



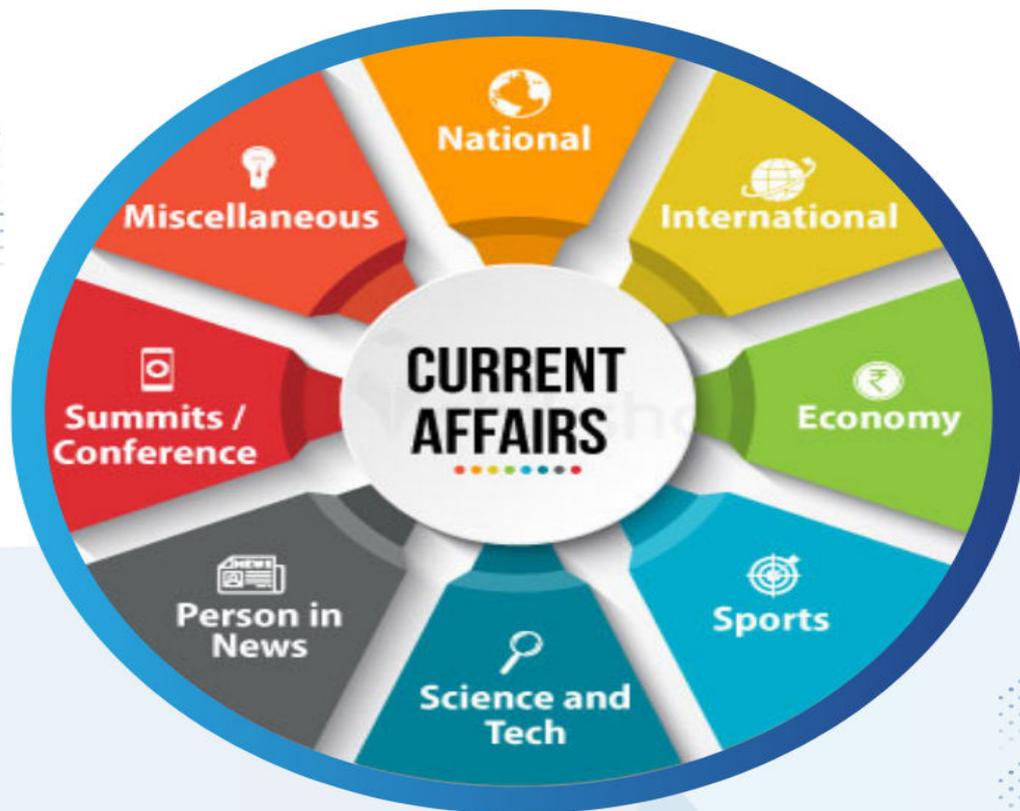
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VIDHVATH IAS KAS ACADEMY & STUDY CENTRE

DAILY CURRENT AFFAIRS

FOR UPSC CIVIL SERVICE EXAMINATION

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1. India-U.S. Trade Deal: Key Outcomes and Strategic Implications

The recent trade agreement between India and the United States marks a significant shift in bilateral economic relations, focusing on tariff rationalization while safeguarding domestic sensitivities.

Executive Summary

- **Exclusion of Sensitive Sectors:** India has successfully kept the **agriculture and dairy sectors** out of the deal's ambit, ensuring that domestic farmers and local producers are protected from high-volume American imports.
- **Rationalization of Reciprocal Tariffs:** The U.S. has agreed to reduce its "reciprocal" tariffs on Indian goods from **25% to 18%**, aimed at enhancing the competitiveness of Indian exports in the American market.
- **Removal of Penalty Tariffs:** A major breakthrough includes the total removal of the **25% "penalty" tariffs** previously imposed by the U.S. on India due to its continued import of Russian oil.
- **Focus on Labour-Intensive Sectors:** The deal is specifically designed to benefit high-employment sectors, such as textiles, leather, and gems and jewelry, by lowering entry barriers into the U.S.
- **Energy Diversification Undercurrents:** While details remain in the "final stages," the deal hints at a strategic shift in energy procurement, potentially involving increased oil purchases from the U.S. and Venezuela.
- **Parliamentary Accountability:** The Union Commerce Minister noted that while official details are pending the final "inking" of the deal, the government intends to maintain transparency despite recent domestic political disruptions.



Key Definitions

- **Reciprocal Tariffs:** A trade policy where a country applies the same tariff rates on imports as its trading partner applies to its exports.
- **Sensitive Sectors:** Industries or products (like agriculture in India) deemed critical to national interest, food security, or livelihoods, which are protected from full liberalization in trade deals.
- **Labour-Intensive Sectors:** Industries where the ratio of labor to capital is high, meaning they require a large workforce (e.g., MSMEs, handicrafts).

Constitutional and Legal Provisions

- **Article 73:** Extends the executive power of the Union to matters with respect to which Parliament has the power to make laws, including entering into international treaties.
- **Article 253:** Empowers Parliament to make any law for the whole or any part of the territory of India for implementing any treaty, agreement, or convention with any other country.
- **Union List (Entry 41):** Under the Seventh Schedule, "Trade and commerce with foreign countries; import and export across customs frontiers" falls exclusively under the Union's jurisdiction.
- **Collection of Statistics Act, 2008:** Often utilized to monitor the impact of trade flows on domestic industries to justify the "Sensitive Sector" status.



UPSC Relevance

- **GS Paper II:** Bilateral, regional, and global groupings and agreements involving India and/or affecting India's interests.
- **GS Paper III:** Indian Economy and issues relating to planning, mobilization of resources, growth, development, and employment; Effects of liberalization on the economy.
- **Prelims Focus:** Terms like Reciprocal Tariffs, Generalized System of Preferences (GSP), and the role of the Ministry of Commerce and Industry in international negotiations.

Conclusion

The India-U.S. trade deal represents a pragmatic "middle-path" approach by the Indian government. By securing tariff concessions on one hand and shielding the vulnerable dairy and agricultural sectors on the other, India is attempting to integrate more deeply into Global Value Chains (GVCs) without compromising its socio-economic stability. The resolution of the "oil-penalty" issue further suggests a maturing of the bilateral relationship, where strategic differences are decoupled from economic cooperation.

2. Resolution Against VB-GRAM G: Federal and Social Implications

The Karnataka Legislative Assembly recently passed a resolution opposing the Union Government's new employment scheme, highlighting a deepening friction between the Centre and States regarding social security and federal autonomy.

Summary of Key Developments

- **Rejection of VB-GRAM G:** The Karnataka Assembly has formally expressed "serious opposition" to the Viksit Bharat-Guarantee for Rozgar and Aajeevika Mission (Gramin) Act, 2025, calling for its immediate annulment.
- **Demand for MGNREGA Restoration:** The resolution urges the Central Government to fully restore the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), 2005, which it claims has been effectively dismantled by the new legislation.
- **Concerns Over Decentralization:** A primary grievance is that the new Act allegedly snatches the powers and rights of Village Panchayats, undermining the 73rd Constitutional Amendment's vision of local self-governance.
- **Fiscal Burden on States:** The state government argues that the VB-GRAM G framework shifts a "serious burden" onto the State exchequer, potentially altering the traditional 60:40 or 90:10 funding patterns of centrally sponsored schemes.
- **Right to Life and Livelihood:** The resolution frames the issue as a violation of the "right to life" for the rural poor, viewing the previous MGNREGA as a critical safety net or "elixir of life" for those in distress.
- **Federal Friction:** The move underscores a growing trend of states using legislative resolutions to challenge central laws that overlap with subjects in the Concurrent List or affect state finances.

Key Definitions

- **VB-GRAM G Act:** The Viksit Bharat-Guarantee for Rozgar and Aajeevika Mission (Gramin), a 2025 legislation aimed at restructuring rural employment schemes.
- **Legislative Resolution:** A formal expression of the opinion or will of a legislative body, which, while not always legally binding on the Centre, carries significant political and moral weight.



- **Decentralization:** The transfer of authority and responsibility for public functions from the central government to subordinate or quasi-independent government organizations or local authorities.

Constitutional and Legal Provisions

- **Article 21:** The Right to Life and Personal Liberty. The judiciary has often interpreted the "right to work" (as seen in MGNREGA) as an essential component of a dignified life under this Article.
- **Article 246 & Seventh Schedule:** Addresses the distribution of legislative powers. While "Social Security" is in the Concurrent List (Entry 23), "Local Government" is a State Subject (Entry 5).
- **73rd Constitutional Amendment Act, 1992:** Mandates the devolution of powers to Gram Panchayats. The resolution argues that VB-GRAM G bypasses these local bodies.
- **Article 252:** Relates to the power of Parliament to legislate for two or more States by consent, though centrally sponsored schemes often operate under the Union's spending power.

UPSC Relevance

- **GS Paper II:** Issues and challenges pertaining to the federal structure; Devolution of powers and finances up to local levels and challenges therein; Welfare schemes for vulnerable sections.
- **GS Paper III:** Indian Economy and issues relating to planning, mobilization of resources, and employment.
- **Ethics (GS IV):** The ethical obligation of the State to provide a social safety net versus fiscal prudence.

Conclusion

The standoff in the Karnataka Assembly is a classic example of the "Executive Federalism" vs. "Cooperative Federalism" debate in India. While the Centre seeks to modernize rural employment through the VB-GRAM G Act, states argue that such top-down restructuring erodes the autonomy of Panchayati Raj Institutions and imposes unfair financial liabilities. The resolution signals that the transition from the rights-based MGNREGA framework to new missions will likely face rigorous legal and political scrutiny regarding its impact on the grassroots democratic fabric.

3. Anti-Drug Padyatra in Punjab: Governor's Call for a 'Jan Andolan'

Punjab Governor Gulab Chand Kataria is set to lead a high-profile anti-drug awareness campaign starting February 9, focusing on the strategic border districts to combat substance abuse through community mobilization.

Key Highlights of the Campaign

- **Border District Focus:** The intensive campaign centers on a four-day *padyatra* (foot march) covering the critical districts of **Tarn Taran, Ferozepur, and Fazilka**, which share an international border with Pakistan and are highly vulnerable to narco-smuggling.
- **Multi-Pillar Strategy:** The Governor emphasized that while law enforcement is necessary, the fight must rest on the pillars of **rehabilitation, employment generation, and public awareness** to ensure long-term success.
- **Institutional Support:** The initiative is being spearheaded in collaboration with the **Punjab Red Cross Society**, aiming to transform the state's struggle against drugs from a government policy into a mass movement (*Jan Andolan*).



- **Cross-Border Menace:** The campaign addresses the evolving threat of "Narco-Terrorism," where drones are increasingly utilized to drop narcotics and weapons across the border, necessitating heightened community vigilance.
- **Inclusive Mobilization:** Invitations have been extended to all political parties, educational institutions, and NGOs, underscoring that drug abuse is a global challenge that transcends local political divides.
- **Administrative Leadership:** Since taking office, Governor Kataria has proactively used the gubernatorial platform to lead several such awareness walks, including previous marches in the Doaba and Amritsar-Gurdaspur regions.

Key Definitions

- **Padyatra:** A traditional Indian method of foot march used to connect directly with the masses for social or political mobilization.
- **Narco-Terrorism:** The use of drug trafficking to fund or support terrorist activities, often involving cross-border smuggling networks.
- **Village Defence Committees (VDCs):** Local community-based groups formed to assist security forces in monitoring suspicious activities, particularly in border areas.

Constitutional and Legal Provisions

- **Article 47 (Directive Principles):** Mandates that the State shall endeavor to bring about prohibition of the consumption (except for medicinal purposes) of intoxicating drinks and of drugs which are injurious to health.
- **Article 163:** While the Governor acts on the aid and advice of the Council of Ministers, as the Constitutional Head, they often play a "persuasive" and "moral" role in social welfare initiatives.
- **NDPS Act, 1985:** The Narcotic Drugs and Psychotropic Substances Act is the primary central legislation used to curb drug trafficking and provide for the rehabilitation of addicts.
- **Seventh Schedule (Concurrent List):** Both the Centre and States have the power to legislate on issues related to drugs and poisons (Entry 19).

UPSC Relevance

- **GS Paper II:** Role of the Governor in state administration; Welfare schemes for vulnerable sections; Issues relating to the development and management of Social Sector/Services relating to Health.
- **GS Paper III:** Internal Security challenges (Narco-terrorism); Role of external state and non-state actors in creating challenges to internal security; Border area management.
- **Ethics (GS IV):** Role of leadership in social change; Persuasion and social influence in public health crises.

Conclusion

The Governor's *padyatra* serves as a bridge between the constitutional machinery and the grassroots, highlighting the "Soft Power" of the gubernatorial office in addressing social evils. By focusing on border districts, the campaign simultaneously addresses a public health crisis and an internal security threat. The success of such missions depends on the effective synergy between strict enforcement by agencies like the BSF and Punjab Police, and the socio-economic reintegration of youth through skill development and employment.



4. Establishment of Uttarakhand State Minority Education Authority

The Uttarakhand government has officially constituted the **Uttarakhand State Minority Education Authority**, a significant step toward modernizing and streamlining minority education while phasing out the traditional Madrasa Board system.

Key Developments and Features

- **Dissolution of Madrasa Board:** The primary objective is to replace the **Uttarakhand Madarsa Education Board Act, 2016**, with a unified authority. The madrasa board is scheduled to be fully abolished by **July 2026**.
- **Unified Regulatory Framework:** All minority educational institutions, including madrasas, will now come under the ambit of this new Authority. This integrates them into a single administrative umbrella rather than having separate rules for different minority groups.
- **Mainstreaming Curriculum:** The Authority is tasked with deciding the syllabus, ensuring that minority institutions align with the **National Curriculum Framework (NCF)** and the **National Education Policy (NEP) 2020**.
- **Broadened Minority Scope:** Moving beyond a focus solely on Muslim institutions, the new law formally encompasses educational bodies from **Sikh, Christian, Buddhist, Jain, and Parsi** communities, granting them equal status and recognition.
- **Authority Composition:** The 12-member body is headed by **Surjit Singh Gandhi** and includes ex-officio members such as the Director of Minority Welfare and the Director of State Educational Research.
- **Recognition and Affiliation:** Every minority-run school must now obtain recognition from this Authority and subsequently affiliate with the **Uttarakhand Board of School Education** for standardized examinations and evaluations.



Key Definitions

- **Minority Educational Institution:** Under the new Act, this refers to any educational facility established and administered by a religious or linguistic minority community (as defined by the State) and recognized by the Authority.
- **National Curriculum Framework (NCF):** A comprehensive guideline for school education in India that ensures quality, standards, and holistic development across different academic levels.

Constitutional and Legal Provisions

- **Article 30:** Grants all minorities, whether based on religion or language, the right to **establish and administer** educational institutions of their choice. The State's regulatory intervention must balance this right with the maintenance of educational standards.
- **Article 21A:** Mandates the State to provide free and compulsory education to all children aged 6 to 14. Mainstreaming madrasas is often cited as a move to fulfill this constitutional obligation.
- **Uttarakhand Minority Education Bill, 2025:** The legislative bedrock that repeals previous madrasa-specific laws and creates the legal mandate for the new Authority.



- **Entry 25 (Concurrent List):** Education, including technical and medical education and universities, falls under the Concurrent List, allowing both Centre and States to legislate.

UPSC Relevance

- **GS Paper II:** Mechanisms, laws, institutions, and Bodies constituted for the protection and betterment of vulnerable sections; Welfare schemes for minorities; Issues relating to the development and management of Social Sector/Services relating to Education.
- **GS Paper I:** Social Empowerment, Communalism, and Secularism.
- **Prelims Focus:** Specifics of the Minority Education Authority, the definition of minorities under Indian law, and the 2025 Uttarakhand legislation.

Conclusion

The creation of the State Minority Education Authority represents a pivotal shift in Uttarakhand's educational policy, aiming to replace a fragmented system with a standardized, quality-oriented framework. By mandating affiliation with the State Board and the adoption of modern curricula, the state seeks to bridge the gap between traditional religious education and mainstream career opportunities. However, the move also sparks significant debate regarding the "autonomy" of minority institutions versus the "regulatory" power of the state, a balance that remains central to India's secular and federal fabric.

5. Uttarakhand Opens 83 Himalayan Peaks: A Strategic Push for Adventure Tourism

In a landmark decision to position the state as a global mountaineering hub, the Uttarakhand government has opened 83 high-altitude Himalayan peaks for expeditions, while simultaneously removing financial hurdles for domestic climbers.

Key Highlights of the Initiative

- **Expanded Access:** The government has opened 83 peaks across the Garhwal and Kumaon regions, ranging in altitude from **5,700m to 7,756m**. Notable summits include **Mount Kamet (7,756m), Nanda Devi East, Trishul, Chaukhamba, and Shivling**.
- **Fiscal Incentives for Indians:** In a major boost for domestic climbers, the state has waived all expedition-related charges, including **peak fees, camping fees, and environmental fees**. These costs, previously collected by the IMF and Forest Department, will now be absorbed by the state.
- **Streamlined Digital Governance:** All expedition applications will now be processed via the **Uttarakhand Mountaineering Permission System (UKMPS)**, a single-window digital portal designed to ensure transparency and eliminate procedural bottlenecks.
- **Foreign Climber Policy:** For international expeditions, state-level additional fees have been abolished. Foreign mountaineers are now required to pay only the standard fees prescribed by the **Indian Mountaineering Foundation (IMF)**.
- **Socio-Economic Goals:** The initiative aims to curb migration by generating local employment for guides, porters, and homestay operators in remote border villages, integrating these regions into the mainstream tourism economy.
- **Eco-Conservation Focus:** While promoting adventure, the government has mandated strict adherence to the **"Leave No Trace"** principle and environmental safety protocols to protect the fragile Himalayan ecosystem.





Key Definitions

- **Nanda Devi East (Sunanda Devi):** The lower of the two peaks of the Nanda Devi massif (7,434m). While Nanda Devi Main (7,816m) remains restricted due to its UNESCO World Heritage status and religious sanctity, the East peak is open for regulated climbing.
- **Peak Fee:** A statutory charge levied by government or mountaineering bodies for the right to climb specific high-altitude summits.
- **Narco-Tourism vs. Eco-Tourism:** While the state battles drug issues (as seen in separate campaigns), this policy focuses on **Eco-Tourism**—responsible travel to natural areas that conserves the environment and improves the well-being of local people.

Constitutional and Legal Provisions

- **Article 48A:** Directs the State to endeavor to protect and improve the environment and to safeguard the forests and wildlife of the country.
- **Seventh Schedule (State List, Entry 24):** Fisheries, but more broadly, the state utilizes its powers over "Land" and "Economic and Social Planning" (Concurrent List) to regulate mountain tourism.
- **National Forest Policy, 1988:** Provides the framework for maintaining environmental stability through the preservation and restoration of ecological balance, which guides the "Leave No Trace" mandate.

UPSC Relevance

- **GS Paper I:** Geographical features and their location-changes in critical geographical features and their effects.
- **GS Paper III:** Economics (Infrastructure: Energy, Ports, Roads, Airports, Railways etc. - Tourism is a key service infrastructure); Environment (Conservation, environmental pollution, and degradation).
- **Prelims Focus:** Locations of major peaks (Kamet, Trishul, Panchachuli), the role of the Indian Mountaineering Foundation (IMF), and state-specific portals like UKMPS.

Conclusion

The opening of 83 peaks marks a strategic transition from "restricted conservation" to "sustainable utilization" of Uttarakhand's mountain assets. By waiving fees for Indian nationals, the state is democratizing adventure sports, fostering a new generation of mountaineers while strengthening the "Vibrant Villages" initiative along the international borders. Success will hinge on balancing the surge in human footfall with the extreme ecological sensitivity of the high Himalayas.

6. Union Budget 2026-27: 'Turtle Trails' and Conservation Concerns

The Union Budget's proposal to develop 'Turtle Trails' along key nesting sites in **Odisha, Karnataka, and Kerala** has sparked a debate between promoting eco-tourism and ensuring the non-interference of sensitive wildlife habitats.

Summary of Key Developments

- **Budgetary Initiative:** The government has proposed the establishment of 'Turtle Trails' to boost sustainable eco-tourism, aiming to position India as a global destination for nature enthusiasts.



- **Geographic Coverage:** The project focuses on prominent Olive Ridley nesting grounds, including the **Rushikulya** and **Gahirmatha** rookeries in Odisha, as well as several beaches along the Malabar (Kerala) and Konkan (Karnataka) coasts.
- **Conservationist Skepticism:** Experts argue that mass nesting sites, known for the rare phenomenon of **Arribada**, require absolute tranquility. They fear that light pollution and physical infrastructure from tourism will disorient turtles.
- **Human Impact vs. Nature:** Skeptics point to the 'Chilika model' where unregulated dolphin tourism has disturbed the Irrawaddy dolphin habitat, cautioning that similar "anthropogenic pressure" could ruin turtle breeding patterns.
- **Alternative Demands:** Researchers emphasize that rather than tourism infrastructure, the government should prioritize **robust enforcement**, such as functional speed boats for monitoring illegal trawling during the mating season.
- **Strategic Restrictions:** Access to sites like Gahirmatha is already restricted due to its proximity to the **Integrated Test Range (ITR), Chandipur**, illustrating that security and conservation have historically superseded tourism in these zones.



Key Definitions

- **Arribada:** A Spanish term meaning "arrival by sea," referring to the unique mass nesting behavior of Olive Ridley and Kemp's Ridley sea turtles where thousands of females come ashore simultaneously.
- **Anthropogenic Pressure:** Environmental stress or degradation caused by human activities, such as construction, waste generation, or artificial lighting.
- **Turtle Excluder Device (TED):** A specialized attachment for fishing nets that allows sea turtles to escape being caught as bycatch.

Constitutional and Legal Provisions

- **Wildlife Protection Act, 1972:** Olive Ridley turtles are listed under **Schedule I**, granting them the highest degree of legal protection. Harming them or their eggs carries severe penalties.
- **Article 48A:** A Directive Principle of State Policy (DPSP) that mandates the State to protect and improve the environment and safeguard the wildlife of the country.
- **Article 51A(g):** A Fundamental Duty of every citizen to protect and improve the natural environment, including forests, lakes, rivers, and wildlife.
- **National Marine Turtle Action Plan (2021-2026):** A policy framework by the Ministry of Environment, Forest, and Climate Change (MoEFCC) focusing on habitat protection and community-led conservation.

UPSC Relevance

- **GS Paper III:** Conservation, environmental pollution, and degradation; Environmental impact assessment.
- **GS Paper II:** Government policies and interventions for development in various sectors and issues arising out of their design and implementation.
- **Prelims Focus:** Location of Gahirmatha and Rushikulya; IUCN status (Vulnerable); the role of the Indian Coast Guard's '**Operation Olivia**'.



Conclusion

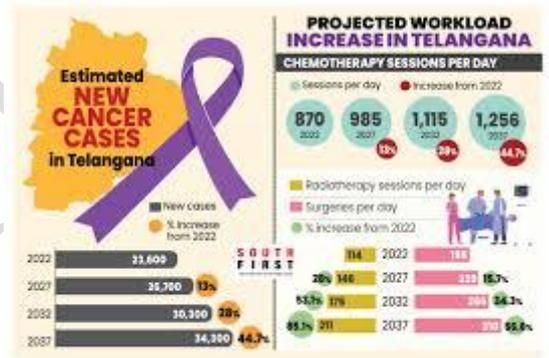
The 'Turtle Trail' initiative represents the complex challenge of balancing livelihood generation through eco-tourism with the ecological necessity of "no-go" zones. While the intent is to foster environmental awareness, the biological sensitivity of Olive Ridleys—who are highly susceptible to light and sound—means that any development must be secondary to scientific conservation. For the project to succeed, it must transition from a "tourism trail" to a "conservation trail," where local communities are engaged as 'Turtle Guardians' rather than just tour operators.

7. Cancer Burden in Telangana: Trends, Challenges, and Public Health Response

Data presented in the Lok Sabha indicates a significant rise in cancer cases in Telangana over the last decade, transitioning from 40,177 in 2015 to 52,334 in 2024. While the numbers signal a growing health crisis, experts highlight a positive shift toward early-stage detection.

Summary of Key Developments

- **Rising Statistical Trend:** Telangana has seen a **30% increase** in cancer cases over nine years, reaching over 52,000 annual cases in 2024, reflecting both a real rise in incidence and improved reporting.
- **Shift to Early Detection:** For the first time, oncologists report a higher proportion of patients seeking medical advice at **Stages 1 and 2**, rather than the traditionally late presentations at Stages 3 or 4.
- **Prevalence of Lifestyle Cancers:** Head and neck cancers remain the most common among men due to **tobacco use**, while breast cancer has emerged as the leading malignancy among women in the region.
- **Institutional Pressure:** The MNJ Institute of Oncology in Hyderabad, a premier regional cancer center, now registers approximately **100 new cases daily**, serving patients across Telangana and Andhra Pradesh.
- **Screening Gaps in Cervical Cancer:** Despite being largely preventable, cervical cancer continues to see late-stage admissions (Stage 3/4) due to socio-economic neglect and a lack of routine screening awareness.
- **Global Context:** The release of this data coincides with **World Cancer Day (February 4)**, which for the 2025-2027 period follows the theme "**United by Unique**," emphasizing personalized and people-centered care.



Key Definitions

- **Oncology:** The branch of medicine dedicated to the prevention, diagnosis, and treatment of cancer.
- **Metastasis:** The process by which cancer cells spread from the primary site to other parts of the body (typically Stages 3 and 4).
- **Brachytherapy:** A form of radiation therapy where a sealed radiation source is placed inside or next to the area requiring treatment, often used for cervical and prostate cancers.
- **NP-NCD:** The National Programme for Prevention & Control of Non-Communicable Diseases (formerly NPCDCS), which integrates cancer care into primary healthcare.



Constitutional and Legal Provisions

- **Article 21:** The Supreme Court has interpreted the **Right to Life** to include the **Right to Health**. Timely cancer diagnosis and treatment are essential components of this fundamental right.
- **Article 47:** A Directive Principle (DPSP) that mandates the State to regard the **improvement of public health** as among its primary duties.
- **Seventh Schedule (List II, Entry 6):** Public health and sanitation, hospitals, and dispensaries are primarily **State subjects**, though the Centre provides funding via the National Health Mission (NHM).
- **Clinical Establishments Act, 2010:** Provides a legal framework for the registration and regulation of all clinical establishments, including cancer hospitals, to ensure uniform standards of care.

UPSC Relevance

- **GS Paper II:** Issues relating to the development and management of Social Sector/Services relating to **Health**; Government policies and interventions.
- **GS Paper III:** Science and Technology- developments and their applications in medicine (e.g., Targeted therapy and Immunotherapy).
- **Prelims Focus:** Themes of World Cancer Day, key statistics from the National Cancer Registry Programme (NCRP), and the role of the **Indian Council of Medical Research (ICMR)**.

Conclusion

The rising cancer trajectory in Telangana underscores a "double-edged sword": while the disease burden is increasing due to lifestyle changes and environmental factors, the health system is becoming more adept at "opportunistic screening." The appointment of global experts like **Dr. Nori Dattatreyyudu** as state advisors signals a strategic intent to move toward evidence-based planning. However, the persistence of late-stage cervical cancer cases indicates that clinical advancement must be matched by grassroots social mobilization to overcome the socio-economic barriers to screening.

8. From Molecules to Electrons: The New Industrial Frontier

The global industrial paradigm is shifting from "molecule-based" energy (combusting coal, oil, and gas) to "electron-based" energy (clean, grid-delivered electricity). This transition is no longer just an environmental imperative but a core determinant of national economic competitiveness and export resilience.

Summary of Key Strategic Shifts

- **The Lead of Electrons:** Competitive nations are redesigning industry to run on grid power rather than on-site combustion. China leads this race, with nearly **50%** of its industrial energy coming from electricity in 2024, whereas India stands at approximately **25%**.
- **Efficiency Dividend:** Electric motors offer a massive efficiency advantage, converting over **90%** of input energy into work, compared to less than **35%** for internal combustion engines (ICE). This 3:1 ratio means every "electron" displaces significantly more "molecules" than raw energy parity suggests.
- **Green vs. Grey Electrons:** The race is not just for electrification but for "Green Electrons" (renewables). While India has made record strides—adding **44.5 GW** of renewable capacity in 2025—its share of green electrons in total final industrial energy remains low at **7-8%**.



- **Global Trade Resilience:** Low-carbon manufacturing is becoming a trade prerequisite. Mechanisms like the EU's **Carbon Border Adjustment Mechanism (CBAM)**, entering its final phase in **2026**, will penalize carbon-intensive "molecule" exports like steel and aluminum.
- **Structural Decarbonization:** Hard-to-abate sectors like steel are shifting; for instance, Electric Arc Furnaces (EAF) now produce nearly **30%** of India's steel. Accelerating this shift is vital as global buyers increasingly scrutinize "embedded carbon" in supply chains.
- **Security and Sovereignty:** Shifting to domestically produced green electricity reduces vulnerability to international oil and gas price shocks, ensuring that industrial location is driven by skills and logistics rather than fuel proximity.



Key Definitions

- **Molecules vs. Electrons:** A framework distinguishing between chemical energy stored in fuels (molecules) and energy delivered through an electric grid (electrons).
- **Green Electrons:** Electricity generated from zero-carbon sources like solar, wind, hydro, and nuclear.
- **Grey Electrons:** Electricity generated from fossil fuels (predominantly coal) without carbon capture.
- **Carbon Border Adjustment Mechanism (CBAM):** A landmark EU policy that puts a carbon price on imports of certain goods from outside the EU to prevent "carbon leakage."

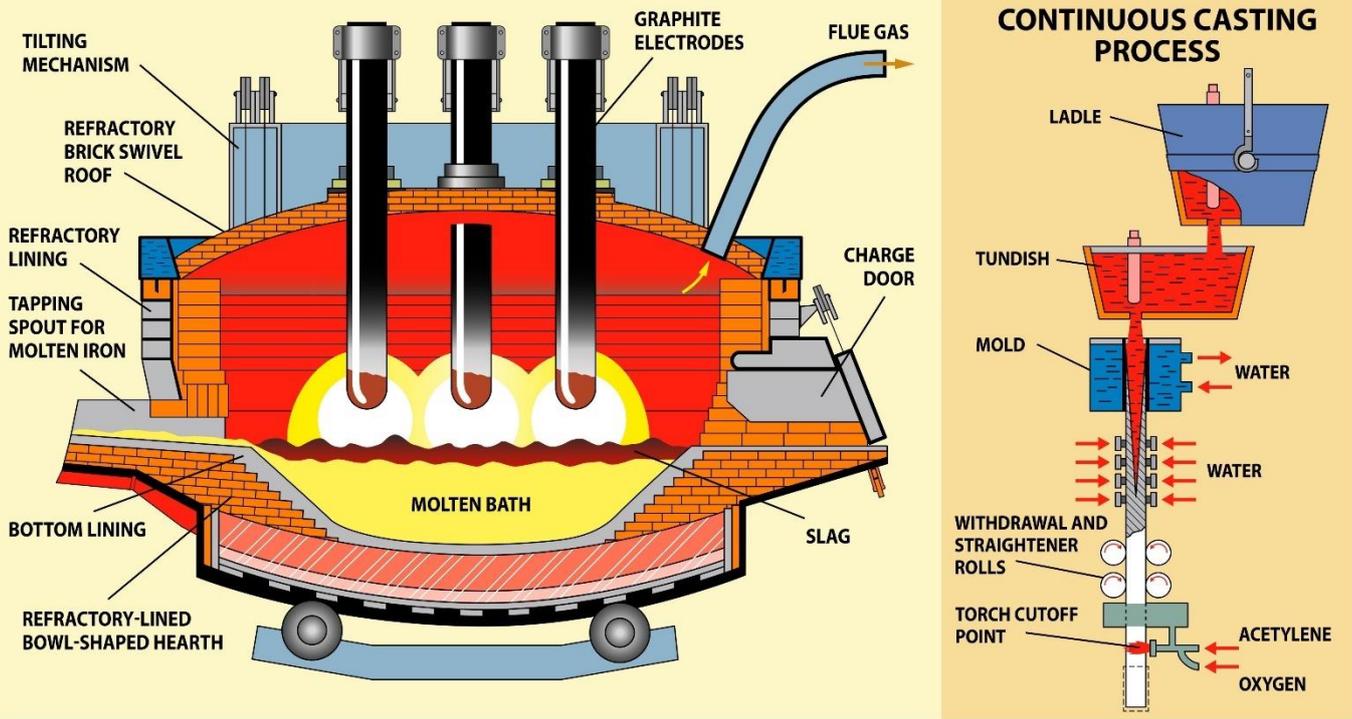
Constitutional and Legal Provisions

- **Article 21 (Right to Life):** Interpreted by courts to include the right to a clean environment, providing a constitutional basis for transitioning away from polluting "molecules."
- **Article 48A:** Directs the State to protect and improve the environment.
- **The Energy Conservation (Amendment) Act, 2022:** Empowers the government to specify a "carbon credit trading scheme" and mandates the use of non-fossil sources for energy.
- **National Green Hydrogen Mission:** A strategic legal framework aiming to make India a global hub for green molecules (hydrogen) produced via green electrons.

UPSC Relevance

- **GS Paper III:** Infrastructure (Energy); Effects of liberalization on the economy; Changes in industrial policy and their effects on industrial growth; Conservation and environmental pollution.
- **GS Paper II:** Effect of policies and politics of developed and developing countries on India's interests (e.g., EU-CBAM).
- **Prelims Focus:** EAF vs. Blast Furnace routes in steel, RE capacity targets (500 GW by 2030), and concepts like Energy Intensity vs. Carbon Intensity.

ELECTRIC ARC FURNACE STEELMAKING



Conclusion

The transition from a "Molecule Economy" to an "Electron Economy" marks the third industrial revolution. For India, the challenge lies not just in generation but in the "Electrification of Everything"—converting MSME boilers, industrial kilns, and transport to run on green power. Failing to bridge the "electron gap" with China could result in a structural disadvantage in the global green trade order. India must move beyond just adding megawatts to ensure those megawatt-hours are actually powering the factory floor.

9. AI at a Crossroads: The Shift from Infrastructure to Applications

The Artificial Intelligence (AI) industry is undergoing a critical transition in 2026. After years of massive capital expenditure on data centers and hardware, the focus has shifted toward profitability through the "Application Layer," moving away from the high-cost, low-margin business of "Foundation Models."

Key Strategic Trends in the AI Ecosystem

- The Profitability Gap:** While infrastructure spending reached **\$320 billion** in 2025, foundation model companies (like OpenAI) continue to face high inference costs and thin margins. In contrast, the application layer—software that solves specific problems—is seeing a surge in revenue and sustainability.
- Rise of Departmental AI:** Real market value is emerging in specialized segments. AI for **coding and software development** is currently the largest departmental market, with over 65% of top-tier developers using these tools daily.
- M&A and "Acqui-hires":** The market is consolidating. Strategic mergers and acquisitions in AI hit record highs in late 2025 (up 242%), with major players like Meta and Microsoft acquiring startups like **Manus** to integrate functional AI agents into their ecosystems.



- **Shift in Model Dominance:** Market share is shifting based on application performance. **Anthropic** has gained significant enterprise ground over OpenAI by dominating coding-specific applications, proving that utility drives infrastructure adoption, not vice versa.
- **Vertical Integration:** The next wave of value lies in "Vertical AI"—solutions deeply integrated into the workflows of specific industries such as **healthcare, law, finance, and manufacturing**, using unique, proprietary data.
- **From Talk to Task:** The industry is moving from "Chatbots" (conversational AI) to "AI Agents" (action-oriented AI). These agents don't just provide information; they execute complex tasks, generating higher **Annual Recurring Revenue (ARR)**.



Key Definitions

- **AI Infrastructure:** The physical and digital "backbone" of AI, including GPUs (chips), data centers, and massive cloud computing clusters.
- **Foundation Models:** Large-scale AI models (like GPT-4 or Claude 3) trained on vast datasets that serve as the base for various specific applications.
- **Inference Costs:** The operational cost (computing power and energy) incurred every time an AI model generates a response for a user.
- **AI Agent:** A sophisticated AI system designed to autonomously perform tasks and make decisions to achieve specific goals, often interacting with other software.

Constitutional and Legal Provisions

- **Article 21 (Right to Privacy):** As AI agents access personal and business data, the **Digital Personal Data Protection (DPDP) Act, 2023**, becomes the primary legal safeguard for data sovereignty and privacy.
- **Intellectual Property Rights (IPR):** Training AI on copyrighted data remains a legal gray area. Under the **Copyright Act, 1957**, unauthorized use of data for model training is increasingly scrutinized as "infringement."
- **Article 19(1)(g):** The right to practice any profession. AI's impact on employment and the "acquire-hire" trend (which can strand employees) raises questions about labor rights and fair competition.
- **IndiaAI Mission:** A government framework (budgeted at over **₹10,300 crore**) aimed at democratizing AI through the "**UPI for AI**" concept, promoting open-source models and local compute capacity.

UPSC Relevance

- **GS Paper III:** Science and Technology—developments and their applications and effects in everyday life; IT and Space; Awareness in the fields of IT and Computers.
- **GS Paper II:** Government policies and interventions for development in various sectors; Issues arising out of their design and implementation (AI governance and competition law).
- **GS Paper IV (Ethics):** Algorithmic bias, accountability for AI-driven decisions, and the ethical implications of job displacement.



Conclusion

The "Molecules to Electrons" shift in the energy sector finds a parallel in AI's move from "Compute to Content." Just as the internet was monetized through applications rather than just bandwidth, AI's long-term viability depends on its ability to become an invisible, essential part of professional workflows. For India, the opportunity lies in the "Application Layer"—leveraging its massive developer base to build vertical solutions for the Global South, thereby bypassing the prohibitive costs of the "GPU arms race."

10. MPLADS Controversy and Performance: A Comprehensive Analysis

The Member of Parliament Local Area Development Scheme (MPLADS) has recently come under the scanner following allegations of fund diversion across state boundaries. While the scheme remains a vital tool for localized development, it continues to spark debates regarding its constitutional validity and administrative efficiency.

Summary of Key Developments

- **Inter-State Fund Allocation:** A recent controversy in Rajasthan involving three Congress MPs highlighted a provision in the **MPLADS Guidelines (2023)** that allows elected MPs to recommend projects worth up to **₹50 lakh per financial year** outside their designated constituency or state.
- **Funding and Scope:** MPLADS is a **Central Sector Scheme** fully funded by the Union Government. Each MP is entitled to **₹5 crore annually** to recommend works creating "durable community assets" (e.g., water, sanitation, education, and roads).
- **Expenditure Trends:** Data from the 18th Lok Sabha shows that out of **₹5,486 crore** allocated, approximately **₹1,453.69 crore** has been utilized so far. Historically, fund utilization improved from the 14th Lok Sabha (99.01%) to the 16th Lok Sabha (91.3%), though the 17th Lok Sabha faced a dip due to the COVID-19 suspension.
- **Technological Transparency:** The integration of the **e-SAKSHI portal** and mandatory **geotagging** of assets has enhanced public monitoring. Some MPs, such as Iqra Choudhary, have been lauded for maintaining real-time digital transparency of their projects.
- **Calamity Provisions:** In cases of a "**calamity of severe nature**," the guidelines permit an MP to recommend works up to **₹1 crore** for any affected district in the country, providing a mechanism for national solidarity during disasters.
- **Implementation Mechanism:** The role of the MP is strictly **recommendatory**. The actual execution, sanctioning (within 75 days), and monitoring are handled by the **District Authority** (District Collector/Magistrate).

Evaluation Report

on

Member of Parliament

Local Area Development Scheme

Key Definitions

- **Central Sector Scheme:** A scheme 100% funded and implemented by the Central Government, unlike Centrally Sponsored Schemes where states share the cost.
- **Durable Assets:** Physical infrastructure intended for community use that has a long life, such as school buildings or hospitals, excluding recurring expenses like repairs or staff salaries.



- **Nodal District:** The district chosen by an MP (particularly Rajya Sabha or Nominated members) to manage the release and accounting of their MPLADS funds.

Constitutional and Legal Provisions

- **Article 282:** The Supreme Court in *Bhim Singh vs. Union of India (2010)* upheld the constitutionality of MPLADS under this Article. It allows the Union to make grants for any "**public purpose**" even if the subject (like local roads) falls under the State List.
- **Separation of Powers:** Critics often argue MPLADS blurs the line between the Legislature and Executive. However, the judiciary ruled that since MPs only "recommend" and do not "execute" the work, there is no violation of the separation of powers.
- **Lapsable vs. Non-Lapsable:** Unlike many other budget heads, MPLADS funds are **non-lapsable**. If an MP does not use the ₹5 crore in one year, the balance is carried forward to the next year within their term.

UPSC Relevance

- **GS Paper II:** Federal structure and challenges (Centre-State relations); Statutory, regulatory, and various quasi-judicial bodies; Separation of powers between various organs.
- **GS Paper III:** Issues relating to planning, mobilization of resources, and development.
- **Ethics (GS IV):** Transparency and accountability in the use of public funds; Political impartiality in developmental work.

Conclusion

MPLADS serves as a unique bridge between macro-level legislative policy and micro-level grassroots needs. While controversies regarding political motivation or underutilization persist, the scheme's judicial backing and recent digital reforms suggest it remains an essential component of India's developmental architecture. The focus must now shift from "scrapping" the scheme to "skilling" the representatives on effective fund deployment and ensuring that "durable assets" translate into "durable outcomes" for the rural and urban poor.

11. 16th Finance Commission: Vertical Devolution and the 'Cess-Surcharge' Crisis

The 16th Finance Commission (FC) has maintained the status quo on vertical devolution at 41%, triggering a debate on the shrinking divisible pool and the perceived sidelining of States' fiscal autonomy in favor of Central priorities.

Core Summary for UPSC

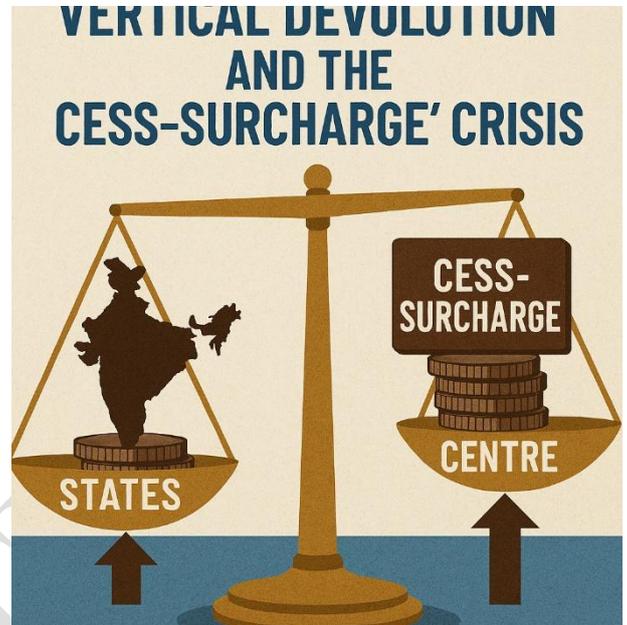
- **Stagnant Devolution Rate:** Despite a rare consensus among 18 States (including Odisha, Tamil Nadu, and Gujarat) demanding an increase to 50%, the 16th FC kept vertical devolution at **41%**, aligning with the Centre's plea for "moderation."
- **The Shrinking Divisible Pool:** While the percentage remains 41%, the actual shareable revenue is decreasing. The non-shareable portion (cesses and surcharges) rose from **1.1% of GDP in 2011-12 to 2.2% in 2023-24**, effectively bypassing the States.
- **Cess and Surcharge Proliferation:** Between FY13 and FY18, the share of the divisible pool in the Centre's Gross Tax Revenue (GTR) was above 93%. Due to the unbridled rise in cesses, this share is expected to remain **below 90%** for the sixth consecutive year in FY26.



- **Defense and Infrastructure Justification:** The Commission justified prioritizing Central funds by citing shifts in the "external security environment" and the Centre's "high effectiveness" in large-scale infrastructure building.
- **Constitutional Gap:** The 16th FC noted that the Constitution does not permit a cap on cesses and surcharges. While acknowledging that long-term reliance on them is "undesirable," it labeled imposing a legal limit as "imprudent."
- **Fiscal Mediocrity vs. Efficiency:** Critics argue that the Commission's stance ignores the fiscal pressures on high-performing States, assuming they have "sufficient resources" despite unanimous demands for more.

Key Definitions

- **Vertical Devolution:** The percentage of the divisible pool of taxes that the Union government must share with the State governments.
- **Divisible Pool:** The portion of Central taxes that can be shared with States, excluding collection costs and cesses/surcharges.
- **Cess:** A "tax on tax" levied for a specific purpose (e.g., Education Cess). It is not shared with States and must be used for the designated objective.
- **Surcharge:** An additional tax levied on the existing tax liability, primarily used to increase Union revenue without sharing it with States.



Constitutional & Legal Provisions

- **Article 280:** Mandates the President to constitute a Finance Commission every five years to recommend the distribution of net tax proceeds between the Centre and States.
- **Article 270:** Specifies that all taxes and duties referred to in the Union List shall be distributed between the Union and States, **except** cesses and surcharges referred to in Article 271.
- **Article 271:** Empowers Parliament to increase any of the duties or taxes by a surcharge for the purposes of the Union, and the entire proceeds of such surcharge form part of the Consolidated Fund of India (non-shareable).
- **Article 282:** Provisions for "Miscellaneous Financial Provisions" often used for discretionary grants, which States argue are used to bypass the formula-based devolution.

UPSC Relevance

- **GS Paper II:** Federal structure and challenges; Functions and responsibilities of the Union and the States; Appointment to various Constitutional posts, powers, functions and responsibilities of various Constitutional Bodies.
- **GS Paper III:** Indian Economy and issues relating to planning, mobilization of resources, and Government Budgeting.
- **Prelims Focus:** Article 270 vs. Article 271, components of the "Divisible Pool," and the evolution of devolution rates from the 14th to 16th FC.



Conclusion

The 16th Finance Commission's recommendations reflect a "conservative" fiscal approach that prioritizes national security and central infrastructure over the granular fiscal needs of the States. By refusing to mediate the "cess and surcharge" loophole, the Commission has left the expansion of the divisible pool to the "mutual agreement" or voluntary restraint of the Centre. This risks deepening the vertical fiscal imbalance, as States are increasingly burdened with social sector spending while their share of the total tax pie remains structurally constrained.

12. Indian Space Program 2026-27: Consolidation and the 'Death Valley' Challenge

The Indian space sector has successfully transitioned out of its post-pandemic stagnation, moving toward a phase of sustained consolidation. While the state-led program shows fiscal stability, the industry faces significant structural and financial bottlenecks that hinder India's ambition to capture 10% of the global space economy by 2030.

Key Highlights of the Space Budget and Industry Trends

- **Fiscal Recovery & Growth:** The 2026-27 budget estimate for the Department of Space (DoS) is ₹13,705.6 crore, a 5.3% increase over pre-pandemic peaks. When internal resources from NewSpace India Ltd (NSIL) are included, the total ecosystem expenditure reaches approximately ₹15,000 crore.
- **Shift to 'Build-Phase' Hardware:** Capital expenditure has seen a significant jump (nearly ₹1,066 crore over revised estimates), signaling a transition from preparatory planning to actual hardware realization for major projects like **Gaganyaan** and Next-Generation Launch Vehicles (NGLV).
- **The 'Death Valley' Gap:** Startups face a critical liquidity crunch between initial R&D and first revenue. Despite the announcement of a ₹1,000 crore Venture Capital fund, industry bodies (ISpA and SIA-India) argue that equity alone cannot solve high hardware burn rates and long gestation periods.
- **GST and Inverted Duty Structure:** Space companies currently face a "hidden 18% tax." While final products (like satellite launches) are often exempt, firms pay high taxes on raw materials and imports without the ability to claim Input Tax Credits (ITC), making 'Made in India' hardware less competitive globally.
- **Demand for 'Critical Infrastructure' Status:** Classifying space assets (ground stations, launch pads) as critical infrastructure would reduce the cost of capital by 2-3%, allowing startups to move away from high commercial interest rates (10-12%) toward long-term institutional lending.
- **Institutional Delineation:** The sector now operates through a tripartite structure: **ISRO** (focused on R&D and exploration), **IN-SPaCe** (the promoter and regulator for private entities), and **NSIL** (the commercial arm managing production and technology transfer).



Key Definitions

- **Death Valley:** The period in a startup's life cycle where it has begun operations but has not yet generated revenue, often leading to failure due to high capital requirements.



- **Zero-Rated GST:** A regime where the entire supply chain is tax-exempt, allowing manufacturers to claim full refunds on input taxes, thereby improving liquidity.
- **Space-Grade Components:** Highly specialized hardware designed to withstand extreme radiation, vacuum, and thermal cycles of outer space.
- **NGLV (Next Generation Launch Vehicle):** A proposed cost-efficient, partially reusable rocket designed to replace the ageing PSLV and GSLV fleets.

Constitutional and Legal Provisions

- **Article 246 (Union List):** "Space" and "Outer Space" fall under the exclusive legislative competence of the Parliament (Entry 6, Union List), giving the Centre sole authority over space policy.
- **Indian Space Policy 2023:** An overarching framework that transitioned ISRO from an "operator" to an "R&D-focused agency" while allowing Non-Governmental Entities (NGEs) end-to-end participation in space activities.
- **Liability Convention (1972):** As a signatory, the Indian State is "absolutely liable" for damage caused by its space objects (including private ones) on the surface of the Earth. The lack of a domestic **Space Activities Act** leaves the financial liability of private players undefined.
- **FDI Policy 2024:** Permitted 100% FDI in satellite component manufacturing and up to 74% in satellite manufacturing/operations, aiming to integrate Indian startups into the global supply chain.

UPSC Relevance

- **GS Paper III:** Science and Technology—developments and their applications; Indigenization of technology; Awareness in the field of Space.
- **GS Paper II:** Government policies and interventions; Issues arising out of their design and implementation (Structural reforms in Space).
- **Economic Development:** Challenges of the startup ecosystem, GST rationalization, and the "Death Valley" in deep-tech sectors.

Conclusion

India's space program is currently at a "rhetoric-versus-reality" crossroads. While legal doors have been opened for private participation, the lack of a **Production Linked Incentive (PLI)** scheme and the refusal to grant "Infrastructure Status" act as fiscal anchors. For India to evolve from a "second-grade supplier" to a global hub, the government must move beyond being a funder of ISRO to becoming an "anchor customer" and a facilitator of private capital.