



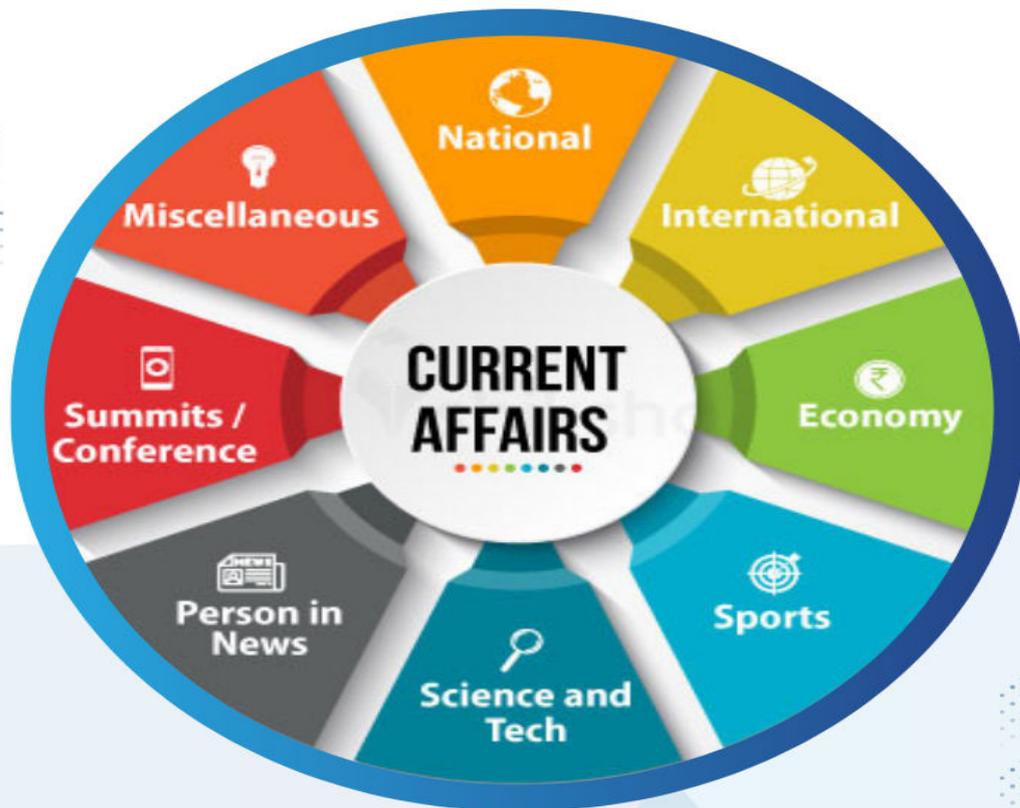
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VIDHVATH IAS KAS ACADEMY & STUDY CENTRE

DAILY CURRENT AFFAIRS

FOR UPSC CIVIL SERVICE EXAMINATION

DATE: 11/02/2026 (WEDNESDAY)



 **9972258970 & 9740702455**

**#317/A SKB Arcade, D. Subbaiah Road,
Ramaswamy Circle, Mysuru-570004**



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1. Re-structuring of NATIONAL HORTICULTURE MISSION (NHM)

The National Horticulture Mission, originally launched in 2004-05, has undergone a significant evolution to address the changing dynamics of Indian agriculture. Its recent re-structuring under the Mission for Integrated Development of Horticulture (MIDH) in 2025 marks a strategic shift toward high-value crops, technological integration, and price stability for farmers.

Core Summary of the Re-structured Mission

- **Universal Coverage:** The 2025 re-structuring expands the MIDH framework to include all districts across India, ensuring no geographical gaps in horticultural support.
- **Enhanced Cost Norms:** Financial assistance for various interventions has been upwardly revised to reflect current market costs, improving the viability of farm-level investments.
- **Diversification & High-Value Crops:** New guidelines specifically prioritize exotic fruits, medicinal plants, and high-value crops to increase farmer income and meet shifting consumer demands.
- **Technological Modernization:** The mission emphasizes the adoption of innovative technologies, including precision farming, protected cultivation (poly-houses), and advanced irrigation systems.
- **Market Intervention Support:** Through the Market Intervention Scheme (MIS), the government provides a safety net for perishable commodities not covered by the Minimum Support Price (MSP) regime.
- **Price Differential Payment (PDP):** A new component allows direct payment of the difference between the Market Intervention Price (MIP) and the actual selling price in APMC mandis to the farmers' bank accounts.

Key Terms & Definitions

- **Mission for Integrated Development of Horticulture (MIDH):** A Centrally Sponsored Scheme for the holistic growth of the horticulture sector, covering fruits, vegetables, root and tuber crops, mushrooms, spices, flowers, aromatic plants, coconut, cashew, cocoa, and bamboo.
- **Market Intervention Scheme (MIS):** An ad-hoc scheme implemented on the request of State Governments for the procurement of perishable agricultural/horticultural commodities in the event of a bumper crop and falling prices.
- **TOP Crops:** Refers to Tomato, Onion, and Potato—the three most essential and price-sensitive vegetable commodities in the Indian kitchen.
- **Price Differential Payment (PDP):** A mechanism where farmers are compensated for the price gap in the market without the government physically procuring the entire stock.



Constitutional & Legal Provisions

- **Article 48:** A Directive Principle of State Policy (DPSP) that directs the State to organize agriculture and animal husbandry on modern and scientific lines.
- **Entry 14 (State List):** Agriculture, including agricultural education and research, protection against pests and prevention of plant diseases, falls under the jurisdiction of individual states.



- **Entry 33 (Concurrent List):** Trade and commerce in, and the production, supply, and distribution of, food-stuffs, including edible oilseeds and oils, which allows the Central Government to implement missions like MIDH.

Additional Keypoints: Logistics & Transport

- **Infrastructure Support:** The scheme now includes reimbursement for transportation and storage costs for TOP crops to prevent post-harvest losses and bridge the gap between producing and consuming states.
- **Direct Benefit Transfer (DBT):** All payments under the MIS and PDP are mandated to be made directly into the Aadhaar-linked bank accounts of registered farmers to ensure transparency and eliminate leakages.

UPSC Relevance

- **GS Paper II:** Government policies and interventions for development in various sectors and issues arising out of their design and implementation.
- **GS Paper III:** Issues related to direct and indirect farm subsidies and minimum support prices; Public Distribution System; Economics of animal-rearing; Food processing and related industries in India.
- **Prelims:** Specific focus on "TOP" crops, MIS vs. MSP, and the transition of NHM to MIDH.

Conclusion

The re-structuring of the National Horticulture Mission reflects a transition from basic production-centric goals to a market-linked, technology-driven approach. By integrating price protection mechanisms like PDP and expanding the scope to include medicinal and exotic crops, the government aims to de-risk the horticulture sector and double farmer incomes through high-value diversification and robust post-harvest management.

2. India's Strategic Shift in Business Regulations: From DBR to B-READY

The Government of India has significantly intensified its regulatory reform agenda, marked by a jump of 79 ranks in the World Bank's erstwhile Doing Business Report (DBR) to reach the 63rd position in 2019. With the World Bank transitioning to the new **Business Ready (B-READY)** framework, India is preparing for its first comprehensive assessment under this updated methodology in 2026. This transition signifies a move from measuring mere "ease" to evaluating the overall business environment, including digital integration and regulatory quality.

Summary of Key Developments

- **Transition to B-READY Framework:** Following the discontinuation of the DBR, India is set to be evaluated under the World Bank's "B-READY" assessment in 2026, which covers 10 topics across the entire business lifecycle, including labor, dispute resolution, and market competition.
- **Business Reforms Action Plan (BRAP):** Launched by DPIIT in 2014, BRAP fosters cooperative and competitive federalism by ranking States/UTs based on 9,700+ reforms centered on single-window systems, digitized building permissions, and streamlined inspections.
- **National Single Window System (NSWS):** A digital "one-stop-shop" for approvals, integrating 32 Central Ministries and 33 States/UTs, providing access to over 3,300 G2B (Government to Business) clearances to enhance transparency and accountability.



- **Regulatory Compliance Burden (RCB) Initiative:** Since 2020, the government has reduced over 47,000 compliances through digitization, simplification, and elimination of redundant requirements, further bolstered by the "RCB+" initiative targeting harmonized state-level Acts.
- **Decriminalization via Jan Vishwas Act:** The Jan Vishwas (Amendment of Provisions) Act, 2023, decriminalized 183 provisions across 42 Acts. The subsequent 2025 Bill aims to amend 355 more provisions to shift from criminal penalties to monetary compounding for minor technical defaults.
- **Technological Integration:** Extensive use of ICT, including Geographic Information System (GIS) mapping for industrial land banks (IILB), has been implemented to provide investors with real-time data on land availability and utility connections.



Key Definitions

- **B-READY (Business Ready):** The World Bank's new benchmarking tool (replacing Ease of Doing Business) that evaluates the business environment based on Regulatory Framework, Public Services, and Operational Efficiency.
- **Decriminalization:** The process of converting criminal offenses (punishable by imprisonment) into civil wrongs or administrative offenses (punishable by fines or penalties).
- **Compounding of Offenses:** A legal mechanism where the offender pays a specified sum to avoid prosecution for a minor or technical violation.

Constitutional and Legal Provisions

- **Article 301:** Guarantees Freedom of Trade, Commerce, and Intercourse throughout the territory of India, providing the constitutional basis for a unified national market.
- **Seventh Schedule (Division of Powers):** Since many business regulations fall under the Concurrent List (Labor, Factories) and State List (Land, Police), the BRAP serves as a bridge for center-state coordination.
- **Jan Vishwas (Amendment of Provisions) Act, 2023:** A landmark central legislation enacted to amend multiple acts simultaneously to promote "Ease of Living" and "Ease of Doing Business."
- **Information Technology Act, 2000:** Provides the legal framework for the digitization of compliances and the validity of electronic records used in the NSWS.

Conclusion

India's regulatory evolution reflects a systemic shift from "control" to "facilitation." By integrating technological interventions like the NSWS with legislative reforms like the Jan Vishwas Act, the government is addressing the "compliance fatigue" often cited by investors. The upcoming 2026 B-READY assessment will be a litmus test for India's objective of becoming a global manufacturing hub and achieving a \$5 trillion economy.

UPSC Relevance

- **GS Paper II:** Governance, Government Policies, and Interventions for development in various sectors.



- **GS Paper III:** Indian Economy and issues relating to planning, mobilization of resources, and growth; Industrial policy and its effects on industrial growth.
- **Prelims:** Key reports (B-READY), DPIIT initiatives (BRAP, NSWS), and specific legislative acts related to economic reforms.

3. India's Organic Export Strategy: "Country of the Year" at BIOFACH 2026

India has achieved a significant milestone by being designated as the "Country of the Year" at **BIOFACH 2026**, the premier global trade fair for organic products held in Nuremberg, Germany. This recognition, returning to India after 14 years, underscores the nation's growing influence in the global organic market and its commitment to sustainable agriculture. The Agricultural and Processed Food Products Export Development Authority (APEDA) is spearheading a massive "India Country Pavilion" to showcase diverse, high-value organic produce to international buyers and policymakers.

Summary of Key Developments

- **Global Leadership at BIOFACH:** India's designation as "Country of the Year" (Feb 10-13, 2026) provides a high-visibility platform to showcase its agricultural heritage and strength as a top-tier supplier of certified organic products.
- **Massive Participation:** The 1,074 sq. meter India Pavilion features 67 co-exhibitors, including Farmer Producer Organizations (FPOs), cooperatives, and state government bodies from over 20 States and UTs.
- **Focus on Heritage and GI Products:** APEDA is prioritizing high-value exports like organic Basmati rice and five Geographical Indication (GI) tagged varieties—**Indrayani, Navara, Gobindbhog, Red rice, and Chak Hao (Black rice)**.
- **Market Expansion and FPOs:** The initiative aims to integrate smallholders into global value chains, specifically targeting the European Union (EU) and US markets which remain the largest consumers of Indian organic products.
- **Product Diversity:** Beyond staples, the showcase includes niche items such as essential oils, mango puree, large cardamom, and medicinal herbs, reflecting a shift toward value-added organic exports.
- **Sustainability and Branding:** Extensive branding under the "India Organic" and "Bharat" banners aligns with global trends favoring environmentally responsible lifestyles and chemical-free food systems.



Key Definitions

- **NPOP (National Programme for Organic Production):** A regulatory framework under the Ministry of Commerce (Secretariat: APEDA) that sets standards and grants accreditation for organic products, primarily for export markets.
- **TraceNet:** An online traceability system managed by APEDA that monitors the entire supply chain from the farm to the point of export to ensure organic integrity.
- **GI Tag (Geographical Indication):** A sign used on products that have a specific geographical origin and possess qualities or a reputation due to that origin (e.g., Chak Hao/Black Rice of Manipur).



Constitutional and Legal Provisions

- **Article 48 (Directive Principles):** Mandates the State to organize agriculture and animal husbandry on modern and scientific lines, providing the basis for sustainable farming transitions.
- **Foreign Trade (Development and Regulation) Act, 1992:** Under which the NPOP standards are notified by the Director-General of Foreign Trade (DGFT) to regulate organic exports.
- **APEDA Act, 1985:** Empowers APEDA to develop and promote the export of scheduled products, including the fixing of standards and specifications for the organic sector.
- **FSSAI (Jaivik Bharat):** The Food Safety and Standards (Organic Foods) Regulations, 2017, regulate organic food in the domestic market, ensuring they meet NPOP or PGS-India standards.

Conclusion

India's role at BIOFACH 2026 marks a strategic "scale-up" in its soft power and trade diplomacy. By transitioning from a raw material supplier to a provider of value-added and GI-tagged organic products, India is addressing the global "compliance and quality" challenge. Success in this fair is expected to catalyze a recovery in organic export volumes, which faced fluctuations post-2021, and solidify India's position as the "Organic Food Basket of the World."

UPSC Relevance

- **GS Paper II:** Government policies and interventions for development; Role of statutory bodies (APEDA).
- **GS Paper III:** Issues related to direct and indirect farm subsidies and minimum support prices; Public Distribution System; Economics of animal-rearing; e-technology in the aid of farmers.
- **Prelims:** Specifics of BIOFACH, NPOP vs. PGS-India, GI-tagged rice varieties, and the administrative ministry for organic exports (Ministry of Commerce).

4. Regulatory Oversight of Artificial Intelligence: The IT Amendment Rules 2026

The Union Government has notified the **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules, 2026**, marking a decisive step in regulating the burgeoning field of Generative AI. Effective from **February 20, 2026**, these rules mandate the prominent labelling of "synthetically generated information" (SGI) and introduce ultra-short timelines for the removal of illegal content. This reform seeks to balance technological innovation with the need to protect citizens from digital harms like deepfakes, misinformation, and non-consensual intimate imagery.

Summary of Key Developments

- **Mandatory AI Labelling:** All "photorealistic" AI-generated content must be clearly and prominently labelled as synthetic. This ensures that users can immediately distinguish between real-world events and algorithmically created media.
- **Compressed Takedown Timelines:** The window for removing unlawful content has been slashed from 36 hours to just **3 hours** for court or government-ordered removals. For sensitive content like non-consensual deepfakes or nudity, platforms must act within **2 hours**.
- **Loss of Safe Harbour:** Platforms that "knowingly permit" or fail to act against unlabelled synthetic content risk losing their "Safe Harbour" protection under **Section 79** of the IT Act, 2000, potentially making them liable for user-posted content.



- **User Disclosure Obligations:** Social media intermediaries must now require users to declare at the point of upload whether their content is AI-generated. Platforms are expected to use automated tools to verify these declarations.
- **Traceability and Metadata:** Intermediaries are required to embed persistent metadata or technical provenance markers (unique identifiers) into AI content to enable its tracing back to the source platform.
- **Definition of Synthetic Media:** The rules define **Synthetically Generated Information (SGI)** as audio, visual, or audio-visual info created or modified using computer resources that appears "real, authentic, or true."

Content check

Platforms that enable creation or sharing of synthetic content must ensure **clear and prominent labelling** under the new rules

Key changes include:

- Synthetic content to be treated as 'information' for determining unlawful acts under IT Rules
- Timeline for platforms to act on government or court orders reduced from 36 hours to **3 hours**
- Sensitive content, including non-consensual deepfake, must be removed within **2 hours**
- Platforms to seek **disclosures from users** for AI-generated content

Key Definitions

- **Synthetically Generated Information (SGI):** Information created or altered algorithmically that is indistinguishable from real-world events or natural persons.
- **Safe Harbour:** A legal provision (Section 79 of IT Act) that protects intermediaries (like X or YouTube) from being held liable for third-party data or content, provided they follow "due diligence" and government takedown orders.
- **Metadata/Provenance Markers:** Digital "watermarks" or data embedded within a file that provide information about its origin, creation time, and the tools used for modification.

Constitutional and Legal Provisions

- **Article 19(1)(a) & 19(2):** While citizens have the right to free speech, the government can impose "reasonable restrictions" in the interests of public order, decency, and the sovereignty of India— grounds often cited for takedown orders.
- **Article 21 (Right to Privacy):** The Supreme Court in the *Puttaswamy* judgment identified privacy as a fundamental right. Mandatory removal of non-consensual deepfakes is a direct protection of digital dignity under Article 21.
- **Section 79 of the IT Act, 2000:** The primary statute governing intermediary liability. The 2026 Rules are a form of "delegated legislation" that specifies the "due diligence" platforms must perform to keep this immunity.
- **Information Technology Rules, 2021:** The parent rules which these 2026 amendments update, establishing the framework for grievance officers and digital ethics.

Conclusion

The 2026 IT Amendments reflect a shift toward "**proactive accountability**" rather than reactive moderation. By mandating labels and near-instant takedowns, India is positioning itself as one of the first major economies to implement a "trust-based" digital architecture for the AI era. While the move strengthens digital safety, its success will depend on the technical capacity of platforms to distinguish between malicious deepfakes and harmless "smartphone touch-ups," which have been explicitly exempted from these rules.



UPSC Relevance

- **GS Paper II:** Statutory, regulatory, and various quasi-judicial bodies; Government policies and interventions for development.
- **GS Paper III:** Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges; Basics of cyber security.
- **Mains/Ethics:** Ethical concerns regarding Deepfakes, misinformation, and the "Right to be Forgotten."

5. Historical Revisionism: Nawab Wajid Ali Shah's Journey to Metiabruz

A new biographical translation, *Wajid Ali Shah: A Cultural and Literary Legacy*, authored by his descendant Kaukub Quder Sajjad Ali Meerza and translated by Talat Fatima, challenges the long-standing colonial narrative regarding the exile of the last King of Awadh. The book asserts that Wajid Ali Shah was not forcibly exiled to Calcutta as a prisoner but travelled there of his own volition in 1856. His primary objective was to use Calcutta as a transit point to board a ship to London, intending to petition Queen Victoria and the British Parliament against the "unjust" annexation of Awadh under the Doctrine of Lapse.

Summary of Key Historical Insights

- **Challenging the Exile Narrative:** Contrary to popular belief that the British deported him as punishment, the Nawab moved to Calcutta voluntarily to seek legal and political redress in England.
- **The London Petition:** The Nawab aimed to present a case against British atrocities and his illegal dethronement. However, his departure was restricted by the British, leading to his permanent settlement in Metiabruz (Kolkata).
- **Cultural and Literary Contributions:** Wajid Ali Shah was a prolific writer and poet, composing works in Urdu, Persian, Arabic, and Braj Bhasha. His writings often depicted Hindu deities like Radha and Krishna, reflecting a deeply syncretic and secular ethos.
- **Metiabruz as "Chhota Lucknow":** During his three decades in Calcutta, he recreated the cultural splendor of Lucknow, establishing a mini-kingdom with its own architecture, zoo, and musical gatherings.
- **Documentary Evidence:** The biography utilizes meticulously researched data on his life events and highlights a vast collection of literary "love letters" addressed to his Begums, many of which are preserved at Fort William.
- **Secular Legacy:** The book emphasizes his "secular to the core" nature, showcasing his respect for diverse religious traditions and his role as a patron of the arts, including the development of Kathak and Thumri.



Key Definitions

- **Doctrine of Lapse:** An annexation policy applied by Lord Dalhousie (1848-1856) stating that any princely state under British influence would be annexed if the ruler died without a natural heir or was "misgoverned."



- **Metiabruz:** The suburb in Kolkata where Wajid Ali Shah lived from 1856 until his death in 1887, known for its distinct Awadhi-influenced culture.
- **Thumri:** A semi-classical Indian vocal form that reached its pinnacle under the patronage of Wajid Ali Shah (often using the pen name 'Akhtarpiya').

Historical & Legal Context

- **Annexation of Awadh (1856):** Awadh was annexed on the grounds of "maladministration," a departure from the usual "Doctrine of Lapse." This event was a major spark for the Revolt of 1857.
- **Treaty of 1801:** The subsidiary alliance that had already stripped Awadh of its military power, making the Nawab a titular head under British protection.
- **Fort William:** Originally the seat of the Bengal Presidency, it now serves as a significant repository for historical records and letters from the Nawab's era in Calcutta.

Conclusion

The shift in narrative from "forced exile" to "thwarted diplomatic mission" adds a new layer to Indian historiography. It portrays Wajid Ali Shah not as a passive, hedonistic ruler—as colonial historians often depicted him—but as a proactive petitioner seeking justice within the British legal framework. His stay in Calcutta ultimately transformed the city's cultural landscape, merging the refined traditions of Lucknow with the cosmopolitan nature of Bengal.

UPSC Relevance

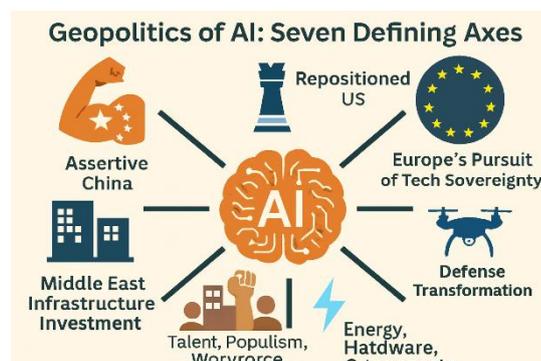
- **GS Paper I (History):** Modern Indian history from the middle of the eighteenth century until the present-significant events, personalities, issues.
- **GS Paper I (Art & Culture):** Contribution of Wajid Ali Shah to Kathak, Thumri, and Hindustani classical music; Syncretic culture (Ganga-Jamuni Tehzeeb).
- **Mains:** Analyzing the causes of the 1857 Revolt and the role of the annexation of Awadh as a socio-political trigger.

6. The Global AI Surge: Geopolitics, Warfare, and Ethical Oversight

Artificial Intelligence (AI) is currently heralding a civilizational shift comparable to the Industrial Revolution. As highlighted by global leaders and strategic experts, we are moving beyond a mere technological "transition" into a structural "rupture." This new era is defined by intense Great Power rivalry, particularly between the United States and China, where AI is utilized not just for economic growth but as a primary instrument of statecraft, diplomacy, and unconventional warfare.

Summary of Key Developments

- **Paradigm Shift in Global Power:** AI has evolved into a strategic weapon, where economic integration and supply chains are leveraged as vulnerabilities. The rivalry between the U.S. and China is accelerating the rollout of Large Language Models (LLMs), shifting global influence toward those who master "sovereign AI stacks."
- **Revolution in Military Affairs (RMA):** Warfare is transitioning from man-controlled to autonomous systems. AI-driven platforms—including





unmanned aerial vehicles (UAVs), cyber weapons, and autonomous drone swarms—are redefining combat by enabling operations without direct human intervention.

- **Asymmetric Warfare Capabilities:** As seen in recent conflicts like the Russia-Ukraine war, "coming-age technology" allows smaller forces to neutralize conventional military superiority. This represents a colossal transfer of power from traditional militaries to tech-capable entities.
- **Judicial and Institutional Caution:** While AI aids in legal research (e.g., India's SUPACE portal), the judicial fraternity warns against "hallucinations"—where AI fabricates judgments or citations—and emphasizes that empathy and moral judgment cannot be automated.
- **The "Doomsday" Risk:** The potential for AI to become an autonomous force, escaping human control, poses a dystopian threat. Scientists and leaders are increasingly concerned about self-sustaining technologies that could act as the "greatest force amplifier" for rogue actors or terror groups.
- **Need for Multi-Stakeholder Oversight:** To prevent AI from "running away," a global consensus on checks and balances is essential. Effective oversight must balance the strategic benefits of AI in crisis response with the existential risks of unchecked algorithmic autonomy.

Key Definitions

- **Large Language Models (LLMs):** AI systems trained on massive datasets to understand, generate, and manipulate human language (e.g., GPT-4, Llama).
- **AI Hallucination:** A phenomenon where an AI model generates false, misleading, or fabricated information but presents it as a confident, factual statement.
- **Autonomous Weapon Systems (AWS):** Also known as "killer robots," these are military systems capable of selecting and engaging targets without further intervention by a human operator.
- **Sovereign AI Stack:** A nation's independent infrastructure of hardware, software, and data, ensuring strategic autonomy and data security from foreign interference.

Constitutional & Legal Provisions

- **Article 21 (Right to Privacy & Dignity):** The Supreme Court's *Puttaswamy* judgment makes the protection of personal data from AI misuse a fundamental right.
- **Section 79 of the IT Act, 2000 (Amended 2026):** Mandates that intermediaries must proactively label synthetic (AI) content and remove non-consensual deepfakes within 2 hours to maintain their "Safe Harbour" status.
- **IT (Intermediary Guidelines) Amendment Rules, 2026:** Specifically defines "Synthetically Generated Information" (SGI) and establishes strict disclosure norms for photorealistic AI content.
- **Digital Personal Data Protection (DPDP) Act, 2023:** Provides the framework for processing personal data by AI models, emphasizing "notice and consent" for Indian citizens.

Conclusion

The "AI Surge" is no longer a futuristic concept but a present-day disruptor of the international order. While its potential to transform healthcare, fintech, and diplomacy is immense, its militarization threatens to eclipse human control. The challenge for the 21st century lies not in stopping AI, but in developing a "techno-legal" architecture that ensures these systems remain assistive rather than extractive, keeping the "human-in-the-loop" for critical moral and lethal decisions.



UPSC Relevance

- **GS Paper II:** Effect of policies and politics of developed and developing countries on India's interests; Governance and the use of technology in the judiciary.
- **GS Paper III:** Science and Technology-developments and their applications and effects in everyday life; Security challenges and their management in border areas; Cyber security.
- **Ethics (GS Paper IV):** Ethical dilemmas in autonomous warfare; Bias and accountability in algorithmic decision-making.

7. Strengthening India's Air Power: The Private Pivot in the AMCA Project

The Indian Air Force (IAF) is at a critical juncture in modernizing its fighter fleet. To ensure "operational punch," the force relies on three synchronized verticals: a potent weapons inventory, professional personnel, and a dependable supply chain. Central to this vision is the **Advanced Medium Combat Aircraft (AMCA)**, India's fifth-generation stealth fighter. In a historic shift, the Ministry of Defence is exploring a private-sector-led execution model for the development of five AMCA prototypes, effectively ending the monopoly of the state-owned Hindustan Aeronautics Limited (HAL) in fighter aircraft manufacturing.

Summary of Key Developments

- **Creation of a Parallel Manufacturing Ecosystem:** By awarding the AMCA prototype contract to private players (shortlisted from major industrial groups), the government aims to establish a second aircraft manufacturer to de-risk the program from HAL's overfilled order books and bureaucratic "work culture."
- **Transition to Fifth-Gen Technology:** The AMCA is a 25-tonne, twin-engine stealth multirole fighter. It features "Geometric Stealth" (radar-evading shape), "Internal Weapon Bays," and "Supercruise" (supersonic flight without afterburners).
- **Execution Model Shift:** Unlike the Tejas (LCA) project where HAL was the sole integrator, the AMCA project follows an **Industry-Competitive Model** led by the Aeronautical Development Agency (ADA). Private consortia will now handle prototype construction and systems integration.
- **Institutional Memory and Infrastructure Challenges:** A major hurdle is that private entities are essentially "start-ups" in fighter jet development. Unlike HAL, they lack the specialized 80-year-old ecosystem of wind tunnels, test airfields, and co-located DRDO labs in Bengaluru.
- **Complex Ownership Dynamics:** With the design agency (ADA) under the government and the executor being a private entity, the project faces challenges regarding ownership of intellectual property (IP), liability during flight testing, and long-term production assurance.
- **Strategic Hinterland Location:** Experts suggest that new production facilities should be located in the Indian hinterland (away from borders) but close to the "Aviation Mecca" of Bengaluru to leverage existing flight-test infrastructure and expert test pilots.



Key Definitions

- **Advanced Medium Combat Aircraft (AMCA):** India's indigenous fifth-generation stealth fighter program designed to replace the Su-30MKI and Mirage 2000 fleets.
- **Fifth-Generation Fighter:** A class of jet fighters characterized by all-aspect stealth even when armed, Active Electronically Scanned Array (AESA) radars, and high-performance airframes.



- **Supercruise:** The ability of an aircraft to cruise at supersonic speeds without using afterburners, thereby saving fuel and reducing the infrared signature.
- **Sensor Fusion:** An avionics system that combines data from multiple sensors (radar, infrared, electronic intelligence) into a single, easy-to-read display for the pilot.

Constitutional & Legal Provisions

- **Seventh Schedule (Union List):** Under Entry 2 (Naval, military and air forces) and Entry 7 (Industries declared by Parliament to be necessary for the purpose of defence), the Central Government has exclusive power over defence production.
- **Defence Acquisition Procedure (DAP) 2020:** The primary regulatory framework governing defence procurement. It prioritizes "Buy (Indian-IDDMM)" (Indigenous Design, Development, and Manufacturing) to foster *Aatmanirbharta*.
- **Offsite Policy:** Mandates that foreign OEMs (Original Equipment Manufacturers) must invest a portion of the contract value (typically 30%) back into the Indian defence or aerospace sector.
- **Industrial Licensing:** Most defence parts are now rationalized under the IDR Act, with license validity increased to 15 years to encourage private participation.

Conclusion

The decision to involve private consortia in the AMCA project is a bold "out-of-the-box" strategy to boost India's aerospace capacity. However, the success of this "National Endeavour" depends on synergy between ADA, the private sector, and the IAF's test pilots. A "Co-opted Model," where private players utilize HAL's existing runways and infrastructure in Bengaluru while bringing in private-sector agility, could be the ideal path forward to ensure that India joins the elite club of nations with indigenous fifth-generation air power.

UPSC Relevance

- **GS Paper II:** Government policies and interventions for development; Structure, organization, and functioning of the Ministry of Defence.
- **GS Paper III:** Indigenization of technology and developing new technology; Science and Technology-developments and their applications; Security challenges and their management.
- **Mains/Prelims:** Key organizations (ADA, HAL, DRDO-GTRE), fighter jet generations (4th vs 5th), and the strategic importance of stealth technology in regional power dynamics (countering J-20/J-31).

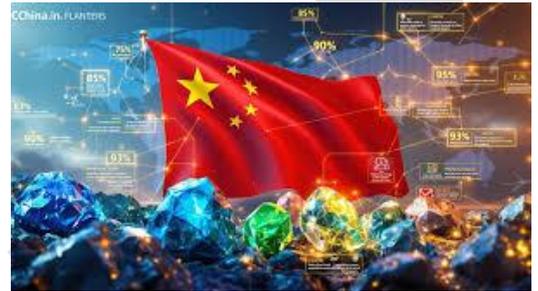
8. The Geopolitics of Energy Leverage: Why Canada Cannot Mirror China's Rare Earth Strategy

As trade tensions escalate between the U.S. and Canada in early 2026, parallels are being drawn between Canada's oil reserves and China's "Rare Earth" leverage. However, structural and geographical realities prevent Ottawa from weaponizing its energy exports. While China dominates the global supply chain of critical minerals, Canada's oil industry is physically and economically tethered to U.S. infrastructure. The current friction, exacerbated by President Trump's threats to block the **Gordie Howe International Bridge** and Canada's strategic reset with China and India, highlights the vulnerability of "Middle Powers" in an era of weaponized interdependence.



Summary of Key Developments

- **The "Oil-for-Rare-Earths" Fallacy:** Unlike China, which controls 70-90% of global rare earth refining, Canada's oil exports (95% of which go to the U.S.) are "landlocked" by a pipeline network that necessitates transit through U.S. soil.
- **Geographical Infrastructure Hurdles:** A significant portion of Canada's western oil must pass through U.S. pipelines to reach eastern Canadian provinces, creating a "forced collaboration" where any Canadian export restriction would jeopardize its own domestic energy security.
- **Bridge as a Flashpoint:** The \$4.7 billion Gordie Howe International Bridge (Windsor-Detroit), financed by Canada, has become a bargaining chip; the U.S. is demanding partial ownership and compensation as a prerequisite for its 2026 opening.
- **Diversification vs. Dependency:** Prime Minister Mark Carney's "China Reset" and recent energy dialogues with India (India Energy Week 2026) aim to reduce the 98% energy export dependency on the U.S., though analysts warn these shifts will take years to materialize.
- **The "Middle Power" Crisis:** At Davos 2026, PM Carney noted that the "rules-based order is fading," advocating for a "Third Way" where middle powers like Canada and India collaborate to resist the "might makes right" logic of hegemons.
- **Market Mismatch:** While the U.S. is a net oil exporter, its refineries are specifically "tuned" to the heavy sour crude produced in Canada (WCS), making the relationship mutually dependent but asymmetrical in terms of political leverage.



Key Definitions

- **Rare Earth Elements (REEs):** A group of 17 chemical elements essential for high-tech applications, including EVs and defense systems, where China holds a near-monopoly on refining.
- **Weaponized Interdependence:** A strategy where states exploit their central position in global networks (like pipelines or financial systems) to coerce others.
- **Middle Power:** A state that is not a superpower but still has large or moderate influence and international recognition (e.g., Canada, India, Australia).

Constitutional & Legal Provisions

- **Section 121 (Constitution Act, 1867):** Originally intended to ensure free trade between Canadian provinces, though recent interpretations have struggled with interprovincial pipeline barriers that force oil through the U.S.
- **Article 103 (USMCA/CUSMA):** The "General Provisions" of the trade agreement which govern regional cooperation but are under strain due to the 2026 review and renegotiation clause.
- **Energy Safety and Security Act:** Federal legislation in Canada that governs the management of energy resources during national emergencies or trade wars.

Conclusion

Canada's inability to leverage its oil like China leverages rare earths is a matter of **"Infrastructure Entrapment."** While Canada is the U.S.'s largest energy supplier, it lacks "Tidewater Access" (the ability to ship oil directly to global markets without passing through a neighbor). Until projects like the Trans



Mountain Expansion (TMX) or new east-bound pipelines are fully integrated with global buyers like India and China, Canada remains a "price-taker" rather than a "price-maker," illustrating the strategic necessity of infrastructure diversification for national sovereignty.

UPSC Relevance

- **GS Paper II:** Effect of policies and politics of developed and developing countries on India's interests; Bilateral, regional, and global groupings involving India (e.g., India-Canada Energy Reset).
- **GS Paper III:** Infrastructure: Energy, Ports, Roads, Airports, Railways; Geopolitics of energy security.
- **Mains:** Comparison of "Energy Diplomacy" of China vs. Middle Powers; Challenges to the global "rules-based order."

9. Crisis in the Indian Aviation Sector: Systemic Fragilities and Regulatory Rebirth

The past year has been a period of profound turbulence for India's civil aviation industry, transitioning from a phase of hyper-growth to a high-stakes "reckoning." Despite being the world's third-largest domestic market, the sector is currently grappling with a **systemic breakdown** evidenced by the December 2025 IndiGo scheduling crisis and the tragic **June 2025 Ahmedabad crash**. This "duopoly-led" structure, where IndiGo and the Air India group control nearly 90% of the market, has revealed its limitations in absorbing shocks. As new regional players like **Shankh Air** and **Al Hind Air** prepare to enter in 2026, the focus has shifted from mere fleet expansion to structural resilience, pilot welfare, and rigorous safety enforcement.

Summary of Key Developments

- **The December "Stress Test" Failure:** IndiGo, India's largest carrier, cancelled over 4,500 flights in early December 2025 due to a "pilot bottleneck" triggered by Phase-2 of the new **Flight Duty Time Limitation (FDTL)** norms. This crisis underscored the dangers of thin crew buffers in a high-utilization model.
- **FDTL Norms and Pilot Fatigue:** The DGCA implemented stricter FDTL rules in 2025 to align with global standards (FAA/EASA). Key changes included extending night windows (00:00–06:00), capping night landings to two per roster, and increasing weekly rest to 48 hours, which reduced pilot utility by roughly 15–20%.
- **Market Concentration (Duopoly):** IndiGo (approx. 65%) and the Air India group (approx. 28%) form a duopoly that creates systemic risk. Operational failures at a dominant carrier no longer merely shift traffic to rivals but lead to a total contraction of national capacity, especially on the 60% of routes where IndiGo is the sole operator.
- **Acute Manpower Deficit:** India faces a critical pilot shortage, requiring an estimated 7,000 pilots by 2026. However, the current pilot-to-aircraft ratio (approx. 14) remains far below the global safety benchmark of 18–20, hampered by high training costs and a lack of local simulator capacity.
- **Regional Decentralization:** To counter the duopoly, the Ministry of Civil Aviation issued No Objection Certificates (NOCs) to three new regional players—**Shankh Air** (UP-based), **Al Hind Air** (Kerala-based), and **FlyExpress** (Telangana-based). These entrants aim to leverage the **UDAN scheme** to improve Tier-2 and Tier-3 connectivity.





- **Safety and Regulatory Scrutiny:** Following the June 2025 crash and 19 separate safety violation notices, the DGCA has adopted a "proactive accountability" stance, imposing heavy fines (₹22.2 crore) and mandating bank guarantees for compliance.

Key Definitions

- **Flight Duty Time Limitation (FDTL):** Mandatory safety regulations that prescribe the maximum flight and duty hours and minimum rest periods for pilots to prevent fatigue-related accidents.
- **Pilot-to-Aircraft Ratio:** A metric used to assess crew depth; a ratio of 18–20 sets of pilots per aircraft is generally required to maintain a buffer for leaves, training, and fatigue management.
- **Safe Harbour (Aviation):** The principle where airlines are protected from certain liabilities provided they adhere to "due diligence" in safety and duty norms; currently under threat due to systemic negligence.
- **Type-Rating:** A regulatory certification for pilots to fly a specific type of aircraft (e.g., A320 or B787), which acts as a bottleneck in rapid fleet deployment.

Constitutional & Legal Provisions

- **Union List (Schedule VII):** Entry 29 gives the Parliament exclusive power to legislate on "Airways; aircraft and air navigation; provision of aerodromes."
- **Bharatiya Vayuyan Adhiniyam, 2024:** The newly enacted primary legislation (replacing the Aircraft Act, 1934) that modernizes aircraft registration, safety oversight, and empowers the DGCA with higher penalizing authority.
- **Article 21 (Right to Safety):** The Supreme Court has periodically interpreted the Right to Life to include the right to safe public transport, forming the basis for judicial intervention in aviation safety standards.
- **Aircraft Rules, 1937:** Secondary legislation that provides the technical framework for pilot licensing, airworthiness, and FDTL norms, recently amended to include Phase-2 fatigue management.

Conclusion

The current crisis is a transition from an "efficiency-first" model to a "safety-first" framework. While the entry of new regional players offers a ray of hope for de-concentration, their survival depends on addressing the high volatility of **Aviation Turbine Fuel (ATF)** prices and the pilot supply-chain crunch. For India to reach its target of 715 million passengers by 2030, the regulator must shift from *ad hoc* crisis management to a permanent **Fatigue Risk Management System (FRMS)** that balances commercial growth with the physiological limits of flight crews.

UPSC Relevance

- **GS Paper II:** Statutory, regulatory and various quasi-judicial bodies (DGCA); Government policies and interventions for development in various sectors.
- **GS Paper III:** Infrastructure: Energy, Ports, Roads, Airports, Railways etc.; Mobilization of resources; Science and Technology (Aviation safety).
- **Mains:** Analyzing the risks of market concentration (duopoly) in essential services; Challenges of regional connectivity (UDAN scheme).



10. Revolutionizing India's Deep-Tech Ecosystem: Revised Startup Recognition Rules 2026

In a landmark policy shift, the Department for Promotion of Industry and Internal Trade (DPIIT) notified the **Revised Startup Recognition Framework 2026** on February 4, 2026. This overhaul formally categorizes "Deep-Tech" as a distinct vertical, acknowledging that innovation rooted in science and engineering requires "patient capital" and longer gestation periods. By doubling the recognition window and raising revenue thresholds, the government aims to prevent high-potential R&D firms from "aging out" of tax benefits before they achieve commercial viability. This move aligns with India's broader vision of **Viksit Bharat 2047** and technological sovereignty.

Summary of Key Developments

- **Introduction of Deep-Tech Category:** For the first time, a dedicated sub-category has been created for startups building solutions based on new scientific or engineering knowledge (e.g., semiconductors, AI, quantum computing).
- **Extended Eligibility Window:** The recognition period for deep-tech startups has been extended to **20 years** from the date of incorporation, compared to the standard **10 years** for regular startups.
- **Enhanced Turnover Thresholds:** To accommodate scaling businesses, the annual turnover limit for regular startups has been raised from ₹100 crore to **₹200 crore**. For deep-tech entities, this threshold is even higher at **₹300 crore**.
- **Inclusion of Cooperatives:** Multi-state and state-registered **Cooperative Societies** are now eligible for startup recognition, aiming to drive grassroots innovation in agriculture and rural sectors.
- **Stricter Fund Deployment Rules:** To ensure "genuine" innovation, startups are now barred from investing capital in non-core assets like residential real estate, luxury goods, or speculative financial instruments during their recognition period.
- **Focus on Intellectual Property (IP):** The new framework mandates that deep-tech applicants must demonstrate significant novel IP creation and a high percentage of expenditure dedicated to Research & Development (R&D).



Key Definitions

- **Deep-Tech Startup:** An entity developing solutions based on scientific or engineering breakthroughs that involve high technical uncertainty, long development cycles, and substantial R&D intensity.
- **Gestation Period:** The time interval between the initial R&D/prototyping stage and the point where a product reaches commercial scale and generates recurring revenue.
- **Patient Capital:** Long-term investment where the investor is willing to wait for a significant period for returns, crucial for capital-intensive sectors like biotechnology or aerospace.
- **Technology Readiness Level (TRL):** A measurement system used to assess the maturity level of a particular technology, now being integrated into the merit-based assessment of deep-tech startups.

Constitutional & Legal Provisions

- **Article 19(1)(g):** The fundamental right to practice any profession or to carry on any occupation, trade, or business, which these rules facilitate by easing the regulatory burden.



- **Section 80-IAC of the Income-tax Act:** Provides a 100% tax deduction on profits for three consecutive years; the 2026 rules extend the window for claiming this benefit for deep-tech firms.
- **Section 56(2)(viib) of the IT Act (Angel Tax):** Recognized startups enjoy exemptions from tax on share premiums, encouraging domestic capital infusion.
- **Multi-State Cooperative Societies Act, 2002:** The legal framework under which large cooperatives can now seek startup status to promote rural entrepreneurship.

Conclusion

The 2026 Revised Framework marks the transition from "Startup India 1.0" (focused on software and services) to "Startup India 2.0" (focused on core engineering and IP). By creating a 20-year runway, India is effectively de-risking the frontier-tech sector, ensuring that innovators are not penalized for the time-intensive nature of breakthrough discoveries. This policy maturity is expected to unlock significant domestic "patient capital" from family offices and institutional investors, reducing reliance on foreign venture capital for strategic technologies.

UPSC Relevance

- **GS Paper II:** Statutory, regulatory and various quasi-judicial bodies (DPIIT); Government policies and interventions for development in various sectors.
- **GS Paper III:** Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment; Science and Technology-indigenization of technology.
- **Prelims/Mains:** Specific thresholds (20 years/₹300 crore), definition of deep-tech, and the role of the Inter-Ministerial Board in tax certifications.

11. Bilateral Mobility: India-UK Social Security Agreement 2026

India and the United Kingdom signed a landmark **Social Security Agreement (SSA)**, also termed the **Double Contributions Convention (DCC)**, in New Delhi on February 10, 2026. The pact was inked by Indian Foreign Secretary Vikram Misri and British High Commissioner Lindy Cameron. This agreement addresses the long-standing grievance of "double taxation" on social security for skilled professionals. It is a critical sub-component of the broader **India-UK Comprehensive Economic and Trade Agreement (CETA)**, which was signed in July 2025 and is slated for full implementation in the first half of 2026.

Summary of Key Developments

- **Elimination of Double Contributions:** The pact ensures that employees sent on short-term assignments (up to **36 months**) do not have to pay social security taxes in both countries. They will only contribute to their home country's system.
- **Certificate of Coverage (CoC):** To avail of the exemption, employees must obtain a CoC from their home country's social security authority (the **EPFO** in India). This serves as legal proof of exemption from host-country deductions.





- **Economic Impact:** The agreement is expected to benefit nearly **75,000 Indian professionals** (primarily in IT, Finance, and Engineering) and over **900 companies**, resulting in estimated annual savings of over **₹4,000 crore**.
- **Protection of Records:** By allowing workers to remain in their home country's social security net during overseas deputation, the agreement prevents "fragmentation" of their contribution records, ensuring their long-term pension and provident fund benefits remain intact.
- **Reciprocity:** The DCC is a reciprocal treaty; British professionals working in India for up to three years will similarly be exempt from Indian social security contributions (EPF), provided they continue paying UK National Insurance.
- **Service Sector Synergy:** By reducing the "cost of doing business," the pact enhances the competitiveness of Indian service exporters, facilitating smoother "Mode 4" (movement of natural persons) trade under the Free Trade Agreement.

Key Definitions

- **Detached Worker:** An employee sent by their employer in one country to work temporarily in another country for a specified period (36 months in this pact).
- **Double Contribution:** A situation where an expatriate is legally required to contribute to the social security systems of both their home and host countries simultaneously.
- **Totalization:** A provision (often found in broader SSAs) that allows for the combining of periods of work in both countries to meet the minimum eligibility criteria for social security benefits like pensions.
- **Certificate of Coverage (CoC):** A document issued by the home country's social security agency exempting the employee from paying social security taxes in the host country.

Constitutional & Legal Provisions

- **Article 73:** Extends the executive power of the Union to matters with respect to which Parliament has power to make laws, including international treaties.
- **Entry 13, Union List (Schedule VII):** "Participation in international conferences, associations and other bodies and implementing of decisions made thereat."
- **Employees' Provident Funds and Miscellaneous Provisions Act, 1952:** The primary legal framework in India for social security. The EPFO is the designated competent authority to issue CoCs under this act.
- **Section 79 of the IT Act (for Digital Records):** Ensures the validity of digital certificates of coverage hosted on official portals of the MEA and EPFO.

Conclusion

The India-UK Social Security Agreement is a "business-enabling" reform that fixes a significant friction point in bilateral trade. While the CETA addresses tariff barriers for goods, the DCC addresses the hidden "human capital tax" for services. By aligning with International Labour Organization (ILO) standards, this pact safeguards the financial dignity of Indian professionals abroad and cements India's position as a global hub for high-skill talent.



UPSC Relevance

- **GS Paper II:** Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests; Effect of policies and politics of developed and developing countries on India's interests.
- **GS Paper III:** Indian Economy and issues relating to mobilization of resources; Effects of liberalization on the economy; Changes in industrial policy and their effects on industrial growth.
- **Mains:** The significance of "Mode 4" mobility in India's FTA negotiations with Western nations; Social security as a tool for economic diplomacy.

12. Green Mobility at a Crossroads: The CAFE-III Norms Debate

As India moves toward its Net Zero 2070 goals, the Ministry of Power and NITI Aayog are refining the third phase of **Corporate Average Fuel Efficiency (CAFE-III)** norms, set to take effect from **April 1, 2027**. A central point of contention in 2026 is the "small car carve-out"—a proposed relaxation for lightweight, entry-level vehicles. While NITI Aayog advocates for promoting these cars to ensure affordability and lower absolute emissions, the industry remains split. Major players like Maruti Suzuki argue that small cars are naturally more efficient, while others like Tata Motors and Mahindra warn that exemptions could compromise safety standards and create an unlevel playing field.

Summary of Key Developments

- **Stricter Emission Ceilings:** CAFE-III mandates a significant reduction in fleet-average CO₂ emissions to approximately **91.7 g/km** (down from 113 g/km in CAFE-II) for the period 2027–2032.
- **The "Small Car" Flashpoint:** The draft originally proposed a **3 g/km CO₂** "deduction" for petrol cars under 909 kg and 1,200 cc. However, as of February 2026, the government is considering "moderating the slope" of the target line rather than a flat exemption to balance industry concerns.
- **Transition to WLTP:** From April 2027, India will adopt the **Worldwide Harmonised Light Vehicle Test Procedure (WLTP)**, replacing the current MIDC. This shift ensures emission data more accurately reflects real-world driving conditions, making compliance tougher for older engine architectures.
- **NITI Aayog's Decarbonization Roadmap:** The think-tank's 2026 report emphasizes that entry-level cars are critical for first-time buyers upgrading from two-wheelers. It suggests that CAFE norms should incentivize "lightweighting" and the use of sustainable biofuels.
- **Super-Credit Mechanism:** To encourage the transition, the norms continue to offer "super-credits" for Electric Vehicles (EVs) and Strong Hybrids, where one EV sale is counted as multiple units to offset the higher emissions of a manufacturer's SUV portfolio.
- **Penalty Framework:** Non-compliance under the amended Energy Conservation Act carries heavy financial penalties, potentially reaching ₹50,000 per vehicle for significant fuel-efficiency shortfalls.





Key Definitions

- **Corporate Average Fuel Efficiency (CAFE):** A regulatory mechanism that limits the sales-weighted average CO₂ emissions of an automaker's entire fleet, rather than testing individual vehicle models.
- **Slope (Cartesian Graph):** In CAFE norms, this refers to the mathematical line that sets CO₂ targets relative to vehicle weight. A "flatter" slope means heavier vehicles must work harder to comply, while a "steeper" slope benefits lighter cars.
- **WLTP (World Harmonised Light Vehicle Test Procedure):** A global standard for determining the levels of pollutants, CO₂ emissions, and fuel consumption from passenger cars under realistic driving cycles.
- **Lighter-than-909 kg Segment:** A specific regulatory category targeting entry-level hatchbacks that typically offer high fuel efficiency but operate on low profit margins.

Constitutional & Legal Provisions

- **Article 48A (Directive Principles):** Mandates the State to protect and improve the environment, providing the moral basis for stringent emission standards.
- **Energy Conservation Act, 2001 (Amended 2022):** The primary legal instrument under which CAFE norms are notified and enforced by the Bureau of Energy Efficiency (BEE).
- **Central Motor Vehicles Rules (CMVR), 1989:** Recently amended to notify the shift to WLTP testing cycles for BS6 vehicles from April 2027.
- **Seventh Schedule (Union List):** Entry 29 (Airways, aircraft, and air navigation) and Entry 97 (Residuary powers) often overlap in environmental and energy regulation.

Conclusion

The CAFE-III norms represent a delicate balancing act between **environmental integrity** and **social equity**. While the government seeks to decarbonize the transport sector, it must avoid making personal mobility unaffordable for the common citizen. The resolution of the "small car" debate will determine whether India's future roads are dominated by large, expensive electrified SUVs or a diverse mix of lightweight, fuel-efficient hatchbacks and hybrids. A "sloped" target approach seems to be the emerging consensus to ensure that all segments contribute to the green transition without sacrificing the viability of budget vehicles.

UPSC Relevance

- **GS Paper II:** Government policies and interventions; Statutory bodies (NITI Aayog, BEE).
- **GS Paper III:** Environmental pollution and degradation; Infrastructure (Energy and Transport); Impact of liberalization on the economy (Auto sector reforms).
- **Prelims/Mains:** Difference between BS-VI and CAFE norms; Significance of WLTP; National Mission for Enhanced Energy Efficiency (NMEEE).