: **World Food Programme**, fed **160 million people in 2023**. **WHO,** coordinated COVAX, delivering **over 1.9 billion vaccine doses** during COVID-19. **UNICEF,** vaccinated 45% of world's children annually.
3. **Conflict Mediation Role**: Ceasefire monitoring, UNDOF in Golan Heights, UNIFIL in Lebanon continue to stabilize volatile zones. Ukraine, despite paralysis, the UN brokered the **Black Sea Grain Initiative (2022–23)**, easing global food insecurity.

Can the UN Move Beyond Ceremony?

1. **Structural Reform**: Expansion of UNSC under the **Intergovernmental Negotiations framework;** India, Brazil, South Africa, and Nigeria push **G4 + Africa permanent seat** demand.
2. **Financial Renewal**: Calls for assessed contributions for humanitarian work, beyond current **70% voluntary model**.
3. **Digital & Climate Mandates**: **UN's Global Digital Compact (2024)** and **COP process** show scope for leadership in emerging global commons.
4. **Leadership Change**: Next Secretary-General selection (2026) could mark reform, with calls for first woman SG and Global South candidate.

Conclusion

The UN **"was not created to take mankind to heaven, but to save it from hell."** Renewal—not ritual—alone can restore multilateral relevance.

Critically analyze the reliance on piecemeal judicial precedents for personality rights. Examine the need for legislative intervention to create a robust and uniform legal framework for their enforcement.

Introduction

With India witnessing a surge in AI-driven deepfakes and celebrity image misuse, **over 200 global cases highlight fragmented judicial enforcement** of personality rights, underscoring the urgent need for comprehensive legislative codification.

What are Personality Rights?

1. Protect an individual's **name, image, voice, likeness, signature, catchphrases**, and other unique traits from **unauthorised commercial exploitation**.
2. Rooted in:
    - **Article 21** (right to privacy, autonomy, dignity).
    - **IPR laws**: Copyright Act (Sections 38A, 38B), Trade Marks Act (Section 14, 27).
    - **Common law tort of passing off**.

Judicial Recognition in India (Piecemeal Evolution)

1. **R. Rajagopal v. State of Tamil Nadu (1994)** – Supreme Court upheld right to control one's identity under **right to privacy**.
2. **DM Entertainment v. Baby Gift House (2010)** – Delhi HC recognised publicity rights of singer Daler Mehndi.
3. **Rajinikanth case (2015)** – Madras HC upheld protection against unauthorised commercial exploitation, even without proof of deception.
4. **Anil Kapoor v. AI Entities (2023)** – Delhi HC restrained use of his persona, catchphrases ("jhakaas"), clarified limits between satire and exploitation.
5. **Jackie Shroff (2024), Arijit Singh (2024), Karan Johar (2025)** – Courts granted injunctions against AI-generated misuse.

Issue: These rulings, though progressive, are **case-specific, fragmented, inconsistent** and depend heavily on judicial creativity.

Concerns with Reliance on Judicial Precedents

1. **Fragmentation and Uncertainty**: Absence of codified law forces courts to "invent remedies," leading to **inconsistent standards** across jurisdictions.
2. **Overbreadth vs. Free Expression**: Expansive protection risks **chilling satire, parody, art, scholarship**. Courts **(Digital Collectibles v. Galactus, 2023)** warned against over-emphasis that may **curtail Article 19(1)(a)** rights.

3. **Technological Challenges**: AI deepfakes, voice cloning, revenge pornography create **scalable misuse**. Case-specific injunctions cannot keep pace with **rapid digital replication**.
4. **Accessibility Issues**: Ordinary citizens (especially women targeted by deepfakes, cyber harassment) lack similar legal recourse. Current protection perceived as **celebrity-centric**.

Global Practices

1. **U.S.**: Recognises "Right of Publicity" under state laws (California Civil Code §3344).
2. **EU**: GDPR ensures control over personal data and likeness.
3. **U.K.**: Protects personality rights under privacy + passing off doctrines, supplemented by statutory safeguards.

Need for Legislative Intervention

1. **Codification of Personality Rights**: A **dedicated statute** defining scope, duration, and exceptions. Inspired by **EU's GDPR** and **U.S. publicity rights**.
2. **Clear Exceptions**: Safeguards for satire, parody, criticism, academic use to preserve **free speech balance**.
3. **Special Protection for Vulnerable Groups**: Extend beyond celebrities to address **revenge porn, non-consensual deepfakes**.
4. **Institutional Mechanisms**: Creation of a **Digital Personality Rights Authority (DPRA)** for monitoring and redressal. Fast-track takedown procedures for AI misuse.
5. **Harmonisation with IPR and Data Protection Laws**: Integrate with **Digital Personal Data Protection Act, 2023**. Align with **Copyright and Trademark Acts** to avoid overlap.

Conclusion

The **law must be stable yet it cannot stand still;** codifying personality rights will ensure certainty, protect dignity, and balance free expression in India's digital democracy.

India's border states contribute negligibly to exports. Critically analyze how integrating key geographies like the Northeast into India's global trade strategy can foster a cohesive economy and regional stability.

Introduction

Despite sharing **over 15,000 km of international borders**, India's border states account for barely **2% of exports**; the Northeast alone contributes just **0.13%**, reflecting structural exclusion from national trade strategy (DGFT, 2024).

Current Export Imbalances

1. **Export centralisation**: Gujarat, Maharashtra, Tamil Nadu, and Karnataka together account for **70%+ of India's exports** (EXIM Bank, 2023).
2. **Border state marginalisation**: UP, Bihar, and MP contribute under 5%; the Northeast remains outside policy design, with no operational global trade corridor.
3. **Institutional exclusion**: No representation of Northeast voices in the Board of Trade or **PM's Economic Advisory Council**, limiting policy responsiveness.

Why the Northeast Matters

1. **Strategic Geography**: Shares **5,400 km border with five countries** (China, Bhutan, Bangladesh, Nepal, Myanmar). Key to **Act East Policy and Indo-Pacific vision**.
2. **Resource & Sectoral Potential**: Assam contributes **50%+ of India's tea output** but lacks value addition/branding. Rich in oil, natural gas, hydropower, horticulture, and handicrafts. Bamboo, organic spices, and medicinal plants could boost exports under **APEDA's Agri-Export Policy.**
3. **Regional Security Linkage**: Neglect fuels **economic alienation, insurgencies, and cross-border smuggling**. Integrating trade builds "**economic interdependence," a proven stabiliser in border regions (ASEAN experience).**

Challenges Blocking Integration

1. **Infrastructure Deficits**: Poor roads, missing cold-chain facilities, underdeveloped logistics. India-Myanmar-Thailand Trilateral Highway remains incomplete; borders like Moreh and Zokhawthar reduced to "securitised bottlenecks."
2. **Policy Myopia**: Export incentives like RoDTEP and PLI largely cater to western and southern clusters.
3. **Geopolitical Disruptions**: Myanmar coup (2021) disrupted border trade; scrapping of the Free Movement Regime (2024) hurt cross-border kinship and micro-trade.
4. **Comparative Gap**: China invests heavily in northern Myanmar infrastructure, creating supply chain routes India has failed to match.

Why Integration is Crucial

1. **Economic Cohesion**: Diversifies export geography, reducing dependence on a few coastal hubs. Enhances resilience against shocks like natural disasters or geopolitical sanctions.
2. **Regional Stability**: **Border trade corridors** encourage people-to-people ties, reducing insurgency incentives. Trade-led development can transform borderlands from **"securitised zones" to "growth corridors."**
3. **Geostrategic Leverage**: Builds India's credibility as a connectivity provider in the Indo-Pacific. Counters China's Belt and Road Initiative influence in Myanmar and Bangladesh.

Way Forward

1. **Infrastructure Push**: Complete IMT Highway, Kaladan Multi-Modal Project, and integrate Northeast with Bharatmala/Sagarmala corridors.
2. **Policy Representation**: Ensure Northeast presence in DGFT, BoT, and EAC.
3. **Export Hubs**: Develop Guwahati, Agartala, and Silchar as "border logistics parks" under PM Gati Shakti.
4. **Sectoral Strategies**: Tea branding, bamboo processing, organic agri-clusters, and handicrafts export promotion.
5. **Cross-border Frameworks**: Revive Free Movement Regime with safeguards, enhance BBIN (Bangladesh-Bhutan-India-Nepal) trade, and leverage ASEAN FTAs.

Conclusion

As **Amartya Sen argues in Development as Freedom**, true progress needs inclusive participation. Integrating the Northeast into trade policy ensures resilience, fosters regional stability, and anchors India's equitable economic rise.

India is a key partner in the ITER fusion project. Examine the strategic and technological challenges and opportunities in the recently proposed roadmap for achieving indigenous fusion power."

Introduction

India, contributing nearly **10% of ITER's procurement packages** and advanced components, stands at a critical juncture—balancing its net-zero by 2070 commitment with the ambitious **SST-Bharat roadmap** for indigenous nuclear fusion power.

Opportunities in India's Fusion Roadmap

1. **Strategic Autonomy in Energy Security**: Fusion offers virtually limitless, low-carbon energy using isotopes like **deuterium and tritium**, abundant in seawater and lithium reserves. Reduces dependence on coal and imported uranium, aligning with **Atmanirbhar Bharat**.
2. **Technological Upgradation and Spin-offs**: Development of **superconducting magnets, plasma diagnostics, cryogenics, and radiation-resistant materials** can upgrade India's industrial ecosystem. R&D spin-offs aid defence, aerospace, semiconductor, and high-temperature engineering sectors.
3. **Global Standing in Scientific Collaboration**: India's contribution to ITER components (cryostat, in-wall shielding) enhances its credibility in "big science" projects. A successful **SST-Bharat** prototype (Q=5, 130 MW) could elevate India's leadership in **South-South cooperation** for sustainable energy.
4. **One Health and Climate Linkages**: Fusion aligns with **IPCC AR6 recommendations** on decarbonisation pathways. Supports India's **net-zero 2070 trajectory**, while reducing air pollution-related health burdens.
5. **Digital Twin and AI Integration**: Use of **digital twinning, machine learning-assisted plasma confinement, and predictive simulations** offers India a leapfrog opportunity to reduce trial-and-error costs in experimental tokamaks.

Challenges in the Roadmap

1. **Technological Complexity**: Sustaining plasma at **100 million °C** for extended durations remains a hurdle—India's current SST-1 achieved only **650 milliseconds** versus China's EAST sustaining 22 minutes. Achieving a **Q ≥ 20** for commercial viability demands breakthroughs not yet proven.
2. **Financial and Policy Constraints**: Estimated **₹25,000 crore for SST-Bharat** poses fiscal strain amid competing energy priorities (solar, wind, nuclear fission). Unlike the US/UK, **India lacks private-sector participation**; fusion research remains public-sector dominated.
3. **Uncertain Timelines and Cost Competitiveness**: India's target of **2060** lags behind the UK's **STEP 2040** and US private firms' **2030s claims**. Economic viability remains untested; fusion electricity may be costlier than **RE100 (solar/wind+storage)**.
4. **Strategic Dependence on Global Partners**: ITER delays and cost overruns expose India to vulnerabilities. Dependence on foreign expertise could hinder full indigenous control over critical technologies like **tritium breeding modules (TBM)**.
5. **Geopolitical and Security Dimensions**: Fusion materials and technologies overlap with **dual-use domains** (nuclear weapons, space reactors), necessitating **strict IAEA safeguards**. Competition with China's aggressive fusion programme may pressure India's timelines.

Way Forward

1. **Policy Push:** Establish a **National Fusion Mission** with private-sector entry and PPP models.
2. **Investment in R&D:** Incentivise innovation in **superconductors, plasma-facing materials, and AI-driven plasma control.**
3. **International Collaboration:** Leverage **BRICS, QUAD, and ITER partnerships** for joint innovation hubs.
4. **Economic Viability:** Integrate fusion with **fission hybrids (SST-Bharat)** as transition models before pure fusion.

Conclusion

Transformative energy shifts require persistence and vision. India's fusion roadmap, though challenging, represents a strategic bet on **clean, resilient, autonomous power futures.**

Examine how offering long-term offtake possibilities can strengthen India's shipbuilding infrastructure and promote self-reliance in the defense and commercial sectors.

Introduction

India ranks **20th globally in shipbuilding capacity (UNCTAD, 2023)** despite a 7,500 km coastline. Strengthening shipyards through long-term offtake contracts is vital for **Atmanirbhar Bharat**, maritime security, and global competitiveness.

Opportunities through Long-term Offtake Possibilities

1. **Financial Stability and Investor Confidence**: Long-term contracts ensure **assured demand visibility**, reducing risks of sunk capital from 2–3 year delivery timelines. Example: **China's COSCO and Japan's NYK Line** thrive on long-term charters.
2. **Commercial Shipbuilding Growth**: Merchant ship demand for coal, crude, LNG, and green hydrogen can be tied to Indian yards. Green fuel hubs like **Kakinada and Kochi** can integrate **green shipbuilding offtake contracts** for exports.
3. **Boost to Defence Indigenisation**: With **₹2.7 lakh crore defence budget (2024–25)**, linking naval contracts with long-term offtake enhances capacity utilisation. Aligns with **Make in India in Defence** policy, reducing import reliance (India imports 60% of warships' critical equipment).
4. **Cluster Development & Ancillaries**: Offtake certainty enables investment in **ancillary industries** (engines, propellers, electronics), reducing reliance on imports from Korea/Japan. Example: **China's Zhoushan cluster** reduced costs by integrated supply chains.
5. **Technology Upgradation**: Predictable demand justifies high-cost infrastructure like **1,000-tonne gantry cranes, modular construction yards, and digital shipbuilding (CAD/CAM, AI-based hull design).** Enables transition from 500 GT ships to **Panamax and VLCCs**.
6. **Employment & Skill Development**: Each **1,000 GT ship creates 30,000+ direct and indirect jobs (ASSOCHAM report)**. Offtake will spur **skill institutes**, akin to China's dedicated shipbuilding universities.

Challenges in Implementing Long-term Offtake

1. **Policy Bottlenecks**: Current classification of shipbuilding as infrastructure applies only to **large vessels**, limiting smaller yards. Lack of clarity on **tax incentives, ship financing norms, and GST rebates**.

2. **High Cost Overruns & Delays**: Indian shipyards average **2–3 years per ship** versus **12–18 months in Korea**. Offtake without productivity reforms risks eroding shipowners' trust.
3. **Global Competition**: China controls **47% of global shipbuilding (Clarksons, 2023)** with heavy subsidies. Without equivalent support, Indian yards may struggle despite long-term demand.
4. **Limited Private Sector Role**: Unlike defence PSUs (Mazagon Dock, Goa Shipyard), private yards (L&T Kattupalli, Pipavav) face inconsistent orders. Need for **PPP models and assured off-take pipelines**.

Way Forward

1. **Maritime Offtake Policy:** Link long-term time charters of **coal, crude, LNG, and green hydrogen transport** to Indian shipyards.
2. **Defence-Civil Convergence:** Synchronise naval procurement with commercial orders to build scale economies.
3. **Cluster Development:** Promote **shipbuilding SEZs** with ancillary manufacturing and **Green Corridor initiatives**.
4. **Financing Support:** Expand shipbuilding infrastructure status to **all vessel sizes**, enabling lower interest rates and export financing.
5. **Skill Development:** Launch **Maritime Skill Universities** under **Sagarmala 2.0**, focusing on welding, modular design, and digital shipbuilding.

Conclusion

As **Alfred Thayer Mahan** observed, **"Whoever rules the waves rules the world."** Long-term offtake contracts can transform India's shipyards into global hubs, ensuring maritime self-reliance in commerce and defence.

The India-EU strategic agenda is based on five pillars. Critically analyze the potential of this multi-pillared framework to enhance India's economic growth and emerging technological interests.

Introduction

India–EU ties, covering **EUR 180 billion annual trade**, are guided by a five-pillar agenda (2025). With Europe as India's largest partner, this framework can catalyse growth, technology transfer, and strategic autonomy.

Economy & Trade: Expanding Growth Opportunities

1. The EU is India's **largest trading partner (EUR 120 billion in goods, EUR 60 billion in services, 2024)**; yet India accounts for just **2.5% of EU's total trade**.
2. **Potential**:
    - **FTA & IPA** can reduce tariff/non-tariff barriers and enhance India's access to **high-value supply chains** (aerospace, EVs, pharmaceuticals).
    - **Geographical Indications (GIs)** will protect Indian exports like **Darjeeling Tea and Basmati Rice**, boosting rural incomes.
    - EU FDI (EUR 140 billion in 2023) can support **greenfield infrastructure** and startups.
3. **Challenges**: India faces EU's **Carbon Border Adjustment Mechanism (CBAM)**, which could penalize steel and cement exports unless aligned with green norms.

Global Connectivity: Strengthening Strategic Corridors

1. Initiatives like the **EU Global Gateway (EUR 300 billion)** and India's **MAHASAGAR policy** converge on sustainable infrastructure.
2. **IMEC (India-Middle East-Europe Economic Corridor)** integrates **energy, digital, and clean hydrogen infrastructure**, diversifying routes away from chokepoints like the Suez Canal.
3. **Blue Raman submarine cable (11,700 km)** will ensure **data resilience and cybersecurity**.
4. **Critical analysis**: Competing with **China's Belt and Road Initiative (BRI)** demands faster implementation, as past EU connectivity projects often suffered from **bureaucratic inertia** and financing gaps.

Emerging Technologies: Catalysing Innovation Ecosystems

1. **EU's strength**: regulation, R&D, digital infrastructure; **India's strength**: workforce, startup ecosystem, frugal innovation.
2. **EU-India Innovation Hubs** and **Startup Partnership** can nurture joint R&D in **AI, semiconductors, and clean tech**.
3. Collaboration on **strategic AI domains** (multilingual NLP, LLMs, AI in agriculture and healthcare) aligns with India's **Digital India and IndiaAI Mission (2025, ₹10,300 crore outlay)**.
4. **Peaceful nuclear cooperation (Euratom-India)** extends to **fusion research, radioactive waste management**, and aligns with **India's net-zero 2070 pledge**.
5. **Challenge**: EU's stringent **data localisation and GDPR norms** could restrict India's data-driven AI ecosystem unless balanced with **data adequacy agreements**.

Security & Defence: Balancing Strategic Autonomy

1. With EU's Indo-Pacific engagement, convergence on **maritime security, cyber defence, counterterrorism** is strengthening.
2. Proposed **EU-India Defence Industry Forum** can link India's '**Atmanirbhar Bharat in Defence**' with EU's R&D capacity.
3. **EU Naval Force–Indian Navy cooperation** in the western Indian Ocean enhances **maritime domain awareness (MDA)**.
4. **Limits**: EU lacks hard power coherence compared to the **US or QUAD partners**. Its approach remains **civilian and regulatory**, raising doubts about real security guarantees for India.

People-to-People Ties: Talent & Education Linkages

1. **825,000 Indians live in EU (2023)**; nearly **1 million Schengen visas issued (2024)**.
2. Expanded **Erasmus+** and recognition of Indian qualifications can reduce overdependence on the US/UK for higher education.
3. **Talent mobility partnerships** align EU's demographic needs with India's **Skill India Mission**.
4. **Challenge**: Stringent visa regimes and rising **right-wing populism in Europe** could hinder smooth people-to-people flows.

Critical Synthesis

1. **Strengths**: Diversification of trade partners, advanced tech cooperation, alternative connectivity to BRI, and talent circulation.
2. **Risks**: **Regulatory asymmetry (GDPR, CBAM),** EU's limited strategic heft, and India's protectionist instincts.

3. For India, **strategic hedging between EU, US, and QUAD** will remain vital to avoid overdependence on any single partner.

Conclusion

As **Joseph Nye's concept of "smart power"** suggests, India–EU ties must blend economic and technological cooperation with strategic alignment, ensuring sustainable growth, innovation, and balanced multipolarity in a turbulent world.

India needs strategic partnerships to secure its fertiliser supply. Examine the necessity of such global alliances for ensuring food security and the long-term sustainability of Indian agriculture.

Introduction

India's agriculture sustains **1.45 billion people**, yet depends on imports for **90% urea feedstock gas, 70% phosphate, and 100% potash**. Strategic global partnerships are essential to ensure food security and sustainable agricultural growth.

Fertiliser Dependence: The Critical Challenge

1. India is the **second-largest fertiliser consumer globally** (~61 million tonnes, 2023-24).
2. Import reliance: **90% natural gas** for urea production. **70% phosphate** (Morocco, Saudi Arabia). **100% potash** (Belarus, Canada).
3. Subsidy burden: Fertiliser subsidy crossed **₹2.5 lakh crore in FY23** (Economic Survey 2023), making global price shocks highly destabilising.

Necessity of Strategic Partnerships

1. **Food Security Link**: Green Revolution gains were fertiliser-driven; sustaining yields requires assured supply chains. Any disruption risks **inflation, farmer distress, and political instability**.
2. **Global Alliances** mitigate risks from:
3. **Geopolitical shocks** (Russia-Ukraine war disrupted potash and ammonia supply). **Tariff wars** (US tariffs on India's pharma/H-1B linked indirectly to trade pressure). **Energy dependencies** (Middle Eastern LNG pricing affects urea).

Morocco: A Case for Phosphate Security

1. Morocco controls **~70% of global phosphate rock reserves** (USGS, 2024).
2. Strategic potential: **Joint ventures** with OCP Group for **DAP, TSP, SSP** production. Example: **Paradeep Phosphates Ltd.** – Indo-Moroccan collaboration. Tata Advanced Systems' defence plant in Morocco shows **trust-based industrial partnership**.
3. **Technical sustainability**: Switching from DAP to **TSP + Urea** balances soil nutrients, reducing nitrogen overuse and soil degradation.

Diversifying Sources: Beyond Morocco

1. **Saudi Arabia**: Agreement for **3 million tonnes phosphate annually (2025)**. But security risks exist due to its defence ties with Pakistan.
2. **Russia & Belarus**: Major potash suppliers but sanctions pose uncertainty.
3. **Canada**: A stable partner for potash, though freight costs are higher.
4. **Qatar, UAE**: Reliable LNG suppliers for urea feedstock.
5. **Africa (Mozambique, Nigeria)**: Opportunities for joint ventures in natural gas and ammonia production.

Sustainability & Long-term Measures

1. **Nutrient-based Subsidy (NBS) reform**: Encourages balanced fertiliser use, preventing urea overuse.
2. **Alternative technologies**: Nano-urea (IFFCO claims 50% reduction in urea need), biofertilisers, and organic manures.
3. **Circular Economy**: Phosphorus recovery from sewage sludge and waste streams.
4. **Soil Health Management Scheme**: Promotes crop-specific nutrient application, reducing dependency on imports.
5. **Global examples**: **Brazil** invested in Morocco for phosphate security. **China** has locked-in long-term potash contracts with Canada, securing resilience.

Critical Analysis

1. **Pros of alliances**: Ensure steady supply, technology transfer, reduce volatility.
2. **Risks**: Overdependence on politically unstable regions (West Asia, North Africa).
3. **Way Forward**: Balanced strategy **long-term contracts, joint ventures, domestic exploration, R&D in alternatives, diversification of partners**.

Conclusion

As **M.S. Swaminathan's National Commission on Farmers** stressed, **"sustainable food security requires assured inputs."** Global fertiliser alliances are thus indispensable to safeguard India's agriculture, economy, and long-term soil health.

An 'Engels' pause' due to AI may be shorter if policy aligns with innovation. Critically analyze the policy interventions needed to ensure the economic gains of Artificial Intelligence are broadly shared.

Introduction

AI could **add $15.7 trillion to global GDP by 2030 (PwC),** yet IMF (2024) warns **40% of jobs** are AI-exposed, raising fears of a **modern 'Engels' pause'.**

What is an Engels' Pause in AI context?

1. Coined by Robert Allen after Friedrich Engels, it refers to rising productivity without commensurate wage gains.
2. In AI era, **job displacement**, **inequality** and **high cost of complements (cloud, data, retraining)** mirror early industrial Britain.
3. Examples:

- **Philippines' call centres**: AI copilots raised productivity 30–50% but wages stagnated.
- **Indian IT sector**: 12,000 layoffs during AI pivot (2024).

Why AI poses risk of a modern Engels' pause?

1. **Productivity-wage disconnect**: Gains accrue to firms, not workers.
2. **Skills mismatch**: Younger, low/mid-skilled workers most vulnerable **(Stanford "Canaries in the Coal Mine", 2023).**
3. **Concentration of benefits**: AI rents captured by U.S., China, Big Tech **(PwC, IMF).**
4. **Cost of digital survival**: Continuous reskilling burdens workers (coding bootcamps, certifications).
5. **Inequality deepening:** Case of India: stronger IPR laws → widened wage inequality **(Journal of Development Economics, 2022).**

Policy Interventions Needed

1. **Skilling and Human Capital Development**: **Singapore's SkillsFuture**, lifelong learning credits for reskilling. **Abu Dhabi's MBZUAI**, world's first AI University. India's **Skill India Mission 2.0** must integrate AI-focused curricula, apprenticeship models, and NEP 2020 flexibility.

2. **Redistributive Mechanisms**: **Robot taxes**, proposed by Bill Gates to redistribute productivity rents. **Universal Basic Income (UBI)**, pilots in Finland, UK; ensures baseline security. India could experiment via **DBT-linked AI dividend schemes**.

3. **AI as a Public Good**: **Compute and Data Infrastructure** treated like electricity. UAE's **K2Think.ai** and Switzerland's **Apertus** – public open AI reasoning models ensuring access beyond monopolies. India's **IndiaAI Mission (₹10,300 crore)** aims for compute infrastructure, datasets, and AI innovation hubs.

4. **Labour Market Institutions and Social Protection**: Strengthen **collective bargaining**, **gig worker protection**, and expand **social security nets**. OECD (2023) suggests portable benefits for gig/AI-displaced workers. India's **Code on Social Security, 2020** must be operationalised to cover AI-affected gig workforce.

5. **Ethical AI Governance**: National AI ethics frameworks aligned with UNESCO/OECD principles. Encourage **responsible AI** deployment in health, education, agriculture — sectors that directly impact inclusive growth.

Critical View

1. Unlike 19th century, today's **welfare systems and rapid diffusion** may shorten the pause.
2. AI can reduce costs in healthcare, education, and energy → immediate welfare benefits if governance accelerates.
3. However, risks of **techno-feudalism** (where few firms own AI models) could prolong inequality unless **policy aligns with innovation**.

Conclusion

As **Amartya Sen argued in Development as Freedom,** true progress lies in expanding human capabilities, AI's promise will shorten the Engels' pause only if policy ensures equity with efficiency."

India commands the largest area for Polymetallic Sulphides exploration. Evaluate the strategic and economic significance of deep-sea mineral exploration for India's resource security and technological self-reliance.

Introduction

India, with two ISA contracts covering 20,000 sq. km, now commands the largest PMS exploration area globally. This milestone underlines India's ambition for critical mineral security, Blue Economy growth, and strategic self-reliance.

What are Polymetallic Sulphides (PMS)?

1. PMS are hydrothermal deposits rich in **copper, zinc, lead, gold, silver** and trace amounts of **rare and critical elements**.
2. Found along mid-ocean ridges near hydrothermal vents at **2,000–5,000m depth**.

Economic Significance for India

1. **Resource Security**: India is import-dependent for **critical minerals** (copper, cobalt, nickel, REEs) essential for **EV batteries, semiconductors, green hydrogen, and renewable technologies**.
2. **Renewable Energy Transition**: As per **IEA's Critical Minerals Report 2023**, demand for copper and rare earths may rise **3–7 times by 2040**. Deep-sea PMS can supplement this surge.
3. **Reducing Import Bill**: India spends billions on importing critical minerals. Domestic sourcing reduces vulnerability to supply shocks.
4. **Boosting Blue Economy**: Under India's **Blue Economy Policy (2021)**, deep-sea mining is a pillar for sustainable growth.
5. **Industrial Ecosystem Development**: Exploration spurs demand for indigenous AUVs, ROVs, seabed crawlers, and subsea robotics, fostering **technological self-reliance** under *Atmanirbhar Bharat*.

Strategic Significance

1. **Geostrategic Leverage**: Control over largest PMS blocks enhances India's influence in the **Indian Ocean Region (IOR)**, aligning with **SAGAR doctrine (Security and Growth for All in the Region)**.
2. **Maritime Power Projection**: Enhances India's standing in **UNCLOS frameworks** and **ISA governance**, countering China's aggressive deep-sea exploration.
3. **Proximity Advantage**: Carlsberg Ridge (2°N latitude) lies closer to Indian shores compared to earlier ridges (26°S), enabling faster deployment and operational efficiency.
4. **Strategic Minerals for Defence**: PMS elements are crucial for **aerospace alloys, naval equipment, advanced electronics, and missile systems**—directly contributing to defence self-reliance.

Technological and Research Spin-offs

1. **Samudrayaan Mission (2021–26)**: Matsya-6000 submersible for 6,000m depth—indigenous development of high-pressure hulls, robotics, and deep-sea sensors.
2. **Deep Ocean Mission** investments—₹4,077 crore budget—build indigenous R&D ecosystems.
3. Collaboration with **NCPOR**, **NIOT**, and private industry accelerates multidisciplinary capacity in marine geology, biotechnology, and materials science.

Challenges to Consider

1. **Environmental Concerns**: PMS extraction risks damage to fragile hydrothermal vent ecosystems—critics highlight potential biodiversity loss (CBD 2022 Report).
2. **Technological Barriers**: Deep-sea mining requires precision navigation, dynamic positioning, and advanced metallurgy, where India still trails behind China, Japan, and Korea.
3. **Economic Viability**: High capital and uncertain returns—commercial feasibility is untested.
4. **Global Regulations**: ISA is yet to finalize a comprehensive mining code—uncertainty persists over rules, royalties, and benefit-sharing.

Way Forward

1. **Sustainable Mining Protocols**: Align PMS exploration with **UNCLOS environmental guidelines**.
2. **Public-Private Partnerships (PPPs)**: Mobilize indigenous industries in subsea robotics and metallurgy.
3. **Strategic Alliances**: Collaborate with Japan, France, and Norway on green technologies and best practices.
4. **Integration with National Missions**: Link exploration with **National Critical Minerals Mission (2023)** and India's **Net-Zero 2070 commitments**.

Conclusion

As **Amartya Sen observed, development lies in expanding capabilities**. Deep-sea PMS exploration, if guided by sustainable policy, can expand India's technological, economic, and strategic capacities, ensuring resilient resource security and self-reliance.

Justify South-South and Triangular Cooperation (SSTC) as a pathway to an equitable and sustainable future. Evaluate its efficacy in contrast to traditional North-South aid models.

Introduction

UNCTAD (2024) highlights widening inequalities despite trillions in North-South aid since the 1960s. Against this backdrop, South-South and Triangular Cooperation (SSTC) emerges as a demand-driven, frugal, and context-sensitive development model.

Why SSTC Matters Today

1. **2030 Agenda urgency**: With less than 6 years to achieve the SDGs, resource gaps exceed **$4 trillion annually** (OECD 2023). Traditional aid flows are declining.
2. **Principles**: Solidarity, mutual respect, horizontal learning (Buenos Aires Plan of Action, 1978).
3. **Comparative Advantage**: Replicability, cost-effectiveness, and contextual relevance compared to donor-driven North-South aid.

India as a Key Champion of SSTC

1. **Vasudhaiva Kutumbakam philosophy** and role as Global South voice.
2. **Institutional mechanisms**: Development Partnership Administration (2012), Indian Technical and Economic Cooperation (ITEC) programme (capacity building in 160+ countries).
3. **India-UN Development Partnership Fund (2017)**: 75+ projects across 56 countries, particularly in LDCs and SIDS.

4. **Digital Public Goods**: Aadhaar, UPI, CoWIN shared globally as **Digital Public Infrastructure** (DPI).
5. **Food Security Partnership with WFP**: Innovations like Annapurti grain ATMs, fortified rice, and women-led Take-Home Ration programme, now replicated in Nepal and Lao PDR.

Triangular Cooperation (SSTC+ Model)

1. **Blending resources of North and South**: e.g., India-Japan-UNDP projects in Africa, India-USAID cooperation on vaccines and solar projects.
2. **Wider stakeholder base**: Civil society, private sector, grassroots communities → people-centric development.
3. **Efficacy**: In 2024, WFP mobilised **$10.9 million from Global South countries + private sector** for SSTC projects aligned with SDG-2 (Zero Hunger).

Efficacy vs Traditional North-South Aid Models

1. **Traditional North-South aid**: Often top-down, conditional, reinforcing donor-dependency. Criticised for "aid tied to procurement" and neo-colonial overtones. Limited sustainability once funding ends.
2. **SSTC Advantage**:
    - **Demand-driven**: Projects based on recipient country needs.
    - **Frugal and replicable**: e.g., India's solar microgrids in Africa.
    - **Peer-to-peer trust**: Shared developmental challenges enable horizontal cooperation.
3. **Limitations of SSTC**: Funding scale still modest compared to OECD-DAC flows. Institutional frameworks for monitoring and accountability remain underdeveloped.

Global Relevance and Way Forward

1. **Climate Action**: IBSA Fund projects on renewable energy in Guinea-Bissau.
2. **Pandemic Response**: India's "Vaccine Maitri" supplied vaccines to 100+ countries, reflecting South-led solidarity.
3. **Blue Economy & Resilience**: India's projects in Pacific Islands.

Way Forward:

1. Expand **knowledge-sharing platforms**.
2. Strengthen **South-led financing institutions** (like New Development Bank, BRICS Bank).
3. Mainstream **Triangular cooperation** to mobilise larger resources.
4. Build **impact assessment mechanisms** for accountability.

Conclusion

As **Joseph Stiglitz notes, "globalisation must be reimagined to serve all."** SSTC, if scaled and institutionalised, can transform solidarity into sustainable outcomes, ensuring equitable progress in a multipolar world.