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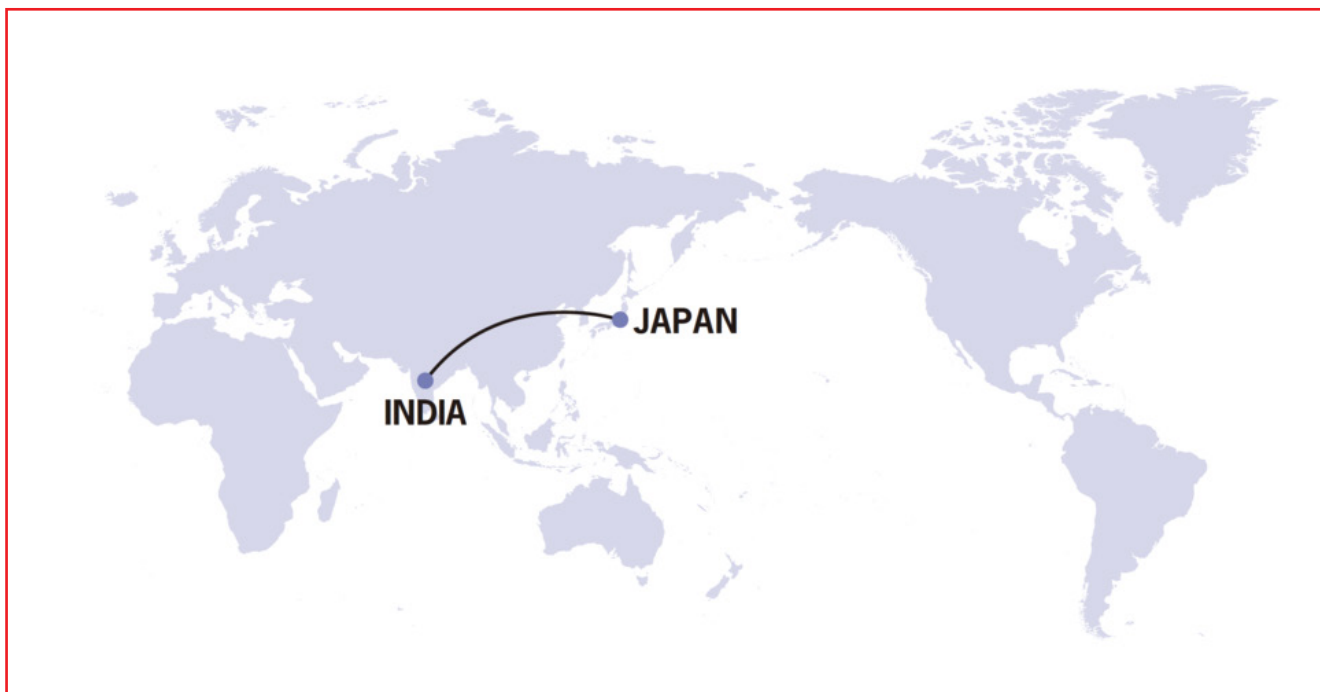
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Reimagining India-Japan Strategic Convergence

This editorial is based on “[Renewed focus: On India-Japan ties](#)” which was published in The Hindu on 01/09/2025. The article brings into picture the Indian PM’s Japan visit for the 15th Annual Summit, highlighting a \$68 billion investment target and cooperation in semiconductors, green technology, and economic security, while underscoring the alliance as a stabilizing force amid regional power rivalries.

Tag: GS Paper - 2, Regional Groupings, Bilateral Groupings & Agreements, Groupings & Agreements Involving India and/or Affecting India’s Interests

The **Indian Prime Minister’s** recent visit to Japan for the **15th Annual Summit** demonstrated the deepening strategic partnership between the two nations amid global geopolitical turbulence. The leaders signed over a dozen agreements with a “**Next-Gen**” focus, including an ambitious **\$68 billion Japanese investment target in India** and enhanced cooperation in semiconductors, green technology, and economic security. Ultimately, the summit showcased how the **India-Japan relation** serves as a **stabilizing force** in an increasingly volatile regional order shaped by great power competition.



What are the Key Areas of Cooperation Between India and Japan?

- 💡 **Strategic and Defence Cooperation:** India and Japan have elevated their strategic partnership to counterbalance regional instability, especially amid China’s assertiveness and uncertainty in U.S. policy.
 - ✦ Regular military exercises, intelligence sharing, and institutional dialogues reflect deeper defence convergence.
 - ✦ The recent **Joint Declaration on Security Cooperation**, signed in August 2025, is a significant upgrade to their 2008 agreement.
 - ✦ It provides a comprehensive framework for security cooperation, including increased bilateral and multilateral exercises like **Malabar**, **Dharma Guardian**, and **JIMEX**.

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- ✍ The agreement also explores co-development of defense equipment, with the **UNICORN (Unified Complex Radio Antenna) naval mast** being a notable example of co-development between Japan and India.
- 💡 **Economic Partnership and Investments:** India and Japan are deepening economic integration through next-generation investments and SME collaboration.
 - ✳ Amid the **China+1 strategy**, Japan sees India as both a manufacturing hub and a growing market.
 - ✳ The review of the **Comprehensive Economic Partnership Agreement** and the **promotion of GIFT City** aim to boost bilateral trade and financial cooperation.
 - ✳ Japan has committed **\$68 billion in investments by 2035**, underscoring long-term confidence in India's growth.
 - ✳ The **Joint Action Plan on Economic Security Cooperation** seeks to strengthen supply chains and ensure economic resilience.
 - ✍ Together, these steps mark a transformative phase in India-Japan economic ties.
- 💡 **Infrastructure and Connectivity:** Infrastructure development has long been a key area of cooperation, with Japan providing significant financial and technological support to India's major projects.
 - ✳ This collaboration is crucial for enhancing India's economic potential and regional connectivity.
 - ✳ A flagship example is the **Mumbai-Ahmedabad High-Speed Rail project**, which uses Japan's "Shinkansen" technology.
 - ✳ While progress has faced delays, both countries reaffirmed its importance as a symbol of their partnership, agreeing to **introduce the latest E10 series of the Shinkansen in the early 2030s** and work towards its earliest operationalization.
- 💡 **Clean Energy and Climate Change Initiatives:** Both nations are committed to a **green transition** and

are cooperating on a range of clean energy and climate change initiatives to achieve their respective net-zero goals.

- ✳ This partnership leverages **Japan's technological prowess** and **India's growing clean energy market**.
- ✳ The **India-Japan Clean Energy Partnership** and the **Joint Crediting Mechanism** under **Article 6.2 of the Paris Agreement on Climate Change** are key instruments in this area.
- ✳ **India's target of 500 GW of renewable energy by 2030** provides immense opportunities for Japanese investment and technology in the solar cell and green hydrogen segments.
- 💡 **Innovation and Human Resource Development:** India and Japan are expanding their partnership into cutting-edge fields like **artificial intelligence and space exploration**, while also promoting **people-to-people exchanges to foster a future-oriented relationship**.
 - ✳ This collaboration taps into India's talent pool and Japan's technological expertise.
 - ✳ The **Japan-India AI Cooperation Initiative (JAI)** and the **Lunar Polar Exploration (LUPEX) Mission** are prime examples of this deepening cooperation.
 - ✳ Under the new **Action Plan for India-Japan Human Resource Exchange**, the countries have set a goal to exchange over 500,000 personnel over the next five years, **including 50,000 skilled workers from India to Japan**, addressing Japan's demographic challenges and fostering technological collaboration.
- 💡 **Advancing Healthcare:** The two nations are cooperating on healthcare innovation, focusing on an aging population and emerging health challenges. This partnership seeks to **combine Japan's expertise in medical technology and geriatric care with India's large-scale pharmaceutical manufacturing** and digital health infrastructure.
 - ✳ A key development is the **Joint Research on Geriatric Medicine and Digital Health Solutions**.

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✦ Furthermore, the partnership includes a MoU on **Wastewater Reuse and Decentralized Wastewater Management**, which supports sustainable public health infrastructure.

💡 **Cultural and Civilisational Ties:** India-Japan relations draw strength from their shared **Buddhist heritage**, which forms a deep civilizational bond.

✦ Cultural diplomacy continues to reinforce goodwill and trust between the two nations.

✦ Initiatives in language education, tourism, and academic exchanges play a vital role in bridging perceptions.

✦ A symbolic example was the **Daruma doll gifted to the Indian Prime Minister in 2025**, representing cultural continuity and resilience.

📎 Japan has also expanded its **"NIHONGO Partners"** program in Indian institutions, promoting Japanese language education.

What are the Key Areas of Friction Between India and Japan?

💡 **Persistent Trade Imbalance:** Despite the Comprehensive Economic Partnership Agreement (CEPA), the trade volume between India and Japan has remained relatively stagnant, with a significant and growing trade imbalance in Japan's favor.

✦ This is a source of friction as India seeks to expand its export market.

✦ In **FY24**, Japan's exports to India stood at **USD 17.69 billion**, while India's exports to Japan amounted to **USD 5.15 billion**, reflecting a significant trade imbalance.

✦ This imbalance is **partly due to Japan's stricter non-tariff barriers and import standards**, particularly for Indian agricultural and textile products.

📎 The lack of progress in addressing these barriers has prevented Indian businesses from fully utilizing the CEPA.

💡 **Stalled Infrastructure Projects and Defence Procurements:** The flagship **Mumbai-Ahmedabad High-Speed Rail (MAHSR) project**, a symbol of bilateral cooperation, has faced prolonged delays

and cost overruns, highlighting the difficulties of executing large-scale, complex projects in India.

✦ Originally set for completion in **2022**, the project is now expected to be completed in phases by **2028**.

📎 The primary issues are **slow land acquisition**, particularly in the state of **Maharashtra**, and regulatory complexities.

✦ Also, the proposed **US-2 amphibian aircraft deal**, for instance, has been stalled for years due to a lack of a clear framework for technology transfer and pricing disputes.

💡 **Divergent Strategic Philosophies:** While both nations share concerns about China, their foundational strategic approaches differ, creating a subtle, underlying friction.

✦ Japan is a **formal ally of the US**, whereas India adheres to a **policy of strategic autonomy**.

✦ Japan's alignment with Western sanctions on **Russia** contrasts with India's economic pragmatism, causing policy friction in broader strategic forums.

📎 Such divergence exposes vulnerability in coordinated geopolitical messaging and energy solidarity.

💡 **Competition in Third-Party Markets:** As both countries expand their economic footprint in the Indo-Pacific and Africa, they find themselves in competition for influence and projects. This is particularly evident in their **engagement with countries in Southeast Asia and the Global South**.

✦ Japan's established presence and deep financial commitments in countries like **Vietnam** and **Indonesia** sometimes compete with India's efforts to build its own influence.

💡 **Digital Trade & Data Governance Misalignment:** India's protective stance on data localization to an extent diverges from **Japan's push on global digital trade norms**.

✦ This creates friction in aligning bilateral digital economy cooperation and standards under CEPA.

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- ✦ For instance, at the **2019 G20 Osaka Summit**, India opted out of Japan's **"Osaka Track" initiative** that calls for 'Data Free Flow with Trust', signaling sharp regulatory divergence on data governance.

What Measures can India Adopt to Strengthen its Ties with Japan?

- 💡 **Recalibrating Trade Architecture for Balanced Growth:** India should negotiate a **CEPA 2.0** with targeted market-access protocols, especially for agricultural, pharma, and textile exports.
 - ✦ A joint **"Non-Tariff Barriers Review Committee"** could institutionalize dialogue to reduce Japan's strict standards.
 - ✦ India must also **leverage Japanese investment in value-addition zones** that integrate Indian exports into Japanese supply chains.
 - ✦ Trade promotion councils should focus on **niche sectors like processed food, Ayurveda, and renewable tech**.
 - 📎 This calibrated approach would reduce asymmetry while reinforcing economic complementarity.
- 💡 **Co-create Resilient Supply Chains:** India can partner with Japan to establish joint hubs for rare earth processing, semiconductor manufacturing, and green hydrogen production.
 - ✦ By **embedding Japanese firms into Indian industrial corridors**, both sides can create trusted, de-risked supply networks.
 - ✦ This will serve as a counterweight to excessive dependence on China while giving Indian industry a global value chain role.
 - ✦ **Co-branding these initiatives under a "Trusted Economic Corridor"** narrative would reinforce strategic complementarity.
 - 📎 Such cooperative industrial ecosystems would also foster employment and innovation synergies.
- 💡 **Strengthen Maritime and Indo-Pacific Cooperation:** India should expand naval interoperability with Japan beyond exercises into coordinated patrolling, HADR missions, and maritime domain awareness.
- ✦ **Leveraging Japan's technological prowess in surveillance** and India's strategic geography can create a robust Indo-Pacific security architecture.
- ✦ Such collaboration would **reassure ASEAN states and balance Chinese assertiveness in contested waters**.
 - 📎 This would enhance India's positioning as a net security provider while cementing Japan as a reliable partner.
- 💡 **Deepen Digital and Fintech Integration:** India should fast-track the adoption of its UPI model and digital public infrastructure in Japan while **jointly co-developing next-gen fintech platforms**.
 - ✦ By **marrying India's digital scale with Japan's precision in cybersecurity** and hardware, both countries can lead global standards in digital governance.
 - ✦ A **bilateral Digital Partnership Charter** could synchronize data flows, AI ethics, and fintech regulations.
 - 📎 This would make the **partnership future-oriented rather than merely transactional**. It would also serve as a soft-power bridge with wider replicability across Asia.
- 💡 **Enhance People-to-People Connectivity:** India can expand structured mobility pathways for skilled professionals, students, and cultural exchanges into Japan.
 - ✦ **Creating Indo-Japanese cultural centers, language institutes, and innovation fellowships** would break socio-cultural barriers.
 - ✦ Stronger labor mobility agreements could address Japan's demographic needs while opening opportunities for Indian youth. Such **people-centric diplomacy** fosters durable societal goodwill beyond statecraft. Human connectivity would thus become the bedrock of long-term strategic trust.
- 💡 **Promote Sustainable Development Diplomacy:** India should align with Japan on climate-smart infrastructure, resilient urbanization, and green finance.

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- ✦ Joint projects in **smart cities, renewable grids, and water management** can position both countries as sustainability leaders in Asia.
- ✦ Embedding **ESG principles into bilateral investments** would attract global capital and credibility.
- ✦ This would **elevate the partnership from bilateral cooperation to regional norm-setting**. Framing it as **"Green Strategic Convergence"** could anchor it diplomatically in global climate narratives.

💡 **Leverage Multilateral Synergy Platforms:** India can use forums like Quad, SCO, and G20 as complementary arenas to align with Japan on global governance.

- ✦ Instead of **compartmentalizing**, India should **synchronize positions where possible to reinforce diplomatic solidarity**.
- ✦ Co-championing reform of **multilateral institutions like WTO and UNSC** would signal joint leadership.
 - ✍ This multilateral synergy **would reduce divergence and amplify both nations' collective voice**. Such diplomacy projects partnership strength onto the global stage.

💡 **Expand Defense Industrial Co-Production:** India should shift from **procurement to co-design and co-manufacturing** of defense platforms with Japan.

- ✦ By jointly developing **UAVs, naval systems, and advanced electronics**, both nations can nurture strategic autonomy.
- ✦ This **reduces dependency on Western suppliers** while embedding trust in sensitive domains.

Conclusion:

India–Japan relations today embody a strategic convergence rooted in shared values, economic complementarity, and **common concerns about the evolving Indo-Pacific order**. As India rises as a global growth engine and Japan recalibrates its role as a proactive stakeholder, their partnership is poised to shape regional stability and global governance. Reflecting this spirit,

India's External Affairs Minister, S. Jaishankar, has aptly described Japan as a **"natural partner"** in India's development, transformation, and collective pursuit of **peace, prosperity, and stability** in the Indo-Pacific.

India'S Strategic Stakes in the SCO

*This editorial is based on **"PM Modi's address to SCO 2025: Security, Connectivity, Opportunity"** which was published in The Indian Express on 02/09/2025. The article brings into picture India's three-pillar approach of Security, Connectivity, and Opportunity at the 25th SCO Summit, with a firm stance on zero tolerance for terrorism. It also highlights India's call for a civilizational dialogue forum and connectivity projects that respect sovereignty and territorial integrity.*

Tag: GS Paper - 2, Regional Groupings, Important International Institutions

At the 25th Shanghai Cooperation Organisation (SCO) Summit, India reinforced its three-pillar approach of **Security, Connectivity, and Opportunity**, emphasizing **zero tolerance for terrorism** and proposing a **civilizational dialogue forum** to strengthen people-to-people ties. The Indian Prime Minister highlighted India's constructive role in combating extremism while advocating for connectivity projects that respect sovereignty and territorial integrity. However, India faces challenges in navigating the SCO due to **Pakistan and China's obstructive stances, China's Belt and Road Initiative dominance**, and diluted counterterrorism consensus. Balancing these with its deepening partnership with the US and strategic autonomy amid Sino-Russian influence remains India's key test.

What Opportunities does India

Gain from its Engagement with the SCO?

- 💡 **Strengthening Geostrategic Influence in Central Asia:** India's engagement with the **SCO** provides a strategic foothold in Central Asia, which is crucial for regional security and economic expansion.
 - ✦ By deepening ties with Central Asian countries, India counters China's growing influence in the region.

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- ✦ For example, India's \$1 billion line of credit to Central Asia for infrastructure development in 2020 solidifies its position as a key player in the region's economic integration.
- ✦ Additionally, India's cooperation with Central Asia on the **Chabahar Port** and International North-South Transport Corridor (INSTC) enhances direct trade routes, bypassing **China's Belt and Road Initiative (BRI)**.
 - 📌 At the recent summit, India reiterated its opposition to "connectivity that bypasses sovereignty," underscoring concerns over territorial integrity.



- 💡 **Counterterrorism Leadership and Regional Security:** India has used the SCO platform to assert its leadership in counterterrorism efforts, particularly addressing cross-border terrorism.
 - ✦ India successfully raised the issue of **Pakistan's state-sponsored terrorism** at the SCO, pushing for a unified stance on terror financing.
 - 📌 This was evident at the recent summit, where the **Indian Prime Minister emphasized the importance of rejecting "double standards" on terrorism** and called for a collective, consistent approach, with Pakistan's Prime Minister in attendance.
 - 📌 Also, **the Tianjin Declaration strongly condemned the Pahalgam attack.**
 - ✦ India's participation in SCO's counterterrorism initiatives, such as **SCO-Regional Anti-Terrorist Structure**, reflects the growing collaboration on regional security.
 - ✦ Notably, **India's advocacy for the UN Comprehensive Convention on International Terrorism (CCIT)** has gained support within the SCO, signaling a collective commitment to fighting terrorism.
- 💡 **Advancing Inclusive and Sustainable Development:** India's engagement in the SCO has positioned it as a key proponent of **inclusive and sustainable development**.

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- ✦ By focusing on innovation, green technologies, and digital inclusion, India has sought to influence the region's developmental trajectory.
- ✦ Initiatives like the **SCO Startup Forum (4th edition held in India in 2024)** and collaborative efforts in traditional medicine, science, and technology have helped India shape the regional discourse on sustainable growth.
- ✦ For instance, the **2023 SCO summit included discussions on digital inclusion and youth empowerment**, aligning with India's developmental priorities.

✎ At the recent summit, the Indian Prime Minister outlined India's 'Reform, Perform, Transform' mantra, inviting member states to join India's development.

✎ Also, **SCO has decided to establish a Development Bank** to bolster regional economic cooperation.

💡 **Enhancing People-to-People Ties through Cultural Diplomacy:** India's soft power within the SCO is increasingly focused on strengthening people-to-people relations, particularly through cultural exchanges.

- ✦ The **proposed Civilizational Dialogue Forum under the SCO** aims to deepen cultural understanding and foster closer ties across Eurasia.

- ✦ By emphasizing **shared Buddhist heritage and promoting youth empowerment programs**, India positions itself as a bridge between the diverse cultures of the region.

✎ India's successful hosting of **SCO International Conference on Shared Buddhist Heritage in 2023** highlights its soft power strategy.

✎ These initiatives underscore India's growing influence as a cultural and educational hub within the SCO, fostering mutual trust and collaboration.

💡 **Influence on Multilateralism and Global Governance:** India's active role in the SCO provides it with a platform to advocate for reforms in global

governance institutions, notably the United Nations.

- ✦ India has consistently called for an **inclusive, multipolar world order** within the SCO framework, advocating for the reform of international institutions to reflect the aspirations of the **Global South**.

- ✦ **India's endorsement of the Tianjin Declaration** emphasized the need for a reformed UN that addresses contemporary global challenges.

✎ Also, the SCO adopted India's civilisational message of **"One Earth, One Family, One Future"** in the Tianjin Declaration, setting the tone for its future priorities.

What Major Challenges Confront India in its Engagement with the SCO?

💡 **Divergence in Counterterrorism Approaches within the SCO:** India faces a major challenge in aligning the SCO's counterterrorism stance due to divergent views among member countries, particularly **China and Pakistan**.

- ✦ While India strongly advocates for a unified approach to counter state-sponsored terrorism, some member states, particularly **China, continue to shield Pakistan's activities**.

- ✦ This divide hampers effective regional cooperation against terrorism. For instance, despite India's push for collective action, Pakistan-based terror groups continue to operate freely, undermining SCO's counterterrorism efforts.

✎ This divergence is evident in the continued inaction on terror sanctuaries despite SCO's repeated resolutions.

💡 **Limited Connectivity and Border Tensions:** India's pursuit of enhanced connectivity within the SCO is complicated by unresolved border issues with both China and Pakistan, hindering cross-border projects.

- ✦ China's massive Belt and Road Initiative (BRI), of which the **China-Pakistan Economic Corridor (CPEC)** is a part, directly violates India's sovereignty, and New Delhi

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consistently objects to the initiative, creating a clear point of friction.

- ✦ Notably, despite India's push for projects like the **International North-South Transport Corridor (INSTC)**, these remain stalled due to geopolitical frictions.

✍ This underscores India's struggle to ensure regional connectivity without compromising its sovereignty.

- 💡 **Challenges in Multilateral Cooperation on Afghanistan:** The evolving situation in Afghanistan, particularly since the Taliban's return to power, poses a significant challenge for India within the SCO.

- ✦ Despite **India's advocacy for an "Afghan-led, Afghan-owned, and Afghan-controlled" peace process**, the SCO's lack of consensus on Afghanistan's future undermines collective action.

- ✦ Furthermore, the **SCO's inability to address the humanitarian crisis and terror-related activities emanating from Afghanistan** is a source of tension within the organization.

✍ India's efforts to keep Afghanistan's issues central to SCO discussions have been limited by the divergence in priorities among member states.

- 💡 **Limited Influence on SCO's Economic Agenda:** India's influence within the SCO's economic framework remains limited due to competition with China, which dominates the group's economic initiatives.

- ✦ Despite India's growing global trade profile, its engagement with Central Asia remains marginal.

✍ As of 2021, India's trade with Central Asia remains **less than 0.5% of India's total trade**, amounting to around **USD 2 billion**, in stark contrast with China's trade with the region at about **USD 100 billion**.

- 💡 **Tensions in Balancing Relations with China and Russia:** India's diplomatic balancing act between China and Russia within the SCO poses a challenge,

especially as both powers increasingly align on certain regional issues.

- ✦ While Russia continues to be a strategic partner for India, its growing rapprochement with China complicates India's position.

- ✦ For instance, **Russia's support for the China-Pakistan Economic Corridor (CPEC)** and its role in fostering closer ties with Beijing makes it difficult for India to assert its priorities in the SCO.

✍ This growing Sino-Russian axis within the SCO limits India's leverage in the forum.

- 💡 **Balancing Strategic Autonomy Between East and West:** A core challenge for India is reconciling its commitment to a multipolar world, championed by the SCO, with its deepening strategic partnerships with Western nations.

- ✦ India's participation in **Western-led groupings like the Quad** and its growing defense cooperation with the **US and France** often puts it at odds with the **SCO's anti-Western rhetoric**.

- ✦ The US administration's recent imposition of steep tariffs on Indian exports, and the resulting strain on the India-US relationship, **has made this balancing act even more precarious**, prompting India to seek closer ties within forums like the SCO.

How can India Deepen its Engagement with the SCO to Advance its Strategic Interests?

- 💡 **Champion Anti-Terror Frameworks with Mutual Accountability:** India should spearhead the creation of a robust, coordinated, and data-driven counterterrorism framework undergirded by the principle of **"zero tolerance and no double standards,"** pushing for institutional mechanisms to verify, investigate, and sanction cross-border support for extremism.

- ✦ This measure would **elevate India's leadership in shaping SCO norms** and ensure shared responsibility in combating terrorism, making the regional security architecture credible and resilient

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💡 **Instituting a Civilizational Dialogue Forum:** Building on its G20 presidency and its **“One Earth, One Family, One Future”** ethos, India should lead the creation of a **“Civilizational Dialogue Forum”** within the SCO (as proposed in the recent summit).

- ✦ This forum would institutionalize cultural and people-to-people exchanges, promoting shared heritage and fostering greater mutual understanding.
- ✦ This would serve as a **powerful diplomatic tool to project India’s soft power**, counterbalance the **security-centric narrative of the SCO**, and create durable bonds that transcend political differences.

💡 **Establishing an SCO Start-up and Innovation Corridor:** To leverage its economic dynamism and position as a tech powerhouse, India should advocate for an **“SCO Start-up and Innovation Corridor.”**

- ✦ This measure would involve creating a dedicated fund to support joint ventures, fostering incubators, and organizing annual tech summits across member states.
- ✦ Such an initiative **would diversify the SCO’s economic agenda beyond traditional energy and trade**, positioning India as a key driver of modern, knowledge-based economic integration and creating new avenues for youth empowerment and collaboration.

💡 **Diversifying Strategic Partnerships within the SCO:** Rather than focusing solely on the major power dynamics with Russia and China, India should pursue a strategy of diversifying its strategic partnerships within the SCO.

- ✦ This includes forging closer security and economic ties with the **Central Asian republics and Iran**.
- ✦ By engaging in **bilateral and mini-lateral frameworks** on issues of shared interest, such as energy security, counter-narcotics, and regional stability, India can build a **broader coalition of support that enhances its diplomatic leverage and ensures its concerns are not overlooked**.

💡 **Sovereignty-Centric Connectivity Push:** India can further its strategic interests by driving the conversation within the SCO on connectivity that **respects territorial integrity and promotes transparency**.

- ✦ India should prioritize the swift completion of projects like the **INSTC**, making it inclusive and beneficial for all member states.
- ✦ India’s leadership in regional connectivity, coupled with its active involvement in infrastructure projects, would **foster trust and economic interdependence among SCO members**.
- ✦ **Pushing for connectivity based on shared civilizational links** and respecting national sovereignty would allow India to maintain its strategic autonomy while advancing regional cooperation.

💡 **Operationalizing a Counter-Radicalization Initiative:** Alongside counter-terrorism efforts, India should propose a dedicated actionable framework within the SCO’s Regional Anti-Terrorist Structure (RATS) to specifically combat radicalization and extremist ideologies.

- ✦ This would involve the **creation of a working group on de-radicalization, focused on sharing best practices**, conducting joint research on emerging threats, and building a unified digital information warfare strategy.
- ✦ This proactive approach would directly address the root causes of terrorism and hold member states accountable to a higher standard of security cooperation.

💡 **Promoting a Unified SCO Voice on Environmental Sustainability:** India can drive regional cooperation on climate change by pushing for stronger commitments within the SCO to address environmental sustainability.

- ✦ Given the shared challenges posed by climate change, **India should advocate for SCO-wide initiatives to mitigate its effects through joint research, technology transfer, and the adoption of green technologies**.

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- ✦ India's expertise in **renewable energy** can be leveraged to offer solutions for the region's energy transition, particularly for **Central Asia, which is highly dependent on fossil fuels**.
- ✦ By positioning itself as a leader in climate diplomacy, India can enhance its influence within the SCO while contributing to a global solution to environmental crises.

Conclusion:

India's engagement with the SCO reflects both opportunity and complexity, offering avenues to shape **regional security, connectivity, and sustainable development** while navigating geopolitical frictions. By advancing a **sovereignty-centric, inclusive agenda**, India positions itself as a responsible stakeholder and **bridge between East and West**.

Road to Self-Reliant Semiconductor Ecosystem

*This editorial is based on "**More wafer work**" which was published in The Financial Express on 03/09/2025. The article brings into picture India's semiconductor push, with CG Semi set to launch the first Made-in-India chip this year, while stressing that with only one fab under construction compared to China's 44 and the US's 15, India must cut red tape and expand rapidly to claim a share of the trillion-dollar chip market.*

Tag: GS Paper - 3, Achievements of Indians in Science & Technology, IT & Computers, Nanotechnology, Robotics, Indigenization of Technology

India's semiconductor journey gained momentum with CG Semi company announcing the first **Made-in-India chip by year-end**, following the Cabinet's approval of four new semiconductor projects. India aims to capture **8-10% of the trillion-dollar global chip market by 2030**. However, the country faces significant challenges in scaling up fabrication capabilities, with **only one mega fab under construction compared to China's 44 and the US's 15**. As the Indian Prime Minister emphasized, **India now needs "less paper work and more wafer work"** to transform from a late entrant into a competitive semiconductor powerhouse.

What are the Recent Advancements in India's Semiconductor Sector?

- 💡 **Made-in-India Chip Production:** India is making significant strides in semiconductor manufacturing with CG Semi's announcement of producing its **first "Made-in-India" chip by the end of 2025**.
 - ✦ This development marks a pivotal moment as India transitions from **being a consumer to a creator in the global semiconductor space**.
 - ✦ The Indian Prime Minister asserted that **"Oil was black gold. But chips are digital diamonds"**.
 - 📌 With major investments like **CG Power's ₹7,600 crore Outsourced Semiconductor Assembly and Test (OSAT) facility** and multiple semiconductor fabs under construction, this chip signifies a long-awaited leap.
- 💡 **Government Incentives and Strategic Policies:** The Indian government's proactive role through the **India Semiconductor Mission (ISM)** has accelerated the country's semiconductor ambitions.
 - ✦ By offering **₹76,000 crore in Production Linked Incentives (PLIs)** and **Design Linked Incentives (DLIs)**, India is rapidly becoming a hub for global chipmakers.
 - ✦ The government's approach is evident through the **₹7.1 billion commitment for semiconductor-related infrastructure like the Mohali lab upgrade** and skill development initiatives.
- 💡 **Workforce Development and Talent Pool Expansion:** As India aims to meet the projected demand for **500,000 semiconductor professionals by 2030**, workforce development is a central pillar of its semiconductor strategy.
 - ✦ As per the **'SemiconIndia Future Skills Talent Committee report'**, about **1.25 Lakh** semiconductor design engineers were working in India in the year 2022.
 - ✦ Collaboration between the government, academia, and industry has led to the establishment of specialized training centers

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in key semiconductor hubs like **Bengaluru and Noida**.

- ✍ This talent pipeline is crucial for sustaining India's growth in chip design and manufacturing.

💡 **Strategic Global Partnerships and Collaborations:** India's semiconductor ambitions are increasingly bolstered by strategic collaborations with global players.

- ✦ Key partnerships include the joint ventures of **Tata with Powerchip Semiconductor of Taiwan** and the collaboration between Micron and the Gujarat government for a \$2.75 billion OSAT facility.
- ✦ These partnerships not **only bring in crucial technology transfer but also align India with global semiconductor giants**, positioning it as a key player in the global supply chain.

💡 **Transition to Advanced Semiconductor Technologies:** India is swiftly adopting advanced semiconductor technologies such as **Silicon Carbide (SiC) and 3D Glass packaging**, which are critical for sectors like defense, automotive, and AI.

- ✦ These innovations are positioning India at the forefront of next-gen semiconductor capabilities, especially in power electronics and electric vehicles.
- ✦ The government's focus on these technologies is clear from the establishment of the first commercial **SiC fab in Odisha**, set to produce high-performance chips for diverse applications.

💡 **Infrastructure Development and State-Level Initiatives:** India's semiconductor ecosystem is being supported by significant infrastructure development, including **dedicated semiconductor parks and enhanced connectivity to global supply chains**.

- ✦ The introduction of **plug-and-play facilities in Gujarat and Uttar Pradesh** demonstrates India's effort to build an enabling environment for semiconductor fabs.
- ✦ These state-led initiatives are integral to attracting more foreign investment and

ensuring that the entire supply chain—from **design to manufacturing—is localized**.

💡 **Growing Domestic Market Demand:** The growing demand for semiconductor devices in India, particularly in **smartphones, electric vehicles, and telecom**, makes local chip production a national imperative.

- ✦ As India is expected to reach **1 billion smartphones by 2026**, from 770 million currently, the semiconductor market is set to expand significantly.
 - ✍ The Indian government's efforts to reduce dependence on imports and manufacture chips domestically are increasingly aligned with the nation's digital and defense strategies.
- ✦ The country's first fully **indigenous 32-bit microprocessor, 'Vikram,'** designed & developed by the **Vikram Sarabhai Space Centre of ISRO in collaboration with SCL, Chandigarh**

What are the Key Issues Associated with India's Semiconductor Sector?

💡 **Lack of Advanced Fabrication Facilities:** One of the major challenges facing India's semiconductor ambitions is the **absence of advanced fabrication plants (fabs) that can produce high-end chips**.

- ✦ Despite large investments and incentives from the government, India still lacks the infrastructure for cutting-edge semiconductor production, **especially in nodes smaller than 28nm**.
- ✦ The global semiconductor market, **increasingly reliant on advanced 5nm and 3nm chips**, demands significant investment in high-tech fabs, something India has yet to fully develop.
- ✦ **As of 2025, India has only one mega fab under construction**, while countries like China have 44 fabs, and the US has 15.
 - ✍ Despite the ₹76,000 crore allocated under ISM, **India's current fabs target only mature nodes rather than advanced-node chips**, limiting its competitiveness in advanced semiconductor markets.

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💡 **Talent Shortage and Skill Gap:** India's semiconductor sector is facing a severe skill gap. Although the government aims to train 85,000 professionals through the **Chip to Startup (C2S) program**, a recent study estimated a shortage of **250,000-300,000 semiconductor professionals by 2027**.

- ✦ The need for **highly specialized talent in areas like advanced chip design, 3D packaging, and AI-enabled semiconductors** remains unmet, hindering sector growth.

💡 **Dependence on Imported Equipment and Materials:** India's semiconductor sector remains heavily **reliant on imported equipment and raw materials**, such as specialized gases and chemicals.

- ✦ This dependency puts India at risk of supply chain disruptions, as seen during the **Covid-19 pandemic**.
- ✦ Despite efforts to localize parts of the supply chain, India still imports a large percentage of the materials required for semiconductor production, limiting the competitiveness of local fabs and increasing costs.

📎 In FY 2023–24, its semiconductor imports surged by **18.5%**. At present, India imports roughly **90–95% of its semiconductor** and electronics components, with major suppliers including **China, Malaysia, Taiwan, Thailand, and Singapore**.

💡 **Geopolitical Risks and Global Competition:** India's semiconductor sector faces increasing geopolitical challenges, particularly in a **global environment where chip supply chains are being weaponized**.

- ✦ The ongoing tensions between the **US, China, and Taiwan**, along with trade restrictions on chip technology, make India vulnerable to global political shifts.
- ✦ The **US-led "Chip 4" alliance** aims to build a **China-free supply chain**, offering India an opportunity as an alternative hub but also exposing it to risks of tech denial if it falters.

💡 **Slow Pace of Project Implementation:** Despite the government's large financial commitments, the **pace at which semiconductor projects are being implemented in India remains slow**.

- ✦ Delays in approvals, infrastructure development, and project timelines are preventing India from becoming a semiconductor powerhouse as quickly as it needs to.

- ✦ These delays are critical as India seeks to capitalize on the rising global demand for chips, particularly in areas like electric vehicles, smartphones, and AI.
- ✦ As of 2025, India has **only cleared 10 semiconductor projects** under ISM, with several still in the planning stages.

📎 The **\$19.5 billion Vedanta-Foxconn chip project collapsed in 2023** after Foxconn withdrew over tech partner and other challenges, dealing a setback to India's semiconductor ambitions.

💡 **Limited Focus on Front-End Manufacturing:** India's semiconductor industry is currently skewed towards back-end operations like **assembly, testing, marking, and packaging (ATMP)**, with limited progress in front-end fabrication.

- ✦ While **OSAT projects are multiplying**, the lack of front-end fabs for producing the actual chips limits India's role in the global semiconductor value chain.

📎 This gap makes India a player in low-value-added activities and keeps it dependent on foreign players for core chip production.

- ✦ While the country has a robust pool of over **20% of the world's chip design engineers**, its presence in the more **capital-intensive and value-added fabrication stage remains small**.

💡 **Inadequate Focus on Research and Development (R&D):** While India has made strides in semiconductor manufacturing, it lags behind in semiconductor R&D.

- ✦ The **lack of indigenous innovation in chip design** and advanced semiconductor technologies like quantum computing and AI chips is a significant bottleneck.

📎 Without a stronger focus on R&D, **India risks being left behind as the global market shifts toward more specialized and complex semiconductor technologies**.

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💡 **Infrastructure and Connectivity Challenges:** While the government is developing semiconductor parks and other infrastructure, India still faces significant challenges in creating the necessary connectivity between **manufacturing hubs, research centers, and global markets.**

✦ Inadequate logistics and transport infrastructure in certain regions, especially in the development of state-level parks, could delay the scaling of semiconductor manufacturing and impede India's growth as a manufacturing hub.

✦ Although states like **Uttar Pradesh** are developing dedicated semiconductor parks, these areas **lack sufficient infrastructure for efficient movement of materials and goods.**

📎 In contrast, **semiconductor hubs in Taiwan and South Korea** are already well-connected with seamless logistics and supply chain systems.

💡 **Environmental Concerns and Sustainability:** The semiconductor industry is resource-intensive, requiring significant energy and water consumption, as well as posing potential environmental risks.

✦ A large semiconductor plant producing **40,000 wafers per month consumes 4.8 million gallons of water daily**

✦ Also, India's semiconductor plans have yet to fully address the environmental challenges posed by the production processes, such as **waste management and the carbon footprint of semiconductor fabs.**

What Measures can India Adopt to Enhance the Semiconductor Sector?

💡 **Strengthening R&D and Innovation Ecosystem:** To compete globally, India must significantly ramp up its investments in semiconductor research and development.

✦ By **establishing dedicated R&D hubs** for advanced chip technologies like **quantum computing, AI, and 3D packaging**, India can lead innovation in emerging sectors.

✦ Strengthening partnerships between academia, industry, and government-backed research institutions can create a robust innovation pipeline, helping to bridge the technology gap with global leaders.

📎 **Targeted grants for startups** focused on semiconductor R&D can further encourage homegrown innovations.

💡 **Accelerating Talent Development and Upskilling:** India must address the critical skill gap in the semiconductor industry through robust education and training programs.

✦ A **nationwide skill development initiative** should focus on high-tech domains such as **chip design, nano-manufacturing, and semiconductor materials science.**

✦ Collaboration between tech companies, universities, and vocational institutions can create **specialized curriculums and hands-on training centers.**

📎 Additionally, incentivizing professionals to pursue advanced semiconductor-related courses through subsidies or scholarships will help in building a sustainable talent pool.

💡 **Fostering Private Sector Investment in Fabrication Plants:** India must incentivize private companies to **establish advanced semiconductor fabrication plants (fabs)** through **targeted financial incentives and streamlined regulatory processes.**

✦ By offering substantial tax breaks and reducing the timeline for regulatory approvals, India can create a more **attractive environment for foreign and domestic investors** to build and scale fabrication units.

✦ Ensuring long-term policy stability and transparent incentive structures will reduce investor risk and increase global confidence in India's semiconductor manufacturing capabilities.

💡 **Creating a Semiconductor Supply Chain Cluster:** India needs to focus on developing a comprehensive semiconductor supply chain ecosystem that includes raw material suppliers, component manufacturers, and testing facilities.

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✦ A semiconductor “super cluster” can be established, with strategic locations offering all the necessary infrastructure, including transportation, power, and skilled labor.

✦ This holistic approach will not only support the semiconductor fabs but also foster collaborations between various players across the value chain, making India a competitive hub for semiconductor production and export.

💡 **Strengthening Environmental Regulations and Sustainability Practices:** Given the high resource intensity of semiconductor manufacturing, India must adopt stringent environmental regulations for the semiconductor industry.

✦ Ensuring that fabs adhere to green building standards, implement water and energy conservation measures, and use sustainable raw materials will enhance the sector’s global reputation.

✦ Introducing eco-certifications for semiconductor projects and incentivizing companies to adopt circular economy practices can reduce environmental impact while also attracting green investments.

💡 **Building Strategic Alliances with Global Semiconductor Leaders:** India should deepen collaborations with global semiconductor powerhouses to secure technology transfer, supply chain integration, and strategic market access.

✦ Forming joint ventures with leading semiconductor companies from Taiwan, the US, and Japan can facilitate knowledge exchange, particularly in advanced manufacturing technologies.

✦ These partnerships can also help India secure access to critical technologies in the design and fabrication process, positioning the country as a key player in the global semiconductor ecosystem.

💡 **Revamping Policy Framework for Faster Approvals:** To speed up semiconductor sector growth, India must streamline its policy and regulatory frameworks, eliminating bureaucratic hurdles that delay project initiation.

✦ A dedicated one-stop-shop for semiconductor investments can help expedite the approval process for new fabs and related infrastructure projects.

✦ Reducing the paperwork, providing faster land clearances, and offering more flexible zoning laws will foster a quicker and more dynamic semiconductor development environment.

💡 **Promoting Fabless Semiconductor Startups:** India should actively support the growth of fabless semiconductor companies, which focus on designing chips but outsource manufacturing to established fabs.

✦ By providing design-linked incentives (DLI) and easier access to venture capital, India can stimulate a thriving ecosystem of semiconductor startups.

✦ Encouraging these companies to create innovative chips for industries like automotive, telecom, and consumer electronics will diversify India’s semiconductor offerings and reduce dependence on foreign chip designs.

💡 **Integrating Semiconductor Manufacturing with Digital India Initiatives:** India should leverage its growing digital infrastructure, such as the National Digital Highway and 5G rollout, as a platform for boosting semiconductor demand.

✦ By aligning semiconductor production with Digital India initiatives, the country can ensure a strong domestic market for chips.

✦ Government-backed programs for IoT, smart cities, and AI-enabled technologies should be tied to local chip manufacturing, creating a steady and guaranteed demand for semiconductors in both public and private sectors.

Conclusion:

India’s semiconductor journey stands at a defining moment—backed by strong policies, global collaborations, and rising domestic capabilities. While challenges in advanced fabrication, talent, and supply chains remain, the trajectory is clear. As the Indian Prime Minister emphasized at Semicon India 2025, India is poised to

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be Designed in India, Made in India, and Trusted by the world. With the world ready to build the semiconductor future with India, the nation has a unique opportunity to emerge as a resilient and competitive chip powerhouse.

India's Maritime Sector in Transformation

This editorial is based on "India's recent maritime reforms need course correction" which was published in The Hindu on 04/09/2025. The article brings into picture India's 2025 maritime reform package, including the Indian Ports Act and Merchant Shipping Act, which seeks to modernize outdated laws, improve ease of business, and strengthen global competitiveness.

Tag: GS Paper - 2, Government Policies & Interventions, GS Paper - 3, Growth & Development, Infrastructure

India's comprehensive maritime reform package of 2025, including the **Coastal Shipping Act, 2025**, the **Carriage of Goods by Sea Bill, 2025**, and the **Merchant Shipping Act, 2025**, marks a significant step toward modernizing the country's century-old shipping regulations and aligning them with global standards. These reforms aim to streamline governance, promote ease of business, and enhance India's position in international maritime trade. However, the legislation has sparked concerns about the **balance between central coordination and state autonomy**, particularly regarding the **new Maritime State Development Council's** oversight powers. While the intent to modernize India's maritime sector is commendable, ensuring these reforms strengthen rather than complicate the regulatory landscape will be crucial for their long-term success.

What Major Advancements have been Made in India's Maritime Sector?

- 💡 **Port Infrastructure and Modernization:** India's port infrastructure has seen transformative advancements under the **Sagarmala Programme**, aiming to reduce logistics costs and boost port capacity.
 - ✦ The development of **deep-draft ports** like **Vadhavan** and **Paradip Outer Harbour** is key

to improving India's handling of larger vessels, promoting smoother logistics and expanding global trade reach.

- ✦ For instance, **Paradip Port** handled **145.38 MMT of cargo in FY 2023-24**, showing significant throughput capacity.

✎ Additionally, the turnaround time of Indian ports dropped from **93.59 hours in 2013-14 to 48.06 hours in 2023-24**.

- 💡 **Focus on Sustainability and Green Shipping:** The Indian maritime sector is shifting towards sustainable practices, with initiatives like the **Harit Sagar Green Port Guidelines** and the **Green Tug Transition Program** promoting eco-friendly operations.

- ✦ This transformation is critical as the global maritimesectorfacesincreasingenvironmental scrutiny.

✎ The emphasis on using renewable energy and alternative fuels helps India align with global climate goals while enhancing port and shipping efficiency.

- ✦ For example, India launched the **India-Singapore Green & Digital Shipping Corridor** to facilitate sustainable shipping practices, and green hydrogen hubs are being developed in **Paradip, Kandla, and Tuticorin**.

✎ These initiatives reinforce India's commitment to reducing maritime emissions, which is vital as the **IMO mandates net-zero emissions by 2050**.

- 💡 **Technological Integration and Digitalization:** The integration of advanced technologies like AI, IoT, and blockchain is reshaping India's ports.

- ✦ The **"One Nation One Port Process"** is enhancing operational efficiency by reducing paperwork and facilitating faster cargo handling.

✎ Real-time data collection on container and vessel movements has significantly optimized port operations.

- ✦ Additionally, **Jawaharlal Nehru Port Authority** is one of the first ports in India to implement the **Port Community System (PCS)**, a digital

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platform that integrates all stakeholders in the logistics chain, enhancing transparency and efficiency.

- ✍ With a target to streamline regulatory processes and improve logistics, this digital overhaul is **key to India becoming a global maritime leader**.

💡 **Infrastructure Financing and Private Sector Participation:** A crucial development in India's maritime sector has been the growing private sector participation, encouraged by favorable policies such as **100% FDI permitted under the automatic route in shipping and shipbuilding**.

- ✦ **Public-private partnerships (PPP)** are now a core strategy to modernize port facilities, with the **government's \$82 billion investment plan to expand port capacity by 2035**.
- ✦ Under the Sagarmala Programme, **116 initiatives have been identified to unlock more than 100 million metric tonnes per annum (MTPA) capacity across 12 major ports**.
 - ✍ This includes projects like the **New Dry Dock at Cochin Shipyard and the Vizhinjam International Deepwater Seaport, India's first dedicated container transshipment port**, set to reduce foreign port dependency.

💡 **Expansion of Coastal and Inland Waterways:** India is increasingly tapping into its coastal and inland waterways for sustainable and cost-effective cargo transport.

- ✦ **Coastal shipping, an energy-efficient alternative**, is expected to play a crucial role in reducing the burden on road and rail transport.
 - ✍ While the sector faces regulatory challenges, recent policy changes are streamlining operations and boosting trade via these routes.
- ✦ India achieved a **record 145.5 million tonnes cargo movement on inland waterways in FY 2024–25**, up from 18.1 MMT in FY 2013–14
 - ✍ The **Jal Marg Vikas Project** is enhancing inland navigation along the Ganga.

- ✦ This rapid growth, alongside the government's focus on multimodal connectivity, is expected to further strengthen India's logistics network.

💡 **Shipbuilding and Maritime Security Initiatives:** India is focusing on bolstering its shipbuilding industry and maritime security to enhance its global presence.

- ✦ Significant strides have been made with the development of the **International Ship Repair Facility in Cochin** and new dry dock facilities.
 - ✍ This emphasis on shipbuilding aims not only to meet domestic requirements but also to establish India as a maritime hub.
- ✦ The **Indian Navy** is a **primary driver of the shipbuilding industry**. Projects like the **Project 17A frigates** and **Project 15B destroyers**, being built by companies like **Mazagon Dock Shipbuilders Ltd (MDL)**, are a testament to this.

💡 **Strengthened International Partnerships and Trade Routes:** India's maritime sector is strengthening international relationships to secure strategic access to global trade routes.

- ✦ The landmark **10-year agreement with Iran to operate the Shahid Beheshti Port at Chabahar** is a strategic move to access Central Asia.
- ✦ Moreover, India's participation in the **India-Middle East-Europe Economic Corridor (IMEC)** promises to revolutionize regional trade and logistics efficiency.
- ✦ This partnership, alongside signed MoUs with countries like **Norway, UAE, and South Korea**, aims to **reduce logistics costs by 30% and transit time by 40%**.
 - ✍ These developments underline **India's growing role as a central maritime player in the Global South**.

What are the Major Issues

Associated with India's Maritime Sector?

- 💡 **Underdeveloped Inland Waterways and Connectivity Gaps:** Despite advancements, India's inland waterways remain underutilized, with inadequate infrastructure and connectivity to major ports.

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✦ The lack of a robust, interconnected network hampers the growth of coastal and inland shipping as a viable alternative to road and rail transport.

✦ Although India has **14,500 km of navigable waterways**, only a small portion is operational, contributing merely around **3.5% to the country's trade movement**.

✎ India's reliance on road and rail, which are often congested and costly, continues to undermine the full potential of inland water transport.

💡 **Insufficient and Inefficient Infrastructure:** India's ports often suffer from inadequate infrastructure, leading to **poor operational efficiency and high logistics costs**. While major ports have seen improvements, **many non-major ports lack modern equipment and deep drafts**, limiting their ability to handle large vessels.

✦ This forces India to rely heavily on neighboring transshipment hubs, costing it a substantial amount in revenue.

✦ For instance, currently, **India handles 75% of its transshipment cargo** at foreign ports, leading to an estimated annual loss of **USD 200-220 million in potential revenue**.

💡 **Maritime Security and Geopolitical Challenges:** India's vast coastline and strategic location make it vulnerable to a range of maritime security threats, including piracy, drug trafficking, and illegal fishing.

✦ The **Indian Ocean Region (IOR)** is a hotbed of geopolitical rivalry, particularly with the **expanding naval presence of China**.

✦ The government's **Project 75-I for indigenous submarine construction** has faced delays and India's warship construction takes **85 months**, while **Japan takes 27 and France 46**.

💡 **Regulatory Fragmentation and Centralization Concerns:** One of the major issues hindering India's maritime sector is the fragmentation of regulations and **growing centralization under recent reforms like the Indian Ports Bill, 2025**.

✦ Critics argue that this limits the autonomy of state governments in port development and regulatory frameworks.

✎ While centralization can streamline operations, it risks undermining local priorities and creating bottlenecks in decision-making.

✦ For instance, the **Maritime State Development Council's control over port development**, with central approval required for state maritime boards, is seen as diminishing the flexibility of coastal states.

💡 **Environmental Impact and Sustainability Challenges:** The growing focus on **green shipping and sustainability** is marred by the **high environmental impact** of port operations and shipping activities.

✦ While initiatives like the **Harit Sagar Green Port Guidelines** aim to reduce emissions, India faces significant challenges in implementing sustainable practices across the sector.

✦ The adoption of green technologies is costly, and there are concerns about the **financial burden on smaller players**.

✎ The Directorate General of Shipping estimates that by 2030, **India's annual compliance costs could reach \$87-100 million**, resulting in a 14% rise in fuel expenses and a 5% increase in freight rates.

💡 **Fleet Ageing and Lack of Shipbuilding Capacity:** India's merchant fleet faces the challenge of ageing vessels, with **39.1% of the fleet over 20 years old**.

✦ This not only impacts the efficiency of the fleet but also poses risks to safety and sustainability.

✎ While the government has pushed for modernization, **shipbuilding capacity remains underdeveloped**, making it harder to meet the growing demands of global trade.

✦ **India's share in the global shipbuilding market is extremely low, at less than 1%**. In contrast, **China, South Korea, and Japan** collectively control the majority of the global shipbuilding market.

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💡 **Insufficient Skilled Workforce and Gender Inequity:** India's maritime sector suffers from a significant skills gap, especially in high-tech areas like smart port management and digitalization.

✦ Despite the push for modernization, there is a **shortage of professionals equipped to handle advanced technologies like AI, IoT, and blockchain.**

🔗 This gap slows down the integration of new technologies and limits operational efficiency.

✦ Also, India's maritime industry has largely remained a male-dominated field in India. According to the **2021 Women in Maritime survey, less than 2% of the seafarers in India are female.**

What Measures can India Adopt to Enhance Efficiency of India's Maritime Sector?

💡 **Strengthening Multimodal Connectivity:** To enhance efficiency, India must focus on **integrating its ports with rail and road networks** through dedicated multimodal corridors.

✦ **This integration can help streamline cargo movement from ports to inland destinations,** reducing congestion and improving overall logistics efficiency.

✦ **Establishing seamless last-mile connectivity** for both freight and passenger traffic will be critical to avoiding bottlenecks and ensuring timely delivery of goods.

🔗 Collaborative planning between central, state, and private entities can expedite the implementation of these projects.

💡 **Implementing Smart Port Infrastructure:** India must accelerate the digital transformation of its ports by **investing in smart port technologies such as AI-driven cargo tracking, IoT-enabled automation, and predictive maintenance systems.** These technologies can optimize operations, reduce human error, and enhance real-time decision-making.

✦ **Automated container handling, digitized customs procedures, and data-driven**

optimization of berth allocation would streamline port activities and reduce turnaround times, significantly boosting operational efficiency.

💡 **Simplifying Regulatory Frameworks:** The government should streamline and harmonize regulatory frameworks across states and central agencies to minimize delays and inconsistencies in the approval process.

✦ **Simplifying documentation, reducing compliance burdens, and standardizing port procedures** will help make India's maritime sector more competitive.

✦ A **single-window clearance system** could facilitate faster approval for both infrastructure development and cargo handling, promoting ease of business and attracting greater private sector investment.

💡 **Investing in Green and Sustainable Technologies:** To improve the environmental sustainability of the maritime sector, India should incentivize the adoption of green technologies such as renewable energy solutions for port operations, emission control systems for vessels, and electric-powered cranes and cargo handling equipment.

✦ **Fostering green innovation through subsidies, tax breaks, and public-private partnerships** will reduce emissions and align India's maritime sector with global sustainability goals.

✦ **Green ports and eco-friendly shipping practices** will also enhance the country's appeal in international markets that are increasingly prioritizing environmental responsibility.

💡 **Enhancing Skill Development and Workforce Capacity:** Investing in skill development programs tailored to the needs of the maritime sector will be essential to bridging the existing workforce gap.

✦ Specialized training in advanced maritime technologies, digital port management, and sustainable practices can build a skilled workforce for modern port operations, **while prioritizing greater inclusion of women.**

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✦ Collaborating with educational institutions, maritime training centers, and industry stakeholders to create a robust talent pipeline will ensure that India has a skilled workforce capable of **managing cutting-edge infrastructure and maintaining global competitiveness.**

💡 **Strengthening Disaster Management and Resilience:** India's maritime sector must implement more robust disaster management protocols to handle extreme weather events, such as **floods and cyclones, that impact port operations.**

✦ This includes upgrading infrastructure to withstand climate-related disruptions, improving port evacuation systems, and investing in real-time climate monitoring and early warning systems.

✦ By **integrating resilience planning into the maritime sector's development strategy**, India can mitigate the impact of natural disasters on trade and ensure the continuity of operations.

💡 **Expanding and Upgrading Shipbuilding Capabilities:** India must focus on upgrading its domestic shipbuilding industry to reduce dependency on foreign shipyards. This includes fostering innovation, improving infrastructure, and **creating favorable policies to support domestic production of vessels.**

✦ With an emphasis on building eco-friendly, energy-efficient ships, India can position itself as a global leader in shipbuilding and reduce its reliance on imports for fleet expansion, strengthening its maritime security and global trade presence.

💡 **Streamlining Customs and Port Clearance Processes:** To reduce delays and enhance efficiency, India should fully automate customs and clearance procedures at ports.

✦ **Introducing AI-based systems for faster documentation processing, inspection, and clearance** can minimize human intervention and improve turnaround times.

✦ Streamlining these processes will not only reduce congestion but also create a more

predictable and transparent environment for businesses, ultimately improving India's competitiveness in the global shipping market.

💡 **Promoting Regional Maritime Cooperation:** India should strengthen regional maritime cooperation with neighboring countries to enhance cross-border shipping and logistics networks.

✦ **Establishing joint ventures, collaborative port development, and shared technological initiatives** can foster smoother regional trade flows.

✦ By improving regional maritime connectivity, **India can position itself as a central hub in the Indo-Pacific**, capitalizing on increased trade routes and fostering economic growth through stronger partnerships with neighboring nations.

Conclusion:

India's maritime reforms and modernization drive mark a pivotal step toward achieving **Maritime India Vision 2030** and aligning with SDG 9 (Industry, Innovation, and Infrastructure) and SDG 14 (Life Below Water). By addressing infrastructure gaps, sustainability challenges, and workforce inequities, India can strengthen its position as a global maritime hub. **Balanced governance, green shipping, and digital integration** will be key to building resilience.

Towards A Climate Resilient India

*This editorial is based on "**Rain and repeat: On extreme weather and governance**" which was published in The Hindu on 04/09/2025. The article brings into picture India's rising vulnerability to extreme climate events, stressing the need to move from reactive relief to proactive resilience through robust infrastructure, real-time monitoring, and climate-informed planning.*

Tag: GS Paper - 3, Environmental Pollution & Degradation, Conservation

The devastating **floods** in Punjab, Andhra Pradesh and Telangana highlight India's escalating vulnerability

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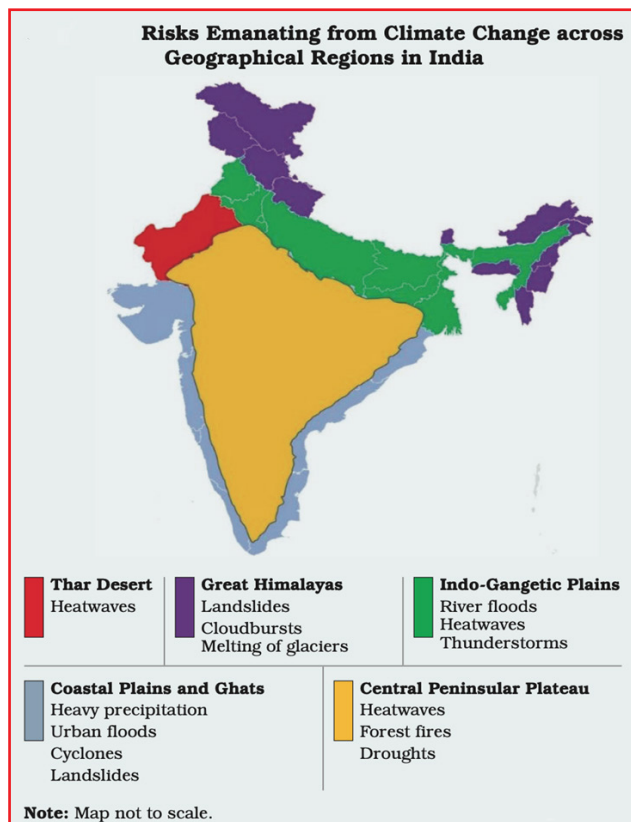
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to **extreme climate events** nationwide. From Kerala's unprecedented floods to Uttarakhand's **cloudbursts** and Delhi's record-breaking **heatwaves**, India faces intensifying weather patterns that overwhelm existing infrastructure and governance systems. The country's 1.4 billion people are increasingly exposed to climate risks that demand urgent adaptation measures beyond traditional disaster response. India must transition **from reactive relief to proactive resilience-building through upgraded infrastructure, real-time climate monitoring, and climate-informed urban planning** that anticipates rather than merely responds to extreme weather.



How are Extreme Weather Patterns Reshaping India's Climate Risk Landscape?

- 💡 **Agricultural Vulnerability and Crop Losses:** The agricultural sector is particularly vulnerable, as extreme weather causes significant crop damage and losses.
 - ✦ With the frequency of climate events rising, crop failures are increasing, impacting food security.

- ✦ In 2024, extreme weather affected **4.07 million hectares of agricultural land**, marking an **84% increase** from 2023.

- 📎 A 2024 report stated that **more than 50% of marginal farmers reported losing at least half of their standing crops** due to extreme weather conditions.
- 📎 Such extreme weather shifts highlight the urgent need for climate-resilient agricultural practices.

💡 **Impact on Urban Infrastructure and Vulnerability:**

India's rapidly urbanizing landscape is ill-equipped to handle escalating climate risks, especially extreme heat and flooding.

- ✦ The **urban heat island effect** and **poorly planned drainage systems** are exacerbating the vulnerability of cities.
- ✦ Cities like **Delhi** saw **record-breaking heatwaves in 2024**, with temperatures exceeding **46°C**.
 - 📎 The World Bank estimates that India will need over **\$2.4 trillion by 2050** to build **climate-resilient urban infrastructure**.
- ✦ With more than **80% of the urban population living in hazard-prone areas**, a paradigm shift in urban planning is essential for climate resilience.

💡 **Human Health and Mortality Risks:** The growing intensity of extreme weather events, particularly heatwaves and floods, is placing unprecedented stress on public health systems.

- ✦ Heatwaves, which have become more severe, are **directly linked to higher mortality rates**.
- ✦ The lack of proper infrastructure, such as cool shelters and equipped hospitals, and a failure to implement existing guidelines, further compound the risks, as evidenced by the tragic deaths of **33 polling personnel from heatstroke in Uttar Pradesh during the 2024 Lok Sabha elections**.

💡 **Displacement and Loss of Livelihoods:** Extreme weather events are increasingly leading to displacement and loss of livelihoods, particularly in flood-prone regions.

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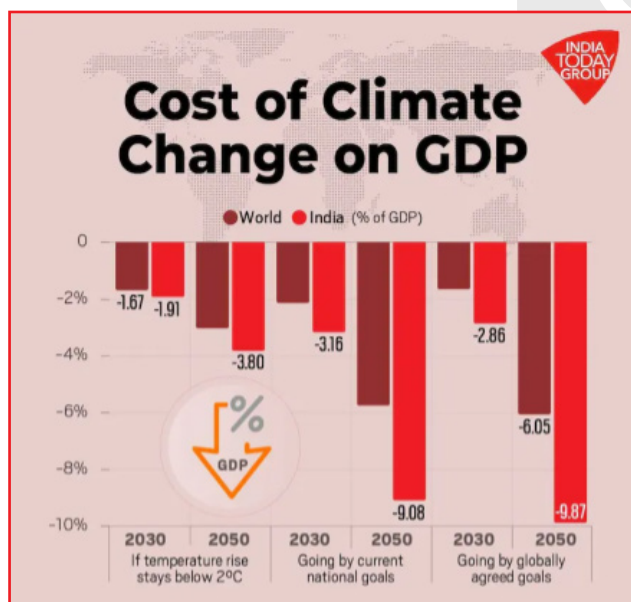
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- ✦ For instance, overall, **3.8 million people have been affected by the recent flooding in Punjab.**
- ✦ These displacements often lead to social and economic upheaval, further complicating the task of recovery.
 - ✍ As extreme events become more frequent, long-term resilience planning must incorporate better livelihood security measures for at-risk populations.

💡 **Economic Losses and Development Setbacks:** The cumulative effect of these climate-related disasters is inflicting severe economic losses and threatening India's developmental trajectory.

- ✦ The **Climate Risk Index 2025** ranked India as the sixth most affected country globally from 1993 to 2022, with losses exceeding \$180 billion.
- ✦ Recent research indicates that the climate crisis could cost the country from 6.4% to more than **10% of its national income by 2100**, pushing **50 million more people back into poverty.**



💡 **Glacial Melt and Himalayan Instability:** The **Himalayan ecosystem**, a critical water source for millions, is highly vulnerable to climate change, with rising temperatures causing rapid glacial retreat and the formation of unstable glacial lakes.

- ✦ Glacial lakes and other water bodies across the Himalayan region saw a 10.81% increase in area from 2011 to 2024 due to climate change, raising the risk of **catastrophic glacial lake outburst floods (GLOFs).**
- ✦ This threat was **realized in the October 2023 GLOF in Sikkim**, which underscored the extreme risks to downstream communities and infrastructure.
 - ✍ The continued melting of glaciers threatens to **disrupt the flow of major rivers like the Ganga and Brahmaputra**, jeopardizing water security, agriculture, and hydropower generation for millions.

What are the Major Gaps in India's Climate Adaptation and Mitigation Strategies?

- 💡 **Lack of Coordinated and Localized Adaptation Plans:** While national-level climate missions exist, there is a critical gap in their implementation at the state and local levels.
- ✦ **Many State Action Plans on Climate Change (SAPCCs) are not fully integrated into local governance and budgeting**, failing to address region-specific vulnerabilities.
 - ✍ Currently, **no standard climate impact or adaptation monitoring framework** exists to track SAPCC.
- ✦ The lack of a robust, decentralized framework means that climate risks often go unaddressed, particularly for agriculture.
- ✦ Also, although initiatives such as the **National Mission on Sustainable Agriculture (NMSA)** are in place, estimates suggest that **less than 5% of Indian farmers have adopted sustainable farming practices.**
- 💡 **Financial and Technological Gaps:** Financing remains a major bottleneck for both adaptation and mitigation efforts. **India's climate action requires trillions of dollars in investment**, but there is a significant gap between the need and available finance.
 - ✦ A **Deloitte report (2025)** finds India requires **about \$1.5 trillion by 2030** for climate action

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across sectors such as renewable energy, clean transport, sustainable agriculture, water, and resilient infrastructure.

- ✦ The country also faces a technological dependency on **critical minerals** like **lithium and cobalt**, essential for the renewable energy transition, which are largely controlled by a few nations (like China), creating a significant supply chain vulnerability.
- 💡 **Slow Progress on Decarbonization:** India's energy transition is sluggish due to heavy coal dependence, regulatory hurdles, and slow adoption of renewables and clean technologies.
 - ✦ India has not committed to a full **phase-out of coal** and the government continues to push for more coal-fired plants.
 - 📌 India's state-controlled coal producer Coal India (CIL) has set an output target of 863mn t in 2025-26. Further, the Ministry of Power in 2023 disclosed its plan to increase close to 90.0 GW of coal-fired capacity through 2032.
 - ✦ Also, electric mobility, grid modernization, and industrial decarbonization are lagging, risking missed 2030 and 2070 climate targets.
- 💡 **Social Inequality and Inclusivity Deficits:** India's climate policies often fail to adequately protect its most vulnerable communities, who disproportionately bear the brunt of climate impacts.
 - ✦ The focus on large-scale infrastructure projects often overlooks the rights and needs of local populations, leading to displacement and increased risk.
 - ✦ For instance, Private Renewable Power Corporations (PRPCs) have acquired community grazing lands (Orans) in Thar Desert for solar projects without consulting local Indigenous tribal communities.
 - ✦ Also, the top 20% of high expenditure households in India generate nearly seven times the carbon emissions compared to low-expenditure households, yet vulnerable

communities bear disproportionate climate impacts.

- 💡 **Weak Climate-Health System Integration:** India's healthcare infrastructure is unprepared for climate-induced health risks, lacking early warning systems for heat waves, vector-borne diseases, and air pollution spikes.
 - ✦ The health sector contributes minimally to climate adaptation planning, with most State Action Plan for Climate Change and Human Health (SAPCCHH) remaining on paper.
 - ✦ Vector-borne diseases like dengue and chikungunya are expanding geographically due to changing rainfall patterns, yet surveillance systems remain inadequate.
- 💡 **Weak Water-Climate Security Nexus:** India's water management operates in silos from climate planning, despite water being the primary medium through which climate impacts manifest.
 - ✦ River basin organizations lack climate adaptation mandates, and inter-state water disputes ignore climate projections.
 - ✦ Groundwater depletion accelerates in climate-stressed regions like Punjab and Haryana, yet recharge strategies remain disconnected from climate resilience planning.
 - 📌 75% of households in India lack access to safe drinking water and climate change will worsen this crisis.
- 💡 **Industrial Decarbonization and Circular Economy Deficits:** Heavy industries—steel, cement, aluminum, chemicals—contribute significantly to India's emissions (steel industry alone accounts for 10-12% of India's total emissions) but lack sector-specific decarbonization roadmaps with clear timelines.
 - ✦ The **Perform, Achieve and Trade (PAT) scheme** covers energy efficiency but not deep decarbonization through technology shifts.
 - ✦ Circular economy principles remain marginal, with industrial symbiosis and waste-to-energy initiatives scattered.

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- ✍ Critical sectors like steel still rely on blast furnace technology with minimal adoption of hydrogen-based direct reduction.

What Measures can India Adopt to Strengthen its Resilience Against Climate Risks?

- 💡 **Decentralized Climate Action Framework with Localized Governance:** India must institutionalize a decentralized climate governance model that ensures local vulnerabilities are addressed in real-time.

- ✦ A standardized framework for monitoring climate impacts, **aligned with the State Action Plans on Climate Change (SAPCCs)**, will enable states to tailor policies according to regional risks.
- ✦ **Empowering local governments with the necessary resources, data, and accountability mechanisms** will ensure that climate adaptation is integrated into local planning and budgeting.
 - ✍ This approach can streamline efforts from grassroots to national levels, fostering effective climate resilience at all scales.

- 💡 **Enhanced Financial Mechanisms and Green Financing Tools:** Addressing the financial bottleneck requires innovative solutions like **green bonds, climate insurance, and blended finance models** to channel private and public funds into climate resilience projects.

- ✦ Establishing **dedicated climate funds at the state and local levels can help bridge the financing gap** in sectors like agriculture, renewable energy, and infrastructure.
- ✦ Encouraging public-private partnerships in developing clean technologies and climate-resilient infrastructure can leverage private investment while ensuring that climate action is fully integrated into India's economic growth model.

- 💡 **Technological Upgradation and Localized Climate Solutions:** Investing in low-cost, indigenous technologies for climate adaptation, such as solar-

powered irrigation systems for farmers or decentralized water purification solutions, will help reduce India's dependency on imported technologies.

- ✦ India must build its own tech base, especially for energy storage solutions, electric mobility, and carbon capture technologies.
- ✦ Bridging the technological gap by enhancing R&D in green technologies for industries such as **steel, cement, and chemicals will accelerate industrial decarbonization.**

- ✍ The use of AI and machine learning for **real-time weather monitoring and disaster prediction** can also provide invaluable data to better prepare vulnerable communities.

- 💡 **Accelerated Renewable Energy Transition with Regional Adaptation:** While renewable energy investments are on the rise, India must fast-track its transition by integrating solar, wind, and hydro projects more effectively into regional power grids.

- ✦ **Expanding decentralized renewable energy solutions** in rural areas will reduce grid dependency and enhance energy access, which is crucial during climate disruptions.
- ✦ Additionally, coal-dependent regions must diversify their energy infrastructure by adopting cleaner technologies such as **green hydrogen.**
 - ✍ Encouraging **regional renewable energy hubs**, based on geographical advantages, can balance energy demands while reducing carbon emissions significantly.

- 💡 **Strengthening Climate-Health Integration and Early Warning Systems:** To prepare for climate-induced health risks, India needs to integrate climate adaptation strategies within its public health systems.

- ✦ **Building real-time early warning systems for extreme weather, vector-borne diseases, and air pollution events** can save lives and reduce the burden on healthcare infrastructure.

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- ✦ Implementing **climate-resilient healthcare infrastructure** in disaster-prone regions—equipped with power backup systems, water-efficient solutions, and strong disease surveillance—will ensure the health sector is not overwhelmed during climate crises.
- 💡 **Revamping Water-Climate Resilience with Integrated Water Management:** India must integrate climate projections into its water management strategies, focusing on watershed management and groundwater recharge.
 - ✦ **River basin organizations need mandates to incorporate climate change** scenarios into their planning processes to mitigate water scarcity and flooding risks.
 - ✦ **Implementing rainwater harvesting and stormwater management** at the local level, alongside large-scale infrastructure, will ensure water resilience in urban and rural areas.
- 💡 **Inclusive and Just Climate Action for Vulnerable Communities:** Climate resilience plans must prioritize vulnerable communities by addressing social inequality and ensuring that climate action does not exacerbate existing disparities.
 - ✦ **Fostering inclusive development through community consultations** and ensuring that local populations are involved in decision-making will make climate policies more effective.
 - ✦ **Policies must safeguard land rights and provide alternative livelihoods for communities displaced by climate projects**, such as large-scale renewable energy farms.
- 💡 **Building Climate-Resilient Urban Infrastructure:** Indian cities are at the frontline of climate risks, facing floods, heatwaves, and rising temperatures.
 - ✦ **Integrating climate resilience into urban planning by expanding green infrastructure**, such as green roofs and urban forests, will help mitigate the urban heat island effect and improve air quality.
 - ✦ Furthermore, designing flood-resistant drainage systems and investing in sustainable housing will ensure cities remain livable even during extreme weather.

💡 **Education and Capacity Building for Climate Resilience:** India must invest in large-scale climate education campaigns to raise awareness and build capacity at all levels, **from policymakers to local communities**.

- ✦ **Empowering individuals with the knowledge and tools** to respond to climate risks will enhance community-led resilience efforts.
- ✦ Offering specialized training to local government officials on climate adaptation strategies, including disaster management and sustainable land use planning, will ensure better implementation of national and regional climate action plans.

Conclusion:

India's climate future hinges on **3Cs— Coordination, Capacity, and Community**— coordinated governance across all levels, capacity-building through finance, technology, and infrastructure, and community-centric inclusive action. By mainstreaming these 3Cs into adaptation and mitigation, India can align its efforts with **SDG-13 (Climate Action), SDG-6 (Clean Water), and SDG-11 (Sustainable Cities)**. This holistic approach will shift the nation from reactive disaster relief to proactive climate resilience.

India'S Economic Resilience Amid Global Headwinds

*This editorial is based on “**Among the challenges ahead for India, trade is the biggest risk to growth**” which was published in Business Standard on 07/05/2024. The article brings into picture India's 7.8% GDP growth in April–June 2025, the strongest in five quarters, while also highlighting risks from US tariffs, weak nominal growth, and GST rationalization that could strain fiscal stability.*

Tag: GS Paper - 3, Growth & Development, GS Paper - 2, Government Policies & Interventions

India's economy delivered a surprising **7.8% GDP growth in the first quarter**, the highest in five quarters (April-June 2025), driven by broad-based expansion across

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agriculture, manufacturing, and services sectors. However, this strong performance faces significant headwinds from **US trade tariffs** that could impact 66% of Indian exports with levies of 50% or higher. Additional concerns include **low nominal GDP growth at 8.8%** could complicate fiscal management. In this environment of mixed signals and external pressures, the **Indian economy needs greater resilience to navigate the challenging path ahead.**

What Key Challenges is the Indian Economy Confronting Amid Global Headwinds?

💡 **Adverse Global Trade Environment:** India's trade landscape is increasingly burdened by **escalating global protectionism** and geopolitical conflicts.

- ✦ The US has imposed steep **50% tariffs on Indian goods**, signaling **Washington's displeasure over Delhi's continued oil and defense ties with Russia.**

✎ These tariffs also threaten key sectors like textiles, engineering goods, and chemicals, undermining growth prospects.

- ✦ Also, **Indian export growth dropped sharply to 3.9% in Q4 FY24, from 7.4% in the previous quarter.**

✎ This significantly hampers India's ability to remain competitive in critical markets.

💡 **Global Inflation and Commodity Price Shocks:** Rising global inflation, largely driven by **surging oil and food prices**, is putting immense pressure on India's domestic prices (**Imported Inflation**).

- ✦ For instance, **imported inflation surged in India**, rising from **1.3% in June 2024 to 31.1% in February 2025**, driven by rising prices of precious metals, oils, and fats.

✎ This, in turn, leads to higher inflationary pressures, which could breach the **RBI's target range of 4-6%.**

- ✦ The challenge for India is to balance monetary easing to stimulate growth while managing rising inflation due to global supply shocks.

💡 **Geopolitical Risks and Supply Chain Disruptions:** Geopolitical risks, particularly arising from tensions in **Europe and the Indo-Pacific**, have led to persistent disruptions in global supply chains.

- ✦ For India, this has meant higher costs for imported raw materials and intermediate goods.

- ✦ The **Economic Survey 2024-25** highlighted that escalating global geopolitical tensions, **ongoing conflicts in the Red Sea region** disrupting major shipping lanes, and protectionist trade policies have elevated transport costs and created uncertainty in supply chains.

💡 **Tightening Global Financial Conditions and Rupee Depreciation:** The tightening of global financial conditions, especially from the **US Federal Reserve's interest rate hikes**, is exerting pressure on the Indian rupee.

- ✦ The Indian rupee plummeted to a record low of 88.36 against the U.S. dollar due to concerns over potential U.S. tariffs on India.

- ✦ As the **rupee depreciates**, India's ability to **manage external debt and maintain the stability of its foreign exchange reserves becomes even more challenging**, raising concerns over fiscal and financial stability.

💡 **Slow Global Recovery and Delayed Trade Agreements:** While India is making efforts to diversify its trade partners through deals with regions like the EU and US, **geopolitical disruptions and delayed trade agreements** are slowing down the pace of these negotiations.

- ✦ The **India-EU FTA** is yet to be finalized. Similarly, **trade negotiations between India and Canada have experienced a long pause**, mainly due to diplomatic tensions.

- ✦ This delay is largely attributed to complex issues such as **data protection, intellectual property rights, and trade tariffs**, alongside diplomatic disagreements over human rights and environmental standards.

💡 **Decline in Foreign Direct Investment (FDI) from Global Uncertainty:** The global economic slowdown and investor uncertainty, exacerbated by trade tensions and geopolitical risks, have led to a **decline in FDI inflows** into India.

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- ✦ RBI data shows **net FDI inflows plunged to just \$35 million in May 2025**, down sharply from \$2.2 billion a year ago.

✎ This decline in foreign investment makes it difficult for India to meet its infrastructure and development goals.

- ✦ This drop in foreign capital undermines the **Indian rupee and threatens to destabilize financial markets**, adding pressure to India's external debt and forex reserves.

💡 **Disruptions in Global Energy Supply Chains:** India's energy sector is under strain due to **global energy supply disruptions**, primarily due to geopolitical tensions and fluctuations in global oil prices.

- ✦ With **India importing 80% of its oil**, any significant rise in energy prices, as seen in 2025, adds substantial pressure on the fiscal deficit and inflation.

- ✦ This in turn **raises input costs for industries, undermines consumer purchasing power, and hampers growth momentum.**

✎ The pressure on the balance of payments also increases, as higher import bills strain foreign exchange reserves.

- ✦ These dynamics highlight the urgency for India to accelerate its transition towards renewable energy, strengthen strategic oil reserves, and diversify energy partnerships.

What Opportunities do Geo-economic Disruptions Present for India?

💡 **Diversification of Trade Partners and Supply Chains:** Geo-economic disruptions, such as the **shifting global trade dynamics and supply chain reconfiguration**, present India with an opportunity to become a key player in alternative trade routes and global value chains.

- ✦ With Western countries increasingly looking for alternatives to China, India can position itself as a reliable manufacturing and sourcing hub.

- ✦ India's **"Make in India"** and **"Atmanirbhar Bharat"** policies are strategically aligned with this shift.

- ✦ Also, these disruptions can push India to secure **new trade deals**, particularly with the **Latin America, Africa and ASEAN countries**, positioning India as a trusted manufacturing partner.

💡 **Potential for Growth in Digital Economy and Tech Exports:** The ongoing global shift towards digital transformation and remote work creates a significant opportunity for India to enhance its leadership in the **global tech services** sector.

- ✦ India's deep talent pool in **IT and business process outsourcing (BPO)** is already well-positioned to meet rising global demand for **cloud computing, AI, and cybersecurity** services.

- ✦ India's IT industry is likely to hit the **USD 350 billion mark by 2026** and contribute 10% towards the country's gross domestic product (GDP)

- ✦ Also, platforms like the **Unified Payments Interface (UPI)** and **Aadhaar** have not only revolutionized domestic transactions but are also being adopted as a blueprint by other countries.

💡 **Strategic Positioning in Global Energy Transition:** The global push towards a **low-carbon economy** offers India the chance to **become a leader in renewable energy** and **energy storage technologies**.

- ✦ India's vast renewable energy potential, particularly in **solar and wind**, positions it as a key player in the **energy transition**.

✎ The total installed renewable energy (RE) capacity in the country has reached **220.10 GW as of March 2025**.

- ✦ The country's ongoing efforts to scale **green hydrogen production** and **battery storage technology** could make India an **exporter of green energy** to global markets.

✎ With global demand for **clean energy solutions** growing, India can capitalize on this opportunity to meet both domestic energy needs and become a supplier of sustainable solutions worldwide.

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💡 **Strengthening Regional Leadership in South Asia:** Geo-economic disruptions offer India the opportunity to solidify its position as the **leading economic and strategic power** in South Asia.

✦ As global focus shifts towards **Indo-Pacific stability**, India can expand its influence by fostering deeper economic ties with its neighboring countries, such as Bangladesh, Sri Lanka, and Nepal.

✦ India's **\$1 billion line of credit to Sri Lanka** in 2023, as well as growing trade and infrastructure investments in **Bangladesh** and **Nepal**, strengthen its role as a regional leader.

📌 India can leverage these partnerships to create regional economic blocs, reducing reliance on unstable global supply chains and ensuring its strategic autonomy.

💡 **Potential for in Global Defense and Aerospace Partnerships:** As global defense strategies shift towards self-reliance and diversification away from traditional powers,

✦ **India has the opportunity to expand its role as a defense manufacturer** and strategic partner in global security.

✦ India's **"Make in India" initiative for defense**, combined with its growing military-industrial complex, positions it as a key partner in the Indo-Pacific region.

📌 **India's defence exports** grew over **34 times between FY 2013–14 and FY 2024–25**, signaling growing global demand for its defense technologies.

💡 **Emergence as a Global Leader in Semiconductor Manufacturing:** With the ongoing global chip shortage and increasing reliance on semiconductors for everything from automobiles to consumer electronics, **India has a significant opportunity to develop its semiconductor manufacturing capabilities.**

✦ The central government has launched the **SEMICON India Programme** with an investment of **₹76,000 crore**, implemented through the **India Semiconductor Mission (ISM)**, which is a strategic step to attract global players and build a domestic chip manufacturing ecosystem.

✦ **Global demand for semiconductors is expected to reach \$1 trillion by 2030**, and India's focus on advanced manufacturing technologies and skilled labor positions it as a potential hub for semiconductor fabrication plants.

📌 As countries diversify supply chains away from China, **India can emerge as a key player in the global chip market.**

How can India Enhance its Economic Resilience and Safeguard Growth Amid Geo-economic Disruptions?

💡 **Diversified Trade Architecture:** India must reduce overdependence on select geographies by building a **multi-aligned trade strategy** that includes regional groupings, bilateral agreements, and south-south cooperation.

✦ Creating alternative supply corridors through **friend-shoring and near-shoring** can cushion supply chain shocks.

✦ Focus should be on critical sectors like **energy, semiconductors, and rare earths** to secure long-term interests.

📌 This requires institutionalized frameworks for **strategic trade partnerships**. Such diversification insulates the economy from sudden external volatility.

💡 **Financial System Shock Absorption:** The financial sector must be fortified with **macro-prudential regulations, counter-cyclical buffers, and stress-testing mechanisms** to withstand external shocks.

✦ Promoting deeper **domestic capital markets** and reducing reliance on volatile foreign portfolio flows increases stability.

✦ Use of **digital finance and fintech innovation** can ensure continuity of services during disruptions.

📌 A calibrated **currency management strategy** shields against external turbulence. Such a framework ensures financial resilience even under uncertain global conditions.

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💡 **Resilient Agricultural and Food Systems:** Geo-economic disruptions often impact food supply chains; hence India needs a **climate-smart, technology-driven, and diversified agri-base**.

- ✦ Investments in **post-harvest infrastructure, cold chains, and localised procurement systems** can buffer supply shocks.
- ✦ Promoting **crop diversification and resilient seeds** enhances adaptive capacity. Strategic food reserves managed with transparency can act as shock absorbers.
 - 📌 This ensures food security, price stability, and rural income resilience simultaneously.

💡 **Technological Sovereignty and Digital Resilience:** Securing India's **digital ecosystem and critical technologies** is central to future resilience.

- ✦ Developing indigenous capacity in **AI, 5G/6G and cybersecurity** reduces external vulnerabilities.
- ✦ Building **domestic digital infrastructure clouds** safeguards sensitive data from geo-political disruptions.
 - 📌 Encouraging **R&D and innovation ecosystems** fosters self-reliance while maintaining global competitiveness. Such technological sovereignty creates insulation against techno-economic fragmentation.

💡 **Human Capital and Labour Resilience:** Resilience is also about people; skilling the workforce in **future-ready domains** ensures adaptability to disruptions.

- ✦ Portable social security systems protect migrant and gig workers from sudden economic downturns.
- ✦ Strengthening **public health systems and workplace safety nets** provides resilience against pandemics or climate-linked shocks.
 - 📌 **Labour codes** should encourage **flexible yet secure employment models**. Such investments in human capital create a stable base for sustained growth.

💡 **Regional and Global Leadership Role:** India should position itself as a **rule-shaper in global economic governance**.

- ✦ Proactive leadership in platforms like **G20, BRICS, and Indo-Pacific frameworks** allows India to shape rules of trade, finance, and technology to its advantage.
- ✦ Building **regional financial safety nets and coordinated crisis responses** adds layers of protection.
 - 📌 **Strategic diplomacy (recent India-China-Russia alignment)** can convert vulnerabilities into **geo-economic leverage**. Such leadership builds not just resilience, but influence.

💡 **Internationalisation of the Rupee:** A resilient economy requires reducing exposure to external currency shocks by **gradually internationalising the Rupee**.

- ✦ Expanding bilateral and multilateral settlement agreements in Rupees, **especially with energy and commodity partners (e.g., Rupee-Rubel Agreement)**, can cut dependence on the US dollar.
- ✦ Promotion of **rupee-denominated trade invoicing, swap lines, and digital rupee** linkages strengthens monetary sovereignty.
 - 📌 Over time, a **regional rupee zone can emerge**, enhancing both stability and strategic autonomy.

💡 **Strengthening Domestic Demand Base:** Enhancing domestic demand is vital to insulate India from external slowdowns and supply-chain shocks.

- ✦ A two-pronged strategy is needed
 - 📌 MSME growth by improving credit access, reducing compliance costs, and leveraging digital platforms.
 - 📌 reinforcing **public capital expenditure in infrastructure, housing, and green technologies** to crowd-in private sector participation.
- ✦ Simultaneously, expanding domestic tourism, cultural industries can generate new internal multipliers.

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- ✍ By combining inclusive consumption with investment-driven growth, India can create a resilient demand base that cushions against global economic turbulence.

Conclusion:

India's economy stands at a crossroads—strong in fundamentals yet vulnerable to global headwinds of trade wars, inflationary shocks, and supply chain disruptions. Building resilience now requires a holistic approach: diversifying trade, securing energy and food systems, empowering human capital, and deepening domestic demand. Strategic autonomy through rupee internationalisation and technological sovereignty will anchor India's long-term stability. *"True economic strength lies not in escaping turbulence, but in learning to sail steadily through it."*

Strategic Autonomy As India's Global Compass

This editorial is based on "[India's strategic autonomy in a multipolar world](#)" which was published in The Hindu on 06/09/2025. The article brings into picture India's strategic autonomy as a diplomatic necessity—engaging major powers on its own terms, reflecting principled multipolarism that is independent yet non-isolationist.

Tag: GS Paper - 2, Regional Groupings, Bilateral Groupings & Agreements, Groupings & Agreements Involving India and/or Affecting India's Interests

In today's world of shifting power equations and fracturing alliances, India's pursuit of [strategic autonomy](#) has moved from being an intellectual concept to a practical diplomatic imperative. This approach enables India to safeguard sovereign decision-making while engaging simultaneously with major powers, the **United States, China, and Russia**, strictly on its own terms. It is neither vassalage nor counterbalancing, but rather a policy of principled engagement, where national interest takes precedence over rigid alignments. Far from

isolationism, it reflects India's vision of multipolarity, a diplomacy with a spine, privileging independence over dependence, and agency over alignment.

What are the Key Dimensions of India's Strategic Autonomy Approach?

- 💡 **Multi-Alignment with Great Powers:** India practices interest-based engagement with major powers without bloc alignment, enabling strategic hedging amidst rising US-China tensions.
 - ✦ It partners with the **US on Indo-Pacific and technology**, while preserving deep defence ties with Russia and engaging with China in multilateral forums.
 - ✦ Despite US pressure, India abstained on UN votes on Ukraine and continued [Russian oil imports](#), now 35-40% of India's crude basket.
 - ✦ India recently participated in the [SCO Summit in China](#), advocating for a reformed, strengthened multilateralism and deepened India-Russia-China ties.
- ✍ Simultaneously, it deepened [Quad cooperation with the US, Japan, and Australia](#), to host the 2025 Quad Summit.
- 💡 **Autonomous Defence Capability:** India imports diverse defence equipment from various nations, including the **United States** for aircraft and maritime systems (e.g., [MQ-9B drones](#)), France for fighter jets and submarines (e.g., [Rafale jets](#) and [Scorpene submarines](#)), Russia for a range of military platforms and [S-400 Air Defence System](#), and Israel for advanced defence systems like the [Barak-8 missile](#) defence system.
 - ✦ Also, Strategic autonomy increasingly relies on **indigenisation of defence to reduce external dependency** (positive indigenization list) particularly amid geopolitical disruptions and sanction risks.
 - ✦ The aim is to ensure operational flexibility and technological sovereignty in a hostile security environment.
 - ✦ India's Defence Budget 2025-26 is ₹6.81 lakh crore, comprising 1.85% of GDP, with ₹1.8 lakh crore for capital outlay.

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- ✎ Indigenous platforms like **Tejas LCA**, **INS Vikrant**, and **BrahMos** exports to **Philippines** reflect rising self-reliance.
- 💡 **Balanced Indo-Pacific Strategy:** India balances assertive Chinese posturing by building coalitions in the Indo-Pacific while avoiding formal alliances, preserving strategic flexibility.
 - ✦ It engages through minilaterals like **Quad** and **IPEF**, while retaining bilateral diplomacy with **ASEAN**, **Australia**, and **France**.
 - ✦ India's joint patrols with US and Australia in the Indian Ocean show operational alignment, but it **refuses to militarise the Quad**.
 - ✎ The **21st ASEAN-India Summit in 2024** reaffirmed **India's centrality in ASEAN-led architecture**, resisting Chinese regional hegemony.
- 💡 **Leadership of Global South:** Strategic autonomy also entails shaping a multipolar order by voicing the interests of the Global South and advocating institutional reform. India leverages its developmental narrative and digital diplomacy to offer non-Western leadership.
 - ✦ India convened the **Voice of Global South Summit (2023)**, with 125 nations participating.
 - ✦ During **India's G20 presidency**, it led to **African Union's inclusion**, asserting its agenda-setting power.
- 💡 **Geoeconomic Hedging:** India diversifies trade partners and investment sources to reduce dependence and resist coercive economic diplomacy, particularly from China and the West. This enables **policy insulation and market access flexibility amid protectionist trends**.
 - ✦ For instance, recent tariff recalibrations have **accelerated India's efforts to finalize trade agreements with the European Union**, while simultaneously **expanding market opportunities in Latin America and Africa**, further broadening its economic footprint.
- 💡 **Technology and Digital Sovereignty:** Digital strategic autonomy is crucial to navigate AI, cyber, and semiconductor geopolitics. India aims to be a

rule-maker in emerging tech governance through capacity-building and global partnerships.

- ✦ Key steps include the enactment of the **Digital Personal Data Protection Act, 2023**, which establishes a robust framework for safeguarding citizens' data, and the launch of the Initiative on **Critical and Emerging Technology (iCET) with the United States**, which fosters cooperation in AI, quantum, 5G/6G, and semiconductor ecosystems.
- ✦ India also joined the **Global Partnership on AI (and set to host AI Impact Summit in 2026)**, and leads the **India Stack adoption in Africa and Southeast Asia**.
- 💡 **Issue-Based Multilateralism:** India supports multilateralism **rooted in equity and sovereignty rather than bloc politics**, participating in diverse groupings without ideological alignment.
 - ✦ This sustains manoeuvrability and maximises agenda control. **India hosted the 2023 SCO Summit** while also participating in Quad and I2U2, showcasing its **"multi-platform diplomacy."**
 - ✎ It has pushed for **UNSC reform** and **WTO dispute resolution revival**, with **G77 and BRICS** backing its **UNSC permanent seat claim**.
- 💡 **Resilient Economic Nationalism:** India uses **Aatmanirbhar Bharat** not as protectionism, but as a resilience strategy to insulate domestic interests from volatile global shocks.
 - ✦ It blends open markets with strategic industrial policy. Instead of imposing high tariffs to block imports, **India's government initiated the Production Linked Incentive (PLI) scheme**. This policy offers significant financial support and incentives.
 - ✦ This strategic policy has transformed India from a net importer of mobile phones to a major exporter. **Global companies that once only served the Indian market are now using India as a base to "Make for the World,"** exporting their products from India to other countries

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💡 **Normative Diplomacy and Value-Based Outreach:** India distinguishes itself by embedding values like **pluralism, sovereignty, and mutual respect in its diplomacy** not transactional alignment. This enhances its legitimacy, especially among post-colonial and developing nations.

✦ India **extended humanitarian assistance to Turkey despite its divergent positions on the Kashmir issue**, and spearheaded the global 'Vaccine Maitri' initiative during the Covid-19 pandemic.

✦ Its **de-hyphenated policy with Israel–Palestine** and **balanced Ukraine stance** show ethical pragmatism.

💡 **Climate and Developmental Autonomy:** India resists climate conditionalities that could constrain its developmental imperatives while positioning itself as a leader in green transition. Strategic autonomy here ensures **growth pathways remain nationally determined yet globally credible**.

✦ India achieved **40% non-fossil installed capacity in 2021 (9 years early)**. Also, India launched **Mission LiFE** to promote sustainable lifestyles.

✦ At the same time, India has consistently advocated for a **"phase down" of coal rather than a "phase out"**, balancing developmental needs with climate responsibility.

What are the Major Challenges Linked to India's Pursuit of Strategic Autonomy?

💡 **Geopolitical Polarisation and Pressure from Great Powers:** The intensifying **US-China rivalry** pressures India to align, reducing its manoeuvring space.

✦ Strategic autonomy is harder when both economic and security interests are linked to rival blocs. The Ukraine conflict and Indo-Pacific tensions amplify this dilemma.

✦ Despite US-India ties, **Washington has pressured India to cut Russian oil imports** and curb defence ties.

✦ China's aggression along LAC coexists with it being **India's number second trading partner**, deepening the **dependency dilemma**.

💡 **Defence Dependence and Technological Gaps:** Heavy reliance on foreign defence imports limits autonomy in crisis scenarios and exposes India to sanctions or coercion. Indigenous R&D still lags in critical tech, weakening deterrence and operational independence.

✦ India is the **2nd largest arms importer globally (SIPRI)**, over 55% of weapons are still Russian-origin.

✦ Despite **Advanced Medium Combat Aircraft (AMCA) ambitions**, India still **lacks a reliable indigenous jet engine**, delaying full-scale defence self-reliance.

💡 **Strategic Ambiguity in Multilateral Platforms:** While India participates in diverse groupings (**Quad, SCO, BRICS**), overlapping agendas and rivalries create conflicting expectations. This blurs India's positioning and draws criticism from all sides.

✦ India's **neutral stance on Ukraine** drew Western backlash, while participation in **SCO and BRICS** with China raises doubts in Indo-Pacific coalitions.

✦ These tensions were evident when India declined to sign the joint declaration at the **SCO Defence Ministers' meeting in Qingdao, China**.

💡 **Technological Dependence and Digital Vulnerabilities:** India aspires for digital sovereignty but still depends on Western platforms and Chinese supply chains. This limits autonomy in tech governance and cybersecurity.

✦ India imports over **90% of its semiconductor requirements** from countries like **China, Taiwan, and South Korea**.

✦ China's dominance in **critical mineral supply chains (e.g., rare earths)** poses long-term vulnerability in AI and defence sectors.

💡 **Constraints in Regional Influence:** India's aspiration for regional primacy is challenged by **China's assertiveness, Pakistan's proxy strategy, and slow regional integration**. This undermines its leadership in South Asia.

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✦ China's BRI and **China Pakistan Economic Corridor (CPEC)** projects run through PoK, violating India's sovereignty, yet attracting regional participation.

✦ India's limited success with **SAARC** contrasts with **China's expanding influence in Nepal, Sri Lanka, and Maldives** via infrastructure and debt diplomacy.

💡 **Institutional Limitations and Policy Coherence:** Strategic autonomy needs whole-of-government coordination, but fragmented policymaking and bureaucratic inertia slow response and implementation. Lack of agility hampers India's global competitiveness.

✦ India's **FTA negotiations with the EU** are progressing slowly due to internal sectoral resistance.

✦ **Make-in-India defence projects** often face **delays, cost overruns, and coordination failures** between services and industry.

💡 **Domestic Economic Vulnerabilities:** Without robust economic strength, strategic autonomy becomes unsustainable. A large informal sector, income inequality, and fiscal stress reduce the state's capacity to act independently.

✦ India's per capita GDP is **just above \$2,500**, far below China's **\$12,000+**.

✦ Specific sectors face mounting external pressures: **the Indian textile industry is under threat from US tariffs**, the steel industry is vulnerable to the EU's **Carbon Border Adjustment Mechanism (CBAM)**, and the dairy sector struggles against stiff competition from **New Zealand**.

✍ Such vulnerabilities **constrain India's bargaining power and expose fault lines in sustaining long-term strategic autonomy**.

💡 **Fragmented Global Governance System:** The weakening of multilateralism has left India without effective institutions to amplify its strategic voice, especially on trade, tech, and security issues. Reform remains elusive.

✦ Despite wide support, India's **UNSC permanent membership bid is stalled**, blocked by China and lacking a P5 consensus.

✦ **WTO's dispute settlement system is paralysed**, hurting India's ability to challenge trade coercion legally.

How can India Enhance Strategic Autonomy Without Compromising Global Integration?

💡 **Deepen Multi-Alignment with Strategic Convergence:** India must pursue calibrated multi-alignment by engaging major powers **across economic, security, and technological domains without falling into ideological traps**.

✦ The focus should be on **strategic convergence rather than tactical bandwagoning**, ensuring flexibility in partnerships.

✦ By engaging all but entangling with none, India reinforces autonomy without isolation. As the saying goes, **"Strategic maturity lies in building bridges without burning old ones."**

💡 **Accelerate Indigenisation with Global Collaboration:** Self-reliance in defence, semiconductors, and AI is critical, but not through isolation, **co-development with trusted partners is the way forward**.

✦ India must create **layered innovation ecosystems** to reduce vulnerabilities while leveraging global expertise.

✦ By building within and collaborating without, India ensures resilience with relevance. Indeed, **"Sovereignty is sustainable only when powered by self-sufficiency."**

💡 **Shape Global Norms in Emerging Technologies:** India should take a proactive role in framing **global digital rules, AI ethics, and cyber governance** to move from rule-following to rule-shaping.

✦ Through platforms like **GPAI and India Stack**, it can set standards with credibility.

✦ **"In the age of algorithms, sovereignty lies in standards."** The ability to **shape norms enhances sovereignty as much as defending borders**.

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💡 **Promote Inclusive Regionalism Rooted in Connectivity:** India must champion open and transparent connectivity frameworks in Eurasia, the Indian Ocean, and Southeast Asia.

- ✦ Initiatives such as **IMEC, INSTC, and Chabahar** can project cooperative leadership and provide alternatives to **China's BRI**.
- ✦ *"Diplomacy moves fastest when it rides on roads, rails, and cables."* By powering connectivity through consensus, India gains a strategic multiplier.

💡 **Institutionalise Issue-Based Minilaterals:** India should deepen its engagement in agile minilaterals like **Quad, I2U2, and the France-UAE trilateral**.

- ✦ These flexible platforms enable focused cooperation without the baggage of rigid alliances.
- ✦ **Modular partnerships** tailored to sectors allow India to stay autonomous yet engaged. As the saying goes, *"In the chessboard of geopolitics, tactical coalitions beat rigid camps."*

💡 **Reform Multilateralism with Indian Imprint:** India must push to **democratise institutions like the UNSC, WTO, and IMF** while simultaneously building new multilateral frameworks aligned with Global South priorities.

- ✦ Its **G20 presidency and BRICS+ outreach** demonstrate this intent. Leadership today comes not from resistance but from shaping rules. Also, *"True strategic autonomy comes from shaping the world, not just surviving in it."*

💡 **Craft Tech-Security-Trade Triangles:** India must adopt an integrated approach where **technology access, national security, and trade policy** are mutually reinforcing.

- ✦ Balanced FTAs should enable market expansion without compromising domestic safeguards, while **trusted tech transfers secure critical sectors like semiconductors and AI**.
- ✦ Building resilient digital and physical infrastructure will strengthen both economic and strategic autonomy.

✍ In a multipolar world, **sovereignty lies not in isolation but in shaping interdependence**.

💡 **Build Trusted Supply Chain Coalitions:** India must create diversified and secure supply chains for **semiconductors, rare earths, and green technologies** with like-minded partners.

- ✦ Transparent corridors and regional hubs enhance resilience while reducing reliance on rivals. In the 21st century, **"supply chains are the new strategic alliances."**

💡 **Harness Diaspora as a Strategic Asset:** India's diaspora, spread across 207 countries, has grown to 3.43 crore, making it the largest in the world, is a vast resource for influence in business, politics, and technology.

- ✦ Structured engagement through **knowledge networks, cultural outreach, and economic partnerships** can amplify India's global footprint.
- ✦ At the same time, institutional mechanisms such as **Pravasi Bharatiya Divas** and **diaspora investment platforms** must be strengthened to convert this soft power into strategic capital.

Conclusion:

India's pursuit of strategic autonomy is not about standing apart, but about standing firm on its own terms while engaging the world. It reflects a **balance between sovereignty and global integration**, resilience and cooperation. By shaping rules, building partnerships, and safeguarding national interests, India charts a confident path in a multipolar order. As **S. Jaishankar** aptly put it, *"The India Way, especially now, would be more of a shaper or decider rather than just be an abstainer."*

Securing India's Critical Mineral Future

This editorial is based on "[A critical mission: Recycling critical minerals can offer near-term cushion](#)" which was published in The Business Standard on 09/09/2025. The article brings into picture the Union Cabinet's ₹1,500 crore scheme (2025-31) to develop recycling capacity

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for critical minerals like lithium, cobalt, nickel, and rare earths, aiming to cut import dependence and manage e-waste.

Tag: GS Paper - 1, Mineral & Energy Resources, GS Paper - 2, Government Policies & Interventions, GS Paper - 3

India's Union Cabinet has approved a ₹1,500 crore incentive scheme to build recycling capacity for **critical minerals** under the National Critical Minerals Mission, running from 2025-26 to 2030-31. The initiative addresses India's overwhelming dependence on imports of lithium, cobalt, nickel, and rare-earth elements that are essential for clean energy technologies and advanced manufacturing. Unlike mining projects that take years to yield output, recycling offers an immediate pathway to supplement supply chains while tackling mounting electronic and battery waste. This recycling initiative forms a **crucial pillar of India's multipronged strategy for mineral security**, complementing domestic exploration, overseas acquisitions, and the broader goal of achieving strategic autonomy in the clean energy transition.

What Strides has India Undertaken to Strengthen its Critical Minerals Ecosystem?

- 💡 **Domestic Exploration and Mining: Securing Future Supplies:** India is aggressively expanding its domestic exploration efforts to reduce dependence on imports.
 - ✦ The government has set ambitious targets under the **National Critical Minerals Mission (NCMM)** to identify 1,200 critical mineral deposits by 2030.
 - 📌 This effort addresses India's growing need for minerals like **lithium, cobalt, and rare earths** essential for clean energy and EV production.
 - ✦ The **Geological Survey of India (GSI)** has already undertaken **195 exploration projects in 2024-25**, focusing on key areas like Rajasthan for rare earth elements.
 - 📌 India is expected to auction over **100 critical mineral blocks by 2031**, with a strategic focus on untapped reserves such as cobalt in **Andhra Pradesh** and **lithium in Jammu & Kashmir**.

💡 **Recycling and Urban Mining:** Recycling critical minerals, especially from e-waste and spent batteries, has become central to India's strategy.

- ✦ The **₹1,500 crore incentive scheme under NCMM aims to establish 270 kilotonnes of recycling capacity**, recovering 40 kilotonnes of critical minerals annually.
 - 📌 This initiative not **only reduces reliance on fresh mining but also tackles the growing e-waste problem**.
- ✦ The scheme will generate **70,000 jobs and attract ₹8,000 crore in investments**, showcasing India's push towards a circular economy.
 - 📌 This, coupled with **India's plan to achieve 5% recycled content in all new non-ferrous products by FY28**, demonstrates the government's proactive approach to boosting recycling capacity.

💡 **International Partnerships:** India is securing long-term access to critical minerals through international collaborations, mitigating risks of geopolitical disruptions.

- ✦ Through **Khanij Bidesh India Ltd (KABIL)**, India has forged agreements with countries like **Argentina, Chile, and Australia for lithium and cobalt exploration rights**.
- ✦ In **January 2024, KABIL signed a deal with Argentina to explore five lithium-rich blocks**.
 - 📌 This partnership will **help India ensure a steady supply of lithium**, addressing the gap in domestic production and reducing dependence on China, which dominates lithium processing.

💡 **Technological Innovation and R&D:** India is heavily investing in research and development to improve extraction, processing, and recycling technologies for critical minerals.

- ✦ The **NCMM targets the filing of 1,000 patents in critical mineral technologies by 2030**, fostering innovation across the value chain.
- ✦ For instance, India has already granted patents for new extraction techniques that could lower dependency on imports.

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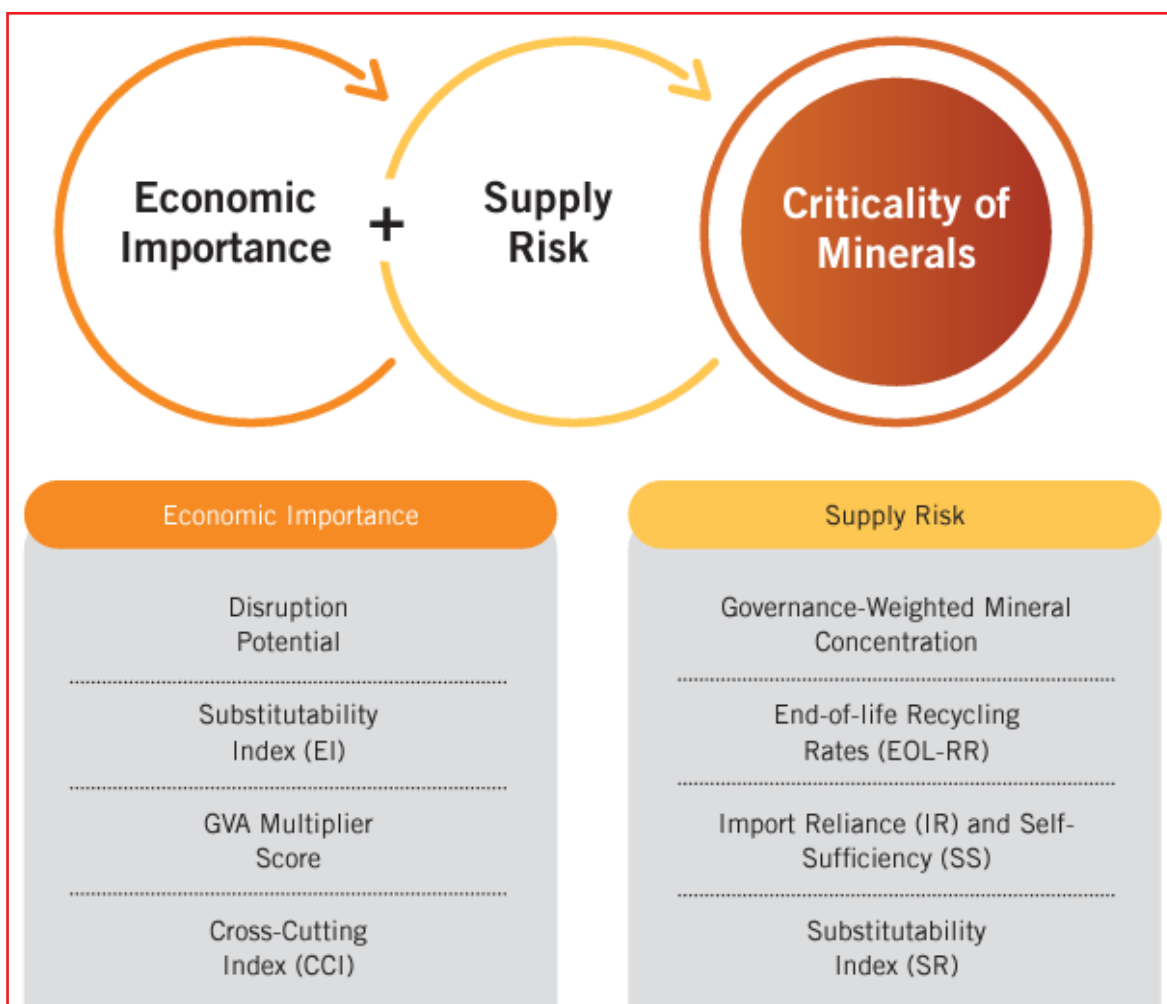
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- ✎ Additionally, the **creation of 7 Centres of Excellence (CoEs)** will drive breakthroughs in mineral processing and advanced material sciences.
- 💡 **Policy and Regulatory Reforms:** India has undertaken significant policy reforms to foster growth in the critical minerals sector, making it easier for both public and private players to engage in exploration and mining activities.
 - ✦ The **Mines and Minerals (Development and Regulation) Act, 2025 (MMDR Act)** was amended to give the central government exclusive powers to auction 24 critical minerals, ensuring better control over domestic mineral resources.
 - ✦ The government is also **fast-tracking approvals for critical mineral projects**, reducing bureaucratic delays.
 - ✎ The **introduction of the new Exploration Licence (EL)** will further incentivize private sector participation, accelerating India's mineral exploration activities and enhancing its self-sufficiency.
- 💡 **Strategic Stockpiling:** India is **developing strategic stockpiles of critical minerals** to safeguard against global supply disruptions and geopolitical tensions.
 - ✦ As part of the NCMM, the **government plans to create a national stockpile of at least 5 critical minerals**, ensuring uninterrupted access during crises.
 - ✎ Strategic reserves will provide a buffer, reduce supply chain risks, and ensure that critical sectors like clean energy and defense aren't impacted by market fluctuations or geopolitical standoffs.



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What are the Key Issues Associated with India's Critical Mineral Ecosystem?

- 💡 **Heavy Dependence on Imports:** India's reliance on imports for critical minerals, especially **lithium, cobalt, and graphite**, poses a significant vulnerability to its energy transition and technological ambitions.
 - ✦ As India seeks to ramp up EV adoption and solar power capacity, securing a stable supply of these minerals becomes crucial.
 - ✦ India is **100% import-dependent for minerals like lithium and cobalt**, with China being the dominant supplier, controlling over **70% of the global lithium production**.
 - ✦ In FY 2023-24, India spent over **₹34,000 crores importing critical minerals**, highlighting the economic strain and geopolitical risks tied to this dependence.
- 💡 **Lack of Advanced Extraction Technologies:** India faces a significant gap in **advanced mining and mineral extraction technologies**, making it difficult to efficiently exploit domestic resources.
 - ✦ While the government is investing in research, the **pace of innovation in this field remains slow**, preventing India from maximizing its mineral potential.
 - ✦ Recent auctions of **deep-seated mineral blocks (lithium in J&K)** have seen little commercial extraction progress: **licensing, geological data accuracy, and mining technology are all major bottlenecks**.
 - 📎 Recently, the Indian government **cancelled the auction of 5 critical mineral blocks, including a rare earth element (REE) block in Karnataka**, due to poor response.
- 💡 **Environmental and Social Concerns:** Mining and extraction processes have adverse **environmental and social impacts**, which India must address to ensure sustainable growth in the critical minerals sector.
 - ✦ Land acquisition, resettlement issues, and the environmental degradation caused by mining activities are major challenges.
- ✦ A study on **three coal mines in central India (Madhya Pradesh and Chhattisgarh)** found that between **1994 and 2022**, mining activities **degraded 35% of the native land cover**.
 - 📎 In states like **Jharkhand and Odisha**, **untreated mine runoff pollutes rivers and groundwater with heavy metals and toxins**, making the water unsafe for drinking and agriculture.
- ✦ In terms of social concerns, one of the most prominent examples of social resistance is the decade-long conflict over **bauxite mining in the Niyamgiri Hills of Odisha**.
- 💡 **Market Volatility and Price Fluctuations:** The global market for critical minerals is **highly volatile**, with prices fluctuating dramatically based on supply chain disruptions, geopolitical tensions, and changing demand patterns.
 - ✦ India's dependence on global markets makes it vulnerable to price hikes, affecting the cost of renewable energy projects.
 - ✦ For example, a 2022 McKinsey report stated that surging EV demand has seen lithium prices skyrocket by around **550% in a year**.
 - 📎 Though, **oversupply has sent lithium prices to multi-year lows in 2025**.
- 💡 **Inadequate Workforce and Skill Development:** India's critical minerals sector lacks a skilled workforce capable of supporting complex extraction, processing, and technological advancements.
 - ✦ Despite the **National Critical Minerals Mission (NCMM)** establishing **Centres of Excellence at major IITs and research labs in 2025**, most new mining projects—especially for rare earths and lithium—still depend on foreign consultants for project design and ongoing expertise.
 - ✦ Without a **skilled workforce in place**, India may struggle to **innovate and operate critical mineral projects efficiently**, further increasing dependency on foreign expertise and technology.

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- 💡 **Slow Development of Downstream Industries:** Critical minerals are not just about mining but also about integrating into downstream sectors like EV batteries, semiconductors, and defense.

- ✦ India's battery manufacturing ecosystem (e.g., **National Programme on Advanced Chemistry Cell (ACC) Battery storage**) is still developing, creating a mismatch between mineral availability and industrial use.
- ✦ **Lack of a clear linkage between mineral policy and industrial policy** prevents efficient utilization.

What Measures can India Adopt to Enhance its Critical Mineral Supply Chain?

- 💡 **Development of Deep-Seated Mineral Extraction Technologies:** To unlock the vast untapped potential of critical minerals, India must invest in the development of advanced extraction technologies tailored to deep-seated and hard-to-reach mineral deposits.

- ✦ This will ensure that **valuable resources, such as cobalt and lithium**, found in challenging geological formations can be efficiently mined without compromising environmental standards.
- ✦ By focusing on **innovation in mineral extraction**, India can reduce its reliance on foreign technologies and foster homegrown capabilities in mining.

- 💡 **Public-Private Partnerships for Mineral Exploration:** Encouraging robust public-private partnerships (PPP) can facilitate faster exploration and development of critical mineral reserves within India.

- ✦ By combining government incentives with private sector expertise and investment, these partnerships can expedite the process of discovering and utilizing mineral deposits.
- ✦ The **government could set up collaborative ventures with mining firms to provide risk-sharing frameworks**, ensuring that exploration activities move forward swiftly and cost-effectively.

- 💡 **Streamlining Regulatory Processes for Faster Approvals:** India's mineral sector often suffers from delayed regulatory approvals that impede the pace of exploration and production.

- ✦ By establishing a **fast-track approval mechanism for critical mineral projects**, India can accelerate the development of its critical mineral reserves.
- ✦ This could include simplifying environmental clearances and expediting land acquisition processes through digital platforms to reduce bureaucratic hurdles and ensure timely project execution.

- 💡 **Leveraging Blockchain for Transparent Mineral Supply Chain:** Integrating blockchain technology into India's mineral supply chain can increase transparency, traceability, and efficiency.

- ✦ **Blockchain can help monitor the journey of minerals from extraction to processing**, ensuring that the supply chain remains secure and free from unethical practices such as illegal mining or conflict sourcing.
- ✦ This technology can also **provide real-time data on inventory levels**, demand forecasts, and pricing, aiding in better decision-making.

- 💡 **Promotion of Urban Mining and E-Waste Recycling:** India can tap into urban mining by improving infrastructure for e-waste recycling, a key source of critical minerals such as **cobalt, nickel, and rare earth elements**.

- ✦ Establishing state-of-the-art recycling plants dedicated to extracting valuable minerals from old electronics, batteries, and other consumer products can significantly reduce dependency on newly mined resources.
- ✦ Furthermore, **incentivizing the informal sector to formalize and participate in recycling** will enhance collection efficiency and mineral recovery rates.

- 💡 **Bilateral and Multilateral Resource Acquisition Deals:** To safeguard its mineral supply chains, India should expand its international engagement with mineral-rich countries through strategic partnerships and agreements.

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✦ By negotiating **bilateral deals for access to critical mineral resources** and processing facilities, India can secure long-term supply commitments, diversifying its sources away from over-reliance on a few countries.

✦ **These partnerships can include joint ventures, preferential trade agreements, and equity stakes in foreign mining operations.**

💡 **Enhancing Domestic Mineral Processing Capacity:** India must significantly enhance its domestic processing capacity for critical minerals, particularly for minerals such as lithium, cobalt, and rare earths, where it currently depends on foreign refiners.

✦ By **building world-class processing plants** and investing in cutting-edge refining technologies, India can move up the value chain, ensuring that it does not just export raw minerals but also benefits from downstream industries like battery manufacturing, electronics, and clean energy technologies.

💡 **Fostering Research and Development in Alternative Materials:** To reduce its dependency on scarce critical minerals, India should promote R&D into alternative materials and technologies.

✦ **Research into substitute materials for lithium, cobalt, and rare earths** in applications like batteries, solar panels, and electric vehicles could help mitigate supply risks.

✦ Government funding, academic partnerships, and industry collaboration can drive breakthroughs in material science, providing India with alternatives that can be sourced more sustainably and at lower costs.

💡 **Establishing Regional Mineral Processing Hubs:** Creating dedicated mineral processing hubs in key mineral-rich states, with advanced infrastructure and facilities, could provide economies of scale in processing and refining.

✦ These hubs could be modeled on industrial parks that offer integrated facilities for **mining, beneficiation, smelting, and recycling.**

✦ This approach would not only streamline operations but also create job opportunities and foster regional economic development while ensuring greater control over the mineral value chain.

💡 **Adopting a Circular Economy Approach:** India can enhance its critical mineral supply chain by adopting a circular economy approach, where minerals are reused and recycled at the end of their lifecycle.

✦ A **national policy encouraging the circular use of materials**, combined with incentives for businesses to design products with recyclability in mind, can ensure that resources are utilized efficiently.

✦ This would help conserve mineral resources, reduce waste, and contribute to sustainability goals by closing the loop in the supply chain.

Conclusion:

A robust critical minerals ecosystem is indispensable for India's clean energy transition, self-reliance, and sustainable industrial growth. By strengthening domestic exploration, recycling, and international partnerships, India can reduce vulnerabilities and foster resilience. Such measures directly advance **SDG 7 (Affordable and Clean Energy)**, **SDG 9 (Industry, Innovation and Infrastructure)**, and **SDG 12 (Responsible Consumption and Production)**. With timely reforms and innovation, India can align mineral security with its broader vision of **Atmanirbhar Bharat** and **Net-Zero 2070 goals**.

Towards Holistic Women Empowerment in India

This editorial is based on "[The 'domestic sphere' in a new India](#)" which was published in The Hindu on 09/09/2025. The article brings into picture the gap between the rhetoric of "nari shakti" and the realities of dowry deaths, unpaid domestic work, and undervaluation of women's labor, stressing that true empowerment demands structural change over symbolic celebration.

Tag: GS Paper - 2, Issues Related to Women, GS Paper - 3, Inclusive Growth

While **India's leadership champions "nari shakti"** and women-led development in public discourse, a troubling silence persists around the harsh realities women face in domestic spaces. With **7,000 women dying**

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annually from **dowry-related violence** and 93% of women spending seven hours daily on **unpaid domestic work** compared to men's mere 26 minutes, the gap between rhetoric and reality is stark. True **women's empowerment** demands not just celebrating their contributions but addressing the structural inequalities that trap them in cycles of overwork and undervaluation.

What are the Key Areas Where India has Advanced Women's Empowerment?

💡 **Health and Maternal Care:** India has achieved substantial improvements in maternal and child health, leading to a significant decline in maternal mortality.

✦ The **Maternal Mortality Ratio (MMR)** dropped to 97 per lakh live births in 2018-20, which is well on track to meet the **SDG target of 70 by 2030**.

✦ This achievement stems from enhanced healthcare access, especially institutional deliveries.

📎 In 2019-21, **88.6% of deliveries occurred in health institutions**, a marked increase from 78.9% in 2015-16.

📎 The focus on maternal health has also resulted in improved antenatal care (ANC), with 59% (2019-21) of women receiving the recommended **four or more ANC visits from health providers**.

💡 **Education and Literacy:** India has witnessed a steady increase in female literacy and access to education, narrowing the gender gap.

✦ According to the World Bank India report, **only 1 of 11 girls** was literate at the time of India's independence, about **9%**. And at present, the women's literacy rate has jumped to **77%** reflecting notable improvements, especially in rural areas.

✦ The **gross enrollment ratio (GER)** for girls in primary education has been consistently higher than that of boys.

📎 The ratio of female GER to male GER is 1.01 in 2021-22 (**All India Survey on Higher Education 2021-2022**).

💡 **Workforce Participation and Economic Empowerment:** Women's economic participation has shown a positive uptick, with **female self-employment growing by 30%**, from 51.9% in 2017-18 to 67.4% in 2023-24.

✦ India's push for **women-led development** has led to more women entering entrepreneurship, with nearly **50% of DPIIT-registered startups** having at least one woman director.

✦ The **labor force participation rate (LFPR)** for women increased significantly, from **23.3% in 2017-18 to 37% in 2022-23**.

📎 Additionally, **women-owned MSMEs** have been instrumental in creating over 89 lakh new jobs for women from FY 2021-2023.

💡 **Gender-Responsive Policies and Government Schemes:** India has ramped up its policy framework to support gender equality through dedicated schemes for women's welfare.

✦ **Union Budget 2025-26** increases gender budget allocation by **37.25%**, reaching ₹4.49 lakh crore

✦ Initiatives like **PM Mudra Yojana** (**68% of loans to women**), have financially empowered millions.

✦ These policies not **only provide financial support but also nurture an inclusive environment** where women can thrive as entrepreneurs and contributors to economic growth.

💡 **Digital Financial Inclusion and Financial Literacy:** India has made strides in women's digital financial inclusion, which is crucial for economic independence.

✦ The **Pradhan Mantri Jan Dhan Yojana (PMJDY)** has been a game-changer, with women at the forefront of its success.

📎 As of August 2025, **over 56% of Jan Dhan accounts belong to women**. This initiative has provided a **zero-balance account to millions of unbanked women**, laying the foundation for their formal financial participation.

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✦ Also, as of March 2025, over 30.68 crore unorganised workers have registered on [e-Shram portal](#), with more than half of them being female (53.68%)

💡 **Social Safety Nets and Welfare Programs:** Social welfare programs such as PMAY (Pradhan Mantri Awas Yojana- female-headed households) and Ujjwala Yojana have significantly benefited women by providing them with housing and cooking gas.

✦ The vast network of women at the grassroots level, such as Anganwadi and [Accredited Social Health Activist \(ASHA\) workers](#), are the backbone of many social welfare schemes. They are instrumental in delivering healthcare and nutrition services to the most vulnerable populations.

💡 **Rise of Indian Women in Sports:** In recent years, Indian women have surged to prominence in sports, breaking records and inspiring millions.

✦ [Manu Bhaker](#) became the first Indian woman shooter to win an Olympic medal. The Indian women's cricket team claimed their maiden Asian Games gold in 2023.

✦ Para-shooter Avani Lekhara became the first Indian woman to win three Paralympic medals, while para-archer Sheetal Devi became the youngest Indian Paralympic medalist.

📌 These achievements underscore the growing impact of women in Indian sports.

Which Factors Hinder the Effective Empowerment of Women in India?

💡 **Labour Force Exclusion and Informalisation:** Women face systemic barriers in accessing skilling opportunities, safe workplaces, and formal employment, leaving many confined to low-wage informal work or unpaid domestic roles.

✦ The female labour force participation rate in India is still half of the LFPR of men and far below the global average of female LFPR of 47.2% (EPW).

✦ According to the National Commission for Enterprises in the Unorganised Sector

(NCEUS), over 90% of women in India are engaged in informal work, denying them social security, career advancement, and economic independence, reinforcing cycles of poverty and vulnerability.

📌 India ranked 131st out of 148 countries in the Global Gender Gap Report 2025 by the World Economic Forum.

💡 **Political Underrepresentation and Tokenism:** While women's political representation has improved, it remains woefully inadequate, affecting the extent to which their concerns are addressed in policymaking.

✦ Only 14% of seats in India's Parliament are held by women (18th Lok Sabha), and in state assemblies, the figure is even lower.

✦ Although the [Nari Shakti Vandan Adhiniyam 2023](#) seeks to reserve 33% of seats for women, it will be implemented only after the next delimitation exercise, leaving women's voices underrepresented in critical decisions.

✦ Also, at a lower level, practices like the "sarpanch-pati" system—where male relatives act on behalf of elected women—erode authentic leadership.

💡 **Health Inequality and Gendered Neglect:** Though improvements have been observed recently, systemic barriers in healthcare manifests in high rates of anemia, maternal malnutrition, and inadequate preventive services, affecting women's longevity and productivity.

✦ NFHS-5 reveals that 57% of women aged 15–49 are anemic. These figures highlight the intersection of health neglect with social and economic marginalization, threatening national development and workforce participation.

💡 **Education Gaps and Skill Disconnect:** Although girls' enrollment in schools has increased, disparities in learning outcomes, higher education access, and STEM participation persist.

✦ The Gross Enrollment Ratio in higher education is only 28.5% (though slightly higher than man) but it is compounded with

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high dropout rates, early marriage, and inadequate institutional support for women pursuing technical and professional careers, reinforcing intergenerational cycles of limited opportunity.

- 💡 **Time Poverty and Unpaid Care Work:** Women in India bear the brunt of unpaid domestic and caregiving work, which severely limits their time for education, employment, or leisure.

- ✦ According to the latest **Time Use Survey (2024)**, women spend 289 minutes a day on unpaid domestic work compared to just 88 minutes for men.

✍ This disparity in time spent on unpaid labor reduces women's opportunities for paid work, contributing to the gender gap in labor force participation.

- ✦ While policies such as the **Ujjwala Yojana** and PMAY have eased some burdens, **they are insufficient to address the broader issue of time poverty, which keeps women in a cycle of unpaid labor.**

- 💡 **Discrimination in Formal Employment Sectors:** Women face structural discrimination in formal employment, which often leads to underrepresentation in high-paying or leadership roles.

- ✦ In corporate settings, **women encounter a 'glass ceiling,'** where despite equal qualifications, they are overlooked for promotions or leadership positions.

- ✦ **Unspoken biases also perpetuate gender stereotypes,** leading to women being sidelined into lower-paying roles or functions like human resources, customer service, or administrative work.

✍ A survey by **McKinsey & Company** revealed that women are less likely to be hired or promoted in sectors such as **technology, finance, or engineering,** where women's representation in leadership positions is dismal.

- ✦ Additionally, even in the formal sector, women often earn significantly less than their male

counterparts, perpetuating the gender wage gap.

- 💡 **Gender-Based Violence and Impunity:** Violence against women in India continues to be a significant and pervasive issue, manifesting in various forms such as **domestic violence, sexual assault, trafficking, and honor killings.**

- ✦ Despite legal provisions like the **Protection of Women from Domestic Violence Act (2005)** and the **Criminal Law (Amendment) Act (2013)**, which criminalize acts of violence against women, the implementation of these laws remains inconsistent.

✍ Nearly **one-third of women in India have experienced physical or sexual violence,** finds the **National Family Health Survey-5 report.**

- ✦ In rural areas, **social norms often shield perpetrators,** and women face immense social pressure to stay silent, fearing stigma, rejection, or retribution.

✍ The reluctance to report violence stems from a deep-rooted culture of **victim-blaming,** where survivors are often held responsible for the abuse they endure.

✍ The persistence of the **Devī-Dāsi dichotomy,** which contrasts the **idealized sacred woman (Devī)** with **marginalized or exploited women (Dāsi),** reflects the deep-rooted societal attitudes that normalize the subjugation of women.

- 💡 **Digital Divide and New Forms of Exclusion:** India's rapid digitization has widened the digital gender gap, restricting women's access to information, financial tools, e-governance platforms, and safe online spaces.

- ✦ As per **India Inequality Report 2022: Digital Divide,** Women constitute only one third of internet users in India.

- ✦ The **gender gap in digital literacy** further hinders women from participating in the digital economy, limiting their access to information and resources necessary for social and economic mobility.

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What Measures Can India Undertake to Ensure Holistic and Equitable Women's Empowerment?

💡 **Strengthening Legal Frameworks and Ensuring Swift Justice:** India must expedite the legal processes and ensure stricter enforcement of laws related to women's safety and rights.

- ✦ This includes **fast-tracking cases of violence, dowry deaths, and sexual harassment to reduce delays in justice delivery.**
- ✦ Special courts for gender-based violence should be established across the country, with training for police, judiciary, and law enforcement to handle such cases with sensitivity. Additionally, reforms to make existing laws more robust and comprehensive in protecting women's rights should be pursued.

💡 **Promoting Gender-Responsive Education Policies:** Education is a fundamental tool for women's empowerment, and India must implement gender-responsive education policies **that address not only enrollment but also retention and completion rates.**

- ✦ Curriculum reforms should emphasize gender equality, social justice, and women's history, challenging stereotypes from an early age.
- ✦ **Scholarships, mentorship programs, and career counseling** should be made available to women in underserved regions to break barriers to higher education, especially in fields like technology and engineering where female participation is limited.

💡 **Expanding Women's Political Representation and Leadership Roles:** The government should prioritize the implementation of Nari Shakti Vandan Adhiniyam 2023 to ensure 33% representation of women in the Parliament and State Assemblies.

- ✦ Additionally, policies should be enacted to promote gender parity in local governance, corporate boards, and leadership positions across sectors.

✦ **Women's participation in decision-making processes can be further expanded by implementing quotas for women in executive positions** within the public sectors, along with leadership development programs tailored to women's unique challenges.

💡 **Comprehensive Healthcare Services for Women:** To ensure holistic empowerment, India must provide equitable access to healthcare, focusing on **women's reproductive health, mental health, and overall well-being.**

- ✦ This includes addressing gaps in maternal health services, improving access to family planning methods, and promoting mental health care awareness for women.
- ✦ Health policies should aim to reduce the gender disparity in healthcare access by **improving infrastructure in rural areas and reducing out-of-pocket expenses** for women, ensuring women receive continuous and holistic care throughout their lives.

📎 Chatbots like **Madhya Pradesh's SUMAN SAKHI**, accessible via WhatsApp, providing 24/7 maternal and reproductive health information, is a significant step in the right direction.

💡 **Women-Focused Digital Literacy and Inclusion Programs:** India should launch large-scale digital literacy programs targeted at women, especially in rural areas, that not only teach basic digital skills but also **integrate financial literacy, e-commerce, and online entrepreneurship.**

- ✦ This will help women leverage the internet for business opportunities, remote work, and social connections, breaking down the barriers of geography and access.
- ✦ Specific platforms can be created where women can access tailored resources, mentorship, and financial planning tools to support their digital journey.

💡 **Support for Women in the Gig Economy:** India should build specific frameworks and safety nets for women working in the gig economy, such as **delivery drivers, freelancers, and platform workers.**

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✦ This includes creating a **national registry for gig workers**, offering healthcare benefits, ensuring fair wages, and establishing worker protections against harassment.

✦ **Targeted policies should be put in place to guarantee that women gig workers have the same legal rights and social security benefits as traditional workers**, including maternity leave and retirement benefits.

💡 **Women-Centric Urban Infrastructure Development:** Cities must be designed with women's needs at the core. This includes creating more women-friendly public transport systems with real-time safety monitoring, safer pedestrian infrastructure, **women-only spaces**, and **more accessible childcare facilities in public spaces**.

✦ Special attention should be given to the design of low-cost housing with integrated community services to reduce time poverty and improve safety for women.

💡 **Gender-Responsive AI and Data Systems for Policy-making:** India should build **gender-responsive AI and data systems** that provide real-time analytics on women's access to healthcare, education, employment, and safety, enabling policymakers to respond to women's specific needs more effectively.

✦ By integrating **gender-focused data in government decision-making processes**, policies can be tailored to address the unique challenges faced by women in different regions, ensuring a more personalized and effective approach to empowerment.

💡 **State-Backed Female Entrepreneur Networks:** Create **state-backed networks** for female entrepreneurs, where women from rural and urban areas can collaborate, share resources, and access government schemes, funding, and market access.

✦ **These networks could operate as business incubators**, providing training on how to scale businesses, connect with investors, and navigate the complexities of the market.

✦ These platforms would particularly benefit women in smaller towns and rural areas,

providing them with the tools to grow their businesses beyond their localities.

✍ Also, **Kolhapur's 'Palakmantri Makan-Dukan' scheme**, which supports rural women in setting up grocery shops adjacent to their homes is a significant step in the right direction.

Conclusion:

Women's empowerment **cannot be treated as a sectoral reform**, it must be seen as a societal transformation that uplifts every domain of life. A holistic approach combining **legal, economic, digital, cultural, and educational interventions** will create truly equitable spaces. Only when women are both participants and decision-makers can progress become sustainable. As **Swami Vivekananda** said, *"There is no chance for the welfare of the world unless the condition of women is improved. It is not possible for a bird to fly on only one wing."*

India's Quest for Technological Sovereignty

This editorial is based on "[The long march ahead to technological independence](#)" which was published in The Hindu on 10/09/2025. The article brings into picture the need for technological sovereignty in the digital age, stressing that India must reduce dependence on foreign software. It emphasizes building indigenous open-source solutions as an urgent and achievable path to true freedom.

Tag: GS Paper - 3, IT & Computers, Government Budgeting

True freedom in today's **digital age requires technological sovereignty**, not just political autonomy. Modern warfare is waged through software and cyberspace, with a **handful of foreign companies controlling critical infrastructure** like banks, railways, and power grids. This dependence creates serious vulnerabilities, as demonstrated **when cloud services were recently cut off to an Indian company**. The solution lies in building **India's own foundational software** through

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open-source development, requiring our vast IT community to unite behind this mission. While the **path to hardware sovereignty** remains challenging, **achieving software independence through collective will and strategic planning** is both urgent and achievable before a crisis forces our hand.

What is Technological Sovereignty?

- 💡 **Technological sovereignty** refers to a nation's ability to develop, control, and govern the critical technologies it deems essential for its **security, economy, and strategic autonomy**.
 - ✦ It is not about achieving complete technological self-sufficiency, which is impractical in today's interconnected world.
 - ✦ Instead, it is **about avoiding one-sided and critical dependencies on foreign powers for key technologies**.
- 💡 While closely related to **digital sovereignty (which focuses on controlling data and digital infrastructure)**, technological sovereignty is a broader concept that also encompasses the physical hardware and the underlying intellectual property (IP) that drives these systems.

Why is Technological Sovereignty Critical for India?

- 💡 **National Security and Data Privacy:** Technological sovereignty is a national security imperative, protecting against cyber warfare and surveillance.
 - ✦ Relying on foreign hardware and software creates backdoors and vulnerabilities, enabling external actors to compromise critical infrastructure, from power grids to financial systems.
 - ✦ The government's ban on over **119 Chinese apps** citing national security concerns and the enactment of the **Digital Personal Data Protection (DPDP) Act, 2023**, reflect a proactive stance to localize data and reduce dependence on foreign tech giants, **safeguarding citizen data and state secrets**.
- 💡 **Economic Resilience and Aatmanirbhar Bharat:** Developing indigenous technologies is central to

India's goal of economic self-reliance, fostering domestic innovation and job creation.

- ✦ **Aatmanirbhar Bharat Abhiyan** aims to build a robust manufacturing ecosystem, reducing reliance on global supply chains that proved fragile during the pandemic.
- ✦ For example, the **PLI Schemes** have witnessed exports surpassing ₹ 5.31 lakh crore (around US\$ 61.76 billion), with significant contributions from sectors such as Large-Scale Electronics Manufacturing.
 - 📎 Also, India aims to exceed **\$20 billion in smartphone exports in FY25**, driven by rising iPhone exports, a stark shift from being a net importer.

- 💡 **Geopolitical Leverage and Strategic Autonomy:** Technological self-reliance provides India with greater leverage in international relations, preventing it from being a pawn in geopolitical tech rivalries.

- ✦ Dependence on a few global tech companies, predominantly from the US and China, can constrain foreign policy choices.
- ✦ India's pursuit of the **Bharat 6G Vision**, aiming to secure **10% of global 6G-related Intellectual Property Rights (IPRs)**, is a strategic move to position itself as a **net provider of technology, not just a consumer**, enabling it to shape future global standards and partnerships on its own terms.

- 💡 **Infrastructure and Financial Inclusion:** Sovereign technology is vital for building and maintaining a resilient public digital infrastructure that is accessible and affordable to all citizens.
 - ✦ The **India Stack**, a suite of digital public goods, including Aadhaar, UPI, and DigiLocker, demonstrates this.
 - ✦ UPI achieved a milestone in August 2025, surpassing 20 billion monthly transactions, totaling ₹24.85 lakh crore, a testament to a **homegrown technology enabling unprecedented financial inclusion and a digital economy**.

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✦ This framework allows India to innovate from the ground up, tailored to local needs, rather than adapting to foreign models.

💡 **Semiconductor Independence:** The global semiconductor shortage underscored India's critical vulnerability in hardware manufacturing, a foundational element of any digital economy.

✦ India is heavily reliant on **foreign-made chips**, making it susceptible to supply chain shocks and price volatility.

✦ The **India Semiconductor Mission (ISM)**, with a budget of ₹76,000 crore, aims to establish a domestic ecosystem for chip design and fabrication, with major players like **Vedanta-Foxconn and Micron Technology investing billions**, laying the groundwork for a secure, self-sufficient electronics industry.

💡 **Cyber-Resilience and Digital Sovereignty:** True technological sovereignty is not just about **building tech but also about securing it**.

✦ India's digital infrastructure is constantly under threat from sophisticated cyberattacks, and a **lack of indigenous capability in cybersecurity can be catastrophic**.

✦ The **Indian Computer Emergency Response Team (CERT-In)** has recorded a massive increase in cyber threats, and the government's focus on building a robust cybersecurity framework and a skilled workforce is paramount.

📎 A recent **high-profile example is the WazirX crypto exchange hack (2025)**, where **North Korean-linked Lazarus Group** exploited smart contract flaws, revealing deep cybersecurity gaps in India's fintech backbone.

💡 **Cultural and Social Autonomy:** Technological sovereignty ensures that a nation's **digital platforms and content reflect its unique cultural and social values**.

✦ Relying on foreign-owned social media and content platforms can lead to the **erosion of local languages and cultural narratives** and

create an environment ripe for misinformation campaigns.

✦ The government's initiatives to **promote Indian-language content and platforms**, coupled with the new IT Rules, aim to hold platforms accountable.

📎 For instance, the promotion of platforms like **BHASHINI**, which supports **real-time translation and content in Indian languages**, is key to preventing the **"digital colonisation"** of India's linguistic diversity.

💡 **Space & Communications Sovereignty:** Sovereignty in space and communications is crucial for India's strategic independence and its growing digital economy.

✦ Relying on foreign satellite systems for communication, navigation, and earth observation creates a critical vulnerability.

✦ India's indigenous **Navigation with Indian Constellation (NavIC) system**, a regional alternative to GPS, is a prime example, providing secure and reliable positioning services for both civilian and defense applications.

✦ Similarly, the **Indian Space Research Organisation (ISRO)** continues to launch its **own communication satellites (GSAT series)** to reduce reliance on **foreign-leased transponders**, safeguarding critical data and ensuring uninterrupted communication services for national broadcasters and military operations.

💡 **AI and Algorithmic Sovereignty:** AI and algorithmic sovereignty are a critical subset of technological sovereignty, focusing on a **nation's ability to control and govern the artificial intelligence systems that increasingly influence public and private life**.

✦ Relying on foreign-developed black-box AI models risks a loss of control, potential for foreign influence, and the embedding of biases that don't reflect India's diverse social and cultural context.

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- ✦ In a significant step towards strengthening India's strategic autonomy in artificial intelligence (AI), **Bengaluru-based start-up Sarvam AI** has been chosen to develop the nation's first indigenous sovereign large language model (LLM).

✎ This ensures that the AI can understand the nuances, cultural context, and linguistic diversity of India, making it a critical national infrastructure that serves the population without external dependencies.

What are the Key Challenges Hindering India's Path to Technological Sovereignty?

- 💡 **Dearth of Domestic Semiconductor Ecosystem:** India faces a significant challenge in building a complete domestic semiconductor ecosystem, from **design to fabrication**.

- ✦ The **capital-intensive nature** and complex technical requirements of this industry have historically kept India out of the global value chain.

✎ The country remains heavily reliant on imports for over **90% of its semiconductor needs**, making it vulnerable to geopolitical supply chain shocks.

✎ Globally, the most advanced semiconductors are **made on sub-10 nanometer (nm) process nodes**, which are essential for high-performance computing, AI, and advanced smartphones. **India, by contrast, has no operational fabs for chips at or below 28nm.**

- 💡 **Acute Skills Gap and "Brain Drain":** While India produces a large number of STEM graduates, there's a significant **skills mismatch** and a persistent **"brain drain"** of top talent.

- ✦ A large percentage of highly skilled professionals migrate abroad for better opportunities, higher salaries, and advanced research facilities.

- ✦ Reports suggest a critical shortage of talent in cutting-edge fields like **AI, cybersecurity, and chip design**. According to the **International Labour Organisation (ILO)**, India is likely to face a shortage of **~29 million skilled personnel by 2030**.

✎ This exodus of talent weakens domestic innovation capabilities and makes it difficult for India to build and scale its own deep-tech enterprises.

- 💡 **Low R&D Investment:** India's expenditure on Research & Development (R&D) remains low, a major obstacle to indigenous technological development.

- ✦ The country's Gross Expenditure on R&D has hovered between **0.6% and 0.7% of its GDP** for years, which is significantly lower than major global innovators like **South Korea, Israel, and the U.S.**

- ✦ A major factor is the low private sector contribution, which accounts for only about **36% of the total R&D expenditure**, a stark contrast to developed economies where the private sector **often contributes over 70%**.

✦ This lack of funding stifles innovation and limits the creation of new intellectual property.

- 💡 **Lack of Patient Capital for Deep Tech:** India's startup ecosystem, while vibrant, is heavily skewed towards **consumer-facing and e-commerce ventures that promise quicker returns**.

- ✦ There is a noticeable **lack of patient, long-term capital** for deep-tech startups that require significant investment and a longer gestation period for R&D.

- ✦ A recent report stated that the number of investors participating in funding rounds for India's deeptech startups **dropped by over 60% in 2023 compared to 2022**.

- ✦ This reluctance from investors, who often have a 5-7 year exit horizon, **makes it challenging for startups working on foundational technologies like quantum computing, advanced materials, and robotics** to secure the funding needed to scale and succeed.

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💡 **Fragmented Regulatory and Governance Framework:** India's regulatory landscape for the technology sector is often fragmented, with **multiple ministries and departments responsible for different aspects of tech**, leading to bureaucratic bottlenecks and a lack of unified vision.

- ✦ For instance, a deep tech startup may need to navigate separate policies and approvals from the **Ministry of Electronics and Information Technology (MeitY)**, the **Department of Science & Technology (DST)**, and the **Department of Biotechnology (DBT)**.
- ✦ This bureaucratic inertia and risk-averse culture can delay project approvals and commercialization.

💡 **Inefficient Government Procurement:** Despite a strong push for "Make in India," government procurement processes remain a significant barrier for local tech startups.

- ✦ The system is often slow and favors large, established foreign vendors who can meet stringent eligibility criteria, such as prior experience and turnover.
- ✦ While initiatives like the **GeM Startup Runway** have introduced exemptions for startups, they face challenges in getting a foot in the door for large-scale, strategic projects.
 - 📌 The **absence of a "trial-run" model or a dedicated fund for procuring cutting-edge solutions** from startups limits the public sector's ability to act as a first anchor customer, a role critical for helping nascent tech firms prove their capabilities and scale their products.

💡 **Weak Intellectual Property (IPR) Enforcement:** A weak IPR enforcement regime undermines the very incentive to innovate. Although India has a comprehensive legal framework for intellectual property, **its enforcement is often slow and ineffective.**

- ✦ The judiciary is overburdened, and the litigation process can be prohibitively expensive for small innovators and startups.

✦ According to the US Chamber of Commerce's latest **International IP Index** report India has been ranked **42nd out of 55 countries**, highlighting concerns over patent enforcement and trademark protection.

- 📌 This environment of weak IPR protection **dissuades both domestic and foreign companies from investing heavily in R&D within India**, as they are not confident in their ability to protect their intellectual assets from infringement.

How Can India Strategically Advance Towards Achieving Technological Sovereignty?

💡 **Catalyzing a Sovereign Deep Tech Ecosystem:** India must shift its focus from a service-centric IT model to a product-first, deep tech-driven economy.

- ✦ This requires fostering a robust ecosystem for startups working on foundational technologies like AI, quantum computing, and advanced materials.
- ✦ Measures should include **creating specialized deep tech funds with patient capital, establishing public-private partnership (PPP) "Innovation Hubs"** that co-locate academic researchers and industry experts, and offering tax incentives and grants for companies that invest in high-risk, long-gestation R&D.
- ✦ The goal is to build indigenous intellectual property (IP) from the ground up, reducing reliance on licensed foreign technology.

💡 **Sovereign Technology Testbeds & Regulatory Sandboxes:** Dedicated sovereign testbeds for frontier-tech (chips, AI, space, quantum) must be created to simulate real-world deployment and accelerate translation from lab-to-market.

- ✦ Regulatory sandboxes allow innovation without rigid compliance, reducing delays in experimentation.
- ✦ Such sovereign environments nurture indigenous startups and insulate validation from foreign reliance.

💡 **Technology Sovereignty Zones (TSZs):** Dedicated clusters of sovereign technology development-

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Technology Sovereignty Zones should be established to incubate frontier innovations.

- ✦ These hubs would integrate startups, academia, defence labs, and industries under state-backed infrastructure and procurement pipelines.
- ✦ By **aligning industrial policy with sovereignty objectives**, TSZs reduce reliance on imports while fostering innovation-led exports. Regional hubs also democratise technology growth, reducing overconcentration in metros and promoting balanced development.

💡 **Strategic Stockpiling & Resource Diplomacy:** Securing critical minerals such as **lithium, cobalt, nickel, and rare earths** is indispensable for India's high-tech sovereignty.

- ✦ India must explore domestic reserves while simultaneously pursuing long-term international contracts through strategic partnerships.
- ✦ Proactive stockpiling creates buffers against global supply shocks, ensuring uninterrupted access for industries like **EVs, defence electronics, and semiconductors**.
- ✦ Resource diplomacy with **Africa, Latin America, and Central Asia** can anchor resilient supply chains independent of Chinese monopolies.

💡 **Sovereign Cloud & Federated Edge Infrastructure:** India needs to build a sovereign digital backbone through a multi-layered national cloud, **supplemented by federated edge nodes across strategic sectors**.

- ✦ Such an **architecture decentralises data flows, enhances cyber resilience, and reduces exposure to foreign-controlled platforms**. Sensitive domains like defence, governance, healthcare, and finance demand sovereign-grade cloud and edge integration.
- ✦ A federated model ensures efficiency while allowing distributed sovereignty, aligning with India's scale and diversity.

📌 It also **future-proofs India against hostile cyber or geopolitical scenarios**.

💡 **Institutionalised Dual-Use Technology Pathways:** India must formalise frameworks for seamless

transfer of innovations **between civilian and defence domains, optimising R&D outcomes**.

- ✦ For example, defence-grade cybersecurity tools can enhance civilian financial systems, while biotech research can feed into national biosecurity.
- ✦ **Structured pathways prevent silos and enable faster diffusion of technology**. Dual-use innovation also strengthens national security by broadening industrial applications of strategic technologies.
- ✦ This approach multiplies the returns on public R&D spending while boosting indigenous capacity.

💡 **Diaspora Technology Bridges:** India's global diaspora, embedded in leading tech ecosystems, is an untapped strategic asset for sovereignty.

- ✦ Structured initiatives such as **sovereign venture funds, short-term research residencies, and innovation exchange programs** can **convert brain drain into brain circulation**.
- ✦ Leveraging their global networks also strengthens India's position in technology diplomacy.

📌 **These bridges foster not just knowledge inflow but also capital, mentorship, and collaborative patents**. A coordinated diaspora strategy transforms global Indian talent into a sovereignty multiplier.

💡 **Sovereign Cybersecurity Architecture:** India must construct a layered, indigenous cyber defence stack encompassing sovereign cryptographic protocols, AI-enabled threat detection, and critical infrastructure protection.

- ✦ **Domestic security operations centres (SOCs), sovereign digital forensics, and rapid incident response systems** must be institutionalised.
- ✦ Investing in homegrown cybersecurity startups and research labs ensures resilience against external dependencies.

📌 Cyber defence thus evolves into a national security imperative central to India's technological sovereignty.

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Conclusion:

Technological sovereignty rests on **Talent, Tools, and Trust**—the three pillars securing India's digital and strategic autonomy. Cultivating world-class talent drives indigenous innovation, while developing sovereign tools and infrastructure ensures self-reliance in critical technologies. Establishing **trust in secure systems protects data, critical services, and public confidence from external threats**. Combined with strategic resource management and diaspora collaboration, these pillars transform India from a technology consumer to a global innovator.

Bringing India's Northeast Region to Mainstream

This editorial is based on "How the Modi government has furthered integration of the North-East with rest of India" which was published in The Hindustan Times on 11/09/2025. The article brings into picture the inauguration of Mizoram's first railway line as a step towards bridging the Northeast's isolation and infrastructure deficit, while also highlighting the region's untapped potential, reflected in its mere 2.3% GDP share despite vast resources.

Tag: GS Paper - 3, Infrastructure, Growth & Development, Inclusive Growth, Government Policies & Interventions, GS Paper - 2

The Indian Prime Minister recently inaugurated **Mizoram's first railway line** that represents a crucial step in addressing the Northeast's decades-long infrastructure deficit and geographical isolation from mainstream India. While the **region has seen a 73% reduction in insurgency incidents** and significant progress in connectivity, it still faces persistent challenges including **ethnic tensions, economic underdevelopment, and inadequate integration with national markets**. The **Northeast's** contribution of merely 2.3% to India's GDP, despite covering 8% of the country's area, highlights the **untapped potential** that requires sustained policy intervention and investment.



Why is the Northeast Region Crucial for India's Growth and Security?

- 💡 **Geopolitical Gateway to Southeast Asia:** The Northeast is India's crucial land bridge to the **ASEAN** and broader Indo-Pacific region, making it a cornerstone of the nation's **Act East Policy**.
- ✦ Its strategic location, bordering countries like **Myanmar, Bangladesh, Bhutan, and China**, positions it as a vital hub for trade, connectivity, and diplomatic influence.

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✦ Recent projects like the **Kaladan Multimodal Transit Transport Project** aim to provide an alternative route to the **Northeast via Myanmar's Sittwe Port**, reducing dependence on the narrow **Siliguri Corridor**, also known as the "Chicken's Neck."

💡 **Economic Catalyst for Regional Growth:** The region holds vast untapped natural resources, particularly in **hydropower, oil, and gas**, which are critical for India's energy security and clean energy transition.

✦ Development schemes are focused on transforming the region's economy from a consumer to a producer.

✦ The **North East Gas Grid** and the proposed **11,000 MW Siang Upper Multipurpose Project** are examples of recent initiatives aiming to unlock its economic potential.

💡 **Biodiversity Hotspot and Ecological Treasure:** Northeast India is a part of the **Indo-Burma biodiversity hotspot**, housing a remarkable diversity of flora and fauna.

✦ Its dense forests and unique ecosystems are vital for maintaining India's ecological balance and serve as a center for crop diversity and endemic species.

✦ The region has about 50% of the flowering plant species in India and is home to animal species like the **one-horned rhinoceros** and **Hoolock Gibbon**.

💡 **Cultural Mosaic and Soft Power:** With over 200 distinct ethnic groups and tribes, the Northeast is a rich tapestry of cultural traditions, languages, and festivals.

✦ This cultural diversity is a significant asset for India's soft power diplomacy and people-to-people exchanges with neighboring countries.

✦ Festivals like the **Hornbill Festival in Nagaland** and the **Sangai Festival in Manipur** attract tourists and promote cultural understanding.

💡 **Security and Stability as a Strategic Imperative:** Given its location, the security and stability of the Northeast are paramount to India's national security.

✦ The region's porous borders and ethnic complexities have historically led to insurgencies and cross-border issues.

✦ However, the government has made significant progress, as evidenced by a decline in extremist violence and the signing of several peace accords, such as the **Bodo Accord of 2020** and **Karbi Peace Accord 2021** which have brought many militant groups into the mainstream.

💡 **Human Capital and Social Development:** The Northeast boasts a young and educated population with a **literacy rate** higher than the national average.

✦ For example, **Mizoram recently achieved full functional literacy, becoming the first state in India to do so**, a testament to the focused social development efforts in the region.

✦ The establishment of **digital and vocational training** centers aims to utilize this human capital to spur growth, aligning with initiatives like the **North East Special Infrastructure Development Scheme (NESIDS)** and **Special Development Package for Assam and Tripura**.

📌 The **Prime Minister's Development Initiative for North East Region (PM-DevINE)** announced in the Union Budget 2022-23 specifically aims to fund social development projects, **create livelihood activities for youth and women**, and fill sectoral development gaps.

💡 **Renewable Energy Hub:** The Northeast, with its high rainfall and riverine networks, has immense potential for renewable energy, particularly small hydropower, solar, and biomass.

✦ Its vast biomass reserves, solar potential due to high solar insolation, and new initiatives in **floating solar projects** (such as **Assam's Bhurbandha Gaon Panchayat's floating solar project**) make it a testing ground for India's renewable mix.

✦ As the region is highly vulnerable to climate change impacts, floods, landslides, and glacial meltwater variation, a renewable-driven growth trajectory offers both adaptation and mitigation benefits.

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- ✦ The **Northeast can thus function as a green energy corridor** to supply surplus power to the rest of the country while also aligning with India's NDC targets under the Paris Agreement.

What Challenges are Associated with India's Northeast Region?

💡 **Persistent Insurgency and Ethnic Conflicts:** The region has a long history of insurgency driven by ethnic aspirations, demands for greater autonomy, and grievances related to socio-economic neglect.

- ✦ While violence has significantly declined, tensions and conflicts persist, often resurfacing along ethnic lines.
- ✦ A recent example is the **Meitei-Kuki conflict in Manipur, which escalated in May 2023**, displacing over 70,000 people and resulting in widespread violence.
- ✦ This particular conflict highlights the **deep-seated ethnic divisions and the failure of existing governance models to prevent inter-communal strife**, with accusations of government bias and inadequate security responses from both sides.

💡 **Infrastructure Deficit and Geographical Isolation:** Despite recent government initiatives, the region's rugged terrain and landlocked nature have led to a significant infrastructure deficit, hampering economic integration with the rest of India.

- ✦ The lack of **robust road, rail, and air connectivity inflates transportation costs and limits the flow of goods and services**.
- ✦ For example, states like **Arunachal Pradesh and Mizoram** have some of the lowest road densities in India, making large areas inaccessible.

📎 This isolation is a key factor in the region's economic backwardness, which is why major projects like the **Sela Tunnel** and **Bharatmala Pariyojana** are crucial.

💡 **Economic Underdevelopment and Unemployment:** The Northeast suffers from a fragile economy heavily reliant on agriculture and the public sector, with **minimal industrialization and private investment**.

- ✦ This results in high unemployment, particularly among educated youth, fueling discontent and social unrest.

- ✦ The overall unemployment rate in the Northeast stands higher than the national average.

📎 Several states show alarming figures. For instance, **Nagaland's youth unemployment rate is 27.4%**.

- ✦ The government's **PM-DevINE** scheme aims to bridge this gap, but **without attracting significant private capital**, the economic situation remains precarious.

📎 Also, **Special Development Package should be expanded from Assam and Tripura** to include other states of Northeast region.

💡 **Inter-State Border Disputes:** Many states in the Northeast share historical border disputes stemming from their **reorganization after independence**.

- ✦ These conflicts, rooted in colonial-era boundary demarcations, often turn violent, as seen in the **deadly clash between police forces of Assam and Mizoram in 2021**.
- ✦ While the Union government has initiated talks and mediation, these disputes remain a source of political instability and friction, hindering coordinated regional development and creating an atmosphere of mistrust.

💡 **Drug Trafficking and Cross-Border Crime:** The region's proximity to the **Golden Triangle**, a major global hub for opium production in Southeast Asia, makes it a key transit point for drug trafficking.

- ✦ This **narco-terrorism not only funds extremist groups** but also creates a significant social problem with rising drug addiction among the youth.
- ✦ In Manipur, for example, the **illicit cultivation of poppies** is a major source of conflict and income for militant groups.

📎 The **porous borders make it incredibly difficult to curb this trade**, demanding

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enhanced surveillance and international cooperation with Myanmar and Bangladesh.

💡 **Environmental Degradation and Climate Vulnerability:** The Northeast is a biodiversity hotspot, but it's also highly vulnerable to climate change, with frequent floods, landslides, and erratic rainfall patterns.

✦ **Deforestation for 'jhum' cultivation (slash-and-burn agriculture)** and illegal logging exacerbates soil erosion and habitat loss.

✦ A 2023 report by the Cross Dependency Initiative ranked Assam as the **28th most vulnerable region globally** to climate-related damage to infrastructure, underscoring the severe threat to the region's stability and economy.

📌 Also, the National Climate Vulnerability Assessment report from the **Department of Science and Technology** placed **60% of districts in Assam under the highly vulnerable category**.

💡 **Demographic Challenges and Illegal Migration:** The region has experienced significant demographic shifts due to **historical and ongoing migration**, particularly from Bangladesh.

✦ This has fueled **fears among indigenous communities of losing their land, culture, and political representation**, leading to ethnic tensions and movements against "outsiders."

✦ The implementation of the **National Register of Citizens (NRC)** in Assam was an attempt to address this issue. However, it remains a highly sensitive and unresolved matter, with political implications and potential for social unrest.

What Measures can India Adopt to Enhance Integration of Northeast Region?

💡 **Physical and Digital Connectivity Corridors:** Expedite multimodal transport projects linking **Northeast region (NER)** with the rest of India and neighboring countries through highways, railways, and waterways.

✦ Complement this with **high-speed digital highways through BharatNet** and effective utilisation of **Digital Bharat Nidhi**, ensuring last-mile broadband and satellite-based internet penetration.

✦ Such connectivity reduces isolation, **fosters economic exchange, and deepens socio-political integration**.

📌 Priority should be on **seamless inter-state travel**, logistics hubs, and cross-border trade routes. This creates a sense of inclusion through physical and virtual connectedness.

💡 **Cultural Bridging and National Mainstreaming:** Promote structured cultural exchanges between NER and other states by institutionalizing **student exchange programs, festivals, and sports linkages**.

✦ Integrate local art forms, history, and indigenous languages into national platforms to create pride and visibility.

✦ Establish **NER cultural centers** across metros to mainstream narratives beyond stereotypes.

📌 **Encourage media collaborations to project the region positively** in national imagination. Such efforts generate psychological integration through shared cultural ownership.

💡 **Political and Administrative Decentralization:** Enhance governance legitimacy through **greater devolution of powers to Autonomous Councils and Panchayati Raj institutions**.

✦ Institutionalize participatory mechanisms like **citizen councils, grievance redress platforms, and digital governance tools** tailored for remote areas.

📌 Ensure regular interaction between central policymakers and grassroots leaders.

📌 The **Ministry of Development of North Eastern Region (MDoNER)** and **North Eastern Council (NEC)** should play a catalytic role in facilitating this devolution by aligning central support with regional aspirations.

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- ✦ Build trust by strengthening local **administrative cadres** from within the region. This decentralization improves state capacity and strengthens the social contract with the Union.

💡 **Economic Clusters and Value Chain Integration:** Shift from raw resource extraction to **region-specific industrial clusters** in agro-processing, eco-tourism, handicrafts, and clean energy.

- ✦ Connect these clusters with national and global value chains via dedicated **NER Special Economic Zones**.
- ✦ Facilitate entrepreneurship by creating **start-up incubators, venture funds, and skill hubs** across state capitals. Promote branding of indigenous products as national assets.
 - ✍ Such inclusive growth reduces dependency and makes NER integral to India's economic story.

💡 **Security–Development Balancing:** Adopt a **human-security centric approach** where counter-insurgency is complemented by socio-economic development. Institutionalize community policing, dialogue mechanisms, and **confidence-building with youth groups** to reduce alienation.

- ✦ Shift the emphasis from militarized presence to **development-led stability** through infrastructure, education, and livelihoods.
- ✦ **Border management should balance security with facilitation of legitimate mobility.** Such calibrated security ensures peace dividends and greater integration.

💡 **Promoting Environmental Stewardship:** Leverage the ecological richness of NER through a **green development model** that prioritizes renewable energy, organic farming, and biodiversity-based livelihoods.

- ✦ Establish **eco-tourism circuits** with strict sustainability standards. Position NER as India's hub for **climate diplomacy and cross-border environmental cooperation** with Southeast Asia.

- ✦ This not only integrates the region economically but also places it at the heart of India's global climate commitments. Integration thus becomes identity-driven and future-oriented.

💡 **NER at Heart of Cross-Border Regional Diplomacy:** Institutionalize NER's role in India's **Act East Policy** by involving state governments directly in regional diplomacy.

- ✦ Develop **border townships as commercial gateways**, enhancing people-to-people ties with Myanmar, Bangladesh, and Bhutan.
- ✦ Encourage local businesses to be partners in regional trade agreements. Promote NER as a **convergence point of ASEAN connectivity initiatives**.
 - ✍ This transforms **peripheral geography into a strategic advantage**, strengthening integration internally and externally.

Conclusion:

The Northeast stands as India's strategic gateway to Southeast Asia, a reservoir of natural resources, and a cultural powerhouse. Yet, persistent insurgency, connectivity gaps, and underdevelopment hinder its full potential. **A balanced approach of security, infrastructure, and inclusive growth is essential.** With sustained policy focus, **the region can transform into a green energy hub and economic catalyst**, firmly integrating with India's growth story.

Towards A Dignified Future for Divyangjan

This editorial is based on "[Humour targeted at disabled reveal a troubling mindset](#)" which was published in The Indian Express on 12/09/2025. The article brings into picture the subtle exclusions persons with disabilities still face in media and society, reminding us that true empowerment lies in authentic representation, inclusive policies, and seeing disability as a valued part of human diversity.

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Tag: GS Paper - 2, Government Policies & Interventions, Welfare Schemes

Recent developments on social media and in the entertainment industry highlight how **persons with disabilities** still encounter subtle forms of exclusion from being **overlooked in social settings to being portrayed in ways that invite humor at their expense**. In *Nipun Malhotra v. Sony Pictures Films (2024)*, the Supreme Court reminded us that while freedom of expression is vital, it must **remain consistent with the constitutional values of dignity and equality under Articles 15 and 21**. The **Rights of Persons with Disabilities Act, 2016**, further enshrines these protections, affirming the principles of respect and inclusion. True empowerment of persons with disabilities calls for breaking down these barriers through authentic representation, inclusive policies, and a shift in collective consciousness that **views disability as a valued dimension of human diversity rather than a limitation**.

What Major Progress has India Made in the Inclusion and Empowerment of PwDs?

💡 **Progressive Legal Framework and Rights-Based Approach:** The enactment of the **Rights of Persons with Disabilities (RPwD) Act, 2016**, marks a paradigm shift by moving beyond the outdated Persons with Disabilities Act of 1995.

✦ This new law increased the number of recognized disabilities from 7 to **21**, aligning with the **UN Convention on the Rights of Persons with Disabilities (UNCRPD)**.

✦ It mandates a **4% reservation in government jobs** and a **5% reservation in higher education institutions**, solidifying PwDs' rights to equality, dignity, and non-discrimination.

📌 The **Supreme Court** has also actively upheld these rights, as seen in a **recent 2025 judgment that ruled against the exclusion of visually impaired candidates from judicial services**.

💡 **Inclusive Infrastructure and Mobility:** The **Accessible India Campaign (Sugamya Bharat Abhiyan)**, launched in 2015, is a major national initiative to create a barrier-free environment for PwDs.

✦ It targets accessibility in three key sectors: **built environment, transportation, and Information and Communication Technology (ICT)**.

✦ The campaign has led to a significant increase in the number of government buildings and public transport systems becoming accessible.

📌 For instance, as of 2022, **almost half the State and Union Territory government buildings** identified during access audits in 2016-2017 have been made accessible.

💡 **Economic Empowerment and Skill Development:** The government has launched several targeted schemes to boost the economic independence of PwDs.

✦ The **PM-DAKSH Yojana** and the **National Action Plan for Skill Development of Persons with Disabilities** provide vocational training and placement assistance.

✦ The **Assistance to Disabled Persons for Purchase/Fitting of Aids/Appliances (ADIP) Scheme** provides financial aid for assistive devices.

📌 **National Divyangjan Finance and Development Corporation** provides loans at concessional rates to PwD entrepreneurs.

💡 **Technological and Digital Inclusion:** Recognizing the power of technology to bridge gaps, India is pushing for greater digital inclusion. The government's **e-Governance initiatives** now prioritize web accessibility, with many public websites adhering to the **Web Content Accessibility Guidelines (WCAG)**.

✦ The **Unique Disability ID (UDID) project** is a significant step, creating a nationwide database of PwDs and providing a smart card that serves as proof of disability.

💡 **Educational Inclusion and Scholarship Schemes:** The **New Education Policy (NEP) 2020** places a strong emphasis on inclusive education, promoting a rights-based framework for PwD students.

✦ The government has launched several scholarship schemes to support PwD students from pre-matriculation to post-graduation.

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✦ The **National Scholarship for Persons with Disabilities** has supported tens of thousands of students. This focus aims to address the historically low literacy and enrollment rates among PwDs.

💡 **Promoting Awareness and Inclusive Narratives:** Beyond legal reforms, there is a conscious effort to change societal attitudes from a charity-based to a rights-based perspective.

✦ Initiatives like the annual “**Divya Kala Mela**” showcase the artistic and entrepreneurial talents of PwDs, challenging stereotypes and fostering a sense of pride and dignity.

✦ The use of the term “**Divyangjan**” by the government is part of this broader shift to reframe disability as a unique ability rather than a limitation.

📌 The **growing success of Indian para-athletes on the global stage**, like at the **Paralympics**, further amplifies this positive narrative.

💡 **Decentralized and Coordinated Governance:** The establishment of the **Department of Empowerment of Persons with Disabilities (DEPwD)** in 2012 gave a dedicated institutional focus to PwD issues.

✦ The department, along with the **Rehabilitation Council of India** and various **National Institutes**, works to coordinate policy implementation and provide rehabilitation services across the country.

✦ The creation of **District Disability Rehabilitation Centres (DDRCs)** in many districts brings services closer to PwDs in rural areas, improving access to professional guidance and assistive devices.

What Critical Barriers Continue to Hinder Inclusion and Empowerment of PwDs in India?

💡 **Inaccessible Infrastructure and Widening Digital Divide:** Despite policy pushes like the Accessible India Campaign, **urban design and transport systems remain exclusionary**, reflecting an entrenched “**architectural apartheid**.”

✦ Most government offices, schools, and workplaces lack ramps, tactile paths, or accessible toilets, making daily mobility a struggle.

✦ On the digital front, **non-compliance with accessibility standards** leaves PwD excluded from e-governance, banking, and telehealth platforms.

📌 The **Supreme Court** affirms digital access for PwDs as a fundamental right under **Article 21**, but implementation remains inconsistent.

📌 In February 2025, **155 private and government organizations** were penalized by the **Court of the Chief Commissioner for Persons with Disabilities (CCPD)** for non-compliance with digital accessibility standards

✦ This dual exclusion, **physical and digital**, curtails independent living and deepens structural inequalities.

💡 **Deficits in Inclusive Education:** The education system largely remains **integrationist rather than truly inclusive**, often treating PwD as afterthoughts.

✦ Shortage of **special educators, assistive technologies, and inclusive pedagogies** limits effective learning outcomes.

✦ Inaccessible school infrastructure and rigid assessment patterns further marginalize children with disabilities.

✦ The result is **low enrollment, high dropout rates, and intergenerational cycles of exclusion**.

📌 **Three-fourths of the children with disabilities at the age of 5 years** and one-fourth between 5-19 years did not go to any educational institution in India. (**UNESCO Report 2019**)

✦ This educational gap translates into reduced employability, perpetuating economic vulnerability.

💡 **Employment Exclusion and Workplace Discrimination:** Despite statutory reservation

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under the RPwD Act, **implementation bottlenecks and attitudinal biases** continue to lock PwD out of meaningful employment.

- ✦ Private sector hiring remains **tokenistic**, with limited focus on reasonable workplace accommodations or flexible roles.

- ✦ Lack of **skilling ecosystems, accessible job portals, and employer sensitization** compounds this challenge.

- 📌 Government data indicates that **only 36% of 26 million PwDs are employed**. Among them, men are more likely to be employed than women, with 47% of men securing jobs versus **23% of women**.

- ✦ Consequently, PwD remains overrepresented in the informal sector, excluded from upward mobility, and denied economic dignity.

💡 **Healthcare Inaccessibility and Neglect:** Healthcare services for PwD are marred by **systemic neglect and lack of specialized care**.

- ✦ A recent survey found that **more than 80% of persons with disabilities in India remain without health insurance**. Strikingly, 53.2% reported being unable to obtain coverage due to repeated rejection of their applications.

- ✦ Also, hospitals lack trained staff to handle diverse needs such as **sign language or rehabilitation therapy**.

- ✦ Preventive and rehabilitative care remains underdeveloped, leading to untreated secondary conditions.

- ✦ The pandemic exposed these fault lines, where PwD were left out of **digital telehealth, emergency responses, and vaccination drives**. This medical marginalization undermines both survival and quality of life.

💡 **Policy-Practice Gap and Weak Governance:** Although India has progressive laws like the RPwD Act 2016, **fragmented governance, poor monitoring, and weak accountability** hinder their implementation.

- ✦ **Advisory boards, accessibility audits, and grievance redress mechanisms** are either absent or dysfunctional in many states.

- 📌 Disability issues are often siloed under welfare departments, reducing inter-sectoral coordination with education, labor, and urban development.

- ✦ The **Supreme Court in 2024** found many states lagging in implementing key RPwD Act provisions, **such as appointing state commissioners**.

- 📌 As a result, legal entitlements risk remaining **“paper rights” without ground impact**, eroding trust in institutions.

💡 **Data Deficit and Information Blind Spots:** Accurate disability data remains scarce, outdated, and fragmented across sources. The reliance on the **2011 Census with limited definitions** severely underestimates the PwD population.

- ✦ Absence of **real-time disaggregated data by type, gender, and socio-economic background** impairs targeted interventions.

- 📌 **Less than 50% of India's PwDs** have a Unique Disability ID (UDID) card, hindering access to government benefits, **due to delays and digital literacy**.

- ✦ Without robust evidence, policymakers face **blind spots in planning budgets, schemes, and monitoring impact**.

- 📌 This invisibility at the data level translates into invisibility in development discourse itself.

💡 **Entrenched Social Stigma and Everyday Discrimination:** Societal perceptions still frame PwD within a **charity and dependency narrative**, ignoring their rights and agency.

- ✦ Such stigma often starts at the family level, leading to concealment, underinvestment in education, and **internalized exclusion**.

- ✦ In public spaces, discrimination translates into limited social participation and invisibility in cultural discourse.

- 📌 This “othering” perpetuates cycles of exclusion, where PwD are not seen as contributors to society but as burdens. Breaking this requires **attitudinal change and value reorientation**.

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What Measures can India Adopt to Build a More Inclusive and Empowered Future for PwDs?

Universal Design in Infrastructure and Technology:

There is a need to move beyond token accessibility to enforce **universal design principles** in all new public infrastructure, housing, and mobility systems.

- ✦ Integrate accessibility standards in **urban planning codes, smart city projects, and digital platforms** from the blueprint stage rather than retrofitting.

- ✦ Promote **assistive technologies, voice-enabled services, and inclusive fintech tools** through innovation hubs.

✍ Such integration normalizes accessibility as a mainstream development priority rather than a welfare add-on.

✍ Varanasi's "Sugamya Kashi" vision is a significant step in the right direction.

Inclusive Education Ecosystem: Shift the focus from integration to **true inclusivity in classrooms**, ensuring accessible curricula, learning materials in multiple formats, and teacher training in **disability-sensitive pedagogy**.

- ✦ Establish **resource centers in every district** to support mainstream schools with assistive devices and special educators.

- ✦ Embed inclusive practices into **digital education platforms** to ensure no child is left behind in hybrid learning models. This nurtures dignity and agency from an early stage.

✍ **Special Accredited Institutions for Education of Divyangjans (SAIEDs)** are a significant step in the right direction.

Equitable Employment and Workplace Transformation: Mandate **inclusive hiring audits** for both public and private sector institutions, linking incentives and tax benefits to diversity outcomes.

- ✦ Create **dedicated skilling pipelines** in emerging sectors like green energy, digital economy, and creative industries tailored to PwD capabilities.

- ✦ Enforce **reasonable accommodations and flexible work models**, especially in remote and gig-based work. Such systemic reforms convert employability into long-term economic empowerment.

Health and Rehabilitation Continuum: Redesign healthcare delivery by embedding **disability-inclusive protocols** in primary health centers, telemedicine services, and insurance schemes.

- ✦ Build a **national rehabilitation network** covering physiotherapy, mental health, prosthetics, and community-based care.

- ✦ Promote disability-sensitive training for medical staff to ensure dignity in service delivery.

✍ Investment in **preventive and rehabilitative care** ensures not just survival but quality of life and autonomy.

Social Attitudinal Transformation: Mainstream disability discourse into **mass media, popular culture, and civic campaigns**, replacing charity narratives with empowerment narratives.

- ✦ Integrate **disability rights education** into school civics and corporate sensitization programs. Incentivize local community initiatives that showcase PwDs as leaders, entrepreneurs, and innovators.

- ✦ This attitudinal shift transforms them from "**recipients of care**" into **equal stakeholders in society's growth story**.

Governance and Policy Accountability: Move beyond fragmented welfare schemes by establishing a **convergent Mission on Disability Inclusion** to coordinate across sectors.

- ✦ Ensure **time-bound implementation audits**, real-time grievance redress, and social audits led by PwD groups themselves.

- ✦ Use **digital dashboards and open data portals** for transparency on budget utilization and outcomes. Strong governance converts legislative intent into **tangible grassroots transformation**.

Data and Innovation for Policy Precision: Create a **dynamic national disability registry** with granular,

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disaggregated, and continuously updated data to inform policies. Leverage **AI-driven analytics and GIS mapping** to identify gaps in accessibility and service delivery.

- ✦ Encourage partnerships with startups for **innovative assistive technologies** tailored to diverse needs. Data-backed governance ensures resources are **targeted, inclusive, and measurable**.

💡 **Community Empowerment and Decentralization:** Institutionalize **self-help groups, cooperatives, and federations led by PwDs**, giving them voice in local governance and development planning.

- ✦ Promote **microfinance, entrepreneurship grants, and decentralized livelihood models** anchored in community strengths.
- ✦ Strengthen **Panchayati Raj and urban local bodies** to ensure PwD representation in decision-making forums. Empowered communities reduce dependency and build **localized ecosystems of resilience**.

Conclusion:

India has made notable progress in disability inclusion, yet persistent barriers in infrastructure, education, employment, and attitudes remain. A truly empowered future for **PwDs rests on the 4E's of Empowerment: Equity, Enablement, Engagement and Employment**. By embedding these principles in **policy and practice**, India can move from **welfare to rights-based inclusion**. Such a shift will ensure persons with disabilities are not just supported, but equal stakeholders in the nation's growth story.

Emerging Markets Amid Rising Protectionism

This editorial is based on "**Strategies for emerging markets at a time when protectionism is rising**" which was published in *The Indian Express* on 15/09/2025. It explores the multifaceted challenges confronting emerging markets in the context of rising protectionism and underscores the importance of strategic measures to foster sustainable and resilient growth.

Tag: GS Paper - 2, Regional Groupings, Bilateral Groupings & Agreements, Groupings & Agreements Involving India and/or Affecting India's Interests, GS Paper-1, Effects of Globalization on Indian Society

Emerging markets today find themselves at a **pivotal crossroads**, shaped by the global resurgence of **protectionism**. Having once thrived on the momentum of **globalization** through expansive **trade networks** and steady inflows of **foreign investment**, these economies now confront a delicate interplay of **challenges and opportunities** as nations increasingly turn toward **inward-looking economic strategies**.

Why is Protectionism Rising in a Globalized World?

💡 **Economic Nationalism and Deindustrialization:** Countries grappling with **manufacturing job losses** are prioritizing **reshoring**.

- ✦ The **U.S. Inflation Reduction Act, 2022** incentivizes **domestic clean energy manufacturing**, while the **EU Critical Raw Materials Act** seeks to secure **supply chains** and reduce import dependence.

💡 **Geopolitical Rivalries and Strategic Decoupling:** Intensifying **U.S.–China tensions** have led to restrictions on firms like **Huawei** and **export controls** on advanced **semiconductor technology**.

- ✦ Similarly, **India's Atmanirbhar Bharat** initiative reflects efforts to reduce reliance on **critical imports**.

💡 **Supply Chain Vulnerabilities Post-COVID-19:** The pandemic exposed **fragile supply chains** for **pharmaceuticals, electronics, and medical supplies**.

- ✦ **China's control over production of steel and solar panels** has triggered **tariffs** from the **U.S., EU, and India**, aimed at protecting domestic industries from **subsidized imports**.
- ✦ In response, **Japan's supply chain resilience strategy** promotes diversification away from **China**, while the **U.S. CHIPS Act** boosts domestic semiconductor production.

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💡 **Rising Inequality and Populism:** Brexit illustrates **populist backlash** against globalization, driven by **economic inequality** and demands to protect **local industries**.

✦ In the **U.S.**, tariffs on **steel and aluminum** were justified as safeguarding **domestic jobs**, reflecting **electoral pressures**.

✦ Countries like **Brazil** and **Argentina** deploy **trade barriers** to protect **agriculture sectors**, signaling **sovereignty in trade negotiations** despite global calls for openness.

💡 **Environmental and Climate Concerns:** The **EU Carbon Border Adjustment Mechanism (CBAM)** places **tariffs on high-carbon imports**, compelling exporters to adopt **stricter environmental standards**.

What Makes Emerging Economies

Vulnerable Amid Rising Protectionism?

💡 **High Trade Dependence:** Growth in EMs like **Vietnam, Thailand, and Bangladesh** is **export-driven**, making tariff and non-tariff barriers particularly damaging.

✦ The **U.S. has imposed steep tariffs on Indian exports**, disrupting trade flows and affecting sectors like **textiles, pharmaceuticals, and engineering goods**.

📎 According to a report by **Global Trade Research Initiative (GTRI)**, the **duties** will affect **\$60.2 billion** worth of **Indian exports**, encompassing **textiles, gems and jewellery, shrimp, carpets, and furniture**.

✦ Latin American and African EMs suffer when global demand for **oil, copper, or agricultural exports** falls.

💡 **Trade Diversion and China Shock 2.0:** U.S. tariffs on China have prompted China to redirect excess exports to other EMs, such as **India, Thailand, and Indonesia**, putting pressure on **domestic industries to compete with cheap imports**.

💡 **Technological Disruption:** Automation and AI are changing the labour market. Labour-abundant countries like India face the challenge of increasing capital-labour ratios, risking job displacement in both blue-collar and white-collar sectors.

✦ A **NASSCOM report (2023)** indicates that **AI and automation** could **displace up to 69 million jobs in India by 2030**, particularly in sectors with **repetitive tasks like manufacturing and customer service**.

💡 **Supply Chain Fragility:** Covid-19 disruptions exposed dependence on global supply chains. **India's pharmaceutical sector**, reliant on Chinese **APIs (Active Pharmaceutical Ingredients)**, was hit hard.

💡 **Weak Domestic Markets:** Unlike developed economies, EMs often **lack robust internal demand to cushion external shocks**.

✦ Large young populations in EMs require job creation and skill development; failure to address this can lead to social unrest, as seen in **recent youth protests in South Asia**.

What is the Impact of

India-U.S. Trade Disputes on

India's Emerging Market Growth?

💡 **Imposition of High Tariffs:** The U.S. has levied a **25% tariff** on Indian exports, with another **25% hike** scheduled, raising the overall duty to **50%** on several Indian goods.

✦ This sharply raises **export costs**, making Indian products less **competitive** in the crucial **U.S. market**, which accounted for about **\$48.2 billion in exports in 2024**.

✦ Key **Indian export sectors** such as **seafood (shrimp), organic chemicals, carpets, apparel, jewelry, and industrial goods** face **tariff rates above 50%**, severely impacting **revenue and market share**.

💡 **Trade Negotiation Stalemate:** Multiple rounds of **trade negotiations** have **stalled**, primarily due to disagreements over **market access** for **U.S. agricultural and dairy products** and **India's continued crude oil imports from Russia**.

✦ This prolongs **uncertainty** and disrupts **export growth plans**.

💡 **Economic Growth Pressure:** The **tariffs** and ongoing **trade tensions** increase **uncertainty** for **Indian exporters**, potentially slowing growth in

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export-oriented industries, impacting employment, MSMEs, and farmer livelihoods tied to export supply chains.

- 💡 **Strategic and Political Fallout:** The trade dispute has strained bilateral relations, raising concerns in the U.S. over future strategic cooperation and affecting investor confidence and trading partners.

✦ The tensions complicate India's balancing act between its ties with Russia and the West.

What Measures has India Taken in Response to the Rising U.S.

Tariffs and Trade Tensions in 2025?

- 💡 **Measured Non-Retaliatory Approach:** India chose not to retaliate with tariffs but adopted a strategic and calm stance to maintain long-term economic relations while protecting immediate interests.
- 💡 **Boosting Domestic Manufacturing:** Through Aatmanirbhar Bharat, the government accelerated its self-reliance initiative, focusing on domestic manufacturing to reduce dependence on volatile external markets.
- 💡 **Structural Reforms and GST Simplification:** Tax reforms, including GST reductions on numerous goods, were implemented to boost domestic consumption and help exporters sustain competitiveness amid rising tariffs.
- 💡 **Launching Export Promotion Missions:** A ₹25,000 crore Export Promotion Mission was launched to provide targeted credit and financial support to labor-intensive sectors like shrimp, apparel, jewelry, handicrafts, and carpets, mitigating tariff impacts.
- 💡 **Support for MSMEs and Key Sectors:** Special financial measures such as collateral-free loans, subsidized interest rates, and export insurance were introduced to assist MSMEs affected by higher tariffs.
- 💡 **Diversification of Trade Partnerships:** India intensified efforts to strengthen ties with global markets and regional blocs such as BRICS, reducing reliance on the U.S. market.

- 💡 **Financial Assistance and Credit Support:** The government facilitated working capital access and export credit to strengthen export-oriented sectors against tariff-related uncertainties.

- 💡 **Product-Specific Exemptions and Trade Negotiations:** Ongoing negotiations sought exemptions or tariff reductions on sensitive products to cushion industries from disproportionate tariff burdens.

What Strategic Steps Should Emerging Markets like India Adopt Moving Forward?

- 💡 **Diversification of Trade Partners:** Reduce reliance on single markets by exploring regional trade agreements like RCEP and the Indo-Pacific Economic Framework (IPEF).
- 💡 **Strengthening Domestic Industries:** Focus on Make in India-style initiatives, infrastructure development, and policies supporting SMEs to enhance resilience.
- 💡 **Investing in Technology and Innovation:** Promote R&D, digital literacy, and AI adoption to increase productivity without displacing labour disproportionately.
- 💡 **Social Safety Nets:** Implement unemployment benefits, welfare programs, and reskilling initiatives to protect vulnerable populations.
- 💡 **Active Multilateral Engagement:** Strengthen institutions like the WTO to ensure a rules-based trading system, safeguard EM interests, and resolve disputes effectively.

Conclusion:

Emerging markets like India are at a crossroads, facing the twin challenges of rising protectionism and rapid technological change. As economist Dani Rodrik insightfully notes, *"The impact of globalization and trade policies is fundamentally uncertain, and rising protectionism reflects the complexity of balancing national priorities with global economic integration."* This underscores the need for adaptable, pragmatic strategies to advance emerging economies in a fragmented world.

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Empowering Mental Health in India

This editorial is based on “[Court’s nod to mental health as right](#)” which was published in *The Hindu* on 16/09/2025. The article analyses the *Sukdeb Saha vs State of Andhra Pradesh* verdict (2025), which upheld mental health as an essential component of the right to life under Article 21.

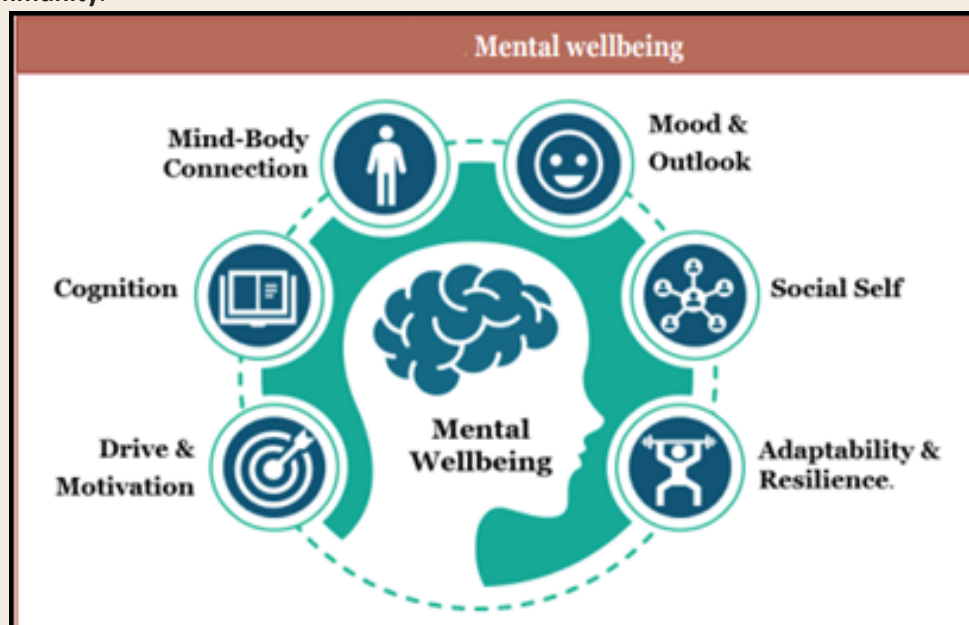
Tag: GS Paper - 2, Government Policies & Interventions, Health, Issues Related to Children

In a landmark July 2025 judgment, the Supreme Court of India in *Sukdeb Saha vs State of Andhra Pradesh* recognised mental health as an essential component of the right to life under Article 21. This ruling elevates mental well-being from a charitable concern to a constitutional right, mandating state and institutional responsibility.

This judicial recognition underscores the urgency of addressing mental health as a critical component of public health and human rights in India.

What is Mental Health?

- 💡 **Mental health** refers to an individual’s emotional, psychological, and social well-being. It influences how people think, feel, and behave in daily life. It also affects decision-making, stress management, and relationships.
- 💡 According to the **World Health Organization (WHO)**, mental health is a state of mental well-being that enables people to cope with the stresses of life, realize their abilities, learn well and work well, and contribute to their community.



What is the Current Status of the Mental Health Scenario in India?

- 💡 **Prevalence of Mental Disorders :**
 - ✦ According to the **National Mental Health Survey (NMHS) 2015–16**, NIMHANS, 10.6% of adults in India suffer from **mental disorders**.
 - ✦ The **lifetime prevalence** of mental disorders is **13.7%**, suggesting that over a tenth of the population may experience a mental health condition at some point.

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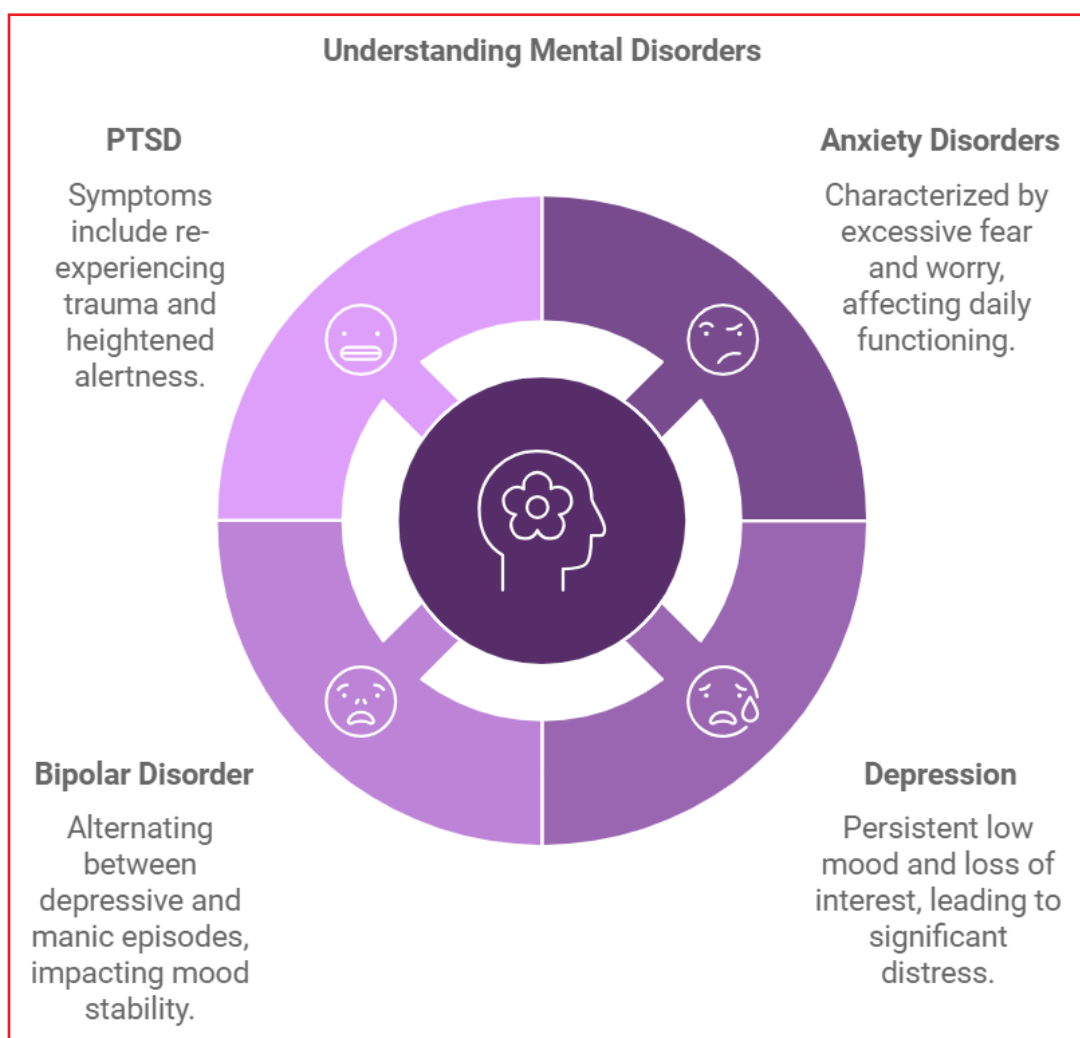
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- ✦ **15% of adults** require **intervention or treatment** for mental health issues, highlighting the need for accessible services.
- 💡 **Urban-Rural Divide in Mental Health :**
 - ✦ **Urban areas** show a higher prevalence (**13.5%**) compared to **rural areas (6.9%)**, pointing to factors like lifestyle, stress, and awareness differences.
- 💡 **Burden of Mental Health Problems :**
 - ✦ The **burden of mental health problems** is measured at **2443 disability-adjusted life years (DALYs)** per 10,000 **population**, reflecting the years lost due to disability or premature death.
 - ✦ Between 2012 and 2030, mental health conditions are projected to cause a loss of **USD 1.03 trillion**, affecting productivity and national growth.
- 💡 **Suicide as a Youth Epidemic:**
- 💡 Suicide has become one of the **leading causes of death** among Indian youth aged **15–29 years**, reflecting the severity of mental health crises among young populations.
- 💡 India's suicide rate is **12.6 per 100,000**, considerably higher than the **global average of 9.2**, emphasizing the need for urgent attention. (**WHO 2021 data**)



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What Factors Drive the Rise of Mental Health Disorders in India?

💡 Academic Pressure and Fear of Failure:

- ✦ India's **exam-focused education system** exerts immense pressure on students to perform.
- ✦ **High-stakes testing**, demanding academic streams, and **low tolerance for failure** contribute to chronic **stress and psychological strain**.
- ✦ Between 2019–2023, **98 suicides** were reported in top institutions like **IITs and NITs**, with **61% of IIT students** citing **academic stress** as the primary trigger.

💡 Societal and Family Pressures:

- ✦ **High youth unemployment** creates **frustration and despair**, impacting **mental well-being**.
- ✦ Conflicts or perceived **failure to meet expectations** are directly linked to **suicidal behaviour**.
- ✦ **NCRB data** shows about **48% of youth suicides** stem from **family problems, love affairs, and marriage-related stress**.

💡 Inadequate Access to Care:

- ✦ Conditions such as **depression, anxiety, and addiction** often remain **undiagnosed**.
- ✦ **Professional mental health care** is **unavailable or inaccessible**, particularly in **rural areas**.
- ✦ As per the **Indian Journal of Psychiatry**, India has only **0.75 psychiatrists per 100,000 people**, far below the **WHO recommendation of 3 per 100,000**, exposing a severe **human resource deficit** in mental healthcare.

💡 Stigma and Silence:

- ✦ **Social stigma** discourages youth from seeking help due to fear of being seen as **weak, unstable, or attention-seeking**.
- ✦ Emotional suffering is **internalised** and often **recognised too late**.
- ✦ Nearly **70% to 92%** of people with **mental disorders** in India do **not receive adequate treatment**, mainly due to a **lack of awareness, social stigma, and a shortage of trained professionals**.

💡 Issues in Translating Mental Health Policies into Action :

- ✦ A common issue in India's **polycymaking** is the **gap between need and feasibility**.
- ✦ The **National Mental Health Policy (2014)** and the **Mental Health Care Act (2017)** aimed to **prioritize mental health**, but challenges remain in **implementation, resource allocation, and timelines**.
- ✦ Despite an **estimated need of ₹93,000 crore** for mental health, the **government allocation** was only **₹600 crore (2019)** and around **₹1,000 crore (latest budget)**, with a **majority of funds directed to tertiary institutions** rather than **community-level care**.

What are the Key Government Initiatives Related to Mental Health in India?

💡 National Mental Health Programme (NMHP), 1982:

- ✦ Launched to integrate mental health into general healthcare.
- ✦ The District Mental Health Programme expanded services in 767 districts.
- ✦ Includes counselling, OPD, suicide prevention, and 10-bedded inpatient facilities.

💡 NIMHANS Act, 2012:

- ✦ Declared the **National Institute of Mental Health and Neurosciences (NIMHANS), Bengaluru**, as an Institute of National Importance.
- ✦ Strengthened role in research, education and psychiatry training.

💡 Rights of Persons with Disabilities (RPwD) Act, 2016:

- ✦ Expanded disability definition to include mental illness.
- ✦ Ensured equality, dignity and non-discrimination.
- ✦ Aligned with the UN Convention on the Rights of Persons with Disabilities.

💡 Mental Healthcare Act, 2017:

- ✦ Guaranteed right to affordable and quality mental healthcare.

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- ✦ Protected dignity and rights of persons with mental illness.
- ✦ Decriminalized suicide in India.

💡 **National Health Policy, 2017:**

- ✦ Recognized mental health as a national priority.
- ✦ Focused on integration with primary healthcare.
- ✦ Strengthened human resources and expanded services through PHCs and HWCs.

💡 **iGOT-Diksha Platform, 2020:**

- ✦ Provided digital training to doctors, nurses and volunteers.
- ✦ Built capacity for diagnosis, treatment and awareness at the grassroots.

💡 **Mental Health Infrastructure in India :**

- ✦ As part of the **National Mental Health Programme (2024)**, **25 Centres of Excellence** were sanctioned to **train postgraduate students** in **mental health** and provide **advanced treatment**.
- ✦ **47 PG Departments** in mental health have been **established/upgraded** in **19 government medical colleges**.
- ✦ Mental health services are also being introduced in **22 newly established AIIMS**.

💡 **Ayushman Bharat Integration:** 1.73 lakh **Ayushman Arogya Mandirs** provide basic counselling, psychiatric medication, physician training, and referral linkages

💡 **National Tele Mental Health Programme (Tele-MANAS), 2022:**

- ✦ Launched a free 24x7 mental health helpline.
- ✦ Services available in 20 Indian languages.
- ✦ Handled 2.5 million calls by Aug 2025.



What Should be the Way Forward to Improve Mental Healthcare in India?

💡 **Increase Funding and Investment:**

- ✦ The **mental health budget** remains only **1% of the total health budget** (FY 2024–25).
- ✦ A significant **increase in funding** is required to bridge the treatment gap, strengthen infrastructure, and ensure affordable services, especially for **daily wage earners** and vulnerable groups.

💡 **Build Human Resource Capacity:**

- ✦ Train **primary care doctors, nurses, and community health workers** in early detection and intervention.
- ✦ Increase the number of **psychiatrists, psychologists, and social workers** through incentives, scholarships, and expansion of **Centres of Excellence**.

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Expand Facilities and Accessibility:

- ✦ Expand programs like **MNREGS** and strengthen **social security measures** for informal workers to reduce economic stressors linked to mental health decline.
- ✦ Develop **community health centres**, **emergency care units**, and **mobile mental health services** to reach underserved areas.
- ✦ Promote **helplines** like **KIRAN** and **Tele-MANAS** widely among youth. Ensure better integration of **emergency counselling services** in schools, colleges, and workplaces.

Strengthen Policy Implementation:

- ✦ Ensure effective execution of the **National Mental Health Policy (2014)** and **Mental Healthcare Act (2017)**.
- ✦ Establish robust **data systems** to monitor prevalence, treatment gaps, and outcomes for evidence-based policy decisions.

Learn from the HIV-AIDS Model:

- ✦ India's fight against **HIV-AIDS** showed the importance of **evidence-based interventions**, **community participation**, and an **autonomous body (NACO)**.
- ✦ A similar **independent mental health authority** could coordinate resources and stakeholders.

Promote Awareness and Destigmatisation:

- ✦ Conduct **nationwide awareness campaigns** in schools, colleges, and communities to normalize **help-seeking behaviour**.
- ✦ Reduce **stigma and shame** through open family discussions and community engagement.
- ✦ Empower **families, caregivers, and peer groups** to support individuals facing distress.

Collaboration and Partnerships:

- ✦ Collaborate with **non-governmental organizations (NGOs)**, **healthcare providers**, and **community organizations** to expand **mental health services** and outreach to **marginalized communities**.

- ✦ Organizations like **Banyan (Tamil Nadu)**, **Sangath (Goa)**, and the **Centre for Mental Health Law and Policy (Pune)** have made significant contributions to **mental health** through **innovative** and **evidence-based strategies**.

Economic Survey 2024-25 Suggestions:

- ✦ **Mental Health Education in Schools** : Focus on **early intervention**, tackle **anxiety**, **stress**, and **behavioural issues**.
- ✦ **Workplace Mental Health Policies**: Address **job stress**, **long working hours**, and **burnout**.
- ✦ **Digital Mental Health Services** : Strengthen **Tele MANAS**, adopt **AI-based solutions**.

Conclusion

The Supreme Court's 2025 verdict upholding **mental health as an integral part of Article 21** marks a historic step in India's rights-based approach. In alignment with **SDG 3.4**, which seeks to reduce premature mortality from non-communicable diseases through mental health promotion, India must prioritize **accessible care**, **stigma reduction**, **community-based models**, and **robust crisis support systems**. This will ensure that mental well-being is treated not as charity, but as a **constitutional right and national responsibility**.

GST 2.0-Balancing Growth and Fiscal Prudence

This editorial is based on "**GST 2.0 — short-term pain, possible long-term gain**" which was published in *The Hindu* on 17/09/2025. The article discusses the recent **GST reforms in India**, highlighting changes in tax rates, their impact on consumption, revenue, and economic growth, and the associated fiscal and macroeconomic implications.

Tag: GS Paper - 3, Fiscal Policy, Inclusive Growth

India's **Goods and Services Tax (GST)** was introduced to enhance **consumption and production efficiencies** through a **destination-based tax system**, ensuring that taxes on inputs are rebated and the tax burden falls on final consumers. Over time, GST faced challenges such

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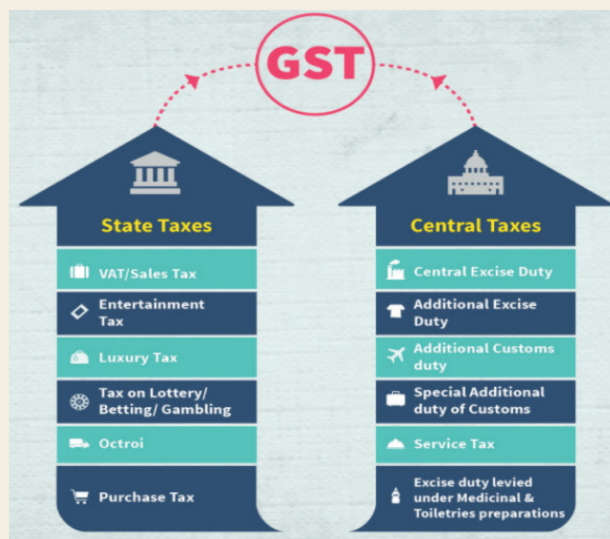


as **multiple tax rates, inverted duty structures**, and high **compliance costs**. The **GST Reform Bill (GST 2.0)**, approved by the GST Council ushers in the **largest overhaul** of India's indirect tax system since its launch in 2017, with significant **rate reductions** and structural simplifications.

What is the Goods and Services Tax (GST)?

💡 **About:** Introduced by the **101st Constitutional Amendment Act, 2017**, is a comprehensive indirect tax levied on the supply of goods and services in India.

- ✦ It is a **value-added tax (VAT)** that replaced multiple indirect taxes previously levied by the Centre and States.
- ✦ The **Kelkar Task Force**, constituted by the Ministry of Finance, played a pivotal role in shaping India's **Goods and Services Tax (GST)** framework.



Key Features:

- ✦ **Dual GST Structure:** Includes **Central GST (CGST)** and **State GST (SGST)**; **Integrated GST (IGST)** is applicable for inter-state transactions.
- ✦ **GST Council:** It is the primary body for GST policymaking and rate decisions.
 - 📎 It is established under **Article 279A of the Constitution**, is a joint forum of the Centre and States.

📎 It is chaired by the **Union Finance Minister**, the Union Minister of State in charge of Revenue or Finance as a Member, and the Minister in charge of Finance, Taxation, or any other Minister nominated by each State Government as Members.

- ✦ **Goods and Services Tax Network (GSTN):** Helps taxpayers in India to prepare, file returns, make payments of indirect tax liabilities and do other compliances.
- ✦ **Threshold Exemption:** Small businesses with turnover below a **certain limit are exempt from GST**. This makes compliance easier and protects microenterprises from excessive paperwork.

Benefits of GST:

- ✦ **Destination-Based Tax:** Collected where goods/services are consumed, benefiting businesses with better cash flow and working capital.
- ✦ **Ease of Doing Business:** Technology-driven, minimal human interface, simplifies compliance, refunds, and registration.
- ✦ **Boost to Make in India:** Makes domestic goods competitive nationally and internationally.
- ✦ **Exports:** Supplies of goods or services, or both, to a **Special Economic Zone (SEZ)** are treated as **zero-rated under GST**, with quick refunds, thereby promoting international trade and improving the balance of payments.
- ✦ **Revenue & Compliance:** Expands tax base, increases government revenue, improves transparency, and enhances GDP by **1.5–2%**.
- 💡 **Achievement of GST:** In 2024–25, GST recorded its highest-ever gross collection of Rs 22.08 lakh crore, reflecting a year-on-year growth of 9.4%. The average monthly collection stood at Rs 1.84 lakh crore.

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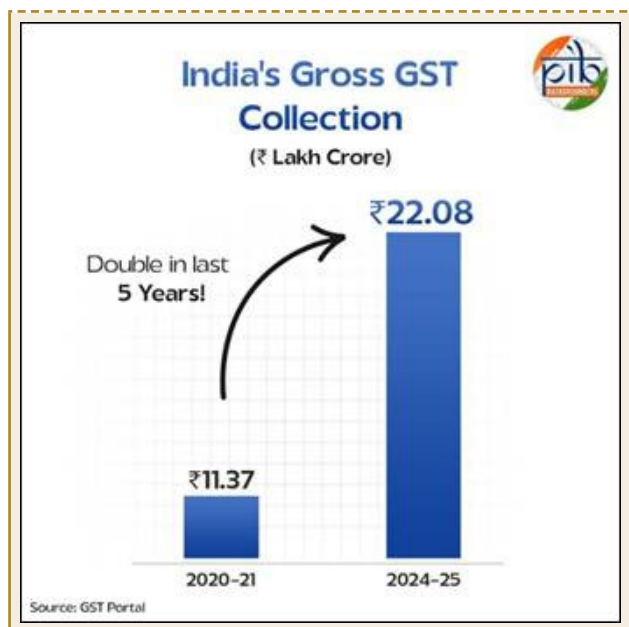


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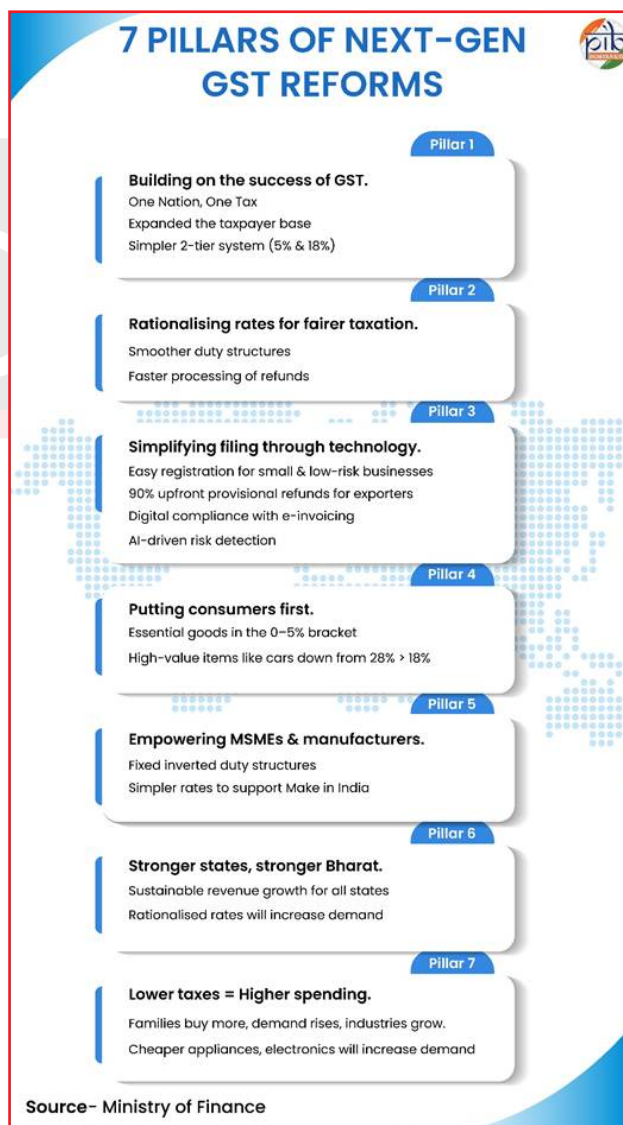




What are the Key Tax Reforms Under GST 2.0?

- 💡 **Simplified GST Structure:** GST 2.0 replaces **four** GST slabs (5%, 12%, 18%, and 28%) with a **two-slab system** (5% (**merit rate**) for essential items and 18% (**standard rate**) for others), plus a **40% demerit rate** for luxury, sin, and demerit goods like tobacco and pan masala.
- 💡 **Tax Relief for the Essential Goods:** Full **GST exemption** on individual life and health insurance policies. **Essential goods** such as **Ultra-High Temperature (UHT) milk, paneer, and Indian breads** now carry **nil GST**.
- 💡 **Consumer Goods:** GST on **small cars, TVs, air conditioners, cement, and auto parts** has been reduced from **28% to 18%**. GST on renewable energy devices has been reduced from **12% to 5%**.
 - ✦ These cuts are expected to stimulate manufacturing, promote green energy adoption, and boost domestic demand.
- 💡 **Medical and Health Devices:** GST on **33 lifesaving drugs** has been reduced from **12% to nil**.
 - ✦ GST on three critical drugs used for cancer and rare diseases has been reduced from **5% to nil**, strengthening healthcare access.
- 💡 **Support for Agriculture and Rural Sectors:** Machinery like tractors, harvesters, and composters: GST reduced from 12% to 5%.

- ✦ **Fertilizer inputs** such as sulphuric acid, nitric acid, and ammonia: GST reduced from 18% to 5%.
- ✦ **Labour-intensive goods** like handicrafts, marble, and leather items: GST reduced from 12% to 5%.
- 💡 **Trade Facilitation and Dispute Resolution:** **The Goods and Services Tax Appellate Tribunal (GSTAT)** will be operational by December 2025.
 - ✦ Process reforms for refunds and registration will improve dispute resolution, reduce litigation, and provide predictability for businesses, especially MSMEs.



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What is the Rationale Behind the Recent GST Reforms in India?

- 💡 **Lower Prices, Higher Demand:** Reduced GST rates make goods and services cheaper, increasing **household savings** and stimulating **consumption**, especially in essential and employment-intensive sectors.
 - ✦ The reforms are expected to **stimulate domestic demand**, **encourage formalization of the economy**, and contribute to **long-term fiscal stability**.
- 💡 **Support for MSMEs:** Lower input costs on items like **cement, auto parts, and handicrafts** make **micro, small, and medium enterprises** more competitive and promote **entrepreneurship**.
- 💡 **Ease of Compliance:** The simplified **two-rate structure** reduces **tax disputes**, accelerates **decision-making**, and lowers **compliance costs** for businesses.
 - ✦ Evidence from past reforms suggests that **lower rates combined with better compliance** can **increase GST collections** in the medium term.
- 💡 **Wider Tax Base :** Simpler rates encourage voluntary compliance, **broadening the tax net** and potentially improving **government revenues** over time.
- 💡 **Support for Manufacturing:** Correcting **inverted duty structures** enhances **domestic value addition**, strengthens **export competitiveness**, and boosts the **Make in India** initiative.
- 💡 **Social Protection:** Exemptions on **insurance and essential medicines** strengthen **household security** and improve **access to healthcare**, addressing equity concerns.
- 💡 **Consumption and Production Efficiency:** By eliminating cascading taxes and rationalizing rates, GST 2.0 promotes **resource allocation efficiency** across sectors.

What Issues have Emerged in the Course of GST Reforms?

- 💡 **Fiscal Revenue Shortfall:** The reforms entail significant **revenue loss**, with estimates around **₹48,000 crore annually**, primarily due to **reduced rates** and **zero-rating** of many goods.

- ✦ This creates **fiscal pressure** on both the **central and state governments**, forcing them to either **cut expenditures** or increase **borrowing**.
- ✦ **Lower-than-budgeted nominal GDP growth (8.8% vs. 10.1% target)** and **contraction in direct taxes (-4%)** exacerbate these challenges.
- ✦ States dependent on **GST revenue transfers** may curtail spending on **welfare and infrastructure**, potentially slowing **growth**.
- 💡 **Input Tax Credit (ITC) and Cascading Tax Issues:** **Exemptions and zero-rated supplies** restrict eligibility for ITC, leading to **cascading taxes** on inputs.
 - ✦ This undermines **GST's principle of seamless credit flow** and adds **hidden costs** to **production and prices**.
 - 📎 For example, **sectors producing exempt goods** face **higher effective taxes**, feeding into **inflationary pressures upstream**.
- 💡 **Rate Structure and Classification Ambiguities:** **Simplification** to fewer slabs helps but **classification disputes** persist over which **goods** fall under given categories.
 - ✦ **Special rates** and the new **40% slab** for **sin goods** increase **complexity** in areas such as **luxury and harmful goods taxation**.
 - 📎 **Frequent adjustments** risk **instability and uncertainty** for **businesses**, impacting **investment and pricing decisions**.
- 💡 **Compliance Complexity and Technological Integration:** Although slabs are **rationalized**, **businesses** face **transitional compliance burdens**, including **recalibrating pricing, billing systems, and ERP updates**.
 - ✦ **MSMEs** may lack the **capacity** to swiftly **adapt**, facing higher **compliance costs** and **learning curves**.
 - ✦ The **GST Network (GSTN)** and **government leverage technologies** like **AI and data analytics** to improve **compliance** and detect **evasion**, but **frequent rule changes** still complicate **adherence**.
- 💡 **Enforcement and Dispute Resolution Delays:** The **GST Appellate Tribunal (GSTAT)**, essential for

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resolving disputes quickly, remains **non-functional** or **delayed** in several **states**.

- ✦ For instance, GST appellate benches are still **not functional** at 45 locations.
 - 💡 This leads to a **backlog** of **appeals** in **High Courts** and **prolonged litigation**, increasing **uncertainty** and **compliance risks**.
- ✦ **Administrative inefficiencies** undermine **taxpayer confidence** and **delay the resolution** of **disputes** critical to smooth **GST functioning**.

What Measures can be Adopted to Strengthen GST 2.0?

- 💡 **Strengthen GST Administration:** Enhance the **GST Network (GSTN)** and **use AI/data analytics** to improve **compliance monitoring** and **reduce evasion**.
 - ✦ **Resolve Classification Ambiguities** and ensure **clear guidelines** for goods and services to reduce **disputes** and **litigation**.
 - ✦ **Operationalize the GST Appellate Tribunal (GSTAT)** and make **GSTAT functional** in all states to expedite **dispute resolution** and restore **taxpayer confidence**.
- 💡 **Support MSMEs:** Provide **capacity building**, **simplified compliance**, and **technological assistance** to help **small businesses** adapt to new slabs.
 - ✦ **Align with Macro Growth Goals** and ensure GST reforms complement **investment-led growth**, **job creation**, and **resource allocation efficiency**.
 - ✦ **Encourage Formalization** as simplified rates and better compliance can **expand the tax base**, reduce **informal sector dependence**, and increase **revenue over time**.
- 💡 **Monitor Fiscal Impact:** Use **targeted fiscal measures** or **liquidity management** to offset **revenue shortfall** without compromising **social and infrastructure spending**.
 - ✦ **Follow Periodic Rate Review** and reassess **tax slabs and exemptions** to ensure **revenue sufficiency** while promoting **consumption and growth**.

💡 **Seamless Input Tax Credit (ITC) Mechanism:** Ensuring a **frictionless ITC chain** prevents working capital blockages for businesses.

- ✦ **Linking ITC eligibility with real-time invoice matching** can reduce fraud while maintaining liquidity.
- ✦ **Transparent rules for cross-utilization** across states and sectors strengthen compliance. A **robust ITC mechanism** incentivizes **formalization**.

💡 **Promote Awareness and Training:** Conduct **taxpayer education campaigns** for businesses and consumers on new rates and compliance procedures.

- ✦ Expand **digital invoicing**, **e-way bills**, and **automation** to reduce **administrative burden**.

Conclusion:

The **Next-Generation GST reforms** represent a bold step towards building a **simpler, fairer, and future-ready tax architecture**. By reducing the **tax burden** on citizens and empowering **farmers, MSMEs, women, youth, and middle-class families**, GST 2.0 lays the foundation for **inclusive prosperity**, **fiscal resilience**, and **global competitiveness**.

Strengthening Himalayan Disaster Preparedness

This editorial is based on “**A future-ready disaster management in the Himalaya requires a massive technology scale-up**” which was published in *The Indian Express* on 18/09/2025. The article highlights that as **climate-induced disasters rise in the Himalayas**, India must move beyond strong disaster response towards **technological upgrades, scientific monitoring, and community preparedness for long-term resilience**.

Tag: GS Paper - 3, Environmental Pollution & Degradation, Environmental Impact Assessment (EIA).

The **Indian Himalayan Region**, with its awe-inspiring landscapes, is also one of the most **disaster-prone regions** in India. This **fragile mountain ecosystem** faces a **cascading risk of climate-induced and geophysical disasters**. Recent

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catastrophic events like the 2025 devastating floods in Dehradun, cloudbursts in Uttarkashi coupled with ongoing challenges such as unplanned urbanization, fragile infrastructure, deforestation, and climate change, demand a transformative and future-ready disaster management approach.

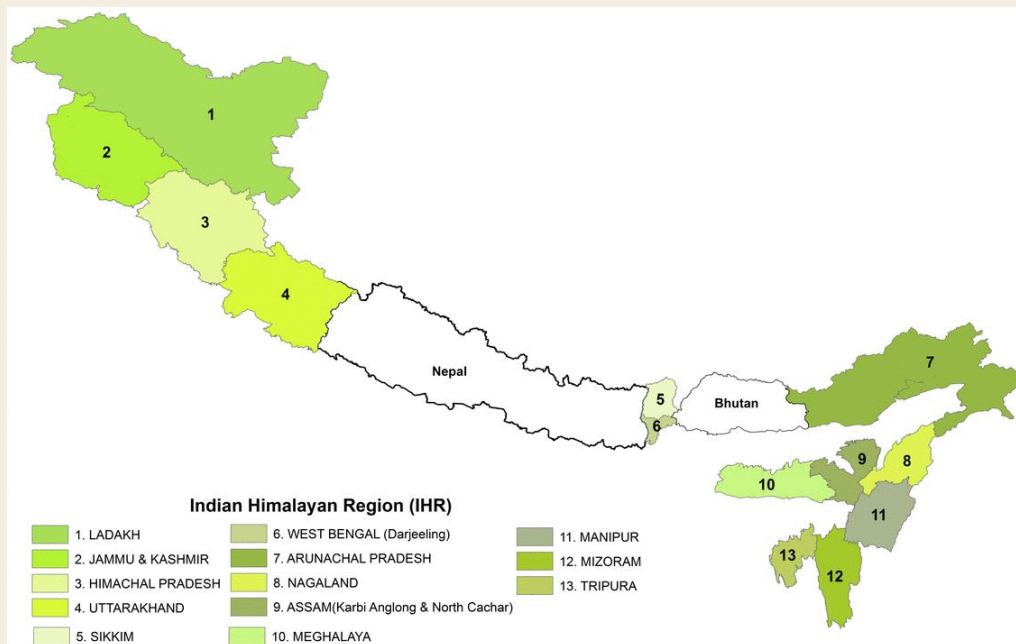
What is The Indian Himalayan Region (IHR)?

About:

- ✦ It refers to the mountainous area in India that encompasses the entire Himalayan range within the country.
- ✦ The **Indian Himalayan Region** is spread across **13 Indian States/Union Territories** (namely Jammu and Kashmir, Ladakh, Uttarakhand, Himachal Pradesh, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Assam and West Bengal), stretching across 2500 km.

Significance:

- ✦ The IHR encompasses some of the world's highest peaks, such as **Kanchenjunga**.
- ✦ Known as India's "**water tower**," the IHR is the source of many major rivers, including the **Ganges, Yamuna, Brahmaputra, and their tributaries**.
- ✦ The region plays a crucial role in regulating the ecological balance and **maintaining biodiversity**.
 - ✍ The region hosts rich biodiversity, including the **snow leopard, red panda, Himalayan monal**, and medicinal plants like **Yarsagumba** and **Rhododendron arboreum**.
 - ✍ It includes several national parks, wildlife sanctuaries, and biosphere reserves, such as the **Valley of Flowers National Park** and **Nanda Devi National Park**.
- ✦ The IHR influences the climate and weather patterns of the Indian subcontinent, acting as a **barrier to cold winds from Central Asia and affecting monsoon patterns**.
- ✦ The region is inhabited by diverse ethnic communities with unique cultures, languages, and traditions. (**Ladakhis, Bhutias of Sikkim, Tibetan Buddhist influence, Gaddis of Himachal Pradesh**)
- ✦ It includes important religious and pilgrimage sites for various faiths, such as **Amarnath, Badrinath**, etc.
- ✦ The IHR holds strategic importance due to its location along India's northern borders with **China, Nepal, and Bhutan**.



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What are the Key Reasons Behind the High Disaster Risk in the Himalayas?

- 💡 **Geological Fragility and Seismic Activity:** The Himalayas are among the **youngest mountain ranges** on Earth, formed by the ongoing collision of the **Indian and Eurasian tectonic plates**.
 - ✦ This makes the region **highly seismically active**, with frequent earthquakes triggering **landslides, avalanches, and flash floods**.
 - ✦ Major fault lines such as the **Dhaulagiri and Indus-Ganga faults**, located in **Seismic Zones IV and V**, absorb tectonic stress that, when released suddenly, devastates surrounding areas.
 - ✦ Historical examples include the **2005 Kashmir Earthquake (Magnitude 7.6)** and the **2013 Kedarnath disaster**, while recent events in **Uttarakhand and Sikkim (2025)** demonstrate how geological instability continues to produce cascading disasters.
- 💡 **Accelerated Climate Change Impact:** The Himalayas are warming at **twice the global average**, accelerating **glacial melt** and the expansion of **glacial lakes**, which can trigger **Glacial Lake Outburst Floods (GLOFs)**.
 - ✦ In 2023, **Sikkim's GLOF** damaged the **Teesta hydroelectric project**, highlighting climate-driven threats.
 - ✦ Erratic and extreme **monsoon rainfall**, such as the record precipitation in **Dehradun (2025)**, has caused unprecedented **floods, soil erosion, and slope destabilization**, compounding disaster risk.
 - ✦ **Dehradun** recorded its **highest rainfall in 101 years**, triggering **massive floods, landslides, and the destruction of homes and roads**.
- 💡 **Unplanned and Unsustainable Development:** Infrastructure expansion, hydropower projects, tourism, and construction in **ecologically fragile zones** destabilize slopes and increase vulnerability.
 - ✦ The **2025 Dharali flash flood** exemplifies how unregulated development amplifies disaster impact.

- ✦ In **Uttarakhand's Dharali village**, a devastating **flash flood** deposited **12–18 meters of sediment**, engulfing large parts of the **village**.
 - 📎 Similarly, the **Joshimath land subsidence crisis (2023)** highlighted the dangers of unchecked construction and overburdened slopes in fragile Himalayan terrain.
- ✦ Some critics argue that projects like **Char Dham** and construction in **floodplains** exacerbate erosion, deforestation, and glacial stress.
- 💡 **Inadequate Early Warning and Monitoring Systems:** Despite technological advances, the Himalayan region lacks **comprehensive real-time hazard monitoring**.
 - ✦ Early warning for floods, landslides, and GLOFs remains **patchy**, particularly in remote areas.
 - 📎 **Punjab Floods, 2025** saw the **Ravi, Beas and Sutlej rivers** swell dangerously with **record inflows** at **Bhakra and Pong dams**.
 - ✦ The absence or delay of alerts during the **2025 Uttarakhand flash floods** limited evacuation time, underscoring the need for **AI-based predictive models, drones, and automated sensors**.
- 💡 **Socioeconomic and Institutional Vulnerabilities:** Many Himalayan communities are **marginalized, remote, and resource-constrained**, limiting their **preparedness and resilience**.
 - ✦ The **rise in disaster-related deaths in Uttarakhand (2025)** reflects gaps in **institutional coordination, capacity building, and healthcare access** during emergencies.
 - ✦ Governance challenges across multiple administrative layers further complicate **rapid, coordinated disaster response**.

What are the Key Government Initiatives to Mitigate Disaster Risks in the Indian Himalayan Region?

- 💡 **National Disaster Management Authority (NDMA):** The **National Disaster Management Plan (NDMP)** has been revised to prioritize **Himalayan-specific hazards**, including landslides, GLOFs, floods, and earthquakes.

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- ✦ Emphasis is on **hazard risk mapping, inter-agency coordination, and community engagement.**
- 💡 **Enhanced State Disaster Response Fund (SDRF):** Central government contribution to the Himalayan states is **90%**, higher than 75% for general states, ensuring **rapid disaster relief and rehabilitation.**
- 💡 **Technology-Driven Monitoring and Early Warning Systems:** **ISRO** and the **National Remote Sensing Centre (NRSC)** conduct **satellite-based monitoring** of glacial lakes, unstable slopes, and river systems.
 - ✦ Innovations include **solar-powered automated sensors, drone surveillance, AI-enabled forecasting, GIS-based risk mapping, and IMD nowcasting.**
 - ✦ Mission **Mausam** and related programs enhance **radar networks, rain gauges, and model resolution** for more accurate predictions.
- 💡 **Community-Led Disaster Management Systems (DMS-Himalaya):** Local communities are trained in **pre-disaster preparedness, hazard mapping, and post-disaster response.**
 - ✦ The model empowers **locally trained disaster response teams** supported by technology-aided **communication networks, aiming to cover 900,000 people.**
 - ✦ Initiatives promote **inclusive capacity building** in schools, panchayats, and local governance structures.
- 💡 **Regional and International Cooperation:** The **Hindu Kush Himalayan Disaster Risk Reduction Hub (2024)** at Kathmandu, facilitates **transboundary data sharing, harmonized early warning systems, and climate-resilient research.**
 - ✦ Collaboration spans **India, Nepal, Bhutan, China, and other Himalayan nations**, focusing on **impact-based forecasting and policy guidance.**

Additional Programs Supporting Himalayan Resilience:

- 💡 **National Mission for Sustaining the Himalayan Ecosystem (NMSHE)**
- 💡 **Indian Himalayas Climate Adaptation Programme (IHCAP)**

- 💡 **SECURE Himalaya Project**
- 💡 **Integrated Himalayan Development Program (IHDP)**
- 💡 **National Action Plan on Climate Change (NAPCC)**

What Measures can be Adopted to Enhance Disaster Risk Management in the Himalayan Region?

- 💡 **Sustainable Infrastructure and Land-Use Planning:** Enforce strict **zoning regulations** to prohibit construction on floodplains, unstable slopes, and ecologically sensitive areas.
 - ✦ Complete ban on construction activities in disaster-prone areas as suggested by the **Mishra Committee, 1976.**
 - ✦ **Develop land use plans** that clearly demarcate zones for conservation, agriculture, residential, and industrial activities.
 - 📎 For instance, **Western Ghats Ecology Expert Panel (WGEEP)**, also known as the Gadgil Committee, recommended a zoning system for the Western Ghats to balance conservation and development needs.
 - 📎 A similar approach can also be applied to the **Himalayan region.**
 - ✦ Adopt **environmental impact assessments (EIAs)** customized for Himalayan geology, hydrology, and climate variability.
 - 📎 Revise the **National Building Code** for hill regions to mandate earthquake-resistant and landslide-resilient designs.
- 💡 **Technology-Driven Early Warning Systems:** Deploy **solar-powered automated sensors, satellite monitoring, and drones** at glacial lakes and landslide-prone slopes for real-time hazard detection.
 - ✦ Integrate **AI and GIS-based predictive models** to forecast flash floods, cloudbursts, and debris flows with higher accuracy.
 - ✦ Replicate successful models like the **Gorakhpur urban flood control system** for localized hazard management.

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💡 **Community-Based Disaster Management (CBDM):** Institutionalize **participatory hazard mapping, first responder training, and community shelters** equipped with disaster supplies.

✦ Expand the reach of programs like **NDMA's Aapda Mitra**, covering schools, panchayats, and resident welfare associations.

✦ **Empower local communities** to manage and protect forest resources through joint forest management programs.

📌 **The Chipko Movement** was a grassroots forest conservation effort where local women hugged trees to prevent their felling, **demonstrating the power of community action.**

💡 **Strengthened Inter-Agency and Regional Coordination:** Enhance coordination between **NDMA, state disaster authorities, meteorological departments, scientific institutions, and local governance.**

✦ Foster **transboundary collaboration** via platforms like the **Hindu Kush Himalayan Disaster Risk Reduction Hub.**

💡 **Recovery, Reconstruction, and "Build Back Better":** Reconstruct roads and infrastructure with **slope stabilization and hazard-resilient designs.**

✦ Reinforce **river embankments**, regulate mining, and restore degraded landscapes.

📌 Ensure continuous **monitoring, research, and policy adaptation** to evolving climatic and geological risks.

✦ **A report of the High-Level Expert Group (HLEG) on Himalayan Glaciology** emphasized the need for monitoring Himalayan glaciers, assessing their health, and understanding their role in regional water resources.

Conclusion

A **resilient Himalayan future** demands combining **technology, community preparedness, and ecological**

safeguards, guided by visionary recommendations of the **Mishra (1976)** and **J.C. Pant (1999) Committees** on **construction norms, disaster governance, and capacity building.** Together, these measures can shift India from **reactive relief to proactive, long-term disaster resilience.**

New Directions in India Neighbourhood Diplomacy

*This editorial is based on "**Nepal's convulsions, lessons for India: Rethinking South Asian integration**" which was published in **The Business Standard** on 16/09/2025. The article brings into picture the youth-driven discontent in Nepal and Bangladesh amid elitist governance, urging India to adopt people-centric, sustained regional diplomacy beyond its aspirational "**Neighbourhood First**" policy.*

Tag: GS Paper - 2, International Treaties & Agreements, Important International Institutions, Effect of Policies & Politics of Countries on India's Interests, Groupings & Agreements Involving India and/or Affecting India's Interests

Recent political upheavals in **Nepal and Bangladesh** share a common thread, frustrated, educated youth **lacking economic opportunities despite being digitally connected and globally aware.** These democracies have **drifted toward oligarchy**, with political elites becoming increasingly disconnected from popular aspirations while enriching themselves through office. India's "**Neighbourhood First**" policy remains largely aspirational, hampered by episodic political engagement and inadequate diplomatic resources. The subcontinent's shared geopolitical space demands both **sustained bilateral relationships and a comprehensive regional perspective** to address these interconnected challenges effectively.

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What Major Challenges Confront India's Neighbourhood?

- 💡 **Economic Vulnerability and Debt Traps:** Several of India's neighbors are grappling with severe economic crises, exacerbated by **unsustainable debt burdens, which creates regional instability.**
 - ✦ These economic weaknesses are often exploited by external powers, leading to a loss of strategic autonomy for the nations involved.
 - ✦ For instance, **Sri Lanka**, after its **debilitating economic crisis in 2022**, is showing signs of stabilization. However, the World Bank highlights that poverty remains elevated.
 - ✦ Also, socio-economic disparities, **such as income inequality and uneven development, fuel political unrest, as seen in Nepal**, and can drive radicalization, as in Bangladesh.
- 💡 **Pervasive Political Instability:** Chronic political instability in neighboring countries presents a persistent challenge, often leading to **governance vacuums, internal conflicts, and a climate of uncertainty.**
 - ✦ The lack of stable governance hinders long-term bilateral engagements and undermines

efforts towards regional integration and cooperation on critical issues.

- ✦ **Bangladesh**, for example, has been in a state of political unrest recently, marked by **protests, contentious elections, and a deeply polarized political environment.**

📌 This ongoing instability hampers consistent policy-making and creates an unpredictable security situation on India's eastern border.

- 💡 **Resurgence of Radicalism in Afghanistan:** The Taliban's control over Afghanistan has created a complex security and humanitarian crisis with significant regional ramifications.

- ✦ The regime's policies, particularly **towards women and minorities**, have led to international isolation, while the country remains a potential safe haven for transnational terrorist groups.

📌 This situation poses a direct threat to regional stability and has compelled neighboring countries to reassess their security and diplomatic postures.

- ✦ The **UN reports a dire humanitarian situation, with a significant portion of the population requiring assistance**, alongside ongoing human rights concerns, especially the systematic erosion of women's rights.

- 💡 **China's Expanding Strategic Footprint:** China's growing economic, political, and military influence in South Asia presents a formidable strategic challenge to India.

- ✦ Through its **Belt and Road Initiative (BRI)**, China has significantly increased its presence in the region, often through **large-scale infrastructure projects that create economic dependencies.**

- ✦ A key example is the **China-Pakistan Economic Corridor (CPEC)**, a flagship BRI project with investments exceeding \$60 billion.

📌 Similarly, China's substantial infrastructure investments and loans to countries like Sri

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Lanka and the Maldives have raised concerns about **debt-trap diplomacy** and its long-term strategic implications for the Indian Ocean region.

💡 **The Protracted Rohingya Refugee Crisis:** The **Rohingya refugee crisis** represents a significant humanitarian and security challenge, **particularly for Bangladesh, which hosts over a million refugees.**

✦ The crisis strains resources, creates social tensions, and has the potential for regional destabilization.

📌 The lack of a durable solution and the ongoing instability in **Myanmar's Rakhine State** prolong the **suffering of the Rohingya** and pose a long-term challenge to regional stability.

💡 **Escalating Climate Change and Environmental Degradation:** South Asia is one of the world's most vulnerable regions to the impacts of **climate change**, including rising sea levels, **extreme weather events**, and water scarcity.

✦ These environmental challenges threaten the livelihoods of millions, exacerbate resource competition, and can lead to internal and cross-border displacement.

📌 The transboundary nature of these issues necessitates regional cooperation, which is often hampered by political tensions.

✦ Changing weather patterns are expected to **directly impact over 800 million people by 2050** and will continue to burden South Asian countries' economies. (**World Bank**)

✦ Recent data indicates an **increase in the frequency and intensity of cyclones in the Arabian Sea** and **severe heatwaves across the subcontinent**, underscoring the urgent need for climate adaptation and resilience measures.

How does Rising Instability in the Neighbourhood Affect India?

💡 **Heightened National Security Threats:** Political and economic turmoil in neighboring countries

directly amplifies India's national security threats by creating ungoverned spaces conducive to **terrorism and extremism.**

✦ This instability can lead to an increase in cross-border infiltration and the **radicalization of populations**, forcing India to enhance its surveillance and military preparedness along its frontiers.

✦ The porous nature of these borders makes it challenging to completely seal them off from such spillover effects, **as witnessed in the recent Pahalgam terror attack.**

💡 **Impediments to Economic Integration and Growth:** Regional instability acts as a significant barrier to India's economic aspirations, **particularly its "Act East" and "Neighbourhood First" policies**, which envision greater regional connectivity and trade.

✦ Political volatility, trade barriers, and lack of reliable infrastructure in neighboring nations stymie the potential for a thriving South Asian economic bloc.

📌 This directly impacts India's ability to leverage its economic prowess for regional leadership and mutual prosperity.

📌 For instance, as **Nepal's largest trading partner, India's trade worth \$8.5 billion annually** is disrupted by recent instability.

✦ South Asia's intra-regional trade within **SAARC** is about **\$23 billion, significantly below its estimated potential of \$67 billion.** This stark gap underscores the untapped opportunities for deeper economic integration in the region.

📌 This is in stark contrast to **ASEAN**, where **intra-regional trade stands at around 25%**, underscoring the economic cost of regional instability.

💡 **Increased Refugee Influx and Demographic Pressures:** Political persecution, civil strife, and economic collapse in neighboring countries often trigger large-scale refugee influxes into India, **placing immense strain on its resources and creating complex socio-political challenges.**

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✦ **Managing these refugee populations** involves significant financial expenditure on relief and rehabilitation, and can lead to demographic shifts and social tensions in border states.

✦ Following the **2021 military coup in Myanmar**, India has witnessed a steady influx of refugees into its northeastern states, particularly Mizoram and Manipur.

✦ As of 2023, **India has been home to more than 78,731 refugees from Myanmar since the military coup**, creating a humanitarian and administrative challenge for the state governments.

💡 **Erosion of Diplomatic Leverage and Regional Influence:** The growing presence of extra-regional powers, notably China, in an unstable South Asian landscape, directly challenges India's traditional sphere of influence.

✦ As neighboring countries facing **internal crises seek external support**, they often become more susceptible to the influence of powers offering substantial economic and military assistance.

✦ China's extensive investments in projects like **Hambantota Port in Sri Lanka**, **Gwadar Port in Pakistan** and **Chattogram (Chittagong) Port (Bangladesh)**, deepening ties with **Sri Lanka** are prime examples.

✦ China has lent **USD 48.1 billion to countries in India's neighbourhood (World Bank)**, illustrating its expanding economic and strategic footprint in India's immediate neighborhood.

💡 **Disruption of Energy Security and Connectivity Projects:** India's energy security is intrinsically linked to the stability of its neighborhood, as several crucial transnational energy pipelines and

connectivity projects transit through these volatile regions.

✦ Political instability, conflicts, and governance issues in neighboring countries can lead to **significant delays, cost overruns, or even the abandonment of vital infrastructure projects**.

✦ The **Turkmenistan-Afghanistan-Pakistan-India (TAPI) gas pipeline**, a project of immense strategic importance for India's energy security, has been stalled for years due to the dire security situation in Afghanistan.

✦ Similarly, projects aimed at enhancing connectivity Southeast Asia, such as the **India-Myanmar-Thailand Trilateral Highway Project**, have faced significant hurdles due to instability in Myanmar.

💡 **Rise in Illicit Trade and Transnational Crime:** Instability and weak governance in neighboring countries create a permissive environment for the proliferation of transnational criminal networks involved in **drug trafficking, arms smuggling, and human trafficking**.

✦ These illicit activities not only pose a direct threat to India's internal security but also fuel a shadow economy that undermines legitimate economic activity.

📎 The proceeds from these criminal enterprises are often used to finance terrorism and other destabilizing activities.

✦ The **Death (Golden) Triangle region**, bordering India's northeast, remains a major hub for narcotics production and trafficking.

📎 According to the **United Nations Office on Drugs and Crime (UNODC)**, there has been a significant surge in the **production of synthetic drugs in this region**, with India being a major transit and destination country.

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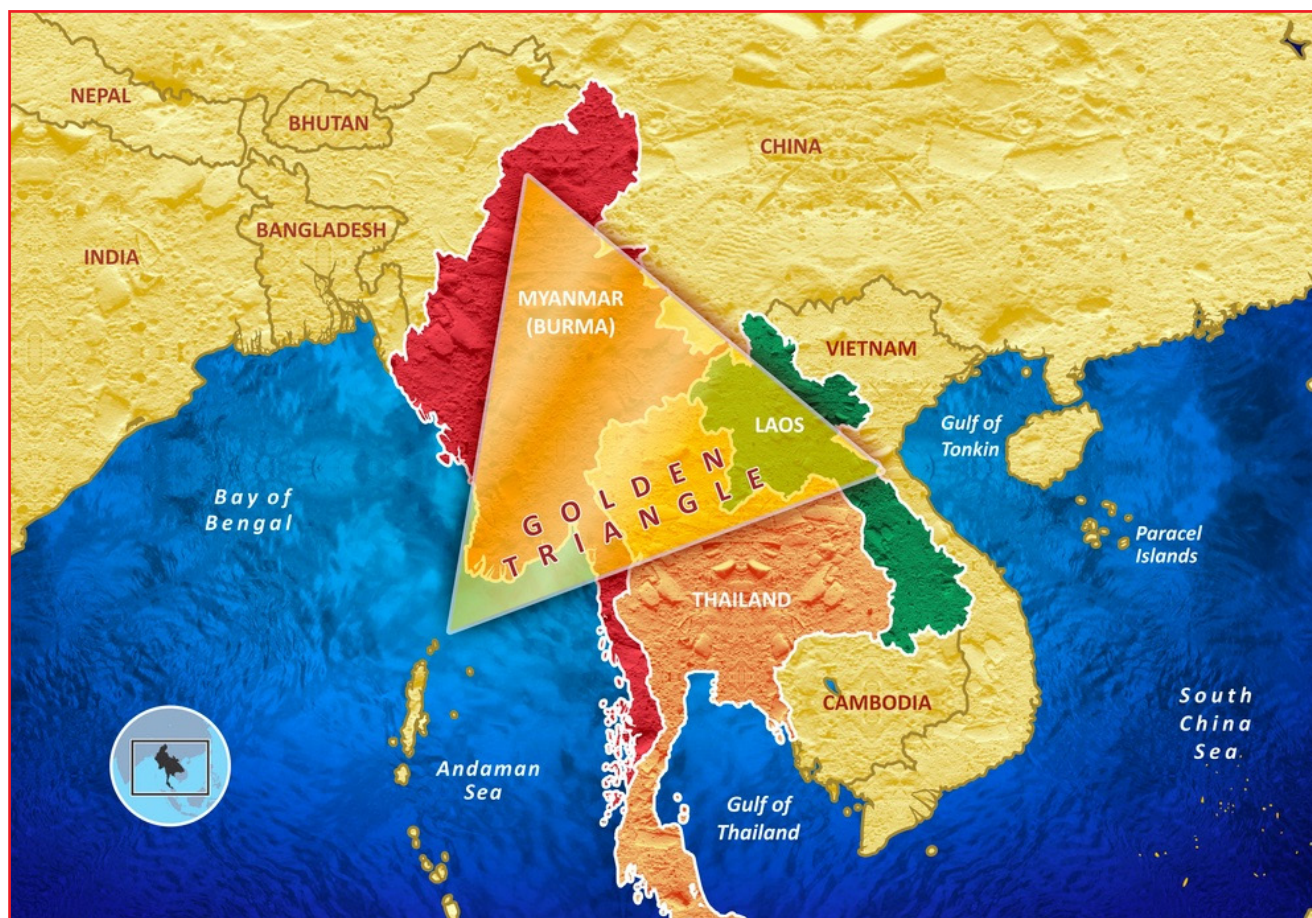


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💡 **Diversion of Resources and Impact on Development:** The persistent instability in its neighborhood compels India to allocate a significant portion of its national resources towards defense and internal security.

- ✦ This diversion of funds from developmental sectors such as education, health, and infrastructure has long-term opportunity costs for India's socio-economic progress.
 - 📎 The need to manage volatile borders and counter external threats invariably shapes national budgetary priorities.
- ✦ India's defense budget for the Financial Year (FY) 2025-26 was set at approximately ₹6.81 lakh crore, constituting a significant portion of its total expenditure.

How can India Enhance its Engagement and Cooperation with Neighbouring Countries?

- 💡 **Institutionalized Regional Mechanisms:** India should push for revitalizing dormant regional groupings like **SAARC** through smaller sub-regional formats such as **BIMSTEC**.
- ✦ By institutionalizing annual summits, ministerial dialogues, and permanent secretariats, India can create predictability in regional diplomacy.
 - ✦ This will **reduce ad-hocism in cooperation and help build long-term trust**. A structured mechanism also ensures continuity even during political fluctuations in member states.
 - 📎 Such sustained frameworks strengthen India's image as a stable anchor in the region.

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💡 **Connectivity as a Trust-Building Tool:** Rather than only investing in large infrastructure, India can prioritize seamless **multimodal corridors that integrate roads, rail, waterways, and digital highways.**

- ✦ Simplifying customs, harmonizing standards, and ensuring community participation at border regions would make connectivity people-centric.
- ✦ This **transforms cross-border projects from strategic rhetoric into everyday enablers of livelihood.**

📎 By reducing logistical bottlenecks, India can emerge as the natural hub for South Asia. Connectivity then becomes not just economic but also a trust multiplier.

💡 **Joint Climate and Disaster Management Platforms:** With climate threats intensifying, India can spearhead a **South Asian Climate Action Plan** in the lines of the dormant SAARC Action Plan on the Environment.

- ✦ This would pool satellite data, weather forecasting systems, and joint rapid-response units for floods, cyclones, and earthquakes.

📎 India can leverage its **Indian Remote Sensing (IRS) satellites** for regional data sharing, supporting joint climate monitoring, disaster management, and resource planning.

- ✦ Cooperative disaster management builds goodwill beyond politics because it directly impacts vulnerable communities.

📎 **Such collaboration can extend into renewable energy integration** across grids for energy security.

📎 Climate cooperation positions India as a benevolent leader in a universally shared challenge.

💡 **Regional Health Security Framework:** Post-pandemic, India can champion a collective mechanism for regional disease surveillance and health supply chain resilience.

- ✦ Establishing **common vaccine storage hubs, digital health platforms, and training of**

paramedics across borders would strengthen capacities of smaller neighbours.

- ✦ **Health diplomacy also softens traditional security suspicions** and builds human-centric ties.

📎 A predictable health partnership would institutionalize India's reputation as the region's first responder. This framework could expand into **Ayurveda and traditional medicine exchanges as a soft-power tool.**

💡 **Defence and Security Confidence Building:** Instead of only hard military postures, India can adopt graduated confidence-building measures with neighbours (excluding Pakistan) through its **MAHASAGAR Vision.**

- ✦ These include **joint border patrols, coordinated river policing, information sharing on terrorism, and maritime domain awareness.**

- ✦ Conducting **low-intensity joint exercises like HADR (Humanitarian Assistance and Disaster Relief)** avoids sensitivities while fostering operational trust.

📎 Security cooperation rooted in mutual benefit reduces suspicion and creates habits of collaboration.

💡 **Cultural and Knowledge Diplomacy:** India must transform its historical and cultural linkages into institutionalized knowledge networks. Establishing regional universities, cross-border cultural festivals, and **scholarships tied to local heritage promotes people-to-people affinity.**

- ✦ Digital platforms showcasing shared epics, languages, and crafts can counter divisive narratives.

- ✦ Unlike hard projects, **cultural diplomacy creates intangible yet enduring bonds.** It ensures that political disagreements do not erode civilizational closeness.

📎 In times of **yuddha, India can promote Buddha** by emphasizing non-violence, dialogue, and compassion as guiding principles to resolve conflicts and build regional trust.

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💡 **Smart Trade Corridors and Value Chains:** Instead of only pushing for tariff reductions, India should focus on integrated value chain **creation in textiles, agriculture, and pharmaceuticals.**

✦ Special economic zones across borders can serve as joint production hubs, reducing dependence on extra-regional powers.

✦ **Digital customs and fintech solutions** will ensure transparency and curb illicit trade. Such cooperative value chains make neighbours stakeholders in India's growth.

✍ Trade corridors thus become strategic connectors rather than sources of asymmetry.

💡 **Hydro and Hydropower Diplomacy:** India should pursue proactive water and hydropower diplomacy with its neighbours.

✦ This includes **water-sharing and river management dialogues with Bangladesh, Nepal, and China** to ensure equitable and sustainable use of transboundary rivers, alongside joint river commissions, flood warning systems, and cooperative irrigation projects to build trust.

✦ Simultaneously, **India can deepen hydropower collaboration with Bhutan through joint infrastructure**, power trade agreements, and capacity-building initiatives, strengthening **energy security, creating mutual economic dependence, and fostering long-term strategic goodwill.**

💡 **Digital Public Goods Export:** India's success with **Aadhaar, UPI, and CoWIN** can be scaled to create a regional digital ecosystem.

✦ By sharing open-source platforms, capacity building, and cyber-security frameworks, India can help neighbours leapfrog in governance technology.

✍ This builds dependency on Indian digital infrastructure, reducing external technological dominance.

✦ **Regional fintech integration** can also promote cross-border remittances and inclusion. **Afterall, Digital diplomacy** will define the new frontier of neighbourhood engagement.

Conclusion:

India's neighbourhood policy stands at a critical juncture where episodic engagement must **evolve into sustained, multidimensional partnerships rooted in trust, inclusivity, and resilience.** The path forward demands both pragmatism and empathy, ensuring India emerges not as a hegemon but as an enabler of shared prosperity. *"In South Asia, India's strength will not be measured by its size, but by its ability to convert proximity into partnership and geography into goodwill."*

Recalibrating India-EU Partnership

This editorial is based on **"EU's new strategy document shows: New Delhi is a valued partner,"** which was published in *The Indian Express* on 19/09/2025. The article highlights the EU's new strategy, recognising India as an indispensable partner in trade, technology, and security, while urging Delhi to balance ties with Brussels and Moscow in a multipolar world.

Tag: GS Paper - 2, Important International Institutions, Government Policies & Interventions, International Treaties & Agreements, Effect of Policies & Politics of Countries on India's Interests.

India-EU relations have entered a **new phase**, with **Brussels** unveiling a **strategy** that recognises **New Delhi** as a **key partner** in **trade, technology, and security**. While opportunities in a **Free Trade Agreement (FTA)** and **innovation partnerships** are promising, challenges such as differing positions on **Russia** and **structural trade imbalances** demand **careful recalibration** and a **forward-looking approach**.

What is the European Union?

💡 **About:** The European Union (EU) is a **political and economic union of 27 European countries** that are bound together by shared institutions, laws, and policies.

💡 **Creation:** The European Union (EU) was created by the **Maastricht Treaty**, which entered into force on **November 1, 1993**.

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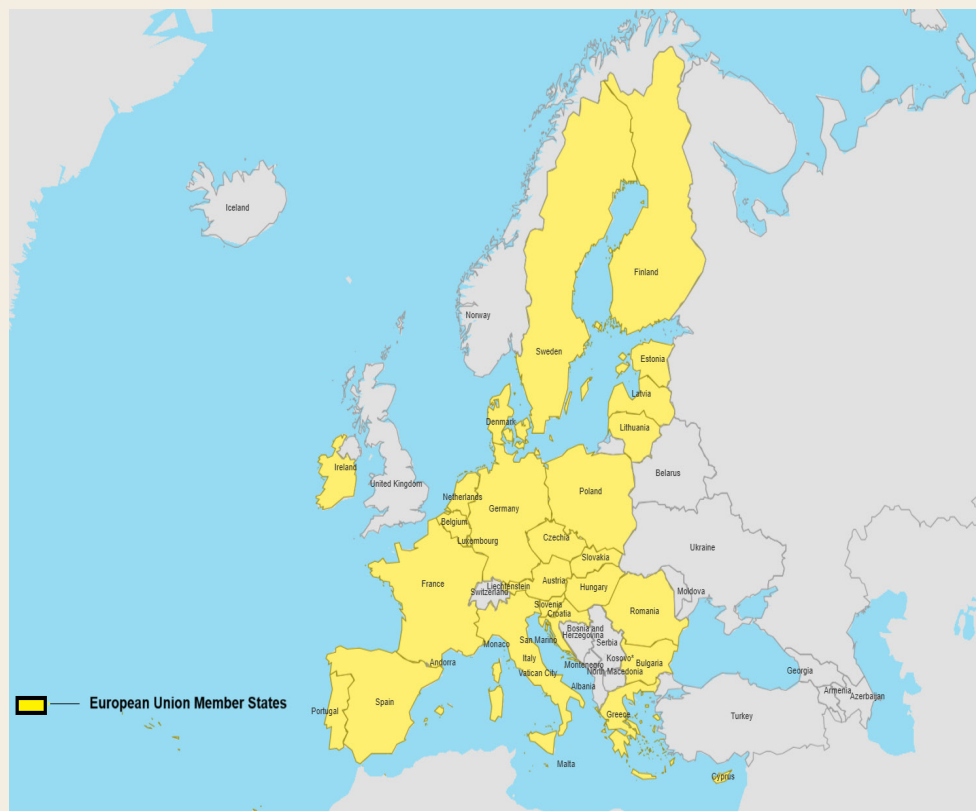
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- ✦ The treaty was designed to enhance **European political and economic integration** by creating a **single currency (euro)**, a **unified foreign and security policy**, and **common citizenship rights**, while also advancing cooperation in **immigration, asylum, and judicial affairs**.
- 💡 **Origins:** In **1951**, leaders of six countries—**Belgium, France, Italy, Luxembourg, the Netherlands, and West Germany**—signed the **Treaty of Paris**, which came into effect in **1952**, establishing the **European Coal and Steel Community (ECSC)**.
 - ✦ Subsequent **international treaties** and **treaty revisions** based on this model eventually led to the creation of the **European Union (EU)**.
- 💡 **Current Member States:** 27 countries (Austria, Belgium, Bulgaria, Croatia, Republic of Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden).
 - ✦ The **United Kingdom** officially **exited the European Union** in **2020** through **Brexit**.
- 💡 **Main Institutions:** The five main institutions of the **European Union (EU)** are the **European Parliament**, the **European Council**, the **European Commission**, the **Court of Justice**, and the **Court of Auditors**.
- 💡 **Demography:** In EU, **Germany** has the largest population, France is the largest by area and Smallest Country is Malta.
- 💡 **Open Borders:** The **Schengen Area** allows free movement for most EU members, excluding Cyprus and Ireland.
 - ✦ Four non-EU countries (Iceland, Norway, Switzerland, and Liechtenstein) are also part of Schengen.
- 💡 **Single Market:** Goods, services, capital, and people circulate freely within the EU.
- 💡 **Awards:** The EU was awarded the **Nobel Prize for Peace (2012)** in recognition of its efforts to promote **peace** and **democracy** in Europe.
- 💡 **Climate Goals:** Aim to become **climate-neutral by 2050**, **reduce emissions by 55% by 2030**.



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What are the Key Areas of Convergence of India and the European Union?

💡 **Economic and Trade Relations:** In 2023, India was the ninth largest trading partner for EU's exports of goods (1.89%) and also the ninth largest partner for EU's imports of goods (2.58%). India's percentage share in EU's global total bilateral trade (2.19%) stood at 2.19%.

✦ **India-EU Bilateral Trade in Services in 2022** stood at **€50.737bn** (comprising Indian exports (€26.856bn) and imports (€23.882bn)), registering the **highest ever trade in services** with an **increase of 23.7%** compared to bilateral trade of **€41.01bn** in 2021.

✦ **Foreign direct investment (FDI)** from the EU is substantial, supporting India's industrial growth, job creation, and technology transfer.

✦ **Free Trade Agreement (FTA)** negotiations resumed in 2021 after a long deadlock, focusing on **tariff reductions**, **investment protection**, and **regulatory alignment**.

✦ The EU seeks greater market access in India, while India aims for fewer trade barriers to boost exports and investments.

💡 **Security and Defense Cooperation:** The EU is expanding maritime cooperation with India, deploying a **liaison officer** at the **Indian Navy's Information Fusion Centre** in Gurugram.

✦ Both sides are exploring greater **defense technology** collaboration, with discussions on **joint military exercises** and **counterterrorism strategies**.

✦ The EU's **Enhancing Security Cooperation in and with Asia (ESIWA)** initiative boosts security ties with Asia, including India, to safeguard key **Indian Ocean sea** lanes.

✦ Strengthening security ties in the **Indo-Pacific** aligns with India's interests in countering

China's expansionism and enhances regional stability through European engagement.

💡 **Technology, Digital, and Infrastructure Cooperation:** The **India-EU Trade and Technology Council (TTC)** focuses on **semiconductors**, **Artificial intelligence (AI)**, and **clean energy technologies**.

✦ The **India-Middle East-Europe Economic Corridor (IMEC)** aims to enhance global trade routes and **energy security**.

✦ **EU-India cooperation in digital payments and fintech** is expanding, with discussions on **cross-border digital transactions**.

✦ Strengthening technology ties ensures India's leadership in innovation, promotes **digital transformation**, and reduces reliance on **China-led supply chains**.

💡 **Strategic Autonomy & Multi-Alignment:** **US' potential deal-making with Russia and China**, along with its **50% tariff on 55% of India's \$87 billion exports in 2025**, underscores the urgency for India to **diversify economic and strategic ties**, making the stable **EU partnership** vital for **strategic autonomy** and **multi-alignment**.

✦ The EU is a **stable and predictable partner**, offering economic and technological collaboration without security dependencies.

✦ The **EU's strategic autonomy** aims to reduce dependence on the US, aligning with India's **multi-alignment** by ensuring economic, technological, and strategic cooperation without security entanglements.

💡 **Global Governance & Geopolitical Realignments:** The EU is reducing economic **reliance on China**, aligning with India's strategy of **trade diversification**.

✦ As transatlantic tensions rise, the EU seeks independent foreign policy engagements, **increasing India's diplomatic leverage**.

✦ Both partners advocate for a **rules-based order** in **multilateral institutions**, including the **G20**, **WTO**, and **UN Security Council**.

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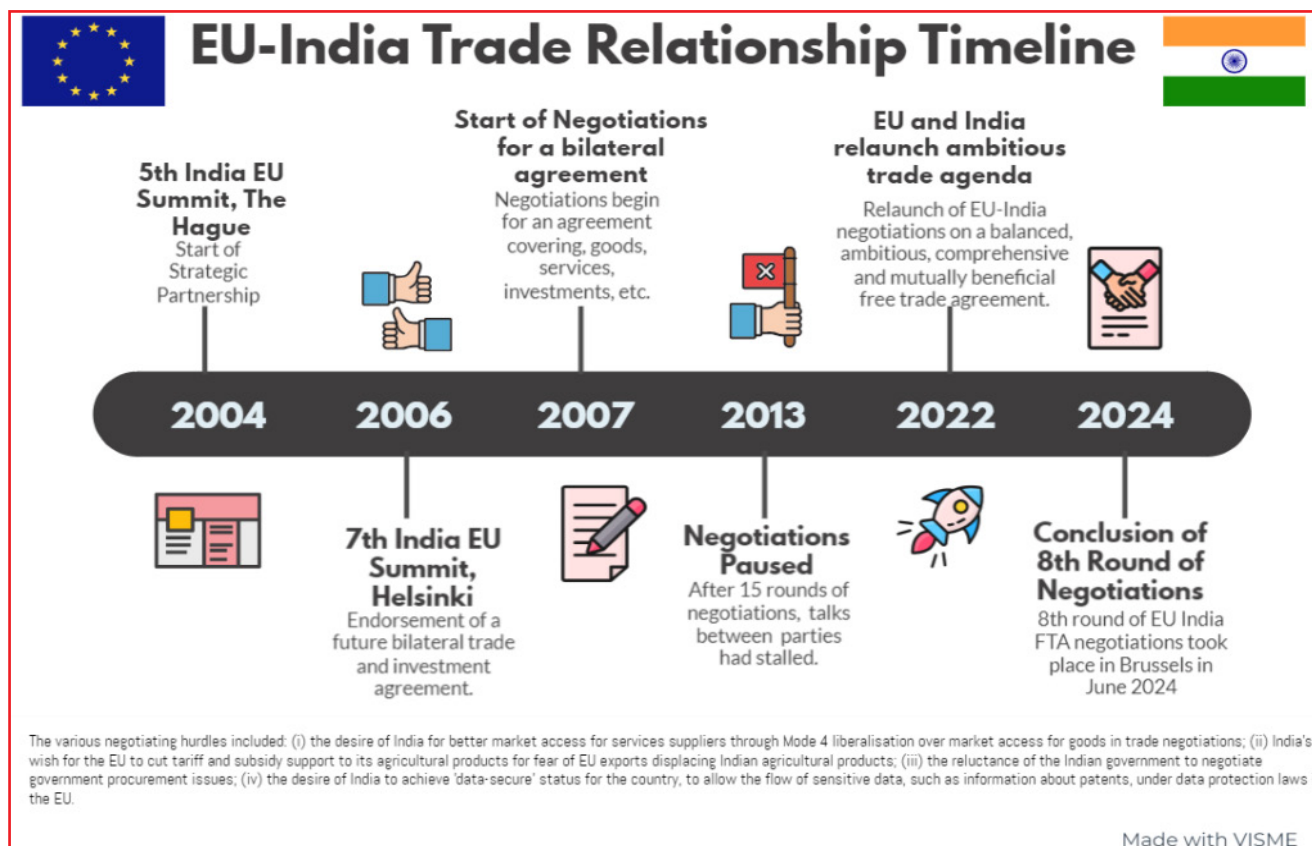


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What Structural and Strategic Challenges Continue to Constrain India-EU Relations?

- 💡 **Geopolitical Differences:** The EU envisions a comprehensive partnership, including trade, security, and human rights cooperation, while India prioritizes strategic autonomy and avoids deep alliances.
 - ✦ India's neutral stance on **Russia's invasion of Ukraine** contrasts with the **European Union's approach**, which has imposed sanctions against Russia and faced difficult relations due to Russia's attacks on Ukraine and assaults on democracy.
 - 📎 This creates a trust deficit and complicates policy-level coordination between India and the EU.
 - ✦ India views **China as a strategic competitor** due to border disputes and economic rivalry, while **Europe continues to have significant trade with China** despite concerns over its human rights and economic practices.
 - 📎 This contrast hinders a unified approach on **Indo-Pacific policies**.
 - ✦ **India's multi-alignment approach** with Russia, the U.S., and Europe leads to **occasional policy misalignments**.
- 💡 **Economic and Trade Barriers:** FTA negotiations between India and the EU, initiated in 2007, have faced delays due to disagreements.
 - ✦ **Stricter EU intellectual property rights (IPR)** norms conflict with India's focus on affordable generic pharmaceuticals.
 - ✦ Additionally, the **EU's insistence on stringent labor and environmental standards** like **Carbon Border Adjustment Mechanism** poses challenges for India's domestic industries.
 - 📎 Although India's CBAM-exposed exports to the EU account for only 0.2% of its GDP, the **iron and steel sector constitutes 90% of these exports, exposing significant vulnerability**.

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💡 **Defence and Strategic Divergences:** India's dependence on **Russian defence systems** limits deeper collaboration with Europe on advanced military technology.

✦ Despite projects like **Rafale jets** and submarine collaborations with France and **C-295 Aircraft with Spain**, EU-India defense ties lag behind those with the US or Russia.

✦ The lack of a dedicated strategic dialogue and the EU's restrictive approach to knowledge sharing further hinder cooperation, while **Russia supports joint manufacturing with India**.

💡 **Technology and Innovation Gaps:** India prioritizes **affordable technology**, while Europe focuses on **sustainability and advanced manufacturing**.

✦ But **China leads in new areas like Artificial intelligence and Quantum computing**. **Quantum Computing**, and without a **joint India-EU plan**, both sides struggle to keep up.

💡 **Investment Barriers & Regulatory Hurdles:** India's trade regulations remain restrictive, with **technical barriers to trade (TBT)** and **sanitary & phytosanitary (SPS) measures** affecting European businesses.

✦ European investors seek a **more predictable policy** environment, particularly in investment protection agreements.

💡 **Data Privacy Regulations:** EU's **strict data laws** make digital exports from India costly and complex.

✦ India lacks **EU data adequacy status**, restricting seamless data transfers, while small IT firms struggle with **high compliance costs, limiting competitiveness**.

📎 **The European Data Protection Supervisor (EDPS)** refused a request by the **European Investment Bank (EIB)** to transfer **personal data to India**, citing a lack of evidence that India offers a data protection level **"essentially equivalent"** to the **EU's GDPR**.

✦ Also, Indian firms require expensive compliance mechanisms to access the EU market.

What are the Focus Areas of the EU-India Strategic Agenda for 2025–2029?

💡 **Trade and Investment:** Accelerated efforts to finalize the **Free Trade Agreement** by the **end of 2025**, with a strong focus on strengthening **supply chains** and promoting **critical emerging technologies** through the **India-EU Trade and Technology Council (TTC)**.

✦ The strategy also pushes for **EU-India startup partnerships** and India's association with the **Horizon Europe research program**.

💡 **Clean Energy and Climate Cooperation:** Enhanced collaboration in **renewables, green hydrogen, offshore wind, solar power**, and expanded **green finance**.

✦ This ties into ongoing projects like the **Facilitating Offshore Wind in India (FOWIND)** initiative, and **clean energy supply chain strengthening**.

💡 **Science and Technology Collaboration:** Joint **funding mechanisms** and enhanced **scientific exchange** in priority areas such as **clean energy, artificial intelligence, telecom, biotechnology, water and marine sciences, climate research, and vaccine development**.

✦ The EU's **"Choose Europe for Science"** program is now open to **Indian researchers through 2027**.

💡 **Security and Defence:** The agenda proposes a major boost in **security cooperation**, including enhanced consultations on **crisis management, maritime security, cyber defense, counterterrorism, and defense industrial cooperation** focusing on **production capabilities and supply chain security**.

✦ The EU plans to negotiate a **Security of Information Agreement** for classified information exchange. Key areas also include **Indo-Pacific cooperation, hybrid threats, space security**, and joint efforts concerning **Russia's war in Ukraine**.

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- 💡 **Talent Mobility and Partnership:** The document highlights cooperation in **talent mobility** and calls for a **joint comprehensive strategic agenda** based on shared priorities with expected formalization in upcoming **EU Foreign Affairs Council meetings**.

How can India Further Strengthen and Deepen Its Relations with the European Union?

- 💡 **Fast-Track the FTA & Address Trade Barriers:** Prioritize resolving **tariff disputes**, particularly in **automotive, pharmaceuticals, and digital trade**.
 - ✦ Accelerating FTA talks will strengthen **supply chains, reduce trade barriers, and create alternative economic linkages**.
 - ✦ **Boosting high-tech exports** and facilitating greater **European investment** in India's manufacturing sector will drive economic growth.
 - ✦ Beyond an FTA, India and the EU can explore joint ventures in sectors like **pharmaceuticals, technology, renewable energy, and critical raw materials**.
 - 📎 Additionally, similar to the **India-European Free Trade Association (EFTA) Trade and Economic Partnership Agreement (TEPA)**, the EU could sign a similar agreement with India to promote free trade and economic integration.
- 💡 **Negotiating a Data-Sharing Framework:** India should negotiate an **EU-U.S.-style Privacy Shield** to enable smooth cross-border data flows.
 - ✦ A **mutual recognition framework** can reduce **compliance costs** for Indian firms, while domestic data compliance bodies will help them meet EU privacy norms efficiently.
 - ✦ Strengthening **cybersecurity laws** will enhance India's credibility in **global digital trade**.
- 💡 **Strengthen Defense & Security Ties:** Expand **joint naval exercises, cyber defense partnerships, and intelligence-sharing mechanisms**.
 - ✦ Expand **co-development of defense equipment with France**. Align **India's Indo-**

Pacific strategy with European defense priorities to counter China's regional assertiveness.

- ✦ India's defense partnerships with the US, Russia and **Quad membership** can be complemented by the **EU's investment in India's defense sector** and advanced technologies for regional security.
- 💡 **Develop Alternative Supply Chains:** Expand semiconductor and AI collaborations under the **India-EU Trade and Technology Council (TTC)**.
 - ✦ Strengthening the **IMEC and INSTC** will create a new **trade and energy route** that bypasses China.
- 💡 **Enhance Digital & Green Technology Partnerships:** Increase cooperation in **renewable energy, fintech, and data privacy regulations**.
 - ✦ The EU-India TTC presents an opportunity to align technology agendas, similar to the **US-India initiative on Critical and Emerging Technology**, fostering high-level collaboration to drive innovation and advancements in key sectors.
 - ✦ Expanding **cooperation in green hydrogen, electric vehicles, and carbon-neutral technologies** will benefit **both economies**.
 - 📎 Align **India's data protection policies** with the EU's standards to facilitate digital trade expansion.
- 💡 **Reform Domestic Trade & Investment Policies:** India must simplify **regulatory frameworks, enhance infrastructure, and ensure policy stability** to attract European investments.
 - ✦ Strengthening **intellectual property rights (IPR)** protections and ensuring ease of doing business will encourage **European tech firms** to establish R&D hubs in India.
- 💡 **Position India as a Global Diplomatic Balancer:** With the U.S.-Europe relations under strain, India can act as a **bridge between major powers**, fostering a balanced global order.
 - ✦ Engaging with the EU on multilateral platforms like the **G20 and UN Security Council reforms** will elevate India's global influence.

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- ✦ **Unity** against the rising authoritarianism as a threat to democracies can unite India, Europe, and the US.

✎ This alignment can drive collaborative efforts to address global challenges across the Atlantic and Indo-Pacific through initiatives like the [Democracy Summits](#).

Conclusion

The India-EU partnership stands at a **transformative moment**, poised to significantly influence **global economic and strategic landscapes**. As Shishir Priyadarshi, former WTO Director, notes, "This new strategic agenda provides a powerful framework for two of the **world's largest democratic and economic blocs** to collaborate for **mutual prosperity and global stability**." Strengthening this **alliance** will be crucial in enhancing **economic resilience, technological innovation, and security cooperation**, thereby reinforcing **India's influential role** in a **multipolar world**.

Navigating India's Interests Amid Saudi-Pakistan Alignment

This editorial is based on "[Why India shouldn't be worried by Saudi-Pak deal](#)," which was published in *The Indian Express* on 21/09/2025. The article examines the **Saudi-Pakistan Mutual Defence Pact**, its timing amid shifting West Asian security dynamics, and its implications for regional stability and India's strategic interests.

Tag: GS Paper - 2, Important International Institutions, Government Policies & Interventions, International Treaties & Agreements, Effect of Policies & Politics of Countries on India's Interests.

The recent signing of a **Strategic Mutual Defence Agreement (SMDA)** between **Saudi Arabia and Pakistan** in **September 2025** marked a **watershed event** in **Middle Eastern and South Asian geopolitics**. This **diplomatic upgrade** not only recalibrates **regional security calculations** but also reverberates across the **global order**, confronting **India** with new **strategic challenges**.

What are the Key Highlights of the Strategic Mutual Defence Agreement between Saudi Arabia and Pakistan?

💡 **Terms of the Agreement:** The **Strategic Mutual Defence Agreement (SMDA)** formalizes collective defence between **Saudi Arabia and Pakistan**, stating that "**any aggression against either country shall be considered an aggression against both**."

- ✦ The agreement establishes mechanisms for permanent **coordination**, including a **joint military committee, intelligence-sharing arrangements, and expanded training programmes**.
- ✦ It formalizes Pakistan's long-standing **military presence in Saudi Arabia** and reflects Saudi intent to enhance Pakistan's strategic role in **Persian Gulf security**.
- ✦ Although **nuclear cooperation** is hinted at, the agreement does not explicitly extend Pakistan's nuclear umbrella to Saudi Arabia.

💡 **Timing and Strategic Context :** The SMDA was announced shortly after **Israel attacked Qatar**, highlighting Saudi perceptions of **regional vulnerability**.

- ✦ Qatar hosts the **Al-Udeid airbase**, the largest **U.S. military base** in West Asia, and the attack without a strong U.S. response underscored that **Saudi Arabia cannot rely solely on U.S. security guarantees**.
- ✦ The timing reflects the **changing Gulf security environment**, where regional threats are increasing and American involvement is perceived as diminishing.

💡 **Drivers Behind the Pact:**

- ✦ **U.S. retrenchment:** The U.S. strategic shift to **East Asia** and past inaction during **Iran-backed attacks on Saudi oil facilities (2019)** signaled reduced reliability.
- ✦ **Gaza war and Israel's actions:** The **October 2023 Hamas attack** and Israel's subsequent military response destabilized the region, undermining Saudi plans to normalize relations with Israel under the **Abraham Accords**.

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- ✦ **Houthis in Yemen:** The Houthis expanded **missile and drone capabilities**, targeting Saudi oil infrastructure and shipping, while controlling half of Yemen, including **Sanaa**, creating persistent security challenges.

How does the Saudi–Pakistan Pact Impact Regional Geopolitics and Global Strategic Order?

- 💡 **Recalibration of Gulf and West Asian Security Architecture:** The **SMDA** institutionalizes **Pakistan's formal security role** in **West Asia**, a region traditionally dependent on **US security guarantees**.
 - ✦ The **pact** commits both nations to treat **aggression** against one as **aggression against both**, signaling a **collective defense model** akin to **NATO's Article 5**.
 - ✦ By anchoring **security ties** with **nuclear-capable Pakistan**, **Saudi Arabia** signals a shift towards **multi-alignment security strategies**, reducing exclusive dependence on the **US**.
 - ✦ This move could create a **strategic vacuum**, potentially allowing **China** and **Russia** to deepen their **influence** in the region, as **Riyadh** diversifies **partnerships** to hedge against **uncertainties**.
- 💡 **Nuclear Proliferation Concerns and Strategic Stability Risks:** The **pact** reportedly includes provisions for **Pakistan's nuclear umbrella** to extend to **Saudi Arabia**, raising **proliferation anxieties** in an already tense region.
 - ✦ This formal linkage escalates **security dilemmas** among **rival states** and complicates global **non-proliferation efforts**.
 - ✦ Any **military conflict** involving **Pakistan** may now risk **regionalizing nuclear confrontation**, destabilizing **South Asia** and the **Middle East**.
- 💡 **Enhanced Strategic Confidence for Pakistan vis-à-vis India:** The **pact** emboldens **Pakistan's geopolitical posture**, potentially strengthening its **deterrence calculus** against **India**.
 - ✦ With **Saudi Arabia's backing**, **Islamabad** may adopt a more **assertive stance** on **Kashmir** and **cross-border terrorism**, raising **security risks** for **New Delhi**.

- ✦ **Pakistan's Defense Minister**, affirming **Saudi support** in a hypothetical **India-Pakistan war**, underlines the altered **security parameter**.

- 💡 **Impact on India-Saudi Arabia Relations and Diplomatic Balancing:** Despite the **pact**, **Saudi Arabia** remains one of **India's largest energy suppliers** and **economic partners**.

- ✦ **Riyadh's reassurances** to **New Delhi** emphasize continuing **strategic partnership** while managing its evolving **alliance with Islamabad**.

How have India–Saudi Arabia Relations Developed Over the Years?

Historic and Evolving Diplomatic Relations:

- ✦ **India** and **Saudi Arabia** established **diplomatic relations** in **1947**. The relationship witnessed a significant upgrade with the **Delhi Declaration (2006)** and **Riyadh Declaration (2010)**, elevating ties to a **Strategic Partnership**.
- ✦ **High-level visits**, including **PM Narendra Modi's state visits** to Saudi Arabia in **2016, 2019, 2025**, and **Saudi Crown Prince Mohammed bin Salman's visits** to India in **2019, 2023, 2025**, further cemented bilateral relations.

Economic and Trade Dimensions:

- ✦ **Bilateral trade** reached approximately **\$42 billion** in **FY 2024-25**, with **Indian exports** of **\$11.75 billion** and **imports** of **\$30.12 billion** from Saudi Arabia.
- ✦ Key **Indian exports** include **rice, aircraft, motor vehicles and chemicals**.
- ✦ **Saudi investments** (including **Public Investment Fund**) are valued at around **\$10 billion** in **telecom, retail, renewable energy**, while **Indian investments** in Saudi Arabia amount to roughly **\$3 billion**.

Energy Security Partnership:

- ✦ **Saudi Arabia** is **India's third-largest crude oil and LPG supplier**, underpinning **energy security**.

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- ✦ The \$44 billion West Coast Refinery and Petrochemicals Project in Maharashtra, a joint venture with Saudi Aramco, advances cooperation.
- ✦ India and Saudi Arabia have also expanded collaboration to include renewable energy and strategic petroleum reserves.

💡 **Growing Defence and Strategic Cooperation:**

- ✦ Defence ties have expanded rapidly since 2020 with joint naval exercises (Al Mohed Al Hindi series) and the first-ever joint land force exercise (**EX-SADA TANSEEQ-I**) in 2023.
- ✦ The **India-Saudi Strategic Partnership Council** was broadened in 2025 to include a Defence Cooperation Committee, reflecting accelerated military collaboration and a shared interest in regional security.

💡 **Socio-Cultural and People-to-People Connect:**

- ✦ India's expatriate community in Saudi Arabia, estimated at 2.7 million, fosters strong socio-cultural bonds.
- ✦ Religious ties remain significant with increased Hajj quotas and enhanced pilgrim arrangements. Cultural cooperation continues to expand, cementing people-to-people relations as a pillar of the bilateral partnership.



What Policy Measures can India Adopt to Uphold Its Strategic Interests Amidst the Saudi-Pakistan Defence Pact?

- 💡 **Deepen Strategic and Defence Cooperation with Saudi Arabia and Gulf States:** India must intensify its defence and strategic partnership with Saudi Arabia by expanding joint military exercises, intelligence sharing, and defence technology collaboration.

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- ✦ The 2025 expansion of the India-Saudi Strategic Partnership Council to include a Defence Cooperation Committee is a step forward.
- ✦ India should also strengthen ties with other **Gulf Cooperation Council (GCC)** members like the UAE, Oman, and Qatar to create a **network of security partners** that offsets the Saudi-Pakistan axis.
- 💡 **Enhance Diplomatic Engagement and Multilateral Outreach:** India should leverage **multilateral platforms** such as the **United Nations, G20, and I2U2** to raise awareness about **regional security threats**, including **nuclear proliferation risks** posed by the **pact**.
 - ✦ Active **diplomacy** with the **US, EU, and Middle Eastern partners**, including Iran, can ensure India's concerns over the pact's **destabilizing effects** are acknowledged internationally.
- 💡 **Accelerate Military Modernization and Intelligence Capabilities:** Given the enhanced **strategic confidence** Pakistan gains through the **pact** and **Saudi backing**, India must expedite the **modernization of its armed forces**, particularly in countering **conventional threats** and **cross-border terrorism**.
 - ✦ Strengthening **early warning systems, cybersecurity, and surveillance** along the **western frontiers** will be critical.
 - ✦ Increasing resources for **intelligence gathering** and **rapid response forces** will ensure India maintains **credible deterrence**, considering any **conflict with Pakistan** may have broader regional implications.
- 💡 **Diversify Energy and Economic Partnerships in the Gulf and Beyond:** Saudi Arabia is a vital energy supplier and economic partner for India.
 - ✦ While safeguarding these ties, India must **diversify energy sources** by strengthening relationships with other **Gulf countries** and investing in **renewable energy projects** linked to **Gulf economies**.
 - ✦ Strategic investments in initiatives such as the **India-Middle East-Europe Economic Corridor**

(IMEC) will reduce dependency on **vulnerable supply chains** and enhance India's **geopolitical leverage**.

- ✦ To **balance its interests in West Asia**, India can strategically **strengthen ties with Iran** by **revitalising the Chabahar project**, which is currently under strain due to the **US sanction waiver**, while ensuring that its approach does not **undermine its relationship with Israel**.
- ✦ Deepening **trade and technology partnerships** will balance **economic relations** even as **security alliances** shift.

Conclusion:

As External Affairs Minister **Dr. S. Jaishankar** often remarked, *"The India way would be to be more of a decider or a shaper rather than an abstainer... not a disruptionist but a stabilising power that uses its capacities for global good."* The Saudi-Pakistan defence pact reinforces this imperative, urging India to move beyond a reactive posture towards a **proactive, strategically autonomous, and diplomatically agile** role.

By strengthening defence preparedness, diversifying partnerships, and shaping regional security discourses, India can not only **safeguard its national interests** but also consolidate its position as a **stabilising force in an evolving multipolar order**.

The Rise Of Indian Manufacturing Sector

This editorial is based on "**In turbulent times, India needs a reimagined 'swadeshi' industry,**" which was published in *The Indian Express* on 23/09/2025. The article emphasizes revitalizing India's **swadeshi industry**, highlighting that **domestic manufacturing, regardless of a company's origin or brand, advances self-reliance and strengthens global competitiveness**.

Tag: GS Paper - 3, Industrial Policy, Infrastructure, Growth & Development

Manufacturing is widely recognised as the **backbone of economic development**. For **India**, it offers immense potential to generate **employment**, boost **productivity**,

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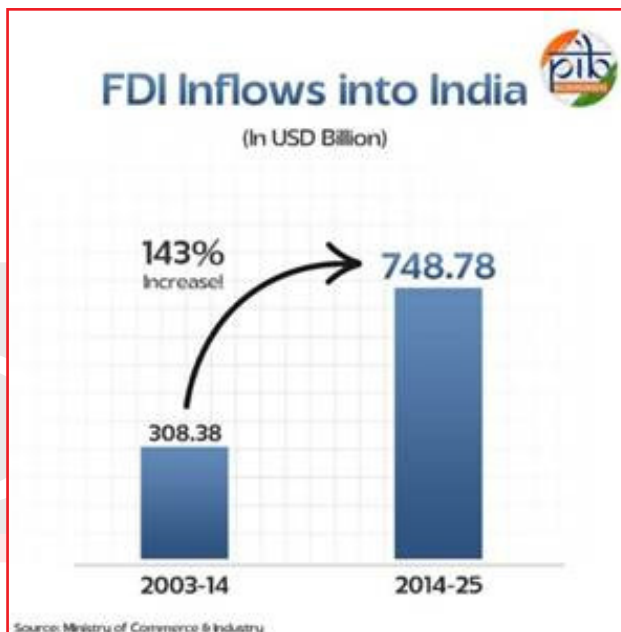


strengthen **exports**, and reduce **import dependence**. **Government initiatives** such as the **Make in India, Production Linked Incentive (PLI) schemes, PM-MITRA parks**, and the **National Manufacturing Mission** have catalyzed growth, positioning India as a **global manufacturing hub**. However, **challenges** such as **infrastructure gaps, skill shortages, high logistics costs**, and the need for higher **domestic value addition** continue to constrain its full potential.

What is the Current Status of the Manufacturing Sector in India?

- 💡 **Manufacturing Output Growth and Sector Resilience:** India's manufacturing sector showed **robust resilience** with a **4.26% growth** in FY 2024-25.
 - ✦ The **Index of Industrial Production (IIP)** highlights **manufacturing** contributing about **77% of industrial output**, with key segments such as **basic metals, electrical equipment, and machinery** leading growth.
- 💡 **Contribution to GDP and Ambitious Targets:** **Manufacturing** currently accounts for nearly **17% of India's GDP**.
 - ✦ The **government** has set an **ambitious target** to increase this to **25% by 2030** under initiatives like **"Make in India"** and **"Atmanirbhar Bharat"**, aiming to boost **economic growth, employment, and global competitiveness**.
- 💡 **Export Momentum in Key Sectors:** **Manufacturing exports** have surged by **2.52% year-on-year**, reaching **USD 184.13 billion** in the first five months of FY 2024-25.
 - ✦ **Electronics, pharmaceuticals, engineering goods, and automobiles** are major contributors, benefiting from **rising global demand and government export incentives**.
- 💡 **Foreign Direct Investment:** India has steadily positioned itself as a **preferred destination** for **global investors**.
 - ✦ Total **FDI inflows** into India over the last eleven years (2014-25) stood at **USD 748.78 billion**, up **143%** compared to **USD 308.38 billion** received during 2003-14.

- ✍ India clocked **USD 81.04 billion** in **gross FDI inflows** in FY 2024-25, up by **14% year-on-year growth**.
- ✦ **Manufacturing FDI** accelerated **18%** to **USD 19.04 billion** in FY 2024-25 (from **USD 16.12 billion** in FY 2023-24).
- ✍ **Maharashtra** led the FDI leaderboard with **39% of equity inflows**, followed by **Karnataka (13%)** and **Delhi (12%)** in 2024-25.



What are the Recent Drivers Behind India's Manufacturing Momentum?

- 💡 **Electronics Manufacturing Transformation:** Electronics production increased **sixfold** in the last 11 years; exports grew **eightfold**.
 - ✦ Value addition in electronics jumped from **30% to 70%**, with a target of **90% by FY27**.
 - ✦ India is now the **second-largest mobile manufacturer** globally.
 - ✦ Attracted **USD 4 billion** in FDI in electronics since FY2020-21.
- 💡 **Pharmaceutical Industry- "Pharmacy of the World":** India ranks **3rd** in **global pharma** by volume and **14th** by value.
 - ✦ Supplies **50% of global vaccine demand** and **40% of US generics**.

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- ✦ Backed by **policy support** for **Pharmaceuticals** like the **PLI scheme (₹15,000 crore)** and **Strengthening of Pharmaceuticals Industry (SPI) scheme (₹500 crore)**, the industry continues to expand its **global footprint**.

💡 **Automotive Industry Expansion:** It contributes **7.1% to GDP** and **49% to manufacturing GDP**.

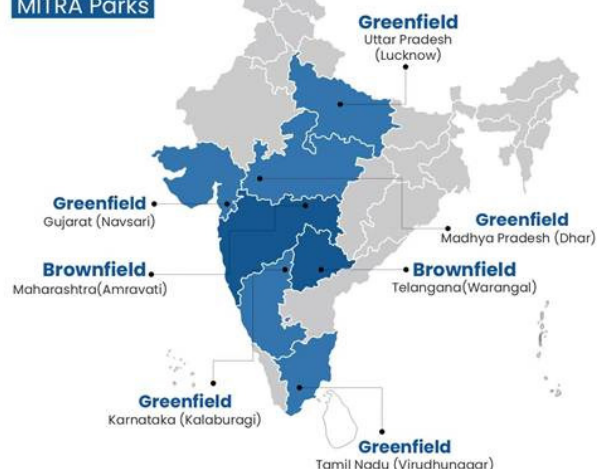
- ✦ FY25 production: **3.10 crore units** across passenger vehicles, commercial vehicles, two- and three-wheelers, and quadricycles.
- ✦ India is the **fourth-largest automobile producer globally**, with potential to strengthen the automotive value chain internationally.



💡 **Textiles Sector Growth:** As per **Economic Survey 2024-25**, India's textile & apparel industry is among the **largest industries globally**, contributing around **2.3% to GDP**, **13% to industrial production**, and **12% to total exports**.

- ✦ The sector is set to grow to **US\$350 billion by 2030**, further strengthening **India's position in the global market**.
- ✦ It is the **second largest employment generator** after **agriculture**, with over **45 million people employed directly**, including **women** and the **rural population**.
- ✦ To support the industry further, the government has approved seven **PM Mega Integrated Textile Region & Apparel (PM MITRA) Parks** backed by ₹4,445 crore over six years through 2027-28.

THE SEVEN PM MITRA Parks



Source: Ministry of Textiles

💡 **Digital Manufacturing:** Technological adoption has surged, with firms embracing **automation**, **smart manufacturing**, and **big data analytics** to improve **productivity** and **quality**.

- ✦ 65% of Indian manufacturers had adopted AI by 2024, up from 45% in 2022 (**NASSCOM, MeitY**).
- ✦ As per **NASSCOM's latest data**, India ranks 6th among the world's top 9 DeepTech ecosystems.

💡 **Sustainability and Green Manufacturing:** Regulatory pressure and global demand for **eco-friendly goods** foster investment in **renewable energy** and **waste reduction**.

- ✦ The government approved a **₹24,000 crore PLI package** to boost **solar PV module production**, projected to add **65GW capacity**.

💡 **Skill Development:** Workforce modernization and **skilling initiatives**, such as **PMKVY**, are preparing millions for **Industry 4.0** roles in **robotics**, **IoT**, and **AI**.

- ✦ India's **employment** surged with **17 crore jobs created** in the past decade, reflecting focus on **youth-centric policies** and **Viksit Bharat vision**.

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- ✦ PLFS data August 2025 indicates positive trends:
 - ✎ The Worker Population Ratio (WPR) rose to 52.2%.
 - ✎ The Labour Force Participation Rate (LFPR) for women improved to 33.7%.
 - ✎ Unemployment rate (UR) eased to 5.1% overall; male UR fell to 5.0%, highlighting **broad-based employment creation and inclusivity** across sectors, including manufacturing.
- ✦ In manufacturing, job creation rose from 6% (2004–2014) to 15% in the last decade.



What are the Policy Catalysts Powering the Surge in India's Manufacturing Sector?

- 💡 **National Manufacturing Mission (NMM):** Launched in Union Budget 2025–26, NMM integrates **policy, execution, and governance** across ministries and states.
 - ✦ Focuses on **sustainable manufacturing**, promoting solar PV modules, EV batteries, green hydrogen, and wind turbines.
 - ✦ Guides India's transition from incremental growth to **global manufacturing leadership**, aligning with **net-zero 2070 commitments**.
- 💡 **GST Reforms:**
 - ✦ **Simplified Structure:** GST 2.0 introduces a two-slab system, reducing compliance costs.
 - ✦ **Cost Compression & Value Chains:** Goods like **packaging, textiles, leather, wood, and logistics essentials** attract only 5% GST, lowering manufacturing costs and boosting exports.
 - ✦ **MSMEs & Export-Oriented Industries:** Rationalized rates and faster refunds in **textiles, handicrafts, food processing, toys, leather** support working capital and scale-up.
 - ✦ **Logistics Efficiency:** GST cuts on **trucks and delivery vans** (from 28% to 18%) improve supply chain efficiency for freight-intensive sectors.

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- ✦ **Auto & Ancillary Acceleration:** Reduced GST on **vehicles, auto parts, tractors** increases affordability, driving demand and production.
- 💡 **Make in India:** Launched in **2014**, aims to raise **manufacturing's share in GDP from 17% to 25%**, focusing on **electronics, automotive, defense, and textiles**.
- 💡 **Production Linked Incentive (PLI) Scheme:** Launched in **2020**, covering **14 key sectors** including **mobile phones, electronics, pharmaceuticals, textiles, drones**.
 - ✦ Provides **financial incentives linked to incremental production and sales**, driving scale and competitiveness.
 - ✦ Total **outlay of ₹1.97 lakh crore** ensures economies of scale and global competitiveness.
- 💡 **National Logistics Policy (NLP):** Launched **September 2022**, aims to **reduce logistics costs, enhance efficiency, and drive digital integration**.
 - ✦ Targets **top 25 ranking in World Bank Logistics Performance Index by 2030**.
 - ✦ **Comprehensive Logistics Action Plan (CLAP)** focuses on **digital systems, standardization, HR development, state coordination, and logistics parks**, enabling seamless **multi-modal connectivity**.
- 💡 **Startup India-Driving Innovation and Jobs:** Launched in **January 2016** to support entrepreneurship and job creation.
 - ✦ India hosts the **third-largest startup ecosystem** with **1.91 lakh DPIIT-recognized startups** as of **9 September 2025**.
 - ✦ Startups have generated **over 17.69 lakh direct jobs** (as of 31 January 2025), fostering innovation and economic development.
- 💡 **Industrialization and Urbanization:** The **National Industrial Corridor Development Programme** creates integrated industrial cities as **Smart Cities**.
 - ✦ Promotes **robust multi-modal connectivity** to support manufacturing and systematic urbanization.
 - ✦ **12 new projects approved** last year with an estimated **₹28,602 crore** investment,

enhancing India's attractiveness for **manufacturing and investment**.

- ✦ In alignment with this, the **Development of Enterprises and Strategic Hubs (DESH) Bill** aims to streamline approvals, enhance infrastructure, and provide incentives for enterprises in these corridors.

What are the Main Challenges Facing India's Manufacturing Sector?

- 💡 **Infrastructure Deficiencies:** India's logistics costs have fallen to **7.97% of GDP**, showing notable **efficiency gains**.
 - ✦ Yet, **gaps in multimodal connectivity** continue to hinder seamless integration of road, rail, and ports.
 - ✦ Frequent **power outages**, inadequate **water supply**, and **poor transport networks** disrupt manufacturing efficiency.
 - ✦ **Weak port and warehousing infrastructure** delays supply chains.
- 💡 **Regulatory and Policy Bottlenecks:** **Complex regulations** and multiple clearances increase transaction costs.
 - ✦ **Slow land acquisition** processes discourage large-scale manufacturing projects. **MSMEs** face disproportionate compliance burdens due to limited resources.
 - ✦ **India's manufacturing MSMEs face over 1,450 regulatory obligations annually** across **labour, environment, taxation, and corporate laws**, making compliance complex and time-consuming.
 - ✦ The **average compliance cost** for a typical manufacturing MSME ranges between **₹13 lakh to ₹17 lakh per year**, significantly impacting their **profitability and growth potential**.
- 💡 **Skill Gap:** Only **4.7% of India's workforce** has formal skill training versus **96% in South Korea**.
 - ✦ Lack of trained manpower restricts **productivity, quality control, and adoption of advanced technologies**.

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✦ Industry often faces a mismatch between academic training and practical industrial needs.

💡 **Access to Finance: MSMEs struggle** with limited access to affordable credit and face working capital shortages.

✦ Dependence on informal finance leads to higher borrowing costs, constraining expansion and modernization.

✦ **As of March 2025**, the **total commercial credit exposure to MSMEs** in India reached **₹35.2 lakh crore (USD 4.3 trillion)**, growing by **13% year-on-year**. Yet, a **significant credit gap remains**, limiting many MSMEs' growth and modernization.

💡 **Global Competition and Innovation Deficit:** Indian manufacturers face stiff competition from **low-cost producers like China and Vietnam**.

✦ Limited **investment in R&D**, weak design capabilities, and dependence on imported technology reduce competitiveness.

✦ Failure to move up the value chain restricts integration into **global supply networks**.

💡 **Environmental and Sustainability Pressures:** Manufacturing is **resource-intensive**, straining **water, land, and energy**.

✦ Pressure to **decarbonize** and meet **net-zero 2070 targets** adds compliance costs.

✦ **Ethanol blending** in automotive fuels has emerged as a key **sustainability measure**, with India targeting **20% blending by 2025-26** to curb **fossil fuel dependence** and reduce **emissions**.

📌 However, challenges include **feedstock supply constraints**, **pricing issues**, and potential impacts on **food security**, affecting ethanol availability and industry uptake.

✦ Global buyers increasingly **demand green supply chains**, requiring Indian firms to invest in clean-tech.

📌 The **European Union's Carbon Border Adjustment Mechanism (CBAM)** will further impact Indian manufacturing

exports, especially in carbon-intensive sectors like **steel, cement, and aluminum**, making sustainability compliance a competitiveness issue as well.

💡 **Trade & Market Access Barriers:** Non-tariff barriers in developed countries limit exports.

✦ Developed countries impose NTBs such as **stringent product standards, carbon taxes, deforestation regulations**, and certification requirements that restrict Indian exports.

📌 For example, the European Union's carbon border adjustment tax and forestry regulations have become hurdles for Indian goods.

✦ **India's cautious approach to free trade agreements (FTAs)** reduces integration into global value chains.

📌 Export competitiveness weakened by currency volatility and rising input costs.

✦ **Also, recently tariff barriers** have emerged as a significant challenge for Indian exports.

📌 Tariff barriers like the **United States** imposed a steep **50% tariff** on many **Indian goods** effective **August 27, 2025**, doubling the previous **25% tariff** implemented earlier that year.

📌 This affects **textiles, gems and jewellery, leather, marine products, chemicals, and auto components**, putting **55% of India's US-bound exports**, worth **\$87 billion**, at risk.

💡 **Slow Technological Adoption:** India's **Industry 4.0 market size** was valued at around **USD 5.5 billion in 2024** and is projected to grow to nearly **USD 27 billion by 2033**, at a **CAGR of 19.2%**.

✦ Despite this rapid growth, **adoption** remains **uneven** and comparatively **slow among MSMEs and traditional manufacturers**.

✦ Approximately **57% of firms** perceive a risk of **job displacement** from **automation** in the absence of **adequate reskilling programs**.

✦ Dependence on foreign technologies for advanced manufacturing. **(US or China)**

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What Can India Learn from International Best Practices in Manufacturing ?

- 💡 **Lean Manufacturing & Six Sigma:** Japan and Germany's adoption of **Lean principles** and **Six Sigma** helps eliminate **waste** and boost **quality**.
- 💡 **Industry 4.0:** China and US use **advanced robotics**, **big data**, and **IoT** for **smart factories**; Indian manufacturers are scaling up investment in **automation**, with major **auto** and **electronics players** leading the **digital transition**.
- 💡 **Supply Chain Resilience:** China's **multi-source procurement** and **contingency planning** minimize disruption from **global shocks**.
 - ✦ India should **diversify suppliers** and develop **contingency plans**.
- 💡 **Workforce Upskilling:** South Korea's model of **universal vocational training** and Germany's **dual education system** raise **productivity** and **employability**.
 - ✦ Scaling up **ITI enrollments** and adopting **dual-track training** will bridge India's **skill gap**.
- 💡 **Sustainability:** Europe's **green manufacturing regulations** and incentives catalyze **energy efficiency** and **innovation**.
 - ✦ India's **policy** should emphasize **sustainable practices** and transition to **circular manufacturing**.

What Measures Should Be Adopted to Strengthen Manufacturing Momentum in India?

- 💡 **Simplify Regulatory Frameworks:** Fast-track **land acquisition**, rationalize **taxes**, and improve **contract enforcement**, per **Parliamentary Standing Committee on Industry** recommendations.
 - ✦ The **Amaravati example** shows that cluster-based land pooling holds great potential, but addressing local concerns remains crucial
- 💡 **Augment R&D Investment:** Allocate more funds for **innovation** and promote **industry-academia collaboration** in **emerging sectors**, following **Korean** and **German innovation clusters**.

- ✦ A portion of future **PLI disbursements** could be tied to in-house **R&D spending thresholds**, beginning with critical sectors such as **electronics**, **semiconductors**, and **pharmaceuticals**.
- 💡 **Expand Credit to MSMEs:** Implement **specialized financing schemes** and **Credit Guarantee Funds** for **MSMEs** and **startups**.
 - ✦ Offer tax incentives to large corporations that promptly pay their **MSME suppliers** and onboard them onto **TReDS (Trade Receivables Discounting System)** platforms. This unlocks working capital for **MSMEs** tied up in invoices.
- 💡 **Accelerate Infrastructure Build-Out:** Ensure **reliable power**, **transport**, **water**, and **digital connectivity** by completing pending **industrial corridor projects** and expanding **dedicated freight corridors**.
 - ✦ Implement a **GIS-tagged, real-time dashboard**, similar to the **PM GatiShakti National Master Plan**, to monitor all infrastructure projects. This platform should be used to identify and resolve inter-departmental bottlenecks in real-time, ensuring accountability and timely completion.
- 💡 **Promote Export Competitiveness:** Lower **logistics costs**, negotiate **trade agreements** for better **market access**, and incentivize **standards certification** for **global markets**.
 - ✦ Implement **"Districts as Export Hubs"** Initiative swiftly by actively identifying products with export potential in each district and provide targeted support including design, packaging, marketing, and certification assistance to local producers.
- 💡 **Integrate Sustainability:** Launch **Green Manufacturing Missions** to align with **SDGs** and global requirements, and incentivize **energy-efficient technologies**.
 - ✦ Also, there is a need to go beyond energy efficiency and encourage industries to adopt a **circular economy model** focusing on waste reduction, reuse of materials, and recycling.

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- ✦ This not only reduces environmental impact but also cuts down on raw material import dependency and creates new business opportunities.

Conclusion

India's **manufacturing sector** is set for **robust expansion**, driven by **policy pushes**, **global demand shifts**, and **technology adoption**. To fully realize its **demographic dividend** and **global hub ambitions**, India must address persistent **infrastructure**, **regulatory**, **skill**, and **innovation gaps**, drawing lessons from **global best practices** and **committee recommendations**. Achieving a **25% GDP share** and **global leadership in manufacturing** requires **visionary reforms**, **sustained investment**, and **collaborative efforts** across **stakeholders** and **sectors**.

The Roadmap for Transgender Empowerment

This editorial is based on "**Trans people deserve better**," which was published in *The Hindu* on 23/09/2025. The article emphasises that true inclusion of transgender people in India requires moving beyond symbolic promises and quotas to ensure their genuine participation in politics, policymaking, education, healthcare, housing, and employment, thereby granting them dignity and equal rights.

Tag: GS Paper - 2, Issues Related to Transgenders, Welfare Schemes, Gender Equality, Government Policies & Interventions.

Transgender persons in India have long faced **social marginalisation** despite **cultural recognition**. **Stigma**, **colonial criminalisation**, and **discrimination** pushed them to the periphery. Recent **legal reforms** and **activism** have begun enhancing their **inclusion and dignity**, but India

must move beyond **promises** to ensure their **participation in politics and policymaking**.

What Does it Mean to Be a Transgender Person?

- 💡 **About:** Transgender is an umbrella term for people whose **gender identity and/or expression** differs from the sex they were assigned at birth. (**OHCHR**)
- 💡 **Gender Identity:** A person's **deeply felt internal sense of their own gender** (e.g., man, woman, another gender).
 - ✦ The **choice of gender identity** is made when a person understands their **internal and individual experience** of their **body, bodily appearance, speech, mannerisms**, etc.
 - ✦ If a person does not **identify** themselves with the **gender assigned at birth**, they can choose to **identify with some other gender**.
 - ✦ Transgender people may **self-identify** as transgender, female, male, transwoman, transman, transsexual, or by a variety of **indigenous terms** used in specific cultures, such as **hijra (India)**, **kathoe (Thailand)**, **waria (Indonesia)**, or one of many other transgender identities.
- 💡 **Population:** India has around **4.8 million transgender persons** (**Census 2011**).
 - ✦ The top 3 states with the largest transgender population are **Uttar Pradesh, Andhra Pradesh, and Maharashtra**. (**Census 2011**)
- 💡 **Part of LGBTQIA+:** Transgender persons are represented by the "**T**" in **LGBTQIA+**, which stands for **Lesbian, Gay, Bisexual, Transgender, Queer, Intersex, and Asexual**.
 - ✦ The "**+**" covers other identities like **non-binary** and **pansexual**, reflecting the evolving understanding of **gender and sexuality**.

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LGBTQI+

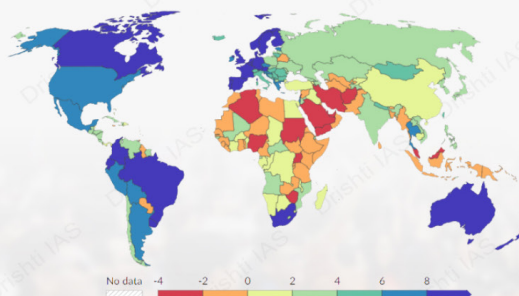
LGBTQI+ refers to a broad category of people, including those who identify as lesbian, gay, bisexual, transgender, intersex, and queer. The terminology used varies widely depending on historical, cultural, and societal contexts.

Discrimination Against LGBTQI+ based on

- Sexual orientation
- Gender expression
- Gender identity
- Sex characteristics

State of LGBTQI+ Rights Globally

- LGBTI+ rights index, 2019: The index captures to which extent lesbians, gay, bisexual, transgender and other people outside traditional sexuality and gender categories have the same rights as straight and cisgender people. It combines 18 individual policies, such as the legality of same-sex sexual acts, marriage, and gender marker changes. Higher values indicate more rights, negative values regressive policies.



SINCE 1982...



TODAY...



- Pride Month: June
- 11th October: National Coming Out Day

History of LGBTQI+ Rights in India

- 1992: First-ever protests demanding rights for gay individuals
- 1994: An NGO challenged the constitutional validity of Section 377 of IPC. Dismissed in 2001
- 1999: India's first pride parade (Also South Asia's first)
- 2009: Naz Foundation vs. Govt. of NCT Delhi Case (In Delhi HC) – Treating gay sex between consenting adults as a crime gross violation of the fundamental right to privacy
- 2013: Suresh Kumar Koushal vs. Naz Foundation– SC overturned Delhi HC ruling
- 2015: A private member's bill in Lok Sabha seeking decriminalizing homosexuality was introduced
- 2017: Justice K. S. Puttaswamy vs. Union of India (UoI)– SC ruled privacy a fundamental right
- 2018: Navtej Singh Johar vs. UoI– SC ruled Section 377 unconstitutional
- 2019: Transgender Persons (Protection of Rights) Act– To provide protection of rights of transgender persons and their welfare.

Present status of Same-Sex Marriage

- 2023: Supriyo vs. UoI– SC refused to grant legal status to same-sex marriage and denied same-sex marriage as a fundamental right



What are the Major Legal and Constitutional Milestones Shaping Transgender Rights in India?

- NALSA v. Union of India (2014):** This landmark Supreme Court judgment legally recognised transgender persons as a “third gender” and affirmed that **fundamental rights** guaranteed under the Indian Constitution (Articles 14, 15, 16, 19, and 21) equally apply to them.

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- ✦ The Court emphasised the **right to self-identify gender** as **male, female, or third gender**, prioritised **psychological identity** over **biological sex**, and mandated **equal protection against discrimination** in **education, employment, and healthcare**.

- ✎ It also directed the government to provide **social welfare schemes** and **public facilities** for transgender persons.

- ✦ The **NALSA judgment** classified transgender people as **socially and educationally backward classes (SEBCs)** entitled to **reservations in jobs and education** to promote their **inclusion and upliftment**.

💡 **Puttaswamy v. Union of India (2017):** In the landmark judgment **Puttaswamy case** regarding the **right to privacy**, the **Supreme Court** observed that there is a **constitutional right to privacy** inherent in the **right to life, equality, and fundamental freedoms**.

- ✦ This includes the **right to intimate relations of one's choice** and the **right to sexual orientation and gender identity**.

💡 **Decriminalisation of Section 377 of IPC:** In the case of **Navtej Singh Johar v. Union of India (2018)**, the **Supreme Court verdict** struck down **Section 377 of the IPC**, **decriminalising consensual same-sex relations** and indirectly strengthening the **rights of transgender persons** by promoting **broader LGBTQ+ acceptance**.

💡 **Domestic Violence Act, 2005:** The **Domestic Violence Act** protects **all women**, including **transgender women** (regardless of their **Certificate of Identity**), against **any form of abuse by any family member**.

💡 **Election Commission Directive (2009)** introduced an **"others" option** in voter registration forms, allowing transgender individuals to avoid male or female classification.

💡 **Transgender Persons (Protection of Rights) Act, 2019:** Created a comprehensive legal structure for the protection and empowerment of transgender persons.

✦ Key Provisions Include:

- ✎ **Non-Discrimination Clause:** Prohibits exclusion or unfair treatment in education, employment, healthcare, housing, and access to public services.

- ✎ **Self-Identification:** Recognises the right to self-perceived gender identity, allowing individuals to obtain identity certificates from the District Magistrate without the requirement of medical or psychological assessments.

- ✎ **Healthcare Access:** Mandates provision of gender-affirming medical care, HIV surveillance, and inclusion in public health insurance schemes.

- ✎ **Statutory Institutional Mechanism:** Establishes the **National Council for Transgender Persons (NCTP)** to advise the central government on welfare policies, monitor implementation, and coordinate inter-ministerial efforts.

💡 **Transgender Persons (Protection of Rights) Rules, 2020:** These **Rules** inter alia specify the **procedure** by which a **transgender person** can obtain a **certificate of identity**, **welfare measures** for transgender persons, their **education, social security, health**, and provisions for **non-discrimination**, etc.

What are the Key Challenges Faced by Transgender Persons in India?

💡 **Social Exclusion and Discrimination:** Transgender individuals face widespread **social rejection and bullying** from **family, peers, and society** at large. This **exclusion** leads to **isolation** and **marginalisation**.

- ✦ Nearly **31% of transgender persons** reportedly **die by suicide**, with **50% attempting it before age 20** due to **societal stigma** and **mental distress**.

💡 **Barriers in Education:** The **literacy rate** among **transgender people in India** is around **56.1%**, significantly lower than the **national average** of **74% (2011 Census)**.

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✦ Persistent harassment, bullying, and lack of inclusive infrastructure lead many transgender children to drop out early.

✦ Higher education enrollment remains abysmally low; major central universities reportedly have almost no transgender students or staff.

💡 **Economic Exclusion and Unemployment:** About 92% of transgender persons face economic exclusion (NHRC 2018), with almost half unemployed (48% as per ILO 2022 data).

✦ Discrimination in hiring, hostile workplace environments, and lack of skill training push many toward informal or survival-based occupations, including begging and sex work.

✦ Personal inheritance laws like the Hindu Succession Act (1956), Indian Succession Act (1925), and Muslim Personal Law—recognise only male and female heirs.

📎 They exclude transgender persons, forcing them to follow their assigned sex at birth or forfeit inheritance rights.

✦ Government employment reservations are unevenly implemented, and access to financial services remains limited despite recent circulars.

💡 **Healthcare Challenges:** Transgender persons experience denial of healthcare or negligent treatment.

✦ Nearly 27% reported being refused medical care due to their gender identity (NALSA survey).

✦ Gender-affirming treatments cost between ₹2–5 lakh, often not covered by insurance.

✦ While [Ayushman Bharat TG Plus](#) offers ₹5 lakh coverage annually, accessibility and awareness remain low.

💡 **Political Under-Inclusion and Representation Deficit:** Despite constitutional guarantees and progressive judgments, transgender persons remain largely absent from mainstream politics and decision-making bodies.

✦ Their representation in Parliament, State Assemblies, and local councils is minimal, reducing their ability to influence policies directly affecting them.

✦ The disparity in voting percentages among third gender voters has long been a concern, with only 25% of registered transgender voters turning out to vote in the 2019 Lok Sabha election.

💡 **Legal and Bureaucratic Barriers:** Although the Transgender Persons (Protection of Rights) Act, 2019 exists, only about 65% of applications for transgender identity certificates have been processed by late 2023, with delays often exceeding the 30-day legal timeframe.

✦ Complex bureaucratic procedures hamper self-identification, while police harassment and lack of legal awareness persist.

💡 **Mental Health and Psychological Stress:** Transgender individuals face high rates of mental health disorders due to sustained social trauma.

✦ Studies in Delhi NCR reveal 42.7% of trans women experience moderate to severe depression, and 48% suffer from psychiatric disorders like anxiety and PTSD.

✦ Lack of accessible mental health services exacerbates this crisis.

📎 Nearly 70% to 92% of people with mental disorders in India do not receive adequate treatment, mainly due to a lack of awareness, social stigma, and a shortage of trained professionals.

💡 **Lack of Safe Public Spaces and Facilities:** Transgender persons face challenges accessing basic facilities such as gender-neutral public toilets, safe housing, and secure shelters.

✦ They also confront discrimination in prisons, hospitals, and educational institutions.

📎 The Ministry of Housing and Urban Affairs has issued guidelines under the Swachh Bharat Mission to encourage the construction of separate toilets for transgender persons, however, the implementation remains fairly low.

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- ✦ This lack of **safe spaces** fuels **vulnerability** and limits their **mobility** and **participation** in **public life**.
- ✦ **Garima Greh shelters**, though progressive in intent, face issues like **inadequate funding**, **poor awareness**, and limited state coverage.

Key Measures For Transgender Welfare in India

- 💡 **SMILE Scheme & Garima Greh** provides **rehabilitation**, **skill development**, **healthcare**, and **livelihood support** for transgender persons.
- 💡 **Ayushman Bharat TG Plus** offers **health insurance coverage** for gender-affirming treatments and healthcare needs.
- 💡 **National Portal for Transgender Persons** facilitates **access to schemes**, **services**, and **grievance redressal**.
- 💡 Transgender individuals are included under the **disability pension scheme** with a specific **"transgender" option**.
- 💡 The **Ministry of Home Affairs (2022)** directed prisons to ensure **privacy and dignity** for third-gender inmates.

What Should be the Future Roadmap for Empowering Transgender Persons in India?

- 💡 **Effective Legal Implementation and Sensitisation:** Full and sincere implementation of the **Transgender Persons (Protection of Rights) Act, 2019**, with special focus on **grievance redressal**, **simplified self-identification**, and **training** for **police**, **judiciary**, **healthcare**, and **education officials** on **gender sensitivity**.
 - ✦ For instance, **Delhi's 2025 Transgender Protection Rules** provide a framework for **identity recognition** and **discrimination redressal**.
 - ✦ **Supreme Court** and **NHRC directives** call for widespread **sensitisation** to curb **systemic discrimination**.
- 💡 **Economic Inclusion and Entrepreneurial Support:** Launch **skill development programs** like the **SMILE Scheme**, backed by **entrepreneurship development initiatives** such as the **15-day business training** at

Garima Greh, Delhi (2025), which trains **transgender candidates** in **market surveys**, **finance**, and **regulatory compliance**.

- ✦ **RBI's inclusion of transgender persons under priority sector lending** empowers **financial access**. **Corporate diversity hiring models** such as **Tata Steel's program** can be scaled for large impact.
- ✦ **Karnataka** became the first Indian state to **introduce a 1% reservation** in government jobs for transgender persons.
- ✦ A **World Bank report (2021)** estimates that integrating transgender persons into the workforce could boost India's **GDP by 1.7%**.
 - 📌 Initiatives like **Kineer Services Pvt. Ltd.**, founded by transgender activist **Laxmi Narayan Tripathi**, provides **livelihood opportunities** and **financial empowerment** to promote **economic independence** for India's transgender community.

💡 **Accessible and Gender-Affirming Healthcare:** Establish **dedicated gender affirmation centres** (e.g., **AIIMS Delhi's CoE for Transgender persons**), integrate **gender-affirming treatments** into **Ayushman Bharat TG Plus**, and expand **mental health services** tailored for **transgender needs**.

- ✦ **Leveraging technology** for **telemedicine** and **remote counseling services** expands **reach** among **transgender persons** in **remote and rural areas**, overcoming **geographic** and **social barriers** to care.
- ✦ **Odisha** and **Karnataka's free government surgeries** serve as positive models.
- 💡 **Inclusive Education Policies:** Promote **transgender-friendly school and college campuses** with **gender-neutral toilets**, **anti-bullying policies**, and **support counselling**.
 - ✦ **Maharashtra's transgender cells** in colleges and **Kerala's reservations and hostels** for transgender students highlight **state-level best practices**.

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- ✦ The Supreme Court of India has issued notices to the Centre, NCERT, and six states to ensure transgender-inclusive Comprehensive Sexuality Education (CSE) in school curricula, promoting gender diversity awareness and students' fundamental rights.

💡 **Social Awareness and Cultural Sensitisation:** Conduct nationwide gender-sensitisation campaigns. Promote transgender representation in the media.

- ✦ Support cultural events like the Koovagam Festival and encourage advocacy movements such as "I Am Also Human" that foster acceptance and reduce stigma.
- ✦ Sports can also serve as a powerful medium; for example, India's first all-transgender football team, Ya_All Sports Club, Manipur, promotes inclusion and visibility.
- ✦ Born2Win Social Welfare Trust is a transgender-led organization in Tamil Nadu, India, dedicated to empowering the transgender community through initiatives such as creating positive role models, facilitating education and employment opportunities, and advocating for gender rights.

💡 **Data Collection and Research for Policy Making:** Conduct frequent and inclusive surveys to capture accurate transgender population data and socio-economic status.

- ✦ Use this information for evidence-based policy formulation.
- ✦ Countries like the United States have included transgender identity questions in health and social surveys such as the Behavioural Risk Factor Surveillance System (BRFSS), helping tailor healthcare funding and policies.

💡 **Creating Safe and Inclusive Public Spaces:** Invest in safe shelters such as Garima Greh, accessible public amenities, and anti-discrimination enforcement in public and private spaces.

- ✦ Re-envisioning Garima Greh requires transforming it from a mere shelter into a dynamic empowerment hub.

- ✍ The most transformative step is to integrate the Garima Greh model with the successful SHG framework.

- ✦ Vancouver's Parks Washroom Strategy mandates that public restrooms serve all genders and incorporate accessibility features and India can learn from the same.

Conclusion:

As Dr B.R. Ambedkar aptly remarked, *"Political democracy cannot last unless social democracy lies at its base."* Ensuring the rights and dignity of transgender persons is not merely a matter of legal compliance but a measure of a society's commitment to equality, justice, and inclusivity. Aligning with [SDG 5 \(Gender Equality\)](#) and [SDG 10 \(Reduced Inequalities\)](#), India must move beyond symbolic recognition to create enabling policies, political representation, and social acceptance.

Towards A Representative and Effective United Nations

This editorial is based on "UN@80: Reforms essential for continued relevance" which was published in The Hindustan Times on 20/09/2025. The article brings into picture the UN's 80th anniversary marked by crises and the urgent need for Security Council reform, with India's leadership emerging as pivotal to its future relevance.

Tag: GS Paper - 2, Important International Institutions, Groupings & Agreements Involving India and/or Affecting India's Interests, Effect of Policies & Politics of Countries on India's Interests

As the [United Nations](#) marks 80 years, it confronts profound challenges, ranging from geopolitical conflicts to climate and technological disruptions, that expose the limits of a system designed for a different era. Structural inefficiencies and an outdated [Security Council](#) framework threaten its credibility, making reforms, particularly greater [Global South](#) representation, imperative. In this context, India's advocacy for multilateral transformation assumes critical importance.

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What are the Major Contemporary Challenges Confronting the United Nations?

💡 **Ineffective Veto Power in the Security Council:** The veto power held by the **five permanent members (P5)** of the **UN Security Council** is arguably its single biggest flaw.

- ✖ It allows any one of them to **unilaterally block a resolution**, even if the vast majority of member states support it.
- ✖ This creates a **system where the self-interest of a single powerful nation can override the collective will of the international community**, often leading to diplomatic paralysis during major crises.
- ✖ For example, **Russia has repeatedly used its veto power to block resolutions aimed at ending the war in Ukraine**, while the **United States has used its veto power at least 34 times** to block UN Security Council resolutions that were critical of **Israel**.

💡 **Outdated Structure and Unrepresentative Membership:** The UN's structure, particularly the **Security Council**, reflects the **geopolitical power balance of 1945**, not the 21st century.

- ✖ The **P5- China, France, Russia, the UK, and the US**, are the victors of World War II, resulting in an **over-concentration of power**.
 - 💡 Today, rising powers like **India, Brazil, Germany, and Japan** lack permanent membership, leading to an **unrepresentative body with limited Global South representation** and alienating major global players.
- ✖ Recently, even the **United Nations Secretary-general Antonio Guterres** called for reforming the UN security council (UNSC) to better reflect current global realities, with **India emerging as a pivotal voice in the multilateral system**.

💡 **Inability to Address Modern Conflicts and Humanitarian Crises:** The UN has shown a consistent inability to effectively prevent or respond to large-scale conflicts and humanitarian

disasters, often due to the Security Council's internal divisions.

- ✖ Its **peacekeeping missions** are frequently **under-resourced** and given mandates that are too weak to be effective, as seen in **Bosnia and Rwanda in the 1990s**.
- ✖ In recent years, the **UN's inaction in places like Syria, Sudan, and Myanmar** highlights this systemic failure, with an estimated **300,000 civilians** killed in **Darfur** alone since 2003, despite the UN's presence.

💡 **Financial Dependence and Inequitable Funding:** The UN is heavily dependent on a few major donor countries, primarily the United States, which provides a disproportionately large share of its budget.

- ✖ This creates a leverage point for these nations, allowing them to exert pressure and influence over the organization's policies and operations.
- ✖ The **United States alone contributes approximately 22% of the UN's regular budget** and a **significant portion** of its peacekeeping budget, and it has threatened to reduce or cap its contributions to compel policy changes.

💡 **Bureaucratic Inefficiency and Lack of Accountability:** The UN is widely criticized for its sprawling, complex bureaucracy, which is often slow to respond to crises and suffers from a lack of transparency and accountability.

- ✖ Multiple reports have documented instances of **corruption, sexual misconduct by peacekeepers**, and the misuse of funds within various UN agencies.
- ✖ For instance, a **recent UNDP Annual Audit reported 434 new investigations**, the highest ever, with a significant number relating to **procurement fraud and sexual misconduct**, eroding public trust and undermining the organization's credibility.

💡 **Erosion of Sovereignty and National Interests:** Some nations, particularly those with a more nationalist or isolationist stance, view the UN as a threat to their national sovereignty and a vehicle for globalist agendas.

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✦ They argue that UN resolutions and international laws can force countries to adopt policies that are against their national interests, such as those related to **climate change, immigration, and human rights**.

✦ A recent speech by the **U.S. President at the UN General Assembly** called the organization “feckless” and urged nations to prioritize “**strong borders and traditional energy sources**”.

💡 **Competing Global and Regional Institutions:** The rise of other powerful global and regional organizations, such as the **G20, BRICS, and the African Union**, has provided **alternative forums** for international cooperation, often bypassing the UN.

✦ These groups are seen by many as more agile and representative of contemporary power dynamics.

✦ For instance, the **G20 has taken a leading role in coordinating the global response to economic crises**, a function that was historically within the UN’s purview, further sidelining the **UN’s role in global governance**.

What Role can India Play in Driving UN Reforms?

💡 **Championing a Democratic Security Council:** India, as a member of the **G4 group (Brazil, Germany, and Japan)**, can lead the charge for a more inclusive Security Council.

✦ It can articulate a reform model that expands both the permanent and non-permanent categories to reflect current geopolitical realities.

✦ This approach, which has received broad support from **UN Secretary-General Antonio Guterres**, would correct the historical injustice of an anachronistic P5.

✦ The G4 nations have proposed expanding the **UN Security Council from 15 to 25–26 members**, adding six new permanent seats: **two for Africa, two for Asia-Pacific, one for Latin America and the Caribbean, and one for Western Europe and other states**.

💡 **Advocating for the Global South:** India’s position as a leader of the developing world gives it a unique platform to push for reforms that prioritize the interests of the Global South.

✦ By consistently raising issues like sustainable development, climate justice, and equitable economic growth in UN forums, India can demonstrate the need for a UN that is not dominated by the priorities of the P5.

✦ For instance, at the **2024 G20 summit**, India successfully secured **permanent membership for the African Union**, a move that showcased its commitment to amplifying the voice of the Global South on the global stage.

💡 **Promoting Multilateralism and Dialogue:** In an era of increasing great-power competition and diplomatic gridlock, **India can serve as a voice of reason, promoting dialogue and diplomatic solutions** to international conflicts.

✦ Its principled stance on issues like the **Russia-Ukraine war**, where it has advocated for an end to hostilities through negotiation rather than a military solution, has been noted by world leaders.

✦ The **Indian Prime Minister’s** statement that “**this is not an era of war**” at the **2022 SCO summit** has been widely referenced by UN officials as a call for a return to diplomacy.

💡 **Contributing as a Major Peacekeeper:** India has a long and distinguished history as a major contributor to UN peacekeeping missions, having deployed over **290,000 troops to more than 50 missions since 1950**.

✦ This immense sacrifice and commitment on the ground lends significant moral and political weight to its demand for a greater say in UN decision-making. As of **2024**, India remains among the **largest troop-contributing nations**, with over **5,000 personnel** deployed in active missions, far exceeding the combined contributions of most P5 members.

💡 **Strengthening Counter-Terrorism Frameworks:** As a nation that has long been a victim of terrorism, India can play a leading role in strengthening the

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UN's counter-terrorism framework and ensuring accountability.

- ✦ It can push for a **comprehensive convention on international terrorism** and advocate for the Security Council to take decisive action against states that sponsor or harbor terrorist groups.
- ✦ India has already deepened its cooperation on counter-terrorism efforts by engaging **26 countries through Joint Working Groups on Counter Terrorism**.

What Measures are Needed for Effective and Inclusive UN Reforms?

💡 **Phased Restructuring of the Security Council:** Instead of an all-or-nothing approach, a phased, **two-step reform of the Security Council is needed to overcome political gridlock.**

- ✦ The first phase would involve **expanding the non-permanent membership with longer, more renewable terms** for key regional powers, giving them a more **sustained voice without challenging the P5's veto**.
- ✦ The second phase, to be triggered after a defined period of demonstrable effectiveness, **would introduce a new category of semi-permanent members who would have a greater say on agenda-setting**, thus creating a legitimate pathway to potential permanent membership without requiring a complete overhaul of the Charter immediately.

💡 **Differentiated Veto Mechanism:** To mitigate the paralysis caused by the P5 veto, a new mechanism could be introduced where a veto on a resolution **addressing genocide, war crimes, or crimes against humanity could be overridden.**

- ✦ This **"differentiated veto"** would require a supermajority vote in the General Assembly, such as **two-thirds of all member states, to suspend the veto for that specific resolution.**
- ✦ This would ensure that the UN is not rendered impotent in the face of mass atrocities while still preserving the P5's core power in other areas of international relations.

💡 **Financial Reform and Diversification:** The current funding model, which is heavily reliant on a few major powers, must be diversified to ensure the UN's financial independence and reduce political leverage.

- ✦ This could involve introducing an **internationally levied "solidarity tax" on specific global transactions**, such as financial speculation or carbon emissions.
- ✦ The funds would be **managed in a transparent trust, dedicated to core UN operations and peacekeeping missions**, thus establishing a sustainable and equitable financial foundation for the organization that is not beholden to a handful of donors.

💡 **Overhaul of Bureaucratic and Administrative Structures:** A top-to-bottom administrative and management overhaul is **needed to create a more agile, transparent, and responsive UN.**

- ✦ This includes **decentralizing decision-making authority from New York headquarters to regional hubs**, streamlining the overlapping mandates of various agencies, and implementing a robust, independent performance evaluation system for all senior officials.
- ✦ A **strict code of conduct and a new, independent oversight body with the authority** to investigate and prosecute corruption and misconduct, including among peacekeepers, would restore trust and accountability.

💡 **Enhanced Role of Global South in Agenda-Setting:** The UN can create issue-specific representative forums where the Global South collectively contributes to the agenda before it reaches the General Assembly or Security Council.

- ✦ Such pre-decision consultative platforms would **institutionalize inclusivity in climate, trade, digital governance, and health security debates.**
- ✦ It prevents domination by developed nations and integrates diverse developmental perspectives. By ensuring agenda parity, this reform promotes equitable norm-setting. It strengthens the UN's universal mandate.

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💡 **Strengthening Accountability and Transparency Mechanisms:** Reforms must establish an independent oversight body within the UN to evaluate effectiveness, spending, and fairness in decision-making.

- ✦ **Mandatory performance reviews of peacekeeping operations,** humanitarian interventions, and sanctions regimes will curb misuse and inefficiency.
- ✦ Greater financial transparency in **voluntary contributions** can reduce donor-driven biases.
 - 📌 By enhancing accountability, the **UN can rebuild credibility and trust among smaller nations.** This ensures decisions are more rule-based than power-based.

Conclusion:

As Kofi Annan (Former UN Secretary General) said **"I firmly believe that the council should be reformed: it cannot continue as it is. The world has changed and the UN should change and adapt"**. The United Nations stands at a historic crossroads, where **reform is no longer optional but essential for its relevance and legitimacy.** By embracing inclusivity, accountability, and adaptability, it can transform into a truly representative global institution. India's proactive engagement offers a pathway to bridge divides and amplify the voices of the Global South.

Rethinking Growth Through the Sustainability Nexus

*This editorial is based on **"A 'nexus' approach towards sustainability"** which was published in The Hindu Business Line on 23/09/2025. The article brings into picture the tradeoffs India faces between food security, water, and biodiversity as it races toward the 2030 SDGs. It emphasizes adopting an integrated nexus approach linking agriculture, water, and ecosystems for sustainable and equitable development.*

Tag: GS Paper - 3, Environmental Pollution & Degradation, Inclusive Growth

As India races toward the **Sustainable Development Goals 2030** with just 5 years remaining, the country faces a critical challenge of managing complex tradeoffs between different SDGs, **where progress in food security often compromises water resources and biodiversity conservation.** Traditional development strategies that treat forests, agriculture, and water as separate domains are proving inadequate for India's rapidly changing landscapes and growing environmental pressures. The solution lies in adopting an integrated **"nexus approach"** that acknowledges the intricate linkages between biodiversity, agriculture, and water while prioritizing equity, sustainability, and community participation.

What Progress India has Made Towards Sustainability and Green Growth?

- 💡 **Renewable Energy Transition:** India is at the forefront of a global **renewable energy revolution.** The nation has aggressively pursued its climate action targets by rapidly scaling up its renewable energy capacity, making it a global leader in clean energy deployment.
 - ✦ This is driven by large-scale solar and wind projects, which have made green power increasingly affordable and accessible.
 - ✦ As of **October 2024**, **46.3%** of India's total installed electricity capacity, or **203.18 GW** of **452.69 GW**, came from renewable sources.
 - 📌 This includes a monumental surge in solar power, with installed capacity increasing more than **30-fold** (since 2014) to approximately **94.16 GW** as of November 2024.
- 💡 **Pushing for Electric Mobility:** India is accelerating its transition to electric vehicles (**EVs**) to reduce air pollution and dependence on fossil fuel imports.
 - ✦ The government's **PM E-DRIVE incentives for EV adoption** and the expansion of charging infrastructure, creating a favorable ecosystem for the industry.
 - ✦ This policy push has seen a rapid increase in EV penetration, which has risen from a mere **0.1%** six years ago to nearly **5%** currently, **with two- and three-wheelers leading the charge.**

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- ✦ In a landmark achievement, the **PM Surya Ghar- Muft Bijli Yojana** facilitated the installation of **7 lakh rooftop solar systems**, further mainstreaming sustainable energy.
- 💡 **Sustainable Agriculture and Land Restoration:** India has made significant strides in **sustainable agriculture and land conservation** to protect its biodiversity and enhance carbon sinks.
 - ✦ The **Indian Council of Agricultural Research (ICAR)** launched **109 climate-resilient seed varieties in 2024**.
 - ✦ Government initiatives, such as the **National Mission for a Green India**, focus on restoring degraded forests and promoting agroforestry.
 - ✦ The **India State of Forest Report 2023** highlighted a positive trend, with the **country's total forest and tree cover spanning 25.17% of its land area**, a notable increase from previous years.
 - ✦ This growth has added an estimated **2.29 billion tonnes of carbon sink** since 2005, putting India on track to meet its goal of creating an additional **2.5 to 3 billion tonnes** of carbon sink by 2030.
- 💡 **Comprehensive Water Management:** Recognizing water security as a critical component of sustainable development, India has implemented large-scale initiatives to conserve water and ensure its equitable distribution.
 - ✦ The **Jal Jeevan Mission** aims to **provide safe and adequate drinking water** through individual household tap connections to all rural households.
 - 📌 The mission also mandates **source sustainability measures**, such as rainwater harvesting and greywater management.
 - ✦ The **Namami Gange Mission** has made significant progress in rejuvenating the Ganga River, improving the compliance status of polluting industries along its banks, leading to a substantial reduction in effluent discharge.
- 💡 **Circular Economy and Waste Management:** India is transitioning toward a circular economy by implementing robust policies on waste management and single-use plastics.
 - ✦ The **Plastic Waste Management (Amendment) Rules, 2024** are a **major step towards countering plastic waste** and strengthening the **Extended Producer Responsibility framework** for plastic packaging.
 - ✦ This policy push is complemented by a **growing focus on waste-to-energy projects** and a significant increase in the recycling and utilization of hazardous waste.
 - 📌 India is currently developing the **Bandhwadi plant in Gurugram**, which is set to be **India's largest waste-to-energy (WTE) plant at 25 MW**.
- 💡 **Green Finance and Innovation:** India has established itself as an attractive destination for green finance and is actively promoting innovation in sustainable technologies.
 - ✦ The government has liberalized its foreign direct investment (FDI) policy, allowing **100% FDI under the automatic route for the renewable energy sector**, attracting billions in investments.
 - ✦ Nearly **\$12.67 billion** has been received as **foreign direct investment (FDI)** in the renewable energy sector (as of March, 2025),
 - 📌 This financial and policy support has also catalyzed the development of cutting-edge technologies like green hydrogen, with the **National Green Hydrogen Mission** setting a target of **5 million tonnes** of production by 2030.
 - ✦ India is also expected to **operationalise the India Carbon Market by 2026** under which **13 major sectors** will be given mandatory emission-intensity targets.
- 💡 **Global Climate Leadership:** India has moved from being a passive participant to an active leader in global climate negotiations.
 - ✦ By announcing an ambitious **Net-Zero by 2070** target at **COP26** and launching the **International Solar Alliance (ISA)** and **Coalition for Disaster Resilient Infrastructure (CDRI)**,

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India has shown a strong commitment to global cooperation.

- ✍ This proactive diplomacy has made it a credible voice for climate action and sustainable development.
- ✦ India's efforts have been recognized on the global stage, with its overall score on the **NITI Aayog SDG India Index** improving to **66** in 2020-21, and its rank on the **UN Sustainable Development Goals (SDG) Index** entering the **top 100 for the first time in 2025 (99th rank)**.

What Challenges Confront India's Pursuit of Green Growth and Sustainability?

💡 **Grid Integration and Transmission Bottlenecks:** While India's renewable energy capacity is expanding rapidly, the existing **power grid infrastructure is not equipped to handle the influx of intermittent solar and wind power.**

- ✦ This creates significant grid instability and 'curtailment,' where renewable energy generated is intentionally wasted because the grid cannot absorb it.
- ✦ According to the Institute for Energy Economics and Financial Analysis (IEEFA), **over 50 GW of renewable capacity was stranded as of mid-2025** due to transmission delays and a lack of **power purchase agreements (PPAs), stalling progress in states like Rajasthan.**

💡 **High Dependence on Coal:** India's energy security is still overwhelmingly dependent on **coal**, which remains the primary source for electricity generation.

- ✦ The nation's rapidly growing energy demand for industrialization and urban development makes a complete and swift transition away from coal difficult.
- ✦ Recently, **India's Union Minister for Coal and Mines** stated in September 2025 that **coal continues to account for about 70% of the country's power consumption**, with demand projected to rise further to about **1.6 billion tonnes by 2030.**

- ✍ This continued reliance poses a significant hurdle to India's climate commitments and air quality targets.

💡 **Challenges in Electric Vehicle Adoption:** Despite government incentives, the transition to electric vehicles (EVs) faces significant challenges, particularly a **lack of robust charging infrastructure and high upfront costs.**

- ✦ While **two- and three-wheelers** have seen notable adoption, the market for passenger EVs is still nascent.
- ✦ The high cost of batteries, coupled with insufficient public and private charging stations in tier-2 and tier-3 cities, deters potential buyers.
- ✍ India will require a total of **3.9 million public and semi-public charging stations by 2030**, maintaining a ratio of 1 station for every 20 vehicles.

💡 **Fragmented and Ineffective Waste Management:** India faces a persistent and escalating **solid waste management crisis**, with a large portion of waste ending up in overflowing landfills and open dumps.

- ✦ Despite government rules on waste segregation and plastic bans, implementation remains a major challenge due to a lack of civic awareness, inadequate collection infrastructure, and limited processing capacity.
- ✦ According to the **Ministry of Housing and Urban Affairs**, while **75-80% of waste is collected, only 22-28% is actually processed or treated**, with the remainder contributing to environmental pollution and public health hazards.

💡 **Water Scarcity and Pollution:** Water management is a severe challenge, with a combination of over-extraction, inefficient usage, and widespread pollution straining resources.

- ✦ The agricultural sector, which accounts for over **80% of India's water consumption**, relies heavily on unsustainable groundwater extraction, leading to a drastic depletion of water tables in states like **Punjab and Haryana.**

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✦ Over 600 million Indians face high to **extreme water stress**, with 200,000 deaths annually due to inadequate safe drinking water. (International Centre for Sustainability)

💡 **Vulnerability of Sustainable Agriculture:** The adoption of sustainable farming practices is constrained by **climate change, fragmented land holdings, and over-reliance on chemical inputs**.

✦ The legacy of the **Green Revolution** has led to **soil degradation and water pollution**, while small land sizes make it difficult for farmers to adopt new, technology-intensive methods like precision farming.

📌 **Agricultural Census 2015-16** reported the average size of land holdings in India to be 1.08 hectares, a decrease from 1.15 hectares in the 2010-11 census.

✦ Worryingly, India's drought-prone area has increased by **57% since 1997**, while instances of heavy rainfall have risen by almost **85% since 2012**. (World Bank)

💡 **Hurdles in Green Finance:** Despite increasing interest, the **green finance market in India faces significant hurdles related to high costs, lack of standardized metrics, and limited long-term appetite from domestic investors**.

✦ **Many sustainable projects, particularly in renewable energy and green infrastructure**, have long gestation periods and complex risk profiles that deter conventional lenders.

✦ The lack of a clear, unified **taxonomy for green projects** and the high cost of issuing green bonds continue to limit the scale of financing needed to meet India's ambitious climate targets, creating a substantial financial gap for its green transition.

✦ For instance, as of **December 2024**, India's sustainable debt issuance (including green, social, sustainability, and sustainability-linked bonds) had reached **\$55.9 billion** yet **green bonds still comprise only a small share of the broader bond market**.

How Can India Effectively Advance Its Path Toward Green Growth and Sustainability?

💡 **Decentralize the Renewable Energy Grid:** Instead of a single, centralized national grid, India should focus on creating a network of distributed, **micro-grids** that integrate **local renewable energy sources like rooftop solar and small-scale wind**.

✦ This decentralized approach would increase energy independence, reduce transmission losses, and empower local communities.

✦ By **simplifying the regulatory framework for micro-grids**, the government can enable a bottom-up energy transition that is more resilient and less susceptible to the bottlenecks of large-scale infrastructure projects.

💡 **Implement a Carbon Price and Emissions Trading System:** To internalize the environmental costs of pollution, India should introduce a market-based mechanism like a **carbon price** or a **cap-and-trade system** for major industrial sectors.

✦ This would incentivize companies to reduce emissions by making it financially beneficial to invest in cleaner technologies and production processes.

✦ A predictable and consistent carbon price signal would drive private sector innovation and investment in low-carbon solutions, helping to **decouple economic growth from emissions**.

💡 **Mandate Circular Economy Principles:** India's waste crisis can be addressed by **moving away from a linear "take-make-dispose" model to a circular economy**.

✦ This requires comprehensive policies that mandate product design for durability, repairability, and recycling.

✦ By establishing **Extended Producer Responsibility (EPR)** frameworks across all industries, the government can hold manufacturers accountable for the entire lifecycle of their products, from sourcing to disposal.

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💡 **Invest in Sustainable Public Transport:** To reduce urban air pollution and traffic congestion, India must prioritize and heavily invest in **integrated, low-carbon public transport systems**.

- ✦ This goes beyond just metros and buses; it includes a network of **dedicated bus rapid transit (BRT) corridors**, last-mile connectivity with electric rickshaws and bicycles, and pedestrian-friendly urban planning.
- ✦ By making public transport convenient and reliable, the government can reduce the reliance on private vehicles and their associated emissions.

💡 **Promote Climate-Smart Agriculture:** To secure food production while conserving natural resources, India must champion **climate-smart agriculture**.

- ✦ This involves **promoting practices such as conservation tillage, precision farming with sensor technology**, and diversified cropping systems.
- ✦ By providing farmers with subsidies and training for sustainable practices, the government can improve soil health, reduce water consumption, and make the agricultural sector more resilient to climate shocks.

💡 **Mainstream Green Finance:** India's climate goals require a massive influx of capital, which can be mobilized by making green finance a mainstream investment choice.

- ✦ The government should **create clear taxonomies for what constitutes a "green" project** and offer tax incentives for green bonds and loans.
- ✦ A **Green Investment Bank** could be established to provide low-cost capital and de-risk projects, attracting private and foreign investment and creating a robust, long-term financing ecosystem for the sustainable transition.

💡 **Ensure Integrated Water Resource Management (IWRM):** India must adopt an ecosystem-based approach to water governance by **treating rivers, wetlands, and groundwater as interconnected systems** rather than isolated resources.

✦ This requires decentralized water budgeting at district levels, stricter groundwater regulation, and promotion of water-efficient technologies like drip irrigation.

✦ Urban areas should mandate **rainwater harvesting, wastewater recycling, and "blue-green infrastructure" for sustainable supply**.

📌 By integrating climate resilience into water policies, India can balance equity, efficiency, and sustainability in water use.

💡 **Accelerate "Lifestyle for Environment" Awareness:** Behavioral change is as crucial as policy and technology.

- ✦ India can foster a cultural shift toward sustainability by integrating environmental education into the national curriculum from an early age.
- ✦ The movement **needs to be institutionalized, with a curriculum that teaches resource conservation, waste reduction, and the principles of a low-carbon lifestyle**, empowering citizens to make informed, sustainable choices in their daily lives.

Conclusion:

"Sustainability is not a choice between growth and nature, it is the art of growing with nature." India's path to green growth and sustainability hinges on balancing development with ecological stewardship, equity, and innovation. By embracing integrated solutions, nexus planning, green finance, and climate-smart practices, the nation can turn challenges into opportunities. The journey demands **collective action, resilient institutions, and behavioral transformation**.

Time to Reform Defamation Laws in India

This editorial is based on **"Penalty in proportion: On growing use of criminal defamation proceedings,"** which was published in *The Hindu* on 24/09/2025. This article highlights that criminal defamation is often misused in India, creating hurdles for free expression, and suggests that civil remedies would be a fairer way to protect reputation in a democracy.

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Tag: GS Paper - 2, Judgments & Cases, Judiciary, Fundamental Rights, Government Policies & Interventions.

The **Supreme Court of India** has recently signalled a significant shift in its approach to **criminal defamation**, observing during a hearing that ‘**time has come to decriminalise all this.**’ This remark came while considering a plea by the **Foundation for Independent Journalism**, seeking to **quash summons** issued in a criminal defamation case. The remark reflects concern over the **misuse of defamation laws to intimidate critics and journalists**. It raises a crucial debate on balancing the **protection of reputation** with **free speech** in a **democracy like India**.

What is the Concept of Defamation in Law?

💡 **About:** Defamation refers to any **oral or written statement**, conveyed through words or expressions, that **damages the reputation** of another person.

✦ **Types of Defamation:**

✍ **Libel:** Defamatory statement that is **written, published, or visible**.

✍ **Slander:** Defamatory statement that is **spoken** and causes loss of reputation.

💡 **Legal Basis in India:** **Section 356** of the **Bharatiya Nyaya Sanhita** defines defamation as making or publishing any imputation intending to harm, or knowing it will harm, a person's reputation.

💡 **Constitutional Justification:** Courts locate reputation within **Article 21 (right to life and personal liberty)**, treating reputational harm as affecting social harmony.

💡 **Scope of Offence:** Applies to living individuals, the dead, companies, associations, and includes statements made ironically or by alternatives.

✦ Harm includes lowering moral/intellectual character, caste/calling reputation, creditworthiness, or causing belief that a person's body is in a disgraceful state.

💡 **Civil vs Criminal Defamation:**

✦ **Civil:** Private wrong; remedies include compensation for reputation damage.

✦ **Criminal:** Public offence; punishable by fine or imprisonment to deter malicious attacks.

💡 **Elements for Criminal Liability:** For criminal liability to arise, **three elements** must be present: the **statement must be defamatory**, it must be **directed at a specific person or clearly identifiable group**, and it must be **published or communicated to at least one person other than the claimant**.

✦ Unlike **civil liability**, **criminal law** requires proof of either an **intention to cause harm** or **knowledge that harm is likely to occur**.

What are the Recent Judicial Cases Related to Defamation in India?

💡 **Subramanian Swamy v. Union of India (2016):** The **Supreme Court** upheld the **constitutionality of criminal defamation** under **Sections 499 and 500 of the IPC (now Section 356 of BNS 2023)**, ruling that criminal defamation is a **reasonable restriction on free speech** under **Article 19(2)** and that the **right to reputation** is part of the **right to life** under **Article 21**.

✦ The Court emphasised **balancing freedom of speech** with **protection of individual reputation**, stating “**Reputation of one cannot be allowed to be crucified at the altar of the other's right of free speech**”.

💡 **MJ Akbar v. Priya Ramani (2021):** In a prominent **MeToo case**, the **Delhi court** acquitted **Priya Ramani** of **criminal defamation** charges filed by **MJ Akbar**, holding that the **right to dignity** and **protection from sexual harassment** outweighed Akbar's claim to **reputation**.

✦ **Truth** and **public good** were recognised as valid **defences** in defamation cases.

✦ Similarly, in the recent **Sameer Wankhede v. Netflix & Red Chillies Entertainment** case (Delhi High Court, September 2025), the issue of **defamation** has resurfaced prominently, underscoring the **tension between freedom of expression and the protection of individual reputation**.

💡 **Rahul Gandhi ‘Modi’ Case (2019–Present):** **Rahul Gandhi** was **convicted** by a **Surat Magistrate Court** for remarks made about the “**Modi**” surname, allegedly referring to the **Modi community**.

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✦ His conviction led to temporary disqualification from Parliament, with ongoing appeals to the Supreme Court. This case raised questions on group defamation and political speech.

💡 **Adani Gag Order & Media Injunctions (2025):** A Delhi court recently quashed a gag order restricting journalists from publishing allegedly defamatory content against Adani Enterprises.

✦ The Supreme Court reiterated the “**Bonnard Standard**”, stating that pre-trial injunctions should be rare and only justified if the defendant cannot defend the alleged defamation.

💡 **Supreme Court’s 2025 Observation:** In September 2025, the Supreme Court hinted at the possibility of decriminalizing defamation, suggesting the colonial-era offence might not fit a modern democracy.

✦ The ongoing case involves a JNU professor and ‘The Wire’, with the bench openly debating the relevance and necessity of Section 356 of BNS, previously Section 499 IPC.

What are the Key Arguments in Favour of Decriminalising Defamation in India?

💡 **Protecting Freedom of Speech:** Criminal defamation laws have a “chilling effect” on free speech, inhibiting journalists, whistle-blowers, and citizens from expressing legitimate criticism or dissent resulting in self censorship.

✦ In September 2025, the Supreme Court itself noted that fear of criminal prosecution restricts the exercise of Article 19(1)(a) rights and that civil remedies sufficiently address reputational harm.

✦ The Supreme Court in *Shreya Singhal v. Union of India* (2015) struck down the criminal section on online defamation (**Section 66A of IT Act**) precisely because it was vague and had a chilling effect on free speech.

💡 **Preventing Abuse and Harassment:** Criminal defamation has become a weapon for powerful individuals like politicians, actors, and industrialists to file Strategic Lawsuits Against Public Participation (SLAPP).

✦ Recent examples include multiple FIRs registered against investigative journalists for

reporting on government and corporate conduct, with the Editors Guild noting that even the process of responding to criminal summons acts as a “punishment by process” and suppresses free journalism.

💡 **Reducing Judicial Backlog and Delays:** Defamation trials clog lower courts and consume vast judicial resources for private disputes.

✦ The Supreme Court, while hearing the *Wire-JNU* case in September 2025, observed protracted litigation and delays in thousands of criminal defamation cases, often lasting for years, wasting valuable judicial time that could be reserved for serious offences.

💡 **Safeguarding Press Freedom:** Legal experts highlight that criminal defamation risks gagging the media and stifling democratic debate.

✦ The quashing of criminal cases against *Punjabi Tribune* and *Tribune* editors in April 2025 illustrates that responsible reporting should not be criminalised, especially when journalists face strategic lawsuits designed to silence them.

✦ India is ranked 151st out of 180 countries in the *World Press Freedom Index (2025)*, highlighting significant challenges to journalistic freedom and media independence.

💡 **Upholding Democratic Values:** The Supreme Court, in its recent remark, emphasised that the dignity of reputation should be protected, but not at the cost of democratic pluralism and critical discourse.

✦ Decriminalisation realigns the law with constitutional values of dignity, fraternity, and mutual respect, ensuring neither right is “crucified at the altar” of the other.

💡 **Conformity with Global Standards:** International human rights organisations, including the Committee to Protect Journalists and **UNHRC**, urge India to repeal criminal defamation laws.

✦ Reputational injury is primarily a civil wrong (tort) that can be adequately remedied through monetary damages, injunctions, public apologies, or retractions.

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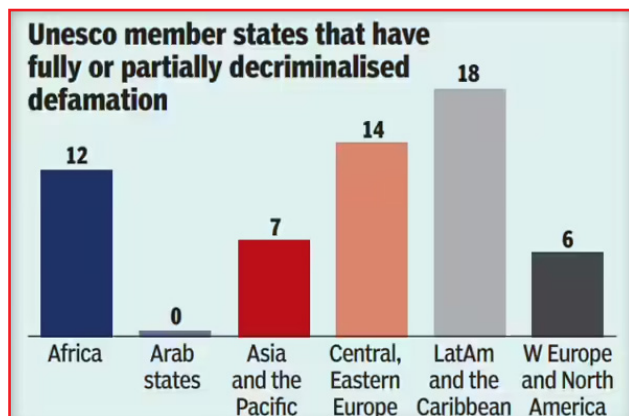
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- ✦ Many countries have **abolished such criminal provisions**, recognising that they disproportionately impact **free media** and **civic activism**.



What are the Key Arguments Against the Decriminalisation of Defamation in India?

- 💡 **Protection of Reputation as a Fundamental Right:** The **Supreme Court**, in **Subramanian Swamy v. Union of India (2016)**, declared that **reputation** is an essential facet of the **right to life** under **Article 21**, and **criminal defamation** is a **reasonable restriction** under **Article 19(2)**.
 - ✦ Maintaining **criminal penalties** helps ensure **rapid redressal** for **unjust attacks on reputation**.
- 💡 **Deterrence against Malicious and Irresponsible Speech:** In the **digital era**, **false information** can spread instantly and irreparably.
 - ✦ **Legal experts** and the **Law Commission (2023)** argued that **criminal law** serves as a **powerful deterrent** against the **deliberate and reckless spread of defamatory content**, helping curb **fake news** and **irreparable harm** to individuals.
 - 📎 **Law Commission of India's 285th Report** recommended **retaining criminal defamation** as a part of **new criminal laws**.
 - ✦ In **SMC Pneumatics v. Jogesh Kwatra (2004)**, the **Delhi High Court** issued the first **Indian cyber defamation injunction**, recognising **defamatory emails** and **internet posts** as actionable under **defamation law**.
- 💡 **Safeguarding from Social Ostracism:** **Civil defamation cases** are **lengthy and costly**, which

can disadvantage **ordinary people** lacking **resources**.

- ✦ **Criminal prosecution**, in contrast, provides a **cost-effective** and **accessible remedy**, empowering those who might otherwise face **social ostracism** or **livelihood loss** due to **damaging rumours**.
- 💡 **Protection of Vulnerable Groups:** **Criminal defamation** can serve as a **safeguard** for **marginalized or vulnerable communities** whose **reputations** are particularly susceptible to harm.
 - ✦ For instance, **defamatory statements** targeting **women, Dalits, or minority groups** can lead to **social stigma** or **harassment**.
 - ✦ **Criminal provisions** ensure **swift accountability** and **redress**, which **civil litigation** might **delay** or make **inaccessible**.
- 💡 **Preserving Public Order:** **Reckless or malicious statements** have the potential to **stoke community unrest** and **escalate conflict**, particularly in India's **socially sensitive climate**.
 - ✦ **Criminal defamation provisions** serve as a **check on such behaviour**, mitigating the risk of **widespread discord** and protecting **public order**.

Which Reforms are Necessary for Defamation Law in India?

- 💡 **Decriminalise Private Defamation, Retain Criminal Defamation for Public Interest:** A **balanced approach** recommended by **legal experts** is to **restrict criminal defamation** only to cases involving **public interest, national security, or public figures**, while shifting **private reputation disputes** entirely to **civil courts**.
 - ✦ This will protect **freedom of speech** for **ordinary citizens** while ensuring **strong deterrents** for **reckless falsehoods** affecting **society**.
 - ✦ Globally, most **democracies** treat **defamation** as a **civil wrong**, with victims seeking **monetary compensation** and **corrective orders**.
- 💡 **Strengthen and Fast-track Civil Defamation Proceedings:** Much of the harm in **defamation** arises from **delayed justice**.
 - ✦ India should introduce **fast-track courts** or **dedicated benches** to handle **civil defamation**

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cases with clear timelines and reasonable compensation limits, thus offering effective and timely remedies without criminalising speech.

- ✦ Countries like the UK have relied on modernised civil laws, alongside Defamation Reform Acts, ensuring balanced protections without the threat of imprisonment.
- 💡 **Introduce Anti-SLAPP (Strategic Lawsuit Against Public Participation) Legislation:** SLAPP suits are used by powerful individuals and corporations to intimidate critics with costly litigation.
 - ✦ Enacting anti-SLAPP laws, as done in jurisdictions such as the US, Canada, and Australia, would protect journalists, activists, and citizens from litigation abuse while allowing genuine defamation claims to proceed.
- 💡 **Provide Specific Judicial Guidelines on Fair Criticism and Public Good:** Drawing from the Supreme Court's observations and international best practices, clear judicial principles should be codified to demarcate fair criticism, satire, and opinion from malicious defamation.
 - ✦ This will help courts to fairly adjudicate defamation while avoiding arbitrary restrictions on speech.
- 💡 **Promote Media Literacy and Public Awareness on Responsible Speech:** Encouraging responsible speech and educating citizens on the distinction between criticism and defamation can reduce frivolous cases.
 - ✦ Government, civil society, and media can collaborate on awareness campaigns, as seen in countries with active civic education, reducing societal tensions and legal disputes.

Conclusion:

Reforming defamation laws in India requires balancing freedom of expression with protection of reputation. As John Stuart Mill argued (in *On Liberty*), "silencing an opinion deprives humanity of the opportunity to exchange error for truth, thereby stifling critical thought and democratic accountability." Thus, decriminalising private defamation, strengthening civil remedies, and enacting anti-SLAPP measures can protect journalists and citizens, foster responsible discourse, and uphold both constitutional freedoms and social justice.

Ladakh's Demand for Statehood & Sixth Schedule Inclusion

This editorial is based on "[Mistrust in Ladakh: On the violence, legitimate aspirations](#)", which was published in *The Hindu* on 26/09/2025. The article examines the September 2025 unrest in Ladakh, where protests over statehood, autonomy, and local rights turned violent, revealing tensions between regional aspirations and the Centre's security priorities.

Tag: GS Paper - 2, Federalism, Cooperative Federalism, Constitutional Amendments, Issues Relating to Development, Issues Related to SCs & STs

The recent violent unrest in Ladakh brought long-standing demands for [Ladakh's statehood](#), recognition under the [Sixth Schedule](#), local autonomy, and rights to the forefront, exposing a critical tension between regional aspirations and national security, and underscoring the urgent need for inclusive dialogue and effective governance in this sensitive region.

What Makes Ladakh Significant for India?

- 💡 **Geopolitical Importance:** Ladakh is also known as "the Land of Passes" (La-passes, dakh-land).
 - ✦ Strategic location at the crossroads of South Asia, Central Asia, and East Asia gives it immense geopolitical significance.
- 💡 **Strategic Significance:**
 - ✦ Serves as a buffer zone between India and neighbouring countries, including China and Pakistan.
 - ✦ Ongoing border disputes with China and Pakistan underscore its importance in safeguarding India's territorial integrity and sovereignty.

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💡 Tourism Potential:

- ✦ Known as **Lama Land** or **Little Tibet**, it is at altitudes between **9,000 feet** and **25,170 feet**.
 - 📌 A notable attraction is the **Hanle Dark Sky Reserve**, one of the **world's highest** and **most pristine sites** for **astronomical observation**, attracting **tourists** interested in **stargazing** and **astrophotography**.
- ✦ Offers **trekking**, **mountaineering**, and **Buddhist tours of monasteries**.

💡 Economic Importance:

- ✦ Possesses **vast untapped economic potential** in **tourism**, **agriculture**, and **renewable energy**.
 - 📌 Recent initiatives promoting **economic growth** in **Ladakh** include hosting the **first phase of the 2025 Khelo India Winter Games**, launching **women entrepreneurship schemes** under the **2025 Union Budget**, expanding **renewable energy projects**, and developing **infrastructure** like **tunnels** and **4G connectivity**.
- ✦ **Pristine lakes** and **majestic mountains** of **Pangong and Tso Moriri** attract **adventure** and **leisure tourism**.

💡 Environmental Significance:

- ✦ **Fertile valleys** and **river basins** offer opportunities for **agriculture**, including **organic farming** and **horticulture**.
 - 📌 Key rivers in Ladakh include the **Indus**, **Zaskar**, **Shyok**, and **Suru** rivers, which support **irrigation** and **sustain local ecosystems**.
- ✦ **Abundant sunlight** and **wind resources** make it suitable for **solar** and **wind energy projects**, supporting India's **renewable energy** goals.

💡 Cultural Significance:

- ✦ Located on the ancient **Silk Route**, vital for **culture**, **religion**, **trade**, and **commerce** in the past.
- ✦ Home to diverse **ethnic communities**: **Ladakhi**, **Tibetan**, and **Balti**, each with **distinct traditions** and **customs**.
- ✦ Centuries-old monasteries like **Hemis**, **Thiksey**, and **Diskit** serve as **spiritual** and **cultural centres**, preserving **ancient Buddhist teachings** and **practices**.



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What are the Main Arguments Supporting Ladakh's Demand for Statehood and Inclusion under the Sixth Schedule?

💡 **Political Autonomy and Democratic Representation:** Ladakh, as a Union Territory without a legislature since 2019, lacks elected representatives and legislative power.

✦ When Ladakh was part of the erstwhile Jammu and Kashmir, the **Ladakh Autonomous Hill Development Council (LAHDC)**, an elected body that governed the region, enjoyed significant autonomy.

✦ But with the region now under the direct rule of the central government, Ladakhi leaders say the **LAHDC has been reduced to footnotes**, leading to a feeling of political dispossession.

💡 **Diminished representation** now has led to fears that outsiders will decide for Ladakh.

✦ **Statehood** would restore full political representation and governance powers, similar to Jammu & Kashmir UT, which has an elected government.

✦ **Sixth Schedule inclusion** would further empower local **Autonomous District Councils** with legislative and executive authority, ensuring decentralised governance.

💡 **Protection of Tribal Identity and Culture:** Over 97% of Ladakh's population belongs to the Scheduled Tribes.

✦ As part of the State of Jammu and Kashmir, Ladakh had enjoyed the privileges of special status under **Article 370** and **Article 35A**.

✦ Inclusion under the **Sixth Schedule** provides constitutional safeguards to protect tribal customs, land rights, and cultural identity, crucial amid fears of demographic dilution after the abrogation of **Article 370**.

💡 **Preservation of Land and Natural Resources:** Ladakh's fragile ecosystem, characterised by high-altitude deserts, glaciers, and alpine meadows, is a hotspot of biodiversity and serves as a crucial habitat for rare and endangered species.

✦ **Climate activists** have flagged concerns regarding mining in the glacial ecology.

✦ Some critics argue that the people in Ladakh are concerned that industries will bring lakhs of people, and this fragile ecosystem cannot support such numbers.

✦ **Careful management of water resources** within Ladakh is vitally important, not only for the livelihoods of Ladakhis and the ecosystems of Ladakh, but also for the health of the whole river system.

✦ **Sixth Schedule councils** possess powers over land use, forest management, and resource regulation, providing a mechanism to ensure sustainable development in ecologically sensitive areas.

💡 **Economic Development Focused on Local Needs:** Statehood combined with Sixth Schedule status promises targeted development funds, enhancing infrastructure, education, employment, and healthcare tailored to Ladakhi priorities.

✦ The current administrative setup has limited capacity for region-specific economic planning.

✦ Ladakh does not have its own Public Service Commission, hindering efficient local recruitment and exacerbating youth unemployment.

✦ Ladakh faces a severe unemployment crisis, with graduate unemployment at 26.5%, more than double the national average, highlighting the urgency for local employment opportunities.

✦ Locals demand strict domicile-based job reservations and greater employment opportunities to tackle regional unemployment.

✦ Constitutional recognition through the Sixth Schedule can institutionalise these protections.

💡 **Ensuring Security and Strategic Autonomy:** Ladakh's position on disputed borders with China and Pakistan requires sensitive governance balancing regional autonomy with national security.

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- ✦ **Statehood** would allow focused **development and governance** while **Sixth Schedule** councils could manage **local affairs** without undermining **military logistics**.

What is the Sixth Schedule?

- 💡 **About:** The **Sixth Schedule** under **Article 244** provides for the formation of **autonomous administrative divisions- Autonomous District Councils (ADCs)**, that have **legislative, judicial, and administrative autonomy** within a state.

- ✦ The Sixth Schedule contains **special provisions** for the **administration of tribal areas** in the four **north-eastern states** of **Assam, Meghalaya, Tripura, and Mizoram**.

MEGHALAYA

- Khasi Hills Autonomous District Council

- Jaintia Hills Autonomous District Council

- Garo Hills Autonomous District Council

MIZORAM

- Chakma Autonomous District Council

- Lai Autonomous District Council

- Mara Autonomous District Council

TRIPURA

- Tripura Tribal Areas Autonomous District Council

ASSAM

- Dima Hasao Autonomous Council

- Karbi Anglong Autonomous Council

- Bodoland Territorial Council

- 💡 **Autonomous Districts Council:** The **tribal areas** in these four states have been constituted as **autonomous districts**. The **Governor** is empowered to **organise and reorganise** the autonomous districts.

- ✦ Each **autonomous district** has a **district council** consisting of up to **30 members**, of whom **4 are nominated by the Governor** and the remaining **26 are elected** on the basis of **adult franchise**.

- 💡 **Powers of the Council:**

- ✦ The **district and regional councils** administer the **areas under their jurisdiction**.
- ✦ They can make **laws** on specified matters like **land, forests, canal water, shifting cultivation, village administration, inheritance of property, marriage and divorce, social customs, etc.**, but all laws require the **assent of the Governor**.

- ✦ They can constitute **village councils or courts** for trial of **suits and cases between the tribes** and hear **appeals** from them. The **jurisdiction of the high court** over these suits and cases is **specified by the Governor**.
- ✦ The **district council** can **establish, construct, or manage** **primary schools, dispensaries, markets, ferries, fisheries, roads, etc.**, in the district.
- ✦ They are empowered to **assess and collect land revenue** and to **impose specified taxes**.

What are the Arguments Against Statehood & Inclusion of Ladakh in the Sixth Schedule?

- 💡 **Concerns over Statehood:** While **statehood** would provide **full legislative powers** and **greater autonomy**, it could also **complicate administrative and security coordination** in the **sensitive border region**, with some fearing it may affect **India's strategic control and diplomatic posture** regarding **China and Pakistan**.

- ✦ **Ladakh's status** as a **Union Territory** reinforces **India's sovereignty** over the region, strengthening its **diplomatic position** in **negotiations with China** over **border disputes**.

- 💡 **Legal and Constitutional Hurdles:** The **Sixth Schedule** of the **Indian Constitution** is explicitly intended for **tribal areas in the Northeast**, while other **tribal areas** are governed under the **Fifth Schedule**.

- ✦ Extending it to **Ladakh** would require a **constitutional amendment**, posing significant **legal and procedural challenges**.

- 💡 **Increased Administrative Complexity and Delays:** Inclusion could add **bureaucratic layers and complexities**, potentially slowing down **decision-making processes** essential for **effective governance** in a **strategically sensitive and remote region**.

- ✦ With **Ladakh** directly governed by a **Lieutenant Governor** appointed by the **central government**, there is a **clear chain of command** for **security operations** in the region.

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- 💡 **Existing Developmental Support:** The Union Territory administration of Ladakh already receives substantial funds and developmental assistance.
 - ✦ The Union Territory administration of Ladakh has increased reservation support significantly in 2025.
 - ✦ According to the Ladakh Reservation (Amendment) Regulation, 2025:
 - 📎 The overall reservation cap was raised from 50% to 85%.
 - 📎 Reservation for Scheduled Tribes (ST) was sharply increased to 80%.
- 💡 **Potential Hindrance to Economic Growth:** Restrictions on land use and resource exploitation inherent in the Sixth Schedule may deter investments and infrastructure projects crucial for Ladakh's socio-economic development, especially given its strategic location and need for enhanced connectivity.
 - ✦ While some groups strongly demand Sixth Schedule inclusion, others prefer strengthening existing local bodies like the Ladakh Autonomous Hill Development Councils (LAHDC), which they see as more practical and less disruptive to governance structures.
- 💡 **Risk of Setting Precedent:** Granting Sixth Schedule status to Ladakh might prompt similar demands from other regionally distinct tribal communities across India, potentially complicating federal governance and constitutional balance.

What Measures can be Adopted to Address Ladakh's Governance and Autonomy Challenges?

- 💡 **Expand Powers of Ladakh Autonomous Hill Development Councils (LAHDCs):** Strengthen legislative, executive, and judicial authority of LAHDCs in Leh and Kargil over local governance, resource management, and cultural preservation.
 - ✦ This builds on existing institutions without requiring constitutional amendments, fostering grassroots democracy and addressing autonomy demands.

- 💡 **Special Legislative Status with Limited Autonomy:** Introduce a dedicated Act of Parliament under Article 240 to grant Ladakh's representatives law-making powers on local matters, while maintaining central control over defence and security.
 - ✦ This hybrid model balances regional aspirations with national strategic interests.
- 💡 **Constitutional Amendment for a Tailored Sixth Schedule Model:** Explore a modified Sixth Schedule framework, inspired by tribal autonomous councils in Northeast India, tailored for Ladakh's ethnic, geographic, and security context.
 - ✦ A joint committee of local leaders and central authorities can draft safeguards, ensuring autonomy with accountability and preventing misuse of powers.
- 💡 **Enhanced Financial Devolution and Development Grants:** Increase direct financial transfers and central grants for infrastructure, healthcare, education, and renewable energy.
 - ✦ Use centrally sponsored schemes and international climate finance mechanisms (e.g., Green Climate Fund) to promote sustainable development in Ladakh's fragile ecology and generate local jobs.
- 💡 **Create a Ladakh Public Service Commission (LPSC):** Establish a separate Public Service Commission to ensure domicile-based recruitment and reservation policies.
 - ✦ With youth unemployment at 26.5% (double the national average), this would enhance local employment equity, prevent economic disenfranchisement, and empower Ladakhi youth participation in governance.
- 💡 **Institutionalised Dialogue and Conflict Resolution Platforms:** Create a permanent consultation forum involving Leh Apex Body (LAB), Kargil Democratic Alliance (KDA), the central government, and security agencies.
 - ✦ Regular dialogues would build trust, conflict resolution, and inclusive planning.
 - ✦ Models from Northeast India's autonomy councils provide practical governance lessons.

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💡 **Fair Trials and Judicious Application of Laws:** To maintain local goodwill, ensure fair judicial processes, transparency, and judicious use of laws like the **National Security Act (NSA)** to avoid alienating the local population and escalating tensions amid the demand for statehood and autonomy.

✦ **Sonam Wangchuk**, a prominent voice advocating for statehood and Sixth Schedule safeguards for Ladakh, has led hunger strikes and protests since 2023, but recently became controversial, accused by the Government of inciting unrest during the 2025 protests and detained under the **National Security Act (NSA)**.

💡 **Protection of Cultural Heritage and Environmental Sustainability:** Adopt legal safeguards to protect languages, traditions, and fragile ecosystems from commercialisation and extractive industries.

✦ Drawing from **Bhutan's Gross National Happiness** and **Nepal's community forestry programs**, policies can ensure balanced development, cultural preservation, and ecological resilience.

Conclusion:

Ladakh's demands for statehood, Sixth Schedule status, and greater autonomy reflect the need for inclusive governance, cultural preservation, and sustainable development while safeguarding national security. A phased, consultative approach—strengthening LAHDCs, ensuring local employment, and promoting ecological balance—offers the best way forward, echoing Gandhi's words: *"The world has enough for everyone's needs, but not enough for everyone's greed."*

Special Intensive Revision Of Electoral Rolls

This editorial is based on "India needs an SIR because of Manmohan Singh government's Aadhaar policies", which was published in The Indian Express on 29/09/2025. The article discusses how the dilution of citizenship criteria in Aadhaar enrolment and its linkage with

electoral rolls has allowed illegal immigrants to infiltrate voter lists, undermining the integrity of Indian democracy and national security, thereby necessitating urgent and comprehensive revision of electoral rolls nationwide.

Tag: GS Paper-2, Representation of People's Act, Government Policies & Interventions

The **Election Commission of India (ECI)** has launched a **Special Intensive Revision (SIR)** of electoral rolls in Bihar, covering **8 crore voters** through fresh enumeration forms. As part of a planned national SIR, all electors are required to resubmit forms and documents, especially those added after the last revision. This **challenging exercise**, given its massive scale and verification workload, will conclude with the publication of the **final electoral roll** ahead of the **Assembly elections**.

What is the Special Intensive Revision of Electoral Rolls?

💡 **About:** SIR is a comprehensive, door-to-door verification and update of electoral rolls undertaken by the Election Commission of India (ECI) to ensure accurate and error-free voter lists.

💡 **Legal Basis:** Conducted under Section 21(3) of the **Representation of the People Act, 1950**, and empowered by Article 324 of the Constitution, allowing the ECI discretionary powers to revise rolls as it deems fit.

💡 **Key Features:**

- ✦ Intensive house-to-house verification by Booth Level Officers (BLOs).
- ✦ Inclusion of eligible voters, deletion of duplicates, deceased, and ineligible names.
- ✦ Submission of documents for residency and citizenship verification.

💡 **Historical Precedent:** Previous SIRs have been conducted intermittently (at least nine times) since the 1950s in various states, reflecting evolving priorities like migration and delimitation.

- ✦ The last SIR in Bihar prior to the ongoing 2025 exercise was conducted in 2003.

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What are Electoral Rolls?

- 💡 **About Electoral Rolls:** The electoral roll, also known as the voter's list, includes every person who is registered to vote in a designated area.
 - ✦ It is **regularly updated** to **add new voters** (typically those who have reached the age of **18**) and **remove individuals** who are **no longer eligible**, such as the **deceased** or those **disqualified by law**.
 - ✦ The **preparation, revision, and maintenance of electoral rolls** are **enshrined in the Constitution of India** (Articles 324, 325, 326) and **governed by the Representation of the People Act, 1950**.
- 💡 **Types of Electoral Roll:**
 - ✦ **General Electoral Roll:** Lists **ordinary voters** for Lok Sabha, State Assembly, and local body elections.
 - ✦ **Service Electoral Roll:** Covers **armed forces personnel** and **government employees** posted outside their place of ordinary residence.
 - ✦ **Overseas Electoral Roll:** For **Non-Resident Indians (NRIs)** who are **eligible** and **wish to vote**.
- 💡 **Electoral Roll Revision:** Electoral roll revision is the process of **updating and correcting the voter list** to ensure its **accuracy and completeness**.
 - ✦ It involves **adding new voters**, **removing names of deceased or disqualified persons**, and **correcting existing entries** before an election.

THE VOTER LIST CLEAN-UP

THERE ARE FOUR KINDS OF ELECTORAL ROLL REVISIONS



INTENSIVE REVISION

Fresh electoral rolls prepared from scratch with 100 per cent door-to-door verification



SUMMARY REVISION

Annual process; updates made based on claims and objections without field verification



PARTLY INTENSIVE AND SUMMARY

Mixed approach. Existing rolls published in draft while officers conduct household verification



SPECIAL REVISION

Done when routine updates are deemed insufficient. Can be attached to other methods



SPECIAL INTENSIVE REVISION: Current Bihar exercise. Not defined in electoral rules; a discretionary method created by the ECI in 2025 to validate voter citizenship

What is the Need for Conducting a Special Intensive Revision of Electoral Rolls?

- 💡 **Correction of Long-Standing Errors:** SIR addresses **accumulated errors and omissions** affecting election integrity.
 - ✦ Bihar's last SIR was in 2003; the 2025 SIR involves **re-verifying nearly 4.74 crore electors** (60% of the state's electorate) to remove inaccuracies and outdated entries.
- 💡 **Elimination of Duplicate and Bogus Voters:** It removes **fraudulent or duplicate entries**, including multiple registrations, preventing **electoral malpractice**.

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✦ By eliminating ghost voters and duplicate entries, the **Special Intensive Revision (SIR)** reinforces the principle of “one person, one vote”, thereby **strengthening public trust in democracy**.

💡 **Inclusion of Newly Eligible Voters:** Ensures millions of first-time voters who turned 18 since the last update are included, boosting **voter participation**.

✦ Bihar's 2025 SIR targets **8 crore voters**, including many first-time voters.

💡 **Alignment with Electoral Boundaries & Population Shifts:** Post-delimitation updates ensure rolls **match official constituency boundaries**, critical for fair representation.

✦ It updates **voter addresses** to reflect population shifts, maintaining **constituency accuracy** and reducing **disenfranchisement of migrants**.

💡 **Transparency and Public Participation:** SIR adheres to **constitutional provisions (Article 326)** and the **Representation of the People Act**, ensuring eligibility and disqualification rules are followed.

✦ Publishing **draft rolls** and inviting **claims and objections** enhances **voter confidence**.

💡 **Addressing Technological & Policy Upgrades:** SIR supports **digital integration** of electoral rolls and facilitates **policy reforms** like **remote voting for migrants** to enhance accessibility and efficiency.

✦ E.g., Bihar became the **first Indian state** to pilot **mobile e-voting** in municipal polls via the **E-SECBHR app**, using **blockchain**, **facial recognition**, **biometric scanning**, and **voter ID verification**.

💡 **Judicial Acceptance:** The Supreme Court in the *Mohinder Singh Gill v. The Chief Election Commissioner Case, 1977*, upheld the ECI's broad powers under **Article 324** to ensure **free and fair elections**, including ordering **re-polls** if needed, and emphasised that **judicial review** is restricted during elections as per **Article 329(b)**.

✦ It clarified that **ECI can act independently** if laws under **Articles 327 and 328** are silent on any aspect.

✎ **Article 327** deals with the power of **Parliament** to make provision with respect to **elections to the Legislature**.

✎ **Article 328** deals with the power of the **Legislature of a State** to make provision with respect to **elections to such Legislature**.

What are the Key Challenges Involved in Conducting a Special Intensive Revision of Electoral Rolls?

💡 **Documentation Barriers for Marginalised Groups:** Vulnerable populations, including **internal migrants, the homeless, and tribal communities**, often lack **formal documents** for voter verification, risking **disenfranchisement**.

✦ The **exclusion of widely used IDs** like **Aadhaar, ration cards**, or even **voter IDs** can disproportionately impact **underprivileged voters**.

✦ Requiring documents such as **birth certificates or legacy records** during electoral roll revisions in India can function as a **de facto citizenship test**, raising serious concerns about the **systematic exclusion of marginalised and minority groups** who often lack such documentation due to **socio-economic and historical reasons**.

💡 **Inclusion of Illegal Immigrants:** Weak verification mechanisms have allowed **illegal immigrants** to be registered, raising **national security concerns**.

✦ **As per CAG's Audit Report of 2021**, Aadhaar numbers stored in the UIDAI database were not supported with documents on the demographic information of the resident, causing doubts about the **correctness and completeness of resident's data** collected and stored by UIDAI prior to 2016.

💡 **Exclusion of Eligible Voters Due to Errors:** Conducting SIR involves **massive fieldwork** with thousands of **Booth Level Officers**; ensuring **adequate training, supervision, and resources**, especially in remote areas, is a major operational challenge.

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- ✦ **Human and system errors** during deletion or verification risk leaving out legitimate voters.
- ✦ Past exercises saw **thousands filing claims** post-revision to restore unenrolled names, indicating procedural gaps.
- ✦ **Data quality and technological limitations, including poor initial data capture, mismatched records, and tech infrastructure gaps,** hinder smooth verification.
 - 💡 UIDAI admitted in 2021 that **Aadhaar data quality** was insufficient for ensuring voter uniqueness.
- 💡 **Political Manipulation Risks:** SIR processes can be **politicised**, with allegations of parties influencing the **inclusion or exclusion of voters** for electoral gains.
 - ✦ It may lead to accusations of **gerrymandering and voter suppression** in sensitive states.
- 💡 **Lack of Adequate Public Consultation:** In Bihar's **2025 Special Intensive Revision (SIR)** of electoral rolls, a key criticism was the **lack of adequate public consultation**.
 - ✦ While the **Election Commission of India (ECI)** allowed political parties to appoint **Booth Level Agents** and invited **claims and objections** on draft rolls, many activists and civil society groups argued that the process was **rushed**, limiting **meaningful public engagement**.
 - ✦ This raised concerns about the **transparency, inclusiveness, and legitimacy** of the SIR, especially given Bihar's **complex socio-economic conditions, floods, and high migration rates**.
- 💡 **Balancing Security with Democratic Rights:** Ensuring **tight enrollment** is critical for **national security**, but it must be balanced with **citizens' voting rights**.
 - ✦ The **Supreme Court** mandates **inclusive processes** while expecting rigorous prevention of fraudulent enrolment, creating a **delicate legal and ethical challenge**.

What Measures can be Adopted to Enhance the Effectiveness and Inclusiveness of the Special Intensive Revision of Electoral Rolls?

- 💡 **Simplify Documentation Requirements:** Accept a range of documents like **Aadhaar, voter ID, and ration cards**, reducing **disenfranchisement** of migrants and marginalised groups.
 - ✦ The **Supreme Court of India** recommended that the ECI should consider widely accepted documents like **Aadhaar, voter ID, and ration cards** for updating the rolls.
- 💡 **Strengthen Verification Mechanisms:** Strengthen verification by deploying **biometric authentication, facial recognition, and AI cross-checks** to ensure accuracy.
 - ✦ Lessons can be drawn from **Bihar's mobile e-voting pilot using blockchain** to curb illegal entries.
- 💡 **Enhance Public Awareness and Outreach:** Conduct **awareness campaigns** and provide **accessible grievance redressal mechanisms** to inform citizens about SIR procedures, deadlines, and documentation needs, effective in states like Kerala and Goa.
 - ✦ In **Canada**, Elections Canada runs **targeted outreach** to Indigenous populations to ensure high participation in electoral roll updates.
- 💡 **Improve Training and Resources for Field Officers:** Equip **Booth Level Officers (BLOs)** with thorough **training, technological tools, and supervision** for accurate door-to-door verification, reducing errors and exclusion.
- 💡 **Encourage Political Party Participation:** **Political neutrality** of the roll process is paramount.
 - ✦ Involving **recognised parties** and their **Booth Level Agents (BLAs)** in monitoring **verification, claims, and objections** ensures that deletions and additions are **not seen as politically motivated**.
 - ✦ Conduct **public consultations** with civil society and citizens to **prevent partisan manipulation, enhance transparency, and ensure inclusive participation**.

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✦ **Germany** allows political parties and independent observers to monitor electoral rolls for transparency.

💡 **Leverage Legal and Judicial Oversight:** Ensure adherence to **constitutional provisions (Article 326)** and the **Representation of the People Act**, supported by **Supreme Court and Election Commission reviews**, safeguarding democratic rights.

✦ Conduct SIR in **phases**, starting with **high-risk areas** with maximum migration or discrepancies, refining methods based on

feedback before full-scale rollout, as in Bihar's 2025 phased launch.

Conclusion:

As political experts note, electoral roll inaccuracies **"inflate the denominator and lead to a downward bias for turnout estimates,"** highlighting the need for **regular and thorough revisions**. To tackle challenges like **documentation gaps, duplicate entries, and political manipulation**, the Election Commission should implement **simplified verification, biometric authentication, public awareness campaigns, and phased rollouts** of a **credible SIR process** for participatory elections.



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Drishti Mains Questions

1. Discuss the role of India–Japan relations in shaping the emerging Indo-Pacific security architecture. How do their divergent strategic philosophies act as both a challenge and an opportunity?
2. India's participation in the Shanghai Cooperation Organisation (SCO) reflects both opportunities for regional engagement and constraints due to geopolitical rivalries. Discuss the key challenges India faces in the SCO framework and suggest strategies to leverage the platform for advancing its national interests.
3. "India's semiconductor sector stands at the crossroads of opportunity and vulnerability — with rising investments, strategic global alignments, and persistent structural challenges." Discuss in the context of India's ambition to emerge as a global chip manufacturing hub by 2030.
4. India's maritime sector, with its vast coastline, strategic location, and ambitious reforms under Maritime India Vision 2030, holds the potential to drive economic growth, sustainability, and global connectivity. Examine the key opportunities it offers while analyzing the major challenges that need to be addressed to make India a global maritime hub
5. With intensifying extreme weather events, India's climate risk landscape is undergoing a fundamental transformation. Suggest a roadmap for building long-term climate resilience while aligning with the Sustainable Development Goals.
6. Amidst robust GDP growth, India continues to face mounting geo-economic headwinds such as protectionist trade policies and supply chain disruptions. Critically examine the key challenges confronting the Indian economy in this environment.
7. India's pursuit of strategic autonomy is often described as a balancing act between sovereignty and global integration. Critically examine how this stance shapes India's foreign policy choices, highlighting both its strengths and limitations.
8. Discuss the significance of critical minerals in India's clean energy transition. How can recycling serve as a complementary pathway to traditional mining?
9. Women's empowerment in India requires moving beyond welfare-oriented schemes to systemic, multi-dimensional reforms. Critically examine this statement in the context of recent policy measures and socio-economic challenges.
10. Discuss the strategic importance of technological sovereignty for India in the 21st century. How does it intersect with national security, economic resilience, and geopolitical autonomy?
11. "The Northeast region of India is often described as both a geopolitical gateway and a developmental challenge. Critically analyze the significance of the region for India's strategic, economic, and cultural interests, while discussing the major challenges impeding its integration with the national mainstream.
12. India has progressive disability rights laws, yet persons with disabilities (PwDs) face persistent barriers in inclusion and empowerment. Critically analyze.

Drishti Mains Questions

13. "Rising protectionism poses significant challenges for emerging economies like India." Discuss the vulnerabilities of India's export sector in this context and evaluate the effectiveness of recent policy responses.
14. "Mental health has been recognised as a constitutional right under Article 21." Discuss the challenges and measures to strengthen mental healthcare in India.
15. GST 2.0 represents a paradigm shift in India's indirect tax regime. Critically analyze the rationale behind these reforms and evaluate their potential in overcoming structural challenges.
16. Examine the key factors contributing to frequent disasters in the Indian Himalayan Region. Suggest effective measures to enhance disaster resilience and preparedness in this fragile ecosystem.
17. "Instability in India's neighbourhood poses both immediate security risks and long-term strategic challenges." Discuss with reference to recent political and economic developments in South Asia.
18. The India-EU partnership is entering a pivotal phase with global economic and strategic significance. Examine the main objectives of the India-EU Strategic Agenda and its implications for India's position in a multipolar world.
19. "The Saudi-Pakistan defence pact highlights the shifting security landscape of West Asia with implications for South Asia." In this context, discuss how India can safeguard its interests and reinforce its role as a stabilising force in a multipolar world.
20. Examine the strategic role of manufacturing in achieving long-term economic resilience and export competitiveness. What institutional and policy measures are needed to fully realise India's potential as a global manufacturing hub?
21. Examine the key legal and policy measures safeguarding transgender rights in India. Suggest measures to promote their social, economic, and political inclusion in the country.
22. In the light of rising multipolarity and emerging powers, discuss how the UN can balance representation and decision-making authority among developed and developing nations.
23. India aspires to achieve rapid economic growth while also ensuring environmental sustainability. In this context, critically examine the challenges in India's green growth pathway and suggest measures to effectively balance development with sustainability.
24. Criminal defamation laws in India have often been criticized for their chilling effect on free speech. How can India balance the constitutional right to free speech with protection of reputation through defamation law reforms?
25. The call for Sixth Schedule status in Ladakh reflects the tension between tradition and modernity. Evaluate whether replicating Northeast India's tribal autonomy models is constitutionally, politically, and administratively feasible in Ladakh.
26. Accurate voter lists are vital for free and fair elections. Examine how the Special Intensive Revision (SIR) can improve electoral accuracy and inclusiveness in India.