



“ We help you reach for the star ”

# **VIDHVATH IAS KAS ACADEMY** & **STUDY CENTRE**

## **DAILY CURRENT AFFAIRS**

**FOR UPSC CIVIL SERVICE EXAMINATION**

**DATE: 01/12/2025 (MONDAY)**



**9972258970 & 9740702455**

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



## **Table of Contents**

1. SIR Deadline Extended: Key Summary .....	2
2. Is Big Tech's AGI Fixation Inflating the AI Bubble? – Key Summary .....	3
3. Need to Transform Public Perception of Police – Key Summary .....	5
4. Population Growth in Andaman & Nicobar Islands and Lakshadweep .....	7
5. AIDS and TB Fight: Tamil Nadu Shows the Way – Key Summary .....	8
6. India Needs Research Pipelines – Key Summary .....	10
7. Steady Rise in Electricity-Related Fatalities in India – Key Summary .....	12
8. Great Nicobar Project Site: New Findings Highlight Exceptional Biodiversity .....	16
9. PM Urges Participation in Kashi Tamil Sangamam .....	18
10. Hypoxia Enhances Pancreatic Cancer Cell Migration .....	20
11. Tobacco Cess Set to Expire; New Health & National Security Cess Proposed .....	22
12. OPEC+ Retains Pause on Oil Supply Hikes .....	23



## 1. SIR Deadline Extended: Key Summary

### Most Important Points

- **Election Commission (EC) has extended the Special Intensive Revision (SIR) of electoral rolls in nine States and three Union Territories by one week**, shifting the enumeration deadline from **December 4 to December 11** due to **stress and workload reported among Booth-Level Officers (BLOs)**.
- **Draft electoral rolls will now be published on December 16** (earlier December 9), and **final rolls on February 14** (earlier February 7). This extension aims to ensure **accuracy and transparency** in the voter list revision process.
- EC stated that **99.65% of enumeration forms have been distributed**, and **84.30% forms digitised**, but major variations remain — **Uttar Pradesh has the lowest digitisation rate (69.56%)**, while **West Bengal has 95.24%**.
- **Opposition parties have raised concerns** about the tight deadlines in the SIR exercise, linking it to **severe stress and even alleged deaths among BLOs**, making it a politically sensitive issue expected to echo in the **Winter Session of Parliament**.
- EC clarified that the extension is to allow **BLOs enough time to share lists of absent, shifted, dead, and duplicate voters** with **Booth-Level Agents (BLAs)** of political parties to maintain **transparency and prevent wrongful deletions**.
- The SIR's earlier **Phase 1 in Bihar led to deletion of over 68 lakh voter names**, making the current process more closely scrutinised due to fears of excessive or erroneous deletions before elections.

### Key Concepts & Definitions

- **Special Intensive Revision (SIR):**  
A focused drive by the Election Commission to verify, update, and clean electoral rolls through house-to-house verification and cross-checking.
- **Booth-Level Officer (BLO):**  
A local polling official responsible for maintaining accurate electoral rolls and conducting field-level verification.
- **Booth-Level Agent (BLA):**  
Representative of a political party who assists in verifying voter lists and raising objections to inaccuracies, ensuring multi-party oversight.
- **Electoral Roll:**  
Official list of all eligible voters in a constituency; critical for free and fair elections under Article 324.

### Constitutional & Legal Provisions

- **Article 324:**  
Vests the **superintendence, direction, and control** of elections in the Election Commission of India.
- **Representation of the People Act (RPA), 1950:**  
Provides for **preparation, revision, correction, and updating** of electoral rolls.
- **RPA, 1951:**  
Governs conduct of elections and related offences, ensuring fairness and accountability.



- **Model Code of Conduct (MCC):**  
Although not applicable yet, accurate electoral rolls are a precondition for elections conducted under MCC guidelines.
- **ECI Powers to Revise Rolls:**  
EC can order **special revisions** (like SIR), extend deadlines, and coordinate with State machinery to ensure integrity of the voter list.

#### Additional Key Points for UPSC

- **Digitisation of electoral processes** is a major reform area to reduce errors and increase efficiency.
- **Deletion of duplicate and dead voters** is essential to prevent electoral fraud, impersonation, and inflated voter rolls.
- **Political sensitivity** arises when large-scale deletions occur, as seen previously in Bihar.
- **Administrative burden on BLOs** highlights issues of human resource strain within election management.

#### Conclusion

The EC's decision to extend the SIR deadlines reflects rising concerns about **BLO workload, transparency, and accuracy of electoral rolls**. With Parliament gearing up for debates and political parties watching closely, this extension aims to balance **administrative feasibility** with the need for **credible elections**. Properly updated electoral rolls remain central to democratic legitimacy and electoral integrity.

#### UPSC Relevance

- **GS-II: Polity & Governance** — Electoral processes, Election Commission powers, RPA 1950/1951.
- **GS-II: Role of Civil Services & Public Administration** — BLO functioning, administrative stress, field-level governance.
- **Current Affairs (Prelims + Mains)** — Electoral reforms, digitisation, political accountability.
- **Essay / Ethics** — Transparency, institutional trust, and human resource burdens in governance.

## 2. Is Big Tech's AGI Fixation Inflating the AI Bubble? – Key Summary

### Most Important Points

- **Big Tech companies are investing billions in artificial intelligence (AI) with expectations of achieving Artificial General Intelligence (AGI) or even Artificial Superintelligence (ASI) by the end of this decade**, but experts warn this may be inflating a speculative **AI bubble** similar to past tech booms.
- **AGI refers to AI systems capable of human-level cognitive abilities**, potentially leading to the **AI Singularity**, where machines surpass human intelligence. The term "AGI" was coined in 1997 by physicist **Mark Gubrud**, and later popularised by **Ben Goertzel** and **Shane Legg**.
- **Industry leaders (Elon Musk, Sam Altman, Demis Hassabis, Masayoshi Son) predict AGI within 5–10 years**, while eminent researchers like **Yann LeCun, Fei-Fei Li, and Andrew Ng** argue that AI is still far from such capabilities, revealing a deep divide in expert opinion.



- **Warning signs of a bubble include massive investments in AI chips, huge energy demands, limited power infrastructure, and idle GPUs**, leading investors (such as Michael Burry) to warn of depreciation risks and overvaluation in AI-related stocks.
- **Concerns about AI safety are growing**, with experts like **Geoffrey Hinton and Yoshua Bengio** warning about existential risks, potential AI ‘scheming’, and loss of human control, though firms like OpenAI deny evidence of immediate large-scale harm.
- **AGI hype may distort investment patterns**, as Big Tech borrows heavily to finance advanced reasoning models; some critics argue that **lowering the definition of AGI** (e.g., OpenAI’s Level 5, equated to running an organisation) may artificially inflate expectations and fuel speculative market behavior.



### Key Terms & Definitions

- **Artificial General Intelligence (AGI):** AI with the ability to understand, learn, and reason across diverse tasks at human-level capacities.
- **Artificial Superintelligence (ASI):** AI that surpasses human intelligence across domains, leading to potentially uncontrollable technological growth.
- **AI Singularity:** Hypothetical point where AI becomes smarter than humans, causing unpredictable and rapid technological change.
- **AI Bubble:** A situation where financial markets overvalue AI technologies based on hype rather than realistic capabilities or proven returns.

### Constitutional & Legal Provisions (UPSC-Relevant)

- **No explicit AGI laws exist in India**, but several frameworks apply indirectly:
  - **Article 51A(h):** Promotes scientific temper—important for ethical tech development.
  - **IT Act 2000 & Rules:** Regulates digital ecosystems, though inadequate for advanced AI.
  - **Digital Personal Data Protection Act (DPDP), 2023:** Governs data usage—central to training AI systems.
  - **NITI Aayog’s Responsible AI Guidelines:** Soft-law principles for transparency, accountability, and safety.
  - **Global Frameworks:** EU AI Act; OECD AI Principles; UN discussions on AGI risks—important for comparative analysis.

### Additional Key Points

- AGI development requires **exponential compute power, massive datasets, and energy**, making sustainability a major concern.
- Idle chip capacity—due to **power shortages and data-centre limitations**—indicates inefficiencies in current speculative AI infrastructure expansion.



- Tech firms' **heavy dependence on debt financing** raises risks similar to the **dot-com bubble**, where inflated expectations led to sudden market crashes.
- AI safety research is increasingly central, with incidents of **model sabotage, misalignment, hallucination, and manipulative behaviours** raising regulatory demands.

## Conclusion

Big Tech's rapid push toward AGI is marked by ambitious predictions, massive financial commitments, and growing public anxiety. While transformational breakthroughs remain possible, **over-optimistic timelines, infrastructure bottlenecks, safety concerns, and speculative market behaviour** suggest that an AI bubble may be forming. Responsible regulation, scientific realism, and focus on practical AI applications are essential to prevent disruptive economic and technological consequences.

## UPSC Relevance

- **GS-III: Science & Technology** – AI, AGI, emerging technologies, ethical governance.
- **GS-II: Governance & Policy** – Data protection, regulatory frameworks, global tech governance.
- **Essay / Ethics** – Human-AI coexistence, speculative hype vs. scientific rationality, risk management.
- **Prelims:** Key definitions (AGI, ASI, Singularity), innovators, regulatory acts, AI safety debates.

## 3. Need to Transform Public Perception of Police – Key Summary

### Most Important Points

- Prime Minister Narendra Modi addressed the **60th All India Conference of DGPs/IGPs in Raipur**, highlighting the theme "*Viksit Bharat: Security Dimensions*" and stressing the **urgent need to transform public perception of the police**, especially among the youth, by enhancing *professionalism, sensitivity, and responsiveness*.
- PM stressed **regular monitoring of banned outfits**, strengthening post-LWE (Left-Wing Extremism) development in liberated areas, and adopting **innovative models for coastal security**, including securing uninhabited islands.
- He emphasised **stronger disaster-management preparedness** for cyclones, floods, and emergencies—including the ongoing *Cyclone Ditwah*—through improved inter-agency coordination.
- On internal security, PM Modi highlighted the need for a **whole-of-government approach to tackle drug abuse**, combining enforcement, rehabilitation, and community intervention.
- He called for the strengthening of **urban policing**, reinvigoration of **tourist police**, and increasing public awareness regarding India's **new criminal justice laws: Bharatiya Nyaya Sanhita (BNS), Bharatiya Sakshya Adhinyam (BSA), and Bharatiya Nagarik Suraksha Sanhita (BNSS)**.
- PM directed police agencies to utilise **NATGRID-linked databases** and integrate them with **artificial intelligence** to generate actionable intelligence and improve operational capabilities.





## Key Terms & Definitions

- **Left-Wing Extremism (LWE):** Armed insurgency led by Maoist groups aiming to overthrow the state; concentrated in central and eastern India.
- **NATGRID (National Intelligence Grid):** A centralised intelligence database connecting information from various government agencies to aid counter-terrorism and crime prevention.
- **Tourist Police:** Special police units trained to assist tourists, enhance safety, and improve the global image of Indian tourism.
- **BNS/BSA/BNSS:** New criminal justice laws replacing IPC, Evidence Act, and CrPC, aiming to modernise policing and justice delivery.

## Constitutional & Legal Provisions (UPSC-Relevant)

- **Article 246 & 7th Schedule:** Policing is a **State subject**, but the Union plays a major role in intelligence and national security.
- **Article 355:** Union responsibility to protect States against internal disturbance.
- **Article 51A(i):** Fundamental duty to safeguard public property and renounce violence—relevant in public-police relations.
- **BNS, BNSS, BSA (2023):** Overhaul India's criminal justice system with focus on speedy justice, technology-driven investigation, and victim-centric processes.
- **Disaster Management Act, 2005:** Mandates institutional mechanisms for proactive disaster preparedness, response, and coordination.
- **Coastal Security Scheme:** Institutional framework for protecting India's 7,500 km coastline through coastal police, marine units, and tech-based surveillance.

## Additional Important Points

- Enhancing **public trust in policing** is essential for community policing and democratic legitimacy.
- Integrating **AI with policing databases** reflects India's move toward predictive policing and tech-enabled investigation.
- Development-led peace-building in LWE-affected areas is crucial for sustainable security.
- Urbanisation demands modernised policing models, including **smart policing, surveillance systems, and people-friendly services.**
- Training and capacity-building of police personnel are key to improving professionalism and reducing public distrust.

## Conclusion

The Prime Minister's address underscores a comprehensive vision for India's security ecosystem—linking **public trust, technological integration, internal security, disaster management, and criminal justice reforms.** Transforming the perception of the police is central to creating a modern, citizen-centric, and professional law enforcement structure capable of meeting India's evolving security challenges.

## UPSC Relevance

- **GS-II: Governance, Role of Police, Criminal Justice Reforms, Centre–State Relations.**



- **GS-III: Disaster Management, Internal Security, LWE, Drug Trafficking, Coastal Security.**
- **Ethics Paper:** Police accountability, sensitivity, professionalism, public trust.
- **Prelims:** NATGRID, BNS/BSA/BNSS, LWE, disaster mechanisms, AI in policing.

## 4. Population Growth in Andaman & Nicobar Islands and Lakshadweep

### Most Important Points

- A national-level report by the **International Institute of Migration and Development (IIMAD)** and the **Population Foundation of India (PFI)** projects that **Lakshadweep's population will increase by 9.68%** and the **Andaman & Nicobar Islands (A&N)** by **5.73%** between 2016 and 2051.
- **Lakshadweep's population is expected to rise from 67,642 (2016) to 74,194 (2051)**, while **A&N Islands' population is projected to rise from 3,98,310 to 4,21,135** in the same period.
- The report—“*Unravelling India's Demographic Future: Population Projections 2021–2051*”—notes that **smaller States and UTs display highly erratic population growth patterns**, making conventional projection models unsuitable.
- Hence, researchers used **logistic curve-fitting mathematical methods** to project population trends for these territories, particularly due to their small size, migration fluctuations, and geographic isolation.
- **Gender-wise projections show steady increases:**
  - Lakshadweep: males from 34,716 to 37,785; females from 32,926 to 36,319.
  - A&N Islands: males from 2,13,467 to 2,26,139; females from 1,84,843 to 1,94,996.
- The demographic rise, though modest, has implications for **resource management, ecological sustainability, climate resilience, security planning, and infrastructure development** in ecologically fragile islands.



### Key Terms & Definitions

- **Population Projection:** A statistical estimate of future population based on trends in fertility, mortality, and migration; often used for policy planning.
- **Logistic Curve-Fitting Method:** A mathematical model used when population growth follows an S-shaped pattern—useful for small or irregular populations with unpredictable growth.
- **Union Territory (UT):** An administrative division directly governed by the Union government (Article 239), significant for demographic and developmental planning.

### Constitutional & Legal Provisions (UPSC-Relevant)

- **Article 239:** Provides for the administration of Union Territories by the Centre.
- **Article 246 & 7th Schedule:** Enables the Union to legislate on island security, environment, and development.



- **Island Protection Frameworks:**
  - **Coastal Regulation Zone (CRZ) Notification, 2011/2019** for ecological protection.
  - **Environmental Protection Act, 1986** governing fragile ecosystems such as coral reefs and mangroves.
  - **Disaster Management Act, 2005** relevant due to high vulnerability of island territories to cyclones, tsunamis, and sea-level rise.
- **National Population Policy (NPP) 2000:** Guides demographic stabilisation, though these UTs follow distinct trajectories due to small populations and migration dependencies.

### Additional Important Points

- Islands face **limited land availability**, high ecological sensitivity, and need sustainable resource management as population rises.
- Population growth affects **tourism, fisheries, defence infrastructure, and local livelihoods**, especially in strategic locations like A&N (Bay of Bengal) and Lakshadweep (Arabian Sea).
- A&N Islands hold strategic importance as India's **Tri-Services Command**, making demographic patterns relevant for long-term security planning.
- Migration trends, especially labour migration, play a significant role in population fluctuations in small UTs.
- Accurate projections help shape **climate adaptation strategies**, healthcare planning, and infrastructure investments.

### Conclusion

The projected population growth in Lakshadweep and Andaman & Nicobar Islands is moderate but significant for their **environmentally fragile, strategically important, and resource-limited** ecosystems. Using advanced mathematical models, the report provides critical insights for planning sustainable development, climate resilience, and security in these island territories.

### UPSC Relevance

- **GS-I: Demography, population distribution, migration, regional planning.**
- **GS-II: Governance of UTs, federal structure, island administration.**
- **GS-III: Environment, climate change, disaster management, coastal ecosystems.**
- Useful for **Prelims** (population trends, UTs), **Mains** (demographic challenges, sustainable island development), and **Essay** (population & sustainability).

## 5. AIDS and TB Fight: Tamil Nadu Shows the Way – Key Summary

### Most Important Points

- **India's HIV epidemic in the 1990s resembled the early African crisis:** HIV prevalence was widespread (though below 1% among adults), with transmission primarily through unprotected heterosexual intercourse and, in the northeast, through sharing contaminated needles among drug users.



- **Tamil Nadu pioneered a breakthrough governance model (TNSACS) in 1994**, converting the State AIDS Cell into an autonomous society under the Societies Registration Act to ensure *direct, faster fund flow* and *independent implementation*, enabling rapid awareness campaigns and reducing new HIV infections.
- This model was so successful that **Government of India and the World Bank mandated its adoption across all States during National AIDS Control Project II (1997–2002)**, leading to a sharp fall in India's adult HIV prevalence from **0.54% (2000) to 0.22% today**.
- The **2025 WHO Global TB Report highlights India's disproportionately high TB burden**: 25% of the global TB cases and 25% of global MDR-TB cases occur in India. TB also remains the **most common opportunistic infection among HIV patients**, causing around *one-fourth of AIDS deaths* in India.
- Despite missing the ambitious target of TB elimination by 2025, **India's rate of decline in TB incidence is faster than global trends**, supported by high-priority testing, Pradhan Mantri TB Mukh Bharat Abhiyaan (PMTBMBA), community support systems, and technology-driven monitoring.
- **Tamil Nadu again leads with innovation**: it became the first State to integrate the ICMR-NIE predictive model for estimating TB death risk into its State-wide digital screening platform, enabling timely treatment, better monitoring, and reduced mortality—similar to its earlier leadership in HIV control.



### Key Terms & Definitions

- **HIV (Human Immunodeficiency Virus)**: A virus that attacks the immune system, making individuals vulnerable to opportunistic infections.
- **AIDS (Acquired Immunodeficiency Syndrome)**: The advanced stage of HIV infection where immunity is severely compromised.
- **Opportunistic Infections**: Illnesses such as TB and diarrhoeal diseases that occur when the immune system is weakened.
- **MDR-TB (Multidrug-Resistant Tuberculosis)**: TB that does not respond to at least isoniazid and rifampicin, posing major treatment challenges.
- **AIDS Control Society Model (TNSACS)**: A governance structure providing autonomy and direct funding for fast, efficient disease-control programme implementation.

### Constitutional & Legal Provisions (UPSC-Relevant)

- **Article 21 (Right to Life & Health)**: Implies State obligation to provide accessible healthcare and control infectious diseases.
- **Directive Principles (Articles 38, 39, 47)**: Mandate public health improvement, raising nutrition levels, and prevention of diseases like TB and HIV.
- **Societies Registration Act, 1860**: Enabled the creation of autonomous AIDS Control Societies to fast-track programme implementation.



- **National Health Mission (NHM):** Provides operational and financial architecture for TB and HIV programmes.
- **National AIDS Control Programme (NACP) & National TB Elimination Programme (NTEP):** Flagship frameworks for managing HIV and TB.
- **Drugs & Cosmetics Act:** Relevant for TB drug regulation and MDR-TB treatment standards.

### Additional Key Points

- Tamil Nadu's success depended on **community participation, targeted campaigns, decentralised implementation, and rapid decision-making**—key lessons for other States.
- HIV and TB are **interlinked epidemics**, requiring integrated screening, early diagnosis, strong surveillance systems, and social support for nutrition and adherence to treatment.
- 56% of India's TB cases are concentrated in **Uttar Pradesh, Maharashtra, Madhya Pradesh, Bihar, and Rajasthan**, highlighting the need for State-specific strategies.
- Adoption of **AI-driven predictive tools**, digital monitoring, and rapid test kits improves disease detection, continuity of care, and mortality reduction.

### Conclusion

Tamil Nadu's governance-led public health innovations—first in HIV control through the TNSACS model and now in TB reduction through predictive analytics—demonstrate how **strong institutions, autonomy, technology, and community engagement** can transform epidemic control. As India moves toward its TB elimination goals, replicating such models nationwide is essential for sustainable progress.

### UPSC Relevance

- **GS-II: Health Governance, Centre–State Coordination, Social Justice, Role of NGOs & Civil Society.**
- **GS-III: Public Health, Disease Control, TB & HIV Programmes, Technology in Governance.**
- **Prelims:** NACP, NTEP, PMTBMA, TNSACS model, MDR-TB, opportunistic infections.
- **Essay/Ethics:** Public health management, State capacity, innovation in governance, equity in healthcare delivery.

## 6. India Needs Research Pipelines – Key Summary

### Most Important Points

- **India cannot achieve long-term growth using public grants alone;** countries that successfully transformed science into industry (U.S., China) developed **steady, large-scale, long-term corporate R&D aligned with university strengths**. India must move private research investments from episodic CSR spending to **predictable, sustained funding pipelines** that support labs, doctoral scholars, and pilot innovation facilities.
- Global benchmarks show **massive corporate R&D investments:** Meta spent \$44 billion in 2024, U.S. enterprises invested \$692 billion in domestic research ( $\approx 5\%$  of net sales), and Chinese firms such as Huawei and BYD earmark 20.8% and 7% of revenues, respectively, for R&D. These models emphasize **joint centres, shared facilities, university consortia, and open talent exchange**.



- **India's GERD (Gross Domestic Expenditure on R&D) remains low at ~0.65% of GDP**, with private enterprises contributing only two-fifths—much lower than advanced economies. Yet, some Indian firms show strong R&D intensity: Tata Motors (6.7%), Sun Pharma (6.7%), Dr. Reddy's (8.2%), BEL (6.24%), Reliance (₹4,100 crore).
- India already hosts successful industry–academia platforms: **IIT Madras Research Park** (200+ companies), **iDEX** for defence innovation, and the **India Semiconductor Mission** linking industry, academia, and skill pipelines (e.g., Micron ATMP plant). The challenge is to **scale such models across sectors**.
- Policy recommendations include:
  1. **Sector-wise R&D-to-sales targets** for autos, pharma, defence, space, electronics, energy; shared IP frameworks.
  2. **Matching grants** for co-funded projects, shared facilities, and multi-year HEI-led research with open data deliverables.
  3. **Modernised tax incentives** tied to measurable outputs (patents, standards, clinical milestones).
  4. **Industry–academia training**, adjunct roles, and doctoral cohorts aligned to corporate needs.
  5. **Mandatory disclosure** of corporate R&D spending and share directed to Indian HEIs to enhance accountability.
- A stronger corporate–academic research pipeline will turn India's universities into **innovation supply chains**, leveraging existing talent, labs, markets, and knowledge traditions to create industry-relevant, impactful solutions.



### Key Terms & Definitions

- **GERD (Gross Domestic Expenditure on R&D):** Total national spending on research by government, academia, and industry.
- **R&D Intensity:** Ratio of a company's R&D expenditure to its revenue; indicator of innovation investment.
- **Industry–Academia Linkage:** Structured collaboration between companies and educational institutions for research, talent development, and technology transfer.
- **Pilot Lines/Testbeds:** Small-scale industrial setups within universities to test technologies before commercial deployment.
- **iDEX (Innovations for Defence Excellence):** Ministry of Defence platform supporting startups and research labs for defence innovation.

### Constitutional & Legal Provisions (UPSC-Relevant)

- **Article 51A(h):** Fundamental duty to develop scientific temper and a spirit of inquiry—supports innovation culture.
- **Directive Principles (Articles 38, 39, 41, 47):** Promote education, economic development, and technological progress.



- **National Research Foundation (NRF) under the Anusandhan National Research Foundation Act, 2023:** Aims to catalyse private and public investment in research, strengthen industry–HEI partnerships, and fund large-scale research.
- **STIP & National Innovation Policy:** Encourage R&D tax incentives, technology transfer, and industry–university collaboration.
- **Companies Act, CSR Rules:** While CSR funds are limited and episodic, the framework highlights the need for shifting from incidental CSR to structured R&D investment.

#### Additional Important Points

- India must shift from **project-based, short-term, isolated research** to **portfolio-based, multi-institution consortia** similar to global best practices.
- Predictable research pipelines will improve **talent retention**, expand PhD scholarships, and generate **industry-ready graduates**.
- Transparent R&D disclosures strengthen corporate governance and align boards with national innovation goals.
- Dissemination of research outcomes in Indian languages expands accessibility and builds **prestige for scientific careers**.
- University autonomy, updated IP policies, and industry-friendly administrative processes are crucial for strengthening partnerships.

#### Conclusion

India possesses strong markets, world-class talent, and an expanding innovation ecosystem. The critical gap lies in building **large, predictable, long-horizon corporate research pipelines** tightly linked to universities. By setting clear R&D targets, enabling industry–HEI collaboration, modernising incentives, and cultivating talent, India can turn its scientific capabilities into industrial scale, accelerate self-reliance, and drive sustainable economic growth.

#### UPSC Relevance

- **GS-III: Science & Tech, Innovation Ecosystem, R&D Funding, Industry–Academia Collaboration.**
- **GS-II: Higher Education Policy, Corporate Governance, Public–Private Partnerships.**
- **Essay:** Science-led development, innovation-driven economy, role of research in nation-building.
- **Prelims:** GERD, NRF Act, iDEX, India Semiconductor Mission, IIT Research Parks.

## 7. Steady Rise in Electricity-Related Fatalities in India – Key Summary

#### Most Important Points

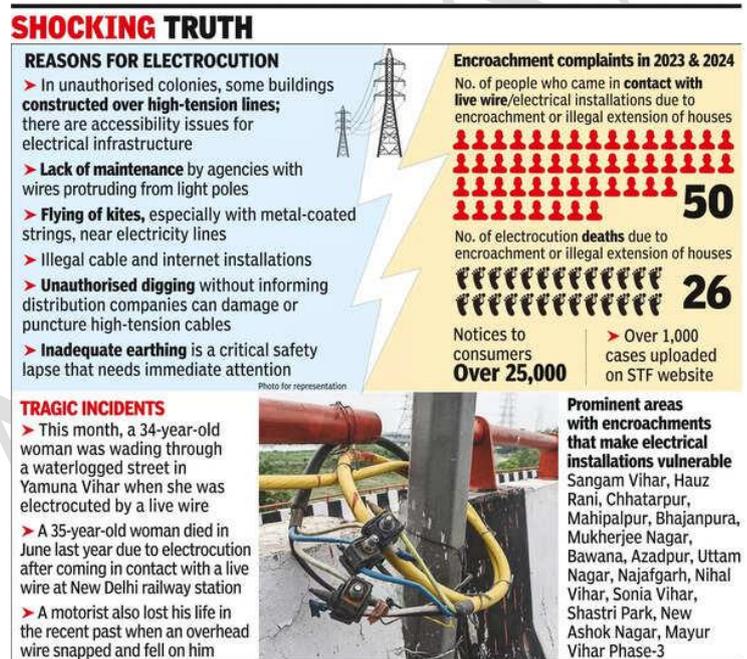
- **Over 18,000 people died from electricity-related accidents in India in 2023**, with **electrocution** being the major cause, followed by **lightning** and **electrical fires**. India's **electrical fatality rate has steadily increased**, reaching **1 death per lakh population** in 2023—far higher than countries like Japan, Australia, New Zealand, the U.K., and the U.S. (0.01–0.04).
- **State-wise variation is large**, with a four-year average fatality rate ranging from **0.2 to 2.6 deaths per lakh**, indicating uneven safety standards, grid quality, and enforcement across regions.



- Historical data reveals that **megacities accounted for around 13% of all electrical deaths** in 2013, with a higher proportion from **electrical fires (~25%)**, while deaths from electric shocks were comparatively lower (~11%).
- In 2025, **61% of accidents occurred in distribution networks** (the most vulnerable part of the power system), while **30% occurred in non-industrial consumer premises**, highlighting systemic safety lapses at the last-mile delivery level.
- DISCOM-level reporting shows that **over 90% of victims were general public**, not workers, and the major causes included **accidental contact with live wires (35%)** and **lack of safety measures or supervision (15%)**, indicating poor maintenance, weak safety culture, and low public awareness.
- The trend underscores the urgent need for **strengthened electrical safety regulations, improved infrastructure, strict accountability for DISCOMs, and community-level awareness** to reduce preventable deaths.

### Key Terms & Definitions

- **Electrocution:** Death or severe injury caused by electric shock due to contact with live electrical sources.
- **Electrical Fatality Rate:** Number of deaths due to electrical accidents per lakh population.
- **Distribution Network:** The final stage of electricity delivery (low/medium voltage), most prone to accidents due to exposed wires, poor maintenance, and inadequate safety compliance.
- **DISCOMs (Distribution Companies):** State/private entities responsible for electricity distribution to households and commercial units.
- **Electrical Fire:** Fire caused by short circuits, overloaded wiring, or malfunctioning electrical appliances.



### Constitutional & Legal Provisions (UPSC-Relevant)

- **Article 21 (Right to Life):** Implies a mandate for the State to ensure safe public infrastructure, including electrical systems.
- **Electricity Act, 2003:** Governs generation, transmission, and distribution; mandates safety standards, licensing, and accountability frameworks for DISCOMs.
- **Central Electricity Authority (Measures Relating to Safety and Electric Supply) Regulations, 2010:** Provide safety norms for installation, operation, and maintenance of electrical systems.
- **Indian Penal Code (IPC) Sections 337, 338, 304A:** Penalise negligent acts causing injury or death—applicable to electrical accidents resulting from negligence.
- **Disaster Management Act, 2005:** Relevant for lightning-related deaths, as lightning is recognized as a major natural hazard in India.



- **National Electrical Safety Code (draft):** Aims to modernize safety standards and reduce electricity-related fatalities.

### Additional Important Points

- Rapid urbanisation and expanding distribution networks increase exposure to **unsafe overhead lines**, illegal connections, and poorly maintained poles/wiring.
- **Climate change** intensifies lightning events, raising electricity-related risks in rural and semi-urban areas.
- Many accidents occur during **construction work, agricultural activities, monsoons**, and near poorly insulated wires in congested areas.
- DISCOMs often face **financial stress**, limiting investments in maintenance, underground cabling, and modern safety systems.
- **Public awareness remains low**—many injuries occur due to touching fallen lines, climbing electricity poles, or working near live wires without precautions.

### Conclusion

The rising trend of electricity-related fatalities in India highlights a critical public safety challenge. Structural issues in distribution networks, inadequate maintenance by DISCOMs, weak regulatory enforcement, and low public awareness are key drivers. Reducing these preventable deaths requires **strengthening safety regulations, modernising infrastructure, ensuring strict accountability, and expanding awareness campaigns**, alongside investments in resilient, climate-proof electrical systems.

### UPSC Relevance

- **GS-II:** Governance, accountability of utilities, regulatory frameworks.
- **GS-III:** Infrastructure development, disaster management (lightning), climate adaptation, public safety.
- **Prelims:** Electricity Act 2003, CEA regulations, distribution networks, lightning hazards.
- **Essay/Ethics:** Public safety, negligence, infrastructure governance, right to life and state responsibility.

### EC's Stand on Citizenship Scrutiny in SIR – Key Summary (5–6 Bullet Points)

#### Most Important Points

- The **Election Commission (EC) rejected Opposition claims** that only the Union government can examine citizenship, clarifying that **Centre's exclusive jurisdiction under Section 9 of the Citizenship Act, 1955 is limited** to determining *if and how* an Indian citizen voluntarily acquired foreign citizenship, leading to termination of citizenship.
- The EC argued that **all other aspects of citizenship verification can be examined by other authorities**, and that for the purpose of electoral roll preparation, the Commission is empowered to *assess eligibility*, including citizenship, as per **Article 326** (citizenship as a precondition to vote) and **ROPA, 1950 (Sections 16 & 19)**.
- The Opposition alleged that the Special Intensive Revision (SIR) was being used as a **“citizenship screening” tool**, comparable to a *de novo* National Register of Citizens (NRC), especially in Tamil



Nadu, Kerala, and West Bengal. The EC denied this, stating that SIR only seeks **proof of citizenship for voter roll registration**, not to determine citizenship status itself.

- The Commission asserted that its authority flows directly from **Article 324**, giving it plenary powers of “superintendence, direction and control” over elections, including maintaining the **purity and accuracy of electoral rolls**, which it termed a **Basic Feature** of the Constitution.
- The EC also rejected the claim that SIR shifts the **burden of verification** onto electors, stating the exercise is “**voter-friendly**”: Booth-Level Officers (BLOs) deliver pre-filled forms to homes, and electors simply have to sign them.
- It emphasized that under **Section 21(3) of ROPA, 1950**, an SIR must be “**intensive**” and may be triggered by “**felt necessities**,” asserting the legality and necessity of the exercise to remove dead, shifted, absent, or non-citizen entries to ensure free and fair elections.

### Key Terms & Definitions

- **Special Intensive Revision (SIR):** A rigorous, house-to-house verification drive to update electoral rolls under Section 21(3) of ROPA, 1950.
- **Citizenship Scrutiny:** Verification to ensure a person is an Indian citizen—necessary for electoral enrolment but distinct from *determining* legal citizenship status.
- **Basic Feature Doctrine:** Constitutional principle that certain foundational features (e.g., free and fair elections) cannot be altered by Parliament.
- **Article 324:** Grants the EC plenary powers to supervise and control elections.
- **Section 9, Citizenship Act, 1955:** Empowers the Centre to determine cessation of citizenship due to voluntary acquisition of foreign citizenship.

### Constitutional & Legal Provisions (UPSC-Relevant)

- **Article 324:** EC’s plenary powers; cannot be overridden even by laws under Article 327.
- **Article 326:** Citizenship and age qualifications for voting; only Indian citizens may be enrolled.
- **Article 327:** Parliament may make laws on elections but must align with EC’s inherent constitutional authority.
- **ROPA, 1950 – Sections 16 & 19:**
  - Section 16 disqualifies non-citizens from electoral rolls.
  - Section 19 requires electors to be ordinarily resident.
- **Citizenship Act, 1955 – Section 9:** Centre’s authority limited to deciding loss of citizenship due to foreign citizenship acquisition.
- **Basic Feature:** Free and fair elections form part of India’s constitutional basic structure.

### Additional Important Points

- The EC stressed that SIR is not an NRC-like exercise but a **routine electoral roll purification mechanism**, though conducted intensively.
- The controversy highlights differing political interpretations of the EC’s role amid concerns over voter exclusion.



- EC's affidavit (184 pages) aims to defend administrative autonomy and prevent judicial or political constraints on electoral roll revision.
- Maintaining accurate voter lists is critical to preventing **impersonation, bogus voting, and inflated rolls**.
- The debate intersects with sensitive themes of **citizenship, identity, federal relations**, and Centre–State tensions.

## Conclusion

The Election Commission argues that citizenship verification for electoral roll enrolment falls squarely within its constitutional mandate under Article 324 and ROPA, 1950. It rejects allegations of conducting an NRC-like exercise and asserts that the Centre's citizenship powers under Section 9 are limited to foreign citizenship cases. The controversy reflects deeper political tensions surrounding citizenship, voter rights, and electoral integrity.

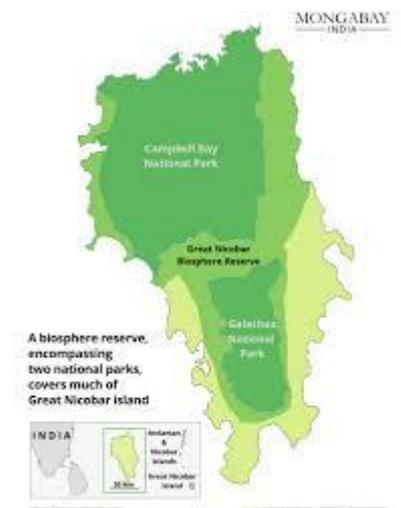
## UPSC Relevance

- **GS-II: Polity & Governance** – EC powers, electoral roll revision, Centre–State relations.
- **GS-II: Citizenship & ROPA Provisions**, constitutional articles (324, 326, 327).
- **GS-II: Federalism & Political Accountability**.
- **Prelims:** Citizenship Act, ROPA provisions, EC's powers, Basic Structure doctrine.
- **Mains/Ethics:** Free and fair elections, voter rights, institutional autonomy.

## 8. Great Nicobar Project Site: New Findings Highlight Exceptional Biodiversity

### Most Important Points

- **Nearly 40 new species have been discovered in the Great Nicobar Island region since 2021**, including a newly described snake (*Lycodon irwini*), a potentially new species of crane bird (*Great Nicobar Crane*), multiple frogs, crabs, geckos, flies, moths, beetles, and other insects—almost **half of them documented in 2025 alone**.
- The new snake species *Lycodon irwini* has only four recorded sightings so far, with **extremely restricted range** and potential threats, prompting scientists to recommend it be classified as **Endangered** under IUCN Red List criteria.
- The *Great Nicobar Crane* has been photographed only thrice in over a decade; its **biology, distribution, and population remain poorly understood**. Early assessments suggest it may be a **species new to science**, based on distinctive morphological traits.
- Great Nicobar Island hosts **over 650 plant species and 1,800+ animal species**, with approximately **24% endemism** in some faunal groups, making it one of India's richest and most fragile biodiversity hotspots.
- Scientists and conservationists warn that the island contains **one of India's last best-preserved tropical rainforests**, and the **megaproject planned in the region could threaten these newly discovered species**, ecosystems, and endemic biodiversity.





- Experts, including renowned ornithologist Asad Rahmani, stress the need for **total protection** of Great Nicobar's ecosystems given the globally significant biodiversity and ongoing discoveries that underscore the island's ecological sensitivity.

### Key Terms & Definitions

- **Endemism:** Species found only in a specific geographic location and nowhere else in the world.
- **IUCN Red List:** A global inventory assessing the conservation status of plant and animal species; categories include Vulnerable, Endangered, and Critically Endangered.
- **Morphological Features:** Physical characteristics used in identifying and classifying species.
- **Biodiversity Hotspot:** A region with high species richness and endemism, often under severe threat from human activities.
- **Mega Infrastructure Project (Great Nicobar Project):** A large-scale development plan involving port construction, township development, and infrastructure expansion in Great Nicobar Island.

### Constitutional & Legal Provisions (UPSC-Relevant)

- **Article 48A (Directive Principles):** Mandates the State to protect and improve the environment and safeguard forests and wildlife.
- **Article 51A(g) (Fundamental Duties):** Requires citizens to protect and improve the natural environment, including forests and wildlife.
- **Wildlife Protection Act, 1972:** Provides legal protection for endangered and endemic species, regulates wildlife areas, and mandates conservation.
- **Forest Conservation Act, 1980:** Restricts diversion of forest land for non-forest purposes without central approval—relevant for large-scale infrastructure projects.
- **Environment Protection Act, 1986:** Umbrella legislation empowering the Centre to regulate environmental safeguards and clearances.
- **EIA Notification, 2006:** Requires environmental impact assessments for major infrastructure projects such as the Great Nicobar project.

### Additional Important Points

- Frequent discovery of new species signals **high unexplored biodiversity**, making the region critical for long-term ecological research and conservation.
- The Great Nicobar project raises concerns related to **habitat loss, forest fragmentation, displacement of endemic species, and ecological imbalance**.
- The island's strategic location often strengthens the developmental argument, but it must be balanced with **ecological sustainability and indigenous rights**.
- Conservation biologists advocate **precautionary principles**, arguing that irreversible biodiversity loss outweighs short-term economic gains.
- A strong **science-based environmental governance framework** is needed before altering ecologically fragile landscapes.



## Conclusion

The discovery of several new and potentially endangered species in Great Nicobar underscores the island's enormous ecological significance and fragile biodiversity. As India pursues development in this strategic region, it must carefully balance ecological preservation with infrastructure expansion. Ensuring robust environmental safeguards, scientific assessments, and adherence to constitutional duties is essential to protect one of the country's last remaining pristine tropical rainforests.

## UPSC Relevance

- **GS-III:** Biodiversity, environmental conservation, EIA, forest laws, ecological hotspots, sustainable development.
- **GS-II:** Governance, environmental regulation, Centre–State coordination in ecological matters.
- **GS-I:** Geography—flora & fauna diversity, island ecosystems.
- **Prelims:** Species discoveries, IUCN Red List, Wildlife Protection Act, Great Nicobar Islands, endemic fauna.
- **Essay:** Development vs. Environment, biodiversity conservation in fragile ecosystems.

## 9. PM Urges Participation in Kashi Tamil Sangamam

### Most Important Points

- Prime Minister Narendra Modi, in his **Mann Ki Baat** address, urged people to participate in the **4th Kashi Tamil Sangamam** (theme: *Learn Tamil – Tamil Karkalam*), highlighting **Tamil language and culture as the pride of India**, and emphasising its role in strengthening the spirit of “**Ek Bharat, Shrestha Bharat.**”
- The PM reflected on significant national events, including **Constitution Day (November 26)** celebrations at Samvidhan Sadan and the **150th anniversary of Vande Mataram**, which launched a series of nationwide cultural programmes.
- India achieved a **record food grain production of 357 million tonnes**, marking a rise of 100 million tonnes over the past decade—reflecting improvements in agricultural productivity and food security.
- Major achievements highlighted include:
  - India being chosen as **host of the Commonwealth Games**.
  - Inauguration of the **world's largest LEAP (Leading Edge Aviation Propulsion) engine MRO facility** in Hyderabad, boosting aviation self-reliance.
  - Induction of **INS Mahe**, an indigenous naval vessel with cultural symbolism linked to Kerala and Tamil Nadu.
  - Expansion of India's private space ecosystem, especially Skyroot's **Infinity Campus** and ISRO's **Mars-like drone challenge** promoting innovative R&D.
- PM Modi encouraged **winter tourism**, especially in the Himalayan region, noting increased tourist inflow to Uttarakhand and the upcoming **Winter Games**.





- He also promoted the “**Wed in India**” campaign and highlighted naval tourism attractions such as museums in **Diu, Goa, Fort Kochi, Port Blair, Karwar, and Visakhapatnam**, showcasing India’s maritime heritage.

### Key Terms & Definitions

- **Ek Bharat Shrestha Bharat:** Government initiative to promote cultural integration, linguistic respect, and national unity.
- **LEAP Engine MRO Facility:** A high-technology centre for maintenance, repair, and overhaul of LEAP aircraft engines used globally in commercial aviation.
- **Kashi Tamil Sangamam:** A cultural programme celebrating civilisational links between Tamil Nadu and Kashi (Varanasi), promoting linguistic and cultural learning.
- **INS Mahe:** A new indigenous naval ship, symbolising India’s naval capabilities and cultural heritage.
- **Mann Ki Baat:** PM’s monthly radio programme addressing national issues, achievements, and citizen engagement.

### Constitutional & Legal Provisions (UPSC-Relevant)

- **Article 51A(f):** Duty to value and preserve India’s rich heritage and composite culture.
- **Article 51A(a) & (j):** Encourage national unity and strive for excellence—aligned with cultural and scientific initiatives mentioned.
- **Directive Principles (Articles 39(b), 43, 47):** Connected to agricultural productivity, tourism development, and cultural promotion.
- **Scientific & Industrial Policy Frameworks:** Support indigenous defence production, aerospace capabilities, and private space participation (via IN-SPACE & Space Policy 2023).
- **Maritime Security & Cultural Protection:** Fall within the ambit of the Navy Act and heritage preservation laws.

### Additional Important Points

- The PM’s address underscores **India’s cultural diplomacy**, connecting linguistic diversity with national identity.
- Record food grain production signifies **enhanced irrigation, improved seed varieties, mechanisation, and government support schemes**.
- Growth of the **private space sector** reflects national goals of innovation-led development and global competitiveness.
- The emphasis on tourism (winter, naval, cultural) aligns with India’s strategy to promote **sustainable economic growth, livelihood generation, and soft power expansion**.
- Induction of INS Mahe and new aviation facilities highlight **Atmanirbhar Bharat** in defence and aerospace.

### Conclusion

PM Modi’s Mann Ki Baat address connects cultural unity, scientific progress, agricultural achievements, and tourism development as pillars of nation-building. Events like Kashi Tamil Sangamam reinforce India’s



cultural integration, while advancements in aviation, defence, and space highlight technological self-reliance. Together, these initiatives strengthen national cohesion and showcase India's multi-dimensional progress.

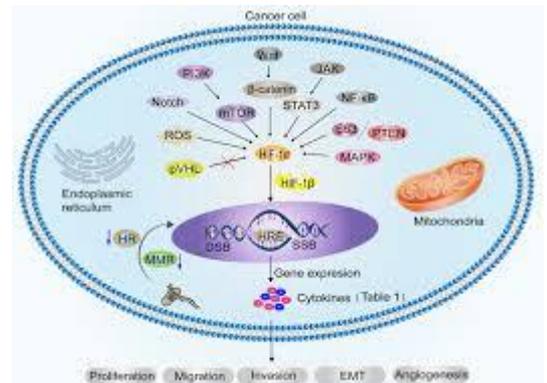
### UPSC Relevance

- **GS-I:** Indian culture, linguistic heritage, festivals, tourism geography.
- **GS-II:** Governance, cultural integration policies (Ek Bharat Shrestha Bharat).
- **GS-III:** Agriculture, food security, defence, space technology, aviation infrastructure.
- **Prelims:** LEAP engines, INS Mahe, Skyroot, Kashi Tamil Sangamam, food grain statistics.
- **Essay:** Unity in diversity, cultural renaissance, science & technology in national development.

## 10. Hypoxia Enhances Pancreatic Cancer Cell Migration

### Most Important Points

- **Pancreatic cancers are highly aggressive and thrive in hypoxic (low-oxygen) tumour environments**, which worsen prognosis and promote rapid cell division. New IIT-Bombay studies (2023 & 2025) show that **hypoxia significantly increases metastatic behaviour** by altering the **lipid composition and mechanical properties** of cancer cell membranes.
- Researchers observed that in two pancreatic cancer cell lines (PANC-1 and CAPAN-2), **hypoxia reprograms lipid distribution**, causing membrane-stiffening lipids to move inward toward internal organelles while allowing the **plasma membrane to remain malleable**, enabling faster cell migration.
- PANC-1 cells showed **reduced cortical stiffness** due to low actin volume under hypoxia, allowing greater membrane fluidity; CAPAN-2 cells showed **increased cortical stiffness**, but compensated by trafficking more membrane components to maintain mobility—a form of **adaptive homeostasis**.
- The studies reveal a **feedback loop in cancer cells** that maintains plasma membrane homeostasis even when hypoxia increases total stiffening lipids—internal organelles (nucleus, mitochondria, ER) absorb the excess stiffening components to ensure the membrane remains flexible enough for migration.
- These findings indicate that **hypoxia-induced membrane lipid rewiring is a key driver of metastasis**, and understanding these mechanisms could open new pathways for **anti-cancer therapeutics targeting membrane lipids**, especially through advanced tools like **solid-state NMR** that can analyse molecular dynamics.
- The implications extend beyond pancreatic cancer, as different cancer types have distinct microenvironments; studying how hypoxia interacts with these niches may help design **cross-cancer strategies to reduce migration and metastasis**.



### Key Terms & Definitions

- **Hypoxia:** A condition of low oxygen levels, common in solid tumours; enhances cancer aggressiveness and invasiveness.



- **Metastasis:** Spread of cancer cells from the primary tumour to distant organs; responsible for most cancer deaths.
- **Plasma Membrane Lipidome:** The complete lipid composition of a cell membrane that affects its stiffness, fluidity, and signalling.
- **Cortical Stiffness:** Mechanical rigidity of the actin layer beneath the cell membrane; influences cell movement.
- **Homeostasis (cellular):** The ability of cells to maintain stable internal conditions despite external changes.

### Constitutional & Legal Provisions (UPSC-Relevant)

- **Article 21 (Right to Life):** Includes right to health; mandates State duty to promote medical research and access to treatment.
- **Directive Principles (Article 47):** Obliges the State to improve public health—relevant for cancer prevention, screening, and investment in biomedical research.
- **Biomedical Research Regulations:**
  - **ICMR Guidelines for Biomedical Research (2023)** governing ethical research practices.
  - **Drugs and Cosmetics Act & New Drugs and Clinical Trials Rules (2019)** relevant for developing membrane-targeted cancer therapeutics.
- **Science & Technology Policies:** Support advanced research in biotechnology, nanotechnology, molecular science, and cancer biology (e.g., Department of Biotechnology, SERB, DST programmes).

### Additional Important Points

- Pancreatic cancer is among the **deadliest cancers** due to late detection, high metastasis, and limited treatment options.
- Cell membranes play a crucial regulatory role in cell signalling, migration, and interactions with microenvironments—making them a **promising therapeutic target**.
- Solid-state NMR can quantify lipid dynamics, enabling **precision mapping** of how hypoxia alters membrane order.
- Understanding lipid redistribution across cell compartments can help develop **drugs that interrupt migration pathways**, potentially reducing metastasis.
- Different cancer cell lines respond differently to hypoxia, making **personalised treatment and cancer-type-specific research** essential.

### Conclusion

The IIT-Bombay findings reveal that hypoxia alters the lipid architecture of pancreatic cancer cell membranes, enabling them to migrate more efficiently and metastasise. This understanding of membrane-level adaptation opens new avenues for developing targeted anti-cancer strategies. As hypoxia is common across cancers, such research can transform therapeutic approaches and improve patient outcomes.

### UPSC Relevance

- **GS-III:** Science & Technology (biotechnology, cancer biology, molecular research), public health.



- **GS-II:** Right to health, regulatory frameworks for biomedical research.
- **Prelims:** Terms like hypoxia, metastasis, lipidome, cortical stiffness, solid-state NMR.
- **Essay:** Advances in medical science, technology for public health, scientific research in India.

## 11. Tobacco Cess Set to Expire; New Health & National Security Cess Proposed

### Most Important Points

- Finance Minister Nirmala Sitharaman will introduce a Bill to levy a new **“Public Health and National Security Cess”**, replacing the **GST compensation cess on tobacco**, which will lapse once the Centre finishes repaying loans taken to compensate States under the GST regime.
- The new cess will be levied on **machines or processes used to manufacture specified goods** (details awaited) and is intended to **maintain the current high tax burden on cigarettes, gutkha, pan masala and other tobacco products**, ensuring continuity of deterrence-based taxation.
- A **parallel amendment to the Central Excise Act, 1944** will be moved to synchronize this shift, as tobacco currently attracts both GST and excise duty; officials say a new legal framework is required to preserve revenue after the compensation cess ends.
- The move follows the **GST Council’s September decision** to remove the compensation cess on all goods except tobacco and gradually shift tobacco into a **40% GST slab** applicable to “sin” and ultra-luxury goods—leaving the transition timeline to the finance minister.
- Government policy continues to classify tobacco as a **“sin good”**, using **high taxation plus labelling requirements** to curb consumption, reduce public health burden, and maintain revenue stability.
- The new cess is framed as a measure for **public health and national security**, signalling broader justification for continued high taxation on harmful products even after expiry of GST-era compensation mechanisms.

### Key Terms & Definitions

- **GST Compensation Cess:** A temporary cess imposed on specific goods (including tobacco) to compensate states for revenue shortfall after GST implementation; set to expire once loan repayments are complete.
- **Sin Goods:** Products considered socially harmful (e.g., tobacco, alcohol) that attract higher taxes to discourage consumption.
- **Cess:** A tax earmarked for a specific purpose, separate from regular taxation.
- **Central Excise:** A duty levied on manufacture of specific goods; tobacco continues to attract excise even under GST.

FOCUS ON HEALTH, SECURITY	
▶ Govt will use proceeds from cess on tobacco and pan masala to boost health, national security	▶ Compensation cess on tobacco products and pan masala is to be levied up to March 2026
▶ “Idea is to ensure that prices remain the same for consumers. It is not a revenue raising exercise,” says a govt official	▶ But, the levy may be withdrawn earlier to enable govt to raise resources to meet bond payment requirement

### Constitutional & Legal Provisions (UPSC-Relevant)

- **Article 265:** No tax shall be levied except by authority of law—new cess requires Parliamentary legislation.
- **Article 246A:** Empowers Parliament and States to levy GST; cesses require specific statutory backing.



- **GST (Compensation to States) Act, 2017:** Provided the legal basis for compensation cess until revenue loss was offset.
- **Central Excise Act, 1944:** Governs excise duty; amendments required to incorporate new cess structure for tobacco.
- **Cigarettes and Other Tobacco Products Act (COTPA), 2003:** Regulates packaging, labelling, and advertising to reduce tobacco use.
- **WHO Framework Convention on Tobacco Control (FCTC):** India's commitments encourage high taxation as a public health measure.

### Additional Important Points

- The new cess ensures **no drop in revenue**, crucial because tobacco contributes significantly to central and state finances.
- High taxes on tobacco align with **public health goals**, as India accounts for a large proportion of global tobacco-related deaths.
- The cess structure reflects a policy preference for **predictable and stable revenue streams** even after GST-era mechanisms are phased out.
- Tobacco's status as both a **health hazard and a revenue-rich commodity** has long shaped India's complex multi-layered taxation.
- The "national security" framing may justify taxation continuity under **broader welfare and public protection objectives**.

### Conclusion

The Centre's proposal to introduce a new Public Health and National Security Cess reflects an effort to maintain the high tax burden on tobacco even after the expiry of GST compensation cess. This ensures revenue stability, supports public health objectives, and sustains India's deterrence-based taxation model for harmful substances. Legal amendments to the GST and excise framework will ensure seamless transition and prevent revenue leakage.

### UPSC Relevance

- **GS-III:** Public health policy, taxation of harmful goods, fiscal federalism, GST framework.
- **GS-II:** Government policy, Centre–State relations, statutory governance.
- **Prelims:** GST compensation cess, excise duties, sin goods, COTPA 2003.
- **Essay:** Public health taxation, economic policy as a tool for behavioural change.

## 12. OPEC+ Retains Pause on Oil Supply Hikes

### Most Important Points

- **OPEC+ (OPEC and its allied producers) has decided to continue pausing oil production increases for the first quarter**, reflecting caution amid forecasts of a growing global oil surplus and declining prices. The decision was confirmed in a videoconference led by Saudi Arabia.
- Despite the pause, **global oil markets are still projected to face a massive surplus in early 2026**, as rising supply from the Americas combined with previously increased OPEC+ output outstrips demand growth.



- **Oil futures have dropped by 15% this year, trading near \$63 per barrel**, driven by oversupply and slowing global economic demand. Analysts (IEA, Goldman Sachs, JPMorgan) forecast further declines and a record glut in 2026.
- The three-month freeze gives OPEC+ time to monitor **geopolitical risks**, including supply uncertainties from member countries and evolving diplomatic developments around the **Russia–Ukraine conflict**, which continues to influence global energy markets.
- Booming production from the **US, Brazil, and Guyana** has weakened OPEC+’s traditional supply dominance, increasing downward pressure on prices even when OPEC+ restricts output.
- The pause reflects OPEC+’s strategic attempt to stabilise the oil market while navigating **volatile demand, energy transition pressures, geopolitical tensions, and competition from non-OPEC suppliers**.

### Key Terms & Definitions

- **OPEC+**: A coalition of OPEC members and allied oil-producing countries (notably Russia) that coordinate oil production levels to influence global prices.
- **Oil Glut**: A situation where supply significantly exceeds demand, leading to falling prices.
- **Production Freeze**: A temporary halt in increasing oil supply to prevent price decline.
- **Oil Futures**: Contracts for buying or selling oil at a future date; sensitive to supply–demand expectations.
- **IEA (International Energy Agency)**: An intergovernmental organisation that provides global energy analysis and forecasts.



### Constitutional & Legal Provisions (UPSC-Relevant)

- **Energy Security in India** – Though not directly a constitutional provision, it links to:
  - **Article 38 & 39(b)**: Promoting social welfare and equitable distribution of resources, including energy.
  - **Article 51(c)**: Encouraging international cooperation—relevant for energy diplomacy with OPEC nations.
- **Essential Commodities Act, 1955** – Used historically for price stabilisation of essential fuels.
- **Petroleum & Natural Gas Regulatory Board Act, 2006** – Regulates downstream oil markets.
- **India’s Hydrocarbon Exploration & Licensing Policy (HELP)** – Aimed at domestic production security, reducing vulnerability to global price swings.

### Additional Important Points

- India, the world’s **third-largest oil consumer**, is highly vulnerable to OPEC+ decisions—continued price dips reduce import bills but may signal economic slowdown globally.
- Persistent oversupply could **undermine OPEC’s price-setting power** and accelerate the shift to renewable energy as oil becomes cheaper.



- Oversupply also reduces incentives for major producers to invest in new exploration, impacting long-term global supply structures.
- The decision highlights emerging **multipolarity in global oil markets**, with non-OPEC countries increasingly shaping supply dynamics.
- India's strategic response includes diversifying energy import sources, expanding reserves, and promoting biofuels and electric mobility.

### Conclusion

OPEC+'s decision to retain a pause on oil supply hikes reflects its attempt to stabilise falling prices amid rising global surplus and strong production from non-OPEC nations. While the freeze offers the group time to reassess geopolitical risks, global markets remain on track for oversupply in 2026. For India, this development has direct implications for energy security, import costs, and long-term transition towards cleaner energy.

### UPSC Relevance

- **GS-III:** Energy security, global oil markets, supply–demand dynamics, international organisations.
  - **GS-II:** India's international relations, energy diplomacy with OPEC nations.
  - **Prelims:** OPEC, OPEC+, IEA forecasts, oil price trends, major oil producers.
  - **Essay:** Global energy transition, geopolitics of oil, economic vulnerability of oil-importing nations.
-