www.raceias.com

RACE IAS

Current Affairs

February, 2026 | ₹ 60/-

Extremely Useful for Union and State Civil Services & Other Competitive Exams.

- The Central Excise (Amendment) Act, 2025
- Dynamic Ground Water Resource Assessment Report, 2024
- Aviation Safety and ICAO Framework
- M.S. Sahoo Committee
- POCSO Act & Fast Track Special Courts
- Juvenile Justice Act
- Padma Awards and Gallantry Awards
- Cess and Surcharge
- India–EU Free Trade Agreement (FTA)

Gist of

THE HINDU | PIB Press Information Bureau | The Indian Express – Journalism of Courage | Kurukshetra – A Journal on Rural Development | YOJANA

Raghav Publication House

RACE IAS

A Leading Institute for Civil Services Examination

PRACTICE IS THE KEY TO SUCCESS

UPSC/UP PCS

मेन्स/ प्रीलिम्स टेस्ट सीरीज

ENROLL NOW

OFFLINE / ONLINE BATCH | **English / Hindi Medium**

सामान्य अध्ययन (GENERAL STUDIES)

05 फरवरी से नया बैच प्रारंभ

Days Classes **FREE** **ADMISSION OPEN**

मेंटरशिप प्रोग्राम

- मेन्स PYQ
- Focus on Answer writting skill
- Current Affairs

Special Mentorship Programme for Mains Examination

Online Live Classes through RACE Mobile App

Our Centers

Aliganj	Indira Nagar	Alambagh	Ashok Nagar
Lucknow (U.P.)	Lucknow (U.P.)	Lucknow (U.P.)	Kanpur (U.P.)
Mob.: 7388114444	Mob.: 9044137462	Mob.: 8917851448	Mob.: 9044327779

अभी डाउनलोड करें - RACE IAS मोबाइल ऐप

GET IT ON Google Play | Available on Windows Store

Follow us on :

www.raceias.com

INDEX

CURRENT AFFAIRS

Electronics Components Manufacturing Scheme (ECMS)

Context

In a major push toward electronic self-reliance, the **Ministry of Electronics and Information Technology (MeitY)** recently approved 22 additional projects under the **Electronics Components Manufacturing Scheme (ECMS)**. These projects involve a massive investment of **₹41,863 crore**, aimed at scaling up India's domestic production capabilities.

About the Scheme

- **Definition:** ECMS is a flagship incentive program designed to foster the domestic manufacturing of **electronic components, sub-assemblies, and capital equipment**.
- **Primary Goal:** To reduce India's heavy **import dependence** and bridge the gap in the electronics value chain.
- **Ministry:** Ministry of Electronics and Information Technology (MeitY).
- **Outlay & Tenure:** Approved by the Union Cabinet in 2024 with a total outlay of **₹22,919 crore**.
    - **Turnover-linked Incentive:** 6 years (includes a 1-year gestation period).
    - **Capex Incentive:** 5 years.

Key Features

- **Multi-layered Incentive Structure:** Provides turnover-linked, capex-based, and hybrid incentives to help manufacturers offset "cost disabilities" compared to global competitors.
- **Targeted High-Value Segments:** Focuses on critical components such as **Printed Circuit Boards (PCBs)**, **Camera Modules**, Copper-Clad Laminates, Polypropylene Films, and specialized electronics capital equipment.
- **Performance-Driven Payouts:** Incentives are strictly linked to **incremental production and employment generation**, ensuring that early movers and high performers are rewarded.
- **Strategic Benchmarks:** The scheme sets ambitious targets, including meeting **100% of domestic demand for Copper-Clad Laminates** and significantly increasing domestic shares for PCBs (20%) and Camera Modules (15%).
- **Synergy with Other Missions:** Designed to complement the **Production Linked Incentive (PLI) for Electronics** and the **India Semiconductor Mission**, creating a holistic electronics ecosystem.

Significance and Impact

1. **Strengthening the "Weakest Link":** Component-level manufacturing has historically been the weakest part of India's electronics sector. ECMS directly addresses this by incentivizing the building blocks of electronic devices.
2. **Boosting Domestic Value Addition (DVA):** By manufacturing components locally, India moves beyond just "assembling" products to deep-tech manufacturing, enhancing integration with **Global Value Chains (GVCs)**.
3. **Employment and R&D:** The scheme is projected to generate approximately **91,600 direct jobs** and provide a necessary boost to indigenous Research and Development (R&D).

Conclusion

The ECMS is a pivotal step in making India a global hub for electronics manufacturing. By focusing on the "nuts and bolts" of electronics & the components, the government is ensuring that

the growth of the digital economy is backed by a robust, self-sufficient, and technologically advanced domestic industry.

Pro-Active Governance and Timely Implementation (PRAGATI)

Context

The Cabinet Secretary, following the **50th PRAGATI meeting**, highlighted that **land acquisition** remains the most significant bottleneck in India's infrastructure development, contributing to **35% of all project delays**. This underscores the critical role of PRAGATI in identifying and resolving such structural hurdles at the highest level of government.

About PRAGATI

- **Definition:** PRAGATI is a multipurpose, multi-modal, ICT-based platform designed for **grievance redressal**, **program implementation**, and **project monitoring**. It enables a real-time review of projects that are of national importance.
- **Launch Date:** March 25, 2015.
- **Leadership:** It is a unique initiative chaired personally by the **Prime Minister of India**.

Objectives

- **Timely Execution:** To ensure that infrastructure and social sector projects are completed within their stipulated timelines to avoid cost overruns.
- **Effective Coordination:** To bridge the gap between various Union Ministries and between the **Centre and State Governments**, resolving long-standing friction points.
- **Enhanced Governance:** To promote **e-transparency** and **accountability** by using data-driven, outcome-based oversight.

Key Features of the Platform

1. **Three-Tier Architecture:** The platform simultaneously connects the **Prime Minister's Office (PMO)**, Union Government Secretaries, and **State Chief Secretaries**, ensuring that decision-makers at all levels are present to resolve issues instantly.
2. **Monthly High-Level Reviews:** On the fourth Wednesday of every month (known as PRAGATI Day), the PM chairs a video conference to review specific projects and grievances, providing high-level political impetus to administrative tasks.
3. **Advanced Technology Integration:** Uses **Geographical Information System (GIS)** mapping and live visuals from project sites to provide an objective, ground-level view of progress.
4. **Unified Data Ecosystem:** It pools data from various sources like **CPGRAMS** (public grievances), **Project Monitoring Group (PMG)**, and the **Ministry of Statistics (MoSPI)** to create a single, comprehensive dashboard.
5. **Digital Accountability:** Every direction given during a session is tracked electronically until it is resolved, preventing issues from falling through the cracks.

Significance and Impact

- **Massive Scale:** As of its 50th meeting, the platform has reviewed over **3,300 projects** with a total value exceeding **₹85 lakh crore**, resolving **7,156 individual issues**.
- **Clearing Legacy Backlogs:** It has been instrumental in accelerating "legacy projects" that had been stuck in bureaucratic delays since the 1990s.
- **Cooperative Federalism:** By bringing State Chief Secretaries directly into the dialogue with the PMO, it strengthens the spirit of **Team India**, fostering better synergy between the Union and States.

Conclusion

PRAGATI represents a shift toward **"Minimum Government, Maximum Governance"** by utilizing technology to dissolve silos within the bureaucracy. While land acquisition remains a challenge, the platform's ability to bring diverse stakeholders to a single table makes it an

indispensable tool for India's infrastructure and development goals.

Savitribai Phule

Context

On the occasion of her birth anniversary, the Prime Minister paid tributes to **Savitribai Phule**, honoring her as a foundational figure in Indian feminism and a lifelong advocate for education, equality, and social transformation.

About Savitribai Phule

- **Who she was?** Savitribai Phule (1831–1897) was a trailblazing social reformer, poet, and educator. She is widely recognized as the **first female teacher of modern India**.
- **Early Life:** Born in Naigaon, Maharashtra, she was married to **Jyotirao Phule** at a young age. Her exposure to learning, encouraged by her husband, ignited a lifelong mission to reform Indian society through the power of education.
- **Education and Training:** Breaking the societal norms of the 19th century, she became a qualified teacher in 1847 after undergoing training in Ahmednagar and Pune.

Key Contributions to Indian Society

1. Pioneer of Girls' Education

- In **1848**, along with Jyotirao Phule, she co-founded **India's first school for girls** at Bhidewada, Pune.
- She was instrumental in establishing **18 schools** dedicated to girls and children from marginalized communities.

2. Social Reform for the Vulnerable

- **Shelters and Protection:** Established shelters for widows, destitute women, and child brides (1854; expanded in 1864).
- **Anti-Discrimination Campaigns:** Led fierce campaigns against child marriage, caste-based discrimination, and the practice of untouchability.
- **Satyashodhak Samaj:** Played a central role in the **Satyashodhak Samaj** (Truth Seekers' Society), which promoted equality and popularized "Satyashodhak marriages" performed without priests or dowries.

3. Courage and Public Service

- **Resilience:** She famously defied extreme social hostility, often carrying an extra saree because protesters would throw mud and stones at her as she walked to school.
- **Ultimate Sacrifice:** During the plague epidemic of 1897, she personally served victims and contracted the disease herself, leading to her death in the line of service.

Significance and Legacy

- **Education as Emancipation:** Her life serves as a symbol of education as the primary tool for social justice and women's rights.
- **Institutional Recognition:** Her legacy is preserved through institutions such as **Savitribai Phule Pune University** and continues to inspire contemporary debates on equality and inclusive reform.

The Central Excise (Amendment) Act, 2025

Context

The Government of India has notified the **Central Excise (Amendment) Act, 2025**, introducing significant tax structural changes for tobacco products effective from **February 1, 2026**. This legislative move coincides with the expiration of the **GST Compensation Cess** and aims to harmonize fiscal goals with public health objectives by ensuring tobacco remains high-priced.

About the Act

- **Primary Objective:** Amends the **Central Excise Act, 1944** to revise duties on tobacco products, which are among the few items remaining outside the comprehensive GST framework.
- **Fiscal Strategy:** The Act seeks to maintain and increase the overall tax

burden on tobacco to prevent a price drop once the GST compensation cess ends.

- **Public Health Alignment:** Follows global health guidelines to ensure that the real price of cigarettes increases at a rate faster than the average growth of per capita income.

Key Features and Tax Revisions

1. Revised Excise Duty Rates

The Act introduces sharp increases in excise duties across various categories:

- **Smoking Mixtures (Pipes/Cigarettes):** Increased from 60% to **325%**.
- **Chewing Tobacco:** Increased from 25% to **100%**.
- **Unmanufactured Tobacco:** Increased from 64% to **70%**.
- **Hookah/Gudaku Tobacco:** Increased from 25% to **40%**.
- **Cigarettes:** Specific duties revised from a range of ₹200–₹735 to **₹2,700–₹11,000 per thousand sticks**.

2. GST Restructuring

- **Beedis:** Now categorized under **18% GST**.
- **Other Tobacco Products:** Moved to the **40% GST** bracket.
- **Valuation:** For products like Gutkha, Khaini, and Jarda, the GST value will now be based on the **Retail Sale Price (RSP)** declared on the package.

Status of GST Compensation Cess

- **Definition:** An additional levy introduced in July 2017 to compensate States for revenue losses during the GST transition.
- **Extension & Expiry:** Originally intended for five years, it was extended to **March 31, 2026**, primarily to repay the ₹2.7 lakh crore debt incurred by the Centre during the COVID-19 pandemic.
- **Phase-out:** The cess will be completely phased out for tobacco products starting **February 1, 2026**, necessitating the compensatory rise in excise duties.

Significance

1. **Revenue Neutrality:** Prevents a sudden dip in government revenue that would have occurred due to the cessation of the compensation cess.
2. **Health Governance:** By significantly raising the cost of smoking and chewing tobacco, the Act acts as a deterrent to consumption, particularly among youth and low-income groups.
3. **Simplified Valuation:** The shift to RSP-based valuation for smokeless tobacco reduces tax evasion and simplifies the audit process for tax authorities.

Conclusion

The Central Excise (Amendment) Act, 2025 represents a sophisticated balancing act between **fiscal responsibility** and **public health**. By proactively adjusting excise rates before the expiration of the GST compensation cess, the government ensures that tobacco remains a high-tax commodity, supporting long-term health goals while securing national revenue.

E-Bill System for Fertiliser Subsidies

Context

The Union Government has launched an integrated **e-Bill System** designed to digitally process and streamline fertiliser subsidies, which currently account for an annual outlay of approximately **₹2 lakh crore**. This move marks a significant transition from manual, paper-heavy workflows to a transparent digital ecosystem.

About the System

- **What it is?** An end-to-end digital platform for the submission, processing, real-time tracking, and final payment of fertiliser subsidy bills.
- **Nodal Ministry:** Implemented and managed by the **Ministry of Chemicals and Fertilizers**.
- **Primary Objective:** To ensure the timely and accountable disbursal of one of India's largest subsidy categories while enhancing financial auditability through digital governance.

Key Features

- **Digitized Workflow:** Completely eliminates the physical movement of files and manual processing, reducing human intervention and errors.
- **Real-Time Tracking:** Fertiliser companies can file claims online and monitor the status of their payments in real-time through a centralized dashboard.
- **FIFO Processing:** Adopts a **First-In, First-Out (FIFO)** rule-based mechanism to ensure uniform and predictable bill clearance.
- **Financial Controls & Audit:** * Validates all payments against predefined criteria automatically to enforce compliance.
    - Maintains a **tamper-proof audit trail** that logs every action, significantly strengthening financial accountability.
- **Efficiency Boost:** Facilitates the faster release of weekly subsidy payments, improving the liquidity of fertiliser manufacturing firms.

Significance

1. **Transparency & Accountability:** By automating the process, the government reduces administrative discretion and the potential for fraud or leakage in the subsidy chain.
2. **Ease of Doing Business:** The system significantly reduces delays and "red tape" for fertiliser companies, ensuring they receive their dues without bureaucratic hurdles.
3. **Fiscal Management:** Enables the government to perform real-time expenditure monitoring, allowing for better fiscal planning and data-driven policy adjustments.

Conclusion

The e-Bill System for fertiliser subsidies is a cornerstone of India's **Digital India** mission in the agricultural sector. By replacing an antiquated manual system with a rule-based digital platform, the government is not only improving operational efficiency but also ensuring that the massive financial outlay for fertilisers is managed with the highest standards of transparency and speed.

Ministry of Statistics and Programme Implementation (MoSPI)

Context

The Ministry of Statistics and Programme Implementation (MoSPI) has unveiled a new logo and mascot as part of a strategic initiative to modernize its institutional identity and improve public outreach. This rebranding focuses on making official statistics more accessible and relatable to the common citizen.

DATA FOR DEVELOPMENT

About MoSPI

- **Nodal Agency:** MoSPI serves as the primary ministry for **official statistics** in India, handling the collection, compilation, and dissemination of data for evidence-based policymaking.
- **Core Theme:** The relaunch promotes the theme **"Data for Development,"** emphasizing statistics as a tool for national progress.

Key Features of the Rebranding

1. New Logo Symbolic Elements

- **Ashoka Chakra:** Represents truth, transparency, and the principles of good governance.
- **Rupee Symbol:** Underscores the critical role of statistical data in economic planning and national fiscal policy.
- **Growth Bar & Numerical Elements:** These symbolize modern, reliable data systems and the progress driven by accurate information.

- **Color Palette:** Saffron, white, green, and deep blue are used to signify stability, sustainability, growth, and knowledge.

2. Mascot – "सांख्यिकी" (Sankhyiki)

- **Character Role:** A citizen-centric mascot designed to simplify complex statistical concepts for the general public.
- **Utility:** The mascot will be integrated into national surveys, digital platforms, educational initiatives, and public awareness campaigns to foster a data-friendly culture.

Significance of the Initiative

- **Enhanced Transparency:** The move aims to strengthen public confidence in official government statistics through more recognizable and consistent communication.
- **Data Quality:** By encouraging higher participation in surveys through a friendly mascot and relatable branding, the ministry seeks to improve the accuracy and quality of national data.
- **Evidence-Based Governance:** Reinforces India's commitment to transparent, data-led governance and informed decision-making at all levels.

Conclusion

The introduction of a new identity for MoSPI marks a shift toward a more transparent and communicative statistical framework. By bridging the gap between complex data and the public through tools like "Sankhyiki," the ministry aims to ensure that statistics become a central pillar of India's development story.

Dynamic Ground Water Resource Assessment Report, 2024

Context

In late 2024, the Union Minister of Jal Shakti released the **Dynamic Ground Water Resource Assessment Report, 2024**. The report highlights a net improvement in India's groundwater status, characterized by higher recharge rates and a reduction in long-term extraction compared to 2017 levels.

Key Trends (2024 vs. 2017)

- **Recharge Growth:** Total annual groundwater recharge has reached **446.90 BCM**, driven by increased rainwater harvesting and conservation efforts.
- **Sustainability Indicators:** Annual extraction stands at **245.64 BCM**, with the national stage of extraction at **60.47%**, indicating overall sustainability at the macro level.
- **Category Shifts:** * **'Safe' Units:** Increased from 62.6% in 2017 to **73.4%** in 2024.
    - **Over-exploited Units:** Decreased from 17.24% in 2017 to **11.13%** in 2024.
- **Regional Concentration:** Despite national improvements, over-exploitation remains severe in **Punjab, Haryana, Delhi, Rajasthan, Tamil Nadu, Karnataka, Telangana, and Gujarat**.

Causal Analysis of Groundwater Depletion

1. **Agrarian Over-extraction:** Approximately **62% of India's irrigation** depends on groundwater. The dominance of water-intensive crops like rice and sugarcane in Northwest and Peninsular India is a primary driver of stress.
2. **Hydro-geological Constraints:** Roughly **two-thirds of India** consists of hard rock terrains where storage is limited to fractured zones, making extraction difficult to sustain.
3. **Policy & Energy Distortions:** Heavily subsidized or free electricity in states like Punjab and Haryana encourages indiscriminate pumping.
4. **Climate Sensitivity:** Nearly **61% of recharge** is dependent on rainfall, making the resource highly vulnerable to monsoon variability and climate change.

Government Initiatives

- **NAQUIM & NAQUIM 2.0:** Scientific mapping of aquifers to enable micro-level management.
- **Atal Bhujal Yojana (ATAL JAL):** A community-led program focusing on demand-side management in water-stressed blocks.
- **Master Plan for Artificial Recharge (2020):** A massive structural intervention aiming to harness **185 BCM** of monsoon rainfall through **1.42 crore structures**.
- **Jal Shakti Abhiyan:** A nationwide campaign focusing on "Catch the Rain" to promote rainwater harvesting.

Critical Challenges

- **Human Security:** With groundwater supplying **85% of rural drinking water**, depletion poses a direct risk to basic human security.
- **Quality Hazards:** Beyond quantity, **127 assessment units** are saline, and issues with arsenic and fluoride contamination persist in stressed aquifers.
- **Governance Gaps:** As groundwater is a **State subject**, regulation is often fragmented, leading to uneven adoption of scientific norms.

Way Forward

- **Demand-Side Reform:** Rationalizing power subsidies and shifting cropping patterns to bring the stage of extraction sustainably below 60%.
- **Data-Driven Governance:** Utilizing the **IN-GRES** (GIS-based platform) for real-time monitoring and annual assessments to allow for swift policy corrections.
- **Community Stewardship:** Scaling up participatory management models to cover more water-stressed Gram Panchayats.

Conclusion

The 2024 report provides a basis for **cautious optimism**. While management practices have improved the "Safe" categorization of many units, the persistence of regional imbalances and climate risks necessitates a transition toward **aquifer-based planning** and climate-resilient governance to ensure long-term water security.

Market Access Support (MAS) Intervention

Context

The Government of India launched the **Market Access Support (MAS) Intervention** under the newly established **Export Promotion Mission (EPM)**. This initiative aims to systematically expand India's global export footprint by providing structured financial and institutional assistance to exporters, with a primary focus on navigating post-pandemic trade shifts and emerging global tariffs.

About the Scheme

- **What it is?** A comprehensive, outcome-oriented programme designed to improve "Buyer Connect" and international visibility for Indian goods and services.
- **Integrated Framework:** Operates as a key component of the **NIRYAT DISHA** (Non-Financial Enablers) sub-scheme.
    - Part of the broader **Export Promotion Mission (EPM)**, which has a total outlay of **₹25,060 crore** for FY 2025–26 to FY 2030–31.
- **Joint Implementation:** Coordinated by the **Department of Commerce**, **Ministry of MSME**, and **Ministry of Finance**, working alongside Indian Missions abroad and Export Promotion Councils (EPCs).

Key Features & Mandates

- **Targeted Beneficiaries:** Specifically prioritizes **Micro, Small, and Medium Enterprises (MSMEs)**, first-time exporters, and firms in priority sectors like agriculture, textiles, and high-tech.
- **MSME Quota:** Mandates a **minimum 35% participation** by MSMEs in all supported trade events.
- **Predictability:** Introduction of a **3–5 year rolling calendar** for major international trade events, allowing exporters to plan long-term market entry strategies.
- **Financial Rationalization:**

    - **Cost-Sharing:** Generally structured at 60:40 (Govt:Private), rising to **80% government support** for priority sectors with high MSME presence.
    - **Airfare Support:** Partial airfare reimbursement for small exporters with an annual turnover of up to **₹75 lakh**.
- **Digital Governance:** Fully managed through the **trade.gov.in** portal—covering everything from event listing and proposal submission to fund release and lead tracking.

Recent Strategic Additions

- **Proof-of-Concept (PoC) Support:** A new component specifically for **technology-intensive and sunrise sectors**, providing funds for product demonstrations to potential overseas buyers.
- **Outcome Tracking:** Mandatory online feedback system to evaluate the **quality of buyers** and the number of **business leads** generated, ensuring data-driven policy refinement.
- **Market Diversification:** Active focus on non-traditional markets in **Latin America, Africa, and Central Asia** to reduce dependency on traditional Western trade partners.

Significance

1. **Lowering Entry Barriers:** Financial support for certifications and airfare makes international markets accessible to small players who previously found promotional costs prohibitive.
2. **Global Competitiveness:** By supporting **"Traceability"** and compliance with international standards (like REACH or eco-taxes), the scheme helps Indian products meet the "Product Passport" requirements of developed economies.
3. **Strategic Resilience:** Acts as a buffer against global trade frictions and high tariffs by helping exporters pivot quickly to new geographies.

Conclusion

The MAS Intervention marks a shift from fragmented, ad-hoc export subsidies to a **strategic, data-led engagement** model. By integrating financial aid with digital transparency and long-term planning, the government aims to transform Indian MSMEs into global players capable of deeper integration into **Global Value Chains (GVCs)**.

Agrarian Distress and Farmer Suicides in India

Context

A 28-year longitudinal analysis of **National Crime Records Bureau (NCRB)** data (1995–2023) indicates that farmer and agricultural labourer suicides remain a structural crisis in India. Despite periods of temporary relief, 2023 witnessed a sharp resurgence in cases, highlighting the continued vulnerability of the rural workforce to economic and environmental shocks.

About the Crisis

- **Definition:** Farmer suicides encompass deaths by suicide among both **land-owning cultivators** and **landless agricultural labourers**.
- **Key Indicators:** The crisis serves as a barometer for the health of the rural economy, reflecting deep-seated issues in **income security**, **debt cycles**, and **climatic resilience**.

Trends and Statistics (1995–2023)

- **Cumulative Scale:** Approximately **3.94 lakh** individuals in the agricultural sector died by suicide over the 28-year period, averaging nearly **13,600 deaths annually**.
- **Regional Hotspots:** Nearly **72.5%** of cases are concentrated in Southern and Western India, with **Maharashtra** consistently reporting the highest numbers.
- **Timeline of Distress:**
    - **2000–2009:** Marked the peak of the crisis following India's entry into the WTO and the rapid expansion of high-input **Bt cotton** in rain-fed regions.
    - **2015–2019:** A phase of relative decline attributed to the expansion of

MGNREGA, debt waivers, and the launch of the **Pradhan Mantri Fasal Bima Yojana (PMFBY)**.

- **2023 Resurgence:** A ~75% rise over 2022 figures was recorded, driven by **delayed monsoon patterns**, **unseasonal rainfall**, and price crashes for key cash crops.

Causal Framework

1. Economic & Structural Drivers

- **Indebtedness:** Overwhelmingly the primary correlate; nearly **87-98%** of victims in high-suicide regions were burdened by debt.
- **Input-Output Gap:** Rising costs of seeds, fertilizers, and diesel have outpaced the growth of **Minimum Support Prices (MSP)**, squeezing profit margins.
- **Small Landholdings:** Fragmented lands (average size **<1.2 hectares**) prevent economies of scale and modernization.

2. Environmental & Climate Factors

- **Temperature Sensitivity:** Research suggests that for every **1°C increase** in temperature above 20°C during the growing season, India sees roughly **67 additional suicides**.
- **Water Stress:** High dependence on rainfall (rain-fed agriculture) makes farmers in regions like **Vidarbha** and **Marathwada** extremely vulnerable to droughts.

3. Socio-Psychological Factors

- **Development Debt Trap:** Credit intended for agriculture is frequently diverted to meet social obligations like **marriages (dowry)**, **healthcare**, and **education** due to lack of public welfare.
- **Mental Health Stigma:** Financial pressure often manifests as emotional disorders, yet rural access to counseling remains negligible.

Government Initiatives (2024–2025)

- **PM Dhan-Dhaanya Krishi Yojana (PMDDKY):** Launched in **February 2025** to target **100 underperforming districts** with financial aid, smart tools, and climate-resilient infrastructure.
- **AgriStack & SFIC:** Implementation of **Smart Farmer Identification Cards** to digitize records and streamline access to formal credit and insurance.
- **Kisan Rakshak Portal:** A dedicated helpline (**14447**) launched in 2024 for real-time grievance redressal under PMFBY.
- **Namo Drone Didi:** Leveraging **Women SHGs** to provide drone-based fertilizer and pesticide application services to reduce labor costs.

Challenges in Implementation

- **Digital Divide:** Technology adoption remains **below 30%** as of 2025 due to digital illiteracy and patchy network coverage in remote belts.
- **Credit Deviation:** The **Kisan Credit Card (KCC)** is frequently misused for non-agricultural needs, leading to fresh debt traps rather than productivity gains.
- **Infrastructure Deficits:** A lack of **cold storage** and warehouses forces small farmers into **distress sales** immediately after harvest.

Way Forward

1. **Comprehensive Insurance:** Moving beyond crop failure to cover **market failure** (price volatility) through composite insurance schemes.
2. **Climate-Smart Agriculture:** Scaling **Natural Farming** and **Micro-Irrigation (Per Drop More Crop)** to reduce dependence on expensive chemical inputs and erratic monsoons.
3. **Institutional Reforms:** Strengthening **Farmer Producer Organizations (FPOs)** to increase the bargaining power of smallholders against intermediaries.
4. **Social Safety Nets:** Enhancing rural healthcare and education to prevent the diversion of agricultural credit toward basic survival needs.

Conclusion

The structural nature of agrarian distress requires a shift from short-term relief like loan waivers to long-term **income-centric policies**. By integrating climate resilience with digital financial transparency, India can move toward making agriculture a sustainable and remunerative livelihood.

Unlawful Activities (Prevention) Act (UAPA)

Context

In recent judicial developments, the Delhi High Court and Supreme Court have scrutinized the stringent bail provisions under the Unlawful Activities (Prevention) Act (UAPA), specifically in cases related to the 2020 Delhi Riots conspiracy. The denial of bail to high-profile activists has reignited the debate over the balance between national security and individual liberty.

About the News

Background: The courts recently denied bail to several accused individuals, including Sharjeel Imam and Umar Khalid, in connection with the 2020 Delhi Riots. The prosecution alleged that the accused utilized encrypted messaging platforms like WhatsApp to coordinate and plan large-scale communal violence.

Court Observations:

- **Prima Facie Scrutiny:** Under Section 43D(5) of the UAPA, bail must be denied if the court finds that the accusations are "prima facie" true based on the police report.
- **Hierarchy of Roles:** The judiciary emphasized a "hierarchy of roles" in criminal conspiracies. While lower-level participants might be granted relief, those identified as "key planners" or "masterminds" face a much higher threshold for bail.
- **Nature of Evidence:** Even if the trial is prolonged, the gravity of the charges and the initial evidence provided by investigative agencies often outweigh the right to a speedy trial in UAPA cases.

Constitutional and Statutory Framework

Section 43D(5) of UAPA: This provision creates a "reverse-burden" effect. Unlike the standard criminal law principle of "bail is the rule, jail is the exception," UAPA makes jail the norm by prohibiting bail if the court perceives the case to have merit on the surface.

Key Legal Shifts:

- **Burden of Proof:** In special statutes like UAPA, PMLA (Money Laundering), and NDPS (Drugs), the burden effectively shifts to the accused to demonstrate they are not guilty for the purpose of obtaining bail.
- **2019 Amendment:** A significant expansion of power occurred when the government was authorized to designate **individuals** as "terrorists." Previously, only organizations could be so designated.

Judicial Precedents:

- **Watali Case (2019):** Established that at the bail stage, courts should not examine the evidence in depth but must rely on the version presented by the investigating agency.
- **Vernon Gonsalves v. State of Maharashtra (2023):** Slightly relaxed the Watali standard, suggesting that some "surface-level" analysis of the evidence's quality is necessary to prevent arbitrary detention.

Challenges

- **Ambiguous Definitions:** Terms like "Unlawful Activity" and "Terrorist Act" remain broadly defined. Critics argue this lack of precision allows for the law to be used against political dissenters and civil rights activists.
- **Prolonged Pre-trial Detention:** Since UAPA trials often take years to conclude, the restrictive bail conditions result in individuals spending years in prison without being convicted of a crime.
- **Executive Discretion:** The 2019 amendment grants the Central Government significant power to label

individuals, which lacks an immediate independent judicial review process.

Way Forward

- **Legislative Clarity:** Parliament should refine the definitions of "unlawful activities" to ensure they are not used to penalize legitimate democratic dissent.
- **Judicial Review of Evidence:** Courts should adopt a more proactive approach in scrutinizing the "prima facie" evidence at the bail stage to ensure the law is not being used as a tool for "process as punishment."
- **Speedy Trial Guarantees:** Special courts should be adequately staffed to ensure that UAPA cases are fast-tracked, reducing the period of pre-trial incarceration.

Conclusion

The UAPA remains a potent tool for safeguarding national integrity, yet its stringent bail provisions pose a significant challenge to the constitutional right to personal liberty. A nuanced approach that distinguishes between actual threats to the state and individual dissent is essential to maintain the rule of law in a democracy.

Export Trends & Diversification

Context

In 2025, India's export landscape faced significant volatility due to the imposition of a **50% tariff** by the United States, combining a baseline duty, reciprocal tariffs, and penalties related to trade with Russia. Despite this, India achieved a record export performance in the first half of FY 2025–26, driven by a strategic pivot toward electronics and a rapid diversification into alternative global markets.

About the News

Background:

The US, traditionally India's largest trading partner, implemented a series of protectionist measures starting in April 2025. By August 27, 2025, most Indian exports faced a cumulative 50% tariff, severely impacting price competitiveness against rivals like Vietnam, Bangladesh, and Mexico.

Key Trends:

- **Bifurcated Growth:** While labor-intensive sectors saw sharp declines, technology-driven sectors reached historic highs.
- **Market Re-orientation:** Exporters successfully redirected shipments of tariff-hit goods (like marine products and textiles) to regions with growing demand, such as the EU, UAE, and East Asia.
- **Record Performance:** Total exports (merchandise and services) for April–November 2025 reached approximately **$562 billion**, showing resilience against global shocks.

Sectoral Impact: Winners and Losers

The US tariff regime created a clear divide between "traditional" and "modern" export sectors:

Sector	Impact	Performance Highlight
Smartphones	**High Growth**	Exports to the US more than **tripled** ($10.78B in Apr-Oct 2025).
Electronics	**High Growth**	Grew by **~42%** in H1 FY26, exempt from several reciprocal duties.
Marine Products	**Decline**	US-bound shipments fell; redirected to **China (+24%)** and **Vietnam (+123%)**.
Textiles/Cotton	**Decline**	Sharp drop in US demand; focus shifted to the **European Union**.
Gems & Jewellery	**Decline**	One of the worst-hit sectors; turnover in some clusters fell by **50%**.

Trade Diversification & Resilience

India's strategy to mitigate the "US Shock" involved a three-pronged approach:

1. Geographic Diversification:

Exporters leveraged "trade like water" (finding its own course) by tapping into non-traditional markets.

- **China & Hong Kong:** Became vital outlets for marine products and processed minerals.
- **European Union:** Spain and Belgium recorded surges in imports from India (Spain up **~40%**).
- **West Asia:** Deepening ties via the UAE-CEPA and upcoming pacts with Oman.

2. Product Value-Addition:

Under the Production Linked Incentive (PLI) schemes, India transitioned from an exporter of raw materials to high-value finished goods, particularly in electronics and engineering.

3. Policy Interventions:

- **Export Promotion Mission:** A **₹25,060 crore** initiative unveiled in late 2025 to streamline compliance and provide credit guarantees for MSMEs.
- **FTA Momentum:** Fast-tracking agreements with the **UK, Oman, and EFTA** to secure duty-free access to diverse markets.

Challenges

- **High Logistics Costs:** Despite growth, Indian exporters face higher freight costs and logistical hurdles compared to competitors in Southeast Asia.
- **Non-Tariff Barriers:** Emerging "Green Trade" policies in the EU (like carbon taxes) pose a new threat to Indian manufacturing.
- **Currency Volatility:** The Rupee's fluctuations against the Dollar impacted the margins of small-scale exporters.

Way Forward

- **Deepening FTAs:** India must conclude negotiations with the UK and EU to balance the loss of market share in the US.
- **Supply Chain Integration:** Further investment in semiconductor and component manufacturing to maintain the lead in electronics.
- **MSME Support:** Ensuring that the Export Promotion Mission reaches smaller clusters in the gems, jewellery, and textile sectors.

Conclusion

The "Year of Tariffs" (2025) served as a stress test for the Indian economy. While US protectionism hurt traditional sectors, it accelerated India's evolution into a global electronics hub and forced a necessary diversification of its trade partners, ultimately creating a more resilient and modern export ecosystem for 2026.

Aviation Safety and ICAO Framework

Context

The tragic crash of **Air India Flight 171** in Ahmedabad on June 12, 2025, which resulted in 260 fatalities, has brought India's aviation safety oversight under intense global scrutiny. The incident, coupled with a growing standoff between pilots and regulators over fatigue rules, highlights the critical need for adherence to international safety standards set by the ICAO.

About the News

Background: In June 2025, an Air India Boeing 787-8 Dreamliner crashed 32 seconds after takeoff from Ahmedabad into a medical college hostel. A preliminary report by the **Aircraft Accident Investigation Bureau (AAIB)** in July 2025 revealed that both engines shut down after fuel control switches "transitioned" to the cutoff position. The final cause remains under investigation, sparking debates about transparency in safety reporting.

Key Issues Identified:

- **Transparency Gap:** Critics and lawmakers have noted that while preliminary findings are released, comprehensive final investigation reports

for major incidents in India are often delayed or restricted from public view.

- **Operational Strain:** To manage a massive 15-20% annual growth in air traffic, airlines have been accused of stretching crew limits.
- **Pilot Fatigue:** The DGCA faced a legal battle in the Delhi High Court (2025), which resulted in mandatory weekly rest being increased from 36 to 48 hours to prevent "human error" accidents.

International Civil Aviation Organization (ICAO)

Overview: The ICAO is a specialized agency of the **United Nations**, established by the **Chicago Convention on International Civil Aviation (1944)** to ensure the safe and orderly growth of global civil aviation.

Core Functions:

- **SARPs:** Formulates Standards and Recommended Practices for air navigation, safety oversight, and accident investigation (Annex 13).
- **Global Aviation Safety Plan (GASP):** Sets a roadmap for member states to achieve zero fatalities by 2050.
- **Audits:** Conducts Universal Safety Oversight Audit Programmes (USOAP) to check if countries are complying with safety standards.

India's Position:

- India is a **founding member** and a signatory to the Chicago Convention.
- India maintains a permanent delegation at ICAO headquarters in Montreal.
- In 2025-2026, India is implementing its **National Aviation Safety Plan (2024-2028)**, which aligns with ICAO's global safety goals.

Challenges in Safety Oversight

- **Pilot Shortage:** India produces ~800 job-ready pilots annually against a demand for 2,000+, leading to intense pressure on existing crew rosters.
- **Technical Threats:** 2025 saw a rise in "GPS spoofing" incidents at major airports like Delhi and Mumbai, where false navigation data interfered with cockpit systems.
- **Regulatory Independence:** Concerns exist regarding whether the DGCA and AAIB have sufficient autonomy from the Ministry of Civil Aviation to investigate and penalize state-backed or major private carriers.

Way Forward

- **Mandatory Transparency:** Aligning with ICAO Annex 13, India should ensure that final accident reports are made public within 12 months of an incident to facilitate industry-wide learning.
- **Fatigue Risk Management System (FRMS):** Transitioning from rigid duty hours to data-driven software that monitors real-time crew alertness, as recommended by ICAO.
- **Infrastructure & Tech:** Upgrading ground-based navigation systems to counter cyber threats like GPS spoofing and signal interference.

Conclusion

The Ahmedabad air crash serves as a somber reminder that rapid industrial expansion must not outpace safety protocols. As a leading member of ICAO, India's commitment to adopting the **2026-2028 Global Aviation Safety Plan** will be vital in restoring public confidence and ensuring the "zero fatality" target becomes a reality.

The Monroe Doctrine

Context

In January 2026, the **Monroe Doctrine** resurfaced prominently in global geopolitics following a dramatic U.S. military intervention in **Venezuela**. Under what has been described as the **"Trump Corollary"** (popularly termed the *"Don-roe Doctrine"*), the United States asserted an expanded right to intervene militarily in the Western Hemisphere to eliminate foreign influence and counter transnational threats such as narco-terrorism.

Recent Developments

Background

On January 3, 2026, U.S. special forces carried out a coordinated air-land-sea operation in Venezuela. The operation culminated in the capture of President **Nicolás Maduro** and his wife **Cilia Flores**. Both were transferred to the United States to face trial in a Manhattan federal court on charges related to drug trafficking and narco-terrorism.

Key Developments

- **Regime Change**: The U.S. announced a temporary transition arrangement, stating it would "run" Venezuela during the interim period. A de facto leadership council was proposed, reportedly involving U.S. Secretary of State **Marco Rubio** and Secretary of War **Pete Hegseth**.
- **Geopolitical Rationale**: The White House justified the intervention as necessary to protect the Western Hemisphere from "foreign adversaries," explicitly referencing Chinese and Russian military activities in Latin America.
- **Invocation of Doctrine**: President **Donald Trump** explicitly linked the action to the Monroe Doctrine, claiming that U.S. hemispheric dominance had "superseded" the doctrine's original scope.

Historical and Legal Framework

The Original Monroe Doctrine (1823)

Announced by President **James Monroe**, the doctrine rested on four foundational principles:

1. **Non-Colonization**: European powers were barred from establishing new colonies in the Americas.
2. **Two Separate Spheres**: Europe and the Americas were to remain distinct political systems.
3. **Non-Intervention**: The U.S. would not interfere in existing European colonies or internal European affairs.
4. **Security Principle**: Any European expansion into the Western Hemisphere would be treated as a threat to U.S. peace and security.

Evolution of the Doctrine

- **Roosevelt Corollary (1904)**: Asserted the U.S. right to exercise "international police power" in cases of chronic wrongdoing in Latin American states.
- **Trump Corollary (2025–26)**: Expands the doctrine further to justify **pre-emptive regime change**, capture of foreign leaders, and removal of Chinese and Russian influence under the banner of counter-narcotics and national security.

Comparative Perspective: India and the Indian Ocean Region (IOR)

Unlike the U.S.'s rigid hemispheric approach, **India** has not adopted a formal, exclusionary doctrine for its maritime neighborhood.

Feature	United States (Monroe Doctrine)	India (IOR Strategy)
Strategic Philosophy	Exclusionary – "America for Americans"	Inclusionary – **SAGAR**
Mode of Action	Unilateral intervention, "police power"	Cooperative security & HADR
Primary Concern	Removing Chinese/Russian presence	Countering "String of Pearls"
New Framework (2025)	Don-roe Doctrine (muscular nationalism)	**MAHASAGAR** – holistic Global South outreach

Challenges and Criticism

- **International Law**

  The **United Nations** Secretary-General and several states, including **Spain**, **Brazil**, and **Mexico**, condemned the intervention as a violation of sovereignty and **Article 2(4)** of the UN Charter.

- **Regional Backlash**

  The perceived "bullying" nature of the doctrine has alarmed neighboring countries such as **Colombia**, potentially

pushing them closer to China for economic and strategic security.

- **Economic Concerns**

  U.S. plans to allow American companies to "fix and run" Venezuela's oil infrastructure have been criticized as **resource appropriation** rather than post-conflict reconstruction.

Way Forward

- **Diplomatic Resolution**: Venezuela has requested an urgent UN Security Council meeting to address what it terms "armed aggression."
- **India's Maritime Recalibration**: An August 2025 parliamentary report recommends a more cohesive IOR strategy to counter Chinese expansion **without adopting exclusionary doctrines**.
- **Global Precedent**: The international community faces a critical question, can 19th-century "spheres of influence" coexist with a 21st-century rules-based international order?

Conclusion

The 2026 capture of Nicolás Maduro represents the **most assertive application of the Monroe Doctrine in over a century**. As the United States revives its "Big Stick" diplomacy in the Western Hemisphere, the episode raises wider implications for global order. Whether other regional powers particularly India, choose assertive yet cooperative alternatives will significantly shape the future balance between sovereignty, security, and international law.

Disaster Management & the Economy

Context

An analysis on disaster risk financing underscored India's central policy dilemma: sustaining rapid economic growth while remaining highly vulnerable to natural hazards. Accelerating urbanisation and climate variability have pushed disaster losses to the core of fiscal planning, infrastructure design, and long-term development strategy in **India**.

Economic Impact: The 0.4% GDP Toll

- **Average annual loss:** India loses about **0.4% of GDP every year** to natural disasters.
- **Historical trend (1990–2024):** Recurrent floods and landslides have steadily eroded development gains.
- **Cost of inaction:** In extreme years such as the **2018 Kerala floods** or **2015 Chennai floods**, localized losses have run into **billions of dollars within days**, overwhelming state finances.
- **Industrial exposure:** Highly industrialised states like **Gujarat**, **Maharashtra**, and **Tamil Nadu** contribute a major share of GDP yet face cyclones and urban flooding. Nearly **36% of India's industrial output** lies in disaster-prone zones.

World Risk Index: 2nd Highest Risk in Asia

According to the **World Risk Report 2025/26**, India ranks **2nd most at risk in Asia**, after the Philippines.

Dimension	India's Position
Regional Rank	2nd in Asia
Global Context	Regularly in the global top 10 for long-term climate risk (Germanwatch Index)
Risk Logic	High exposure × high vulnerability (geometric mean)

Why Is the Risk So High?

- **Exposure:** Over **80 million people** are affected by disasters every year; dense populations in floodplains and coastal belts magnify impacts.
- **Vulnerability type:** Predominantly **hydrological** like riverine floods, flash floods, and landslides rather than rare mega-storms.
- **Recovery lag:** A persistent **"continuous threat"**, new disasters strike before households, firms, and governments fully

recover from previous shocks keeps risk chronically high.

Initiatives & Policy Shift

- **Disaster Risk Finance (DRF):** India is moving from reactive relief to **data-driven, pre-arranged financing**, including risk pooling and insurance mechanisms.
- **Coalition for Disaster Resilient Infrastructure (CDRI):** Launched by India in 2019, with its secretariat in New Delhi, CDRI now shapes resilient infrastructure standards across **50+ countries**.
- **Transition to NDP:** By **2029–30**, India plans to emphasise **Net Domestic Product (NDP)** to capture the *true cost* of growth, accounting for disaster-related capital loss and environmental degradation.

Conclusion

India's economic ascent is persistently moderated by disaster risk. With a structural **0.4% GDP drag**, the policy focus has shifted from post-disaster relief to resilience-first development—strengthening infrastructure, financing preparedness, and ensuring that growth remains durable, inclusive, and climate-resilient.

Remote Sensing

Context

As of 2026, remote sensing functions as the **digital nervous system of Earth**. Advances in sensor resolution, satellite constellations, and AI-driven analytics now enable near–real-time monitoring, from individual crop stress to continental-scale groundwater depletion and climate-driven change.

Definition

Remote Sensing is the science of acquiring information about the Earth's surface without direct contact, by measuring **reflected and emitted electromagnetic radiation**, typically using satellites or aircraft.

Key Indicators & Spectral Indices

Environmental features have distinct **spectral signatures**. Scientists combine these signals into indices that reveal hidden patterns.

NDVI (Normalized Difference Vegetation Index)

- **Purpose:** Measures vegetation greenness and plant health.
- **Mechanism:** Healthy plants strongly reflect **Near-Infrared (NIR)** light and absorb **Red** light for photosynthesis.
- **Formula:** NDVI=(NIR−Red)(NIR+Red)NDVI = \frac{(NIR - Red)}{(NIR + Red)}NDVI=(NIR+Red)(NIR−Red)
- **Range:** −1 to +1
  - Dense forests: **0.6–0.9**
  - Barren land / water: near 0 or negative

NDWI (Normalized Difference Water Index)

- **Purpose:** Detects open water bodies and leaf moisture content.
- **Mechanism:** Water reflects **Green** light but absorbs most **NIR** radiation.
- **Formula:** NDWI=(Green−NIR)(Green+NIR)NDWI = \frac{(Green - NIR)}{(Green + NIR)}NDWI=(Green+NIR)(Green−NIR)

Sensor Technologies

Sensor Type	Capabilities	Key Applications
Optical	Visible & infrared imagery, high spatial detail	Urban planning, crop monitoring (clear skies)
SAR (Synthetic Aperture Radar)	Active sensor; works day/night, through clouds & smoke	Flood mapping, cyclone damage, sea-ice tracking

Hyperspectral	Hundreds of narrow spectral bands	Mineral mapping (gold, copper), rock & soil chemistry
Thermal	Detects surface heat emissions	Urban Heat Islands, wildfire fronts, volcanoes

Featured Mission: GRACE

The **GRACE (Gravity Recovery and Climate Experiment)**, operated by **NASA** and **DLR**, revolutionized Earth observation by **weighing the planet rather than imaging it**.

- **How it works:** Two twin satellites fly in tandem. Variations in Earth's gravity, caused by changes in mass such as groundwater or ice which alters the distance between them.
- **Significance:**
  - Primary global tool for tracking **groundwater depletion** (notably in **North India**).
  - Measures **melting ice sheets** and large-scale hydrological shifts by detecting gravity anomalies.

Conclusion

Remote sensing has evolved from simple space photography into a powerful planetary diagnostic system. By integrating optical, radar, hyperspectral, thermal, and gravity data, it delivers a comprehensive view of Earth—supporting disaster management, climate resilience, and sustainable resource planning.

Venezuela Crisis

Context

The geopolitical standoff in Venezuela has intensified following contested elections and a "revival" of historic US foreign policy doctrines. While the humanitarian crisis continues to drive mass migration across Latin America, the international focus has shifted toward the control of the world's largest oil reserves and the influence of global powers like China and Russia in the Western Hemisphere.

Geography & Strategic Features

Venezuela is located on the northern coast of South America, serving as a gateway between the Caribbean and the Amazon.

- **Borders:** Colombia (West), Brazil (South), and Guyana (East).
- **Water Bodies:** Bordered by the **Caribbean Sea** and the **Atlantic Ocean**.
- **Key Landmarks:**
  - **Caracas:** The capital and political heart of the nation.
  - **Orinoco River:** One of the longest rivers in South America, critical for transport and ecology.
  - **Angel Falls:** The world's highest uninterrupted waterfall (979 meters).
  - **Lake Maracaibo:** Known as the **"Lightning Capital of the World"** due to the Catatumbo lightning phenomenon.
  - **Pico Bolívar:** The highest peak in the country, located in the Andes range.

The "Resource Curse" and Oil Economics

Despite holding the **world's largest proven oil reserves** (approx. **303 billion barrels**), Venezuela's economy has collapsed—a classic case of the "Resource Curse."

- **Heavy Crude Challenge:** Unlike the "light" oil in Saudi Arabia, Venezuela's oil is **Heavy Crude**. It is viscous (thick like molasses), high in sulfur, and requires complex, expensive refining processes.
- **Infrastructure Decay:** Years of underinvestment and sanctions have crippled the state-run oil company, PDVSA, leading to a massive drop in production.

Impact on Global Powers

Country	Impact Level	Reason

China	**High**	China imports roughly **80% of Venezuela's oil** to fuel its economy and recoup billions in previous loans.
India	**Negligible**	Only **0.3% of India's imports** come from Venezuela; India has successfully diversified its energy sources (e.g., Russia, Middle East).

US-Venezuela Relations & International Law

The tension between Washington and Caracas is rooted in both legal disputes and century-old foreign policy doctrines.

- **International Law:** Critics argue that US efforts to force regime change (targeting President Nicolás Maduro) violate **UN Charter Article 2(4)**, which prohibits the threat or use of force against the territorial integrity or political independence of any state, except in self-defense or with Security Council authorization.
- **The Monroe Doctrine (1823):** A historic US policy stating that any intervention by external powers (originally Europe) in the politics of the Americas is a potentially hostile act against the US.
- **The "Donroe" Doctrine:** A contemporary term describing the **revival of the Monroe Doctrine** under the Trump administration (and continued as a strategic theme into 2026). It aims to aggressively counter the growing economic and military presence of **China and Russia** in Latin America.

Way Forward

- **Diplomatic Mediation:** Efforts by regional blocs like the **Brazzaville Group** or neutral neighbors to facilitate a "National Dialogue" between the Maduro government and the opposition.
- **Sanction Calibration:** A shift toward "smart sanctions" that target specific officials rather than the general population, to alleviate the humanitarian crisis.
- **Debt Restructuring:** Engaging with China and private creditors to stabilize the Venezuelan economy in exchange for transparent governance.

Conclusion

The Venezuela crisis represents a high-stakes geopolitical tug-of-war, balancing the world's largest oil reserves against severe economic decay. While India remains insulated, the interplay of US doctrines and Chinese interests will determine Venezuela's path toward either stability or further isolation.

Popocatépetl Volcano

Context

A landmark scientific achievement led by the **National Autonomous University of Mexico (UNAM)** culminated in the **first-ever 3D internal map** of the Popocatépetl volcano. After five years of perilous fieldwork and massive data collection, researchers used **Artificial Intelligence (AI)** to peer through kilometers of solid rock, redefining how volcanoes are understood and monitored.

About Popocatépetl

- **Type:** A massive **stratovolcano (composite volcano)**, known for steep slopes and explosive eruptions.
- **Location:** Central Mexico, ~70 km southeast of **Mexico City**.
- **Risk exposure:** Nearly **25 million people** live within a 100-km danger radius.
- **Nickname:** "El Popo" or "Don Goyo."
- **Activity:** Persistently active since **1994**, making it one of the world's most closely watched volcanoes.

Scientific Breakthrough: AI & 3D Imaging

Traditional view: Volcanoes were long imagined as having a single vertical conduit linking one magma chamber to the surface.

New AI-driven reality:

- **Methodology:**
  - Deployment of **22 seismographs** (up from 12) encircling the volcano.

- Sensors record ground vibrations **100 times per second**, capturing subtle seismic signals.

- **AI processing:**
  - Machine-learning algorithms rapidly sorted and interpreted enormous seismic datasets.
  - What once took months now takes **three hours** for a full year of data.

- **Key findings:**
  - Multiple **magma reservoirs** exist at varying depths, extending to **~18 km** below the crater.
  - Reservoirs are separated by solid and semi-solid rock layers.
  - A distinctive **"mushroom-shaped" magmatic system** lies beneath the southeastern flank—an area of heightened risk.

Emissions and Environmental Impact

Popocatépetl is an intense **degasser**, releasing gases even outside eruption phases.

- **Primary gases:** Water vapor (H_2O), Carbon dioxide (CO_2), Sulfur dioxide (SO_2).
- **Trace compounds:** Hydrogen sulfide (H_2S), Hydrogen chloride (HCl), Hydrogen fluoride (HF), nitrogen compounds.
- **Ash composition:** Rich in silica (SiO_2), alumina, iron oxides; minerals include plagioclase, pyroxene, and olivine.
- **Agricultural paradox:**
  - Ash is hazardous to human health.
  - Over time, it forms **nutrient-rich volcanic soils**, ideal for crops such as **high-quality coffee** due to potassium and phosphorus enrichment.

Significance

- **Early warning capability:** Precise mapping of magma accumulation zones allows more accurate eruption forecasts and evacuation planning, potentially saving millions of lives.
- **Natural laboratory:** "El Popo" functions as a real-world testing ground for AI-based volcanic monitoring, with applications for high-risk volcanoes in **Italy, Japan, and the United States**.

Conclusion

The transition from flat, textbook diagrams to AI-generated 3D "radiographies" marks a paradigm shift in volcanology. By making magma movement visible and predictable, Popocatépetl is evolving from an unpredictable menace into a scientifically manageable natural system.

Olive Ridley Turtles

Context

Environmentalists sounded alarms after a surge in Olive Ridley turtle deaths along the Andhra Pradesh and Tamil Nadu coasts. Carcasses washing ashore near **Visakhapatnam** and **Chennai** point to fishing **bycatch** during the peak nesting season as the primary cause.

About the Olive Ridley Turtle

- **Physical traits:** Named for its olive-green, heart-shaped carapace; the smallest and most abundant sea turtle species.
- **Size & weight:** ~60–70 cm; 35–45 kg.
- **Diet:** Omnivorous like jellyfish, shrimp, snails, crabs, algae.
- **Migration:** Remarkable long-distance migrants; Indian nesters travel thousands of kilometers from the South Indian Ocean and even Australia.

The Phenomenon of *Arribada*

- **Definition:** Mass nesting ("arrival") where thousands of females nest synchronously over successive nights.
- **Indian hubs (Odisha):**
  - **Gahirmatha Marine Sanctuary**
  - **Rushikulya River Mouth**
  - **Devi River Mouth**
- **Season:** November–April; incubation ~45–60 days.

Threats and Conservation Status

Legal protection

- Wildlife (Protection) Act, 1972: Schedule I

- **IUCN Red List:** Vulnerable
- CITES: Appendix I

Major threats

- **Fishing bycatch:** Air-breathing turtles drown when trapped in trawl/gill nets.
- **Coastal lighting:** Artificial lights disorient hatchlings away from the sea.
- **Habitat loss:** Erosion and construction degrade nesting beaches.

Conservation Efforts

- **Operation Olivia:** Annual coastal mission by the **Indian Coast Guard** to enforce seasonal fishing bans near nesting sites.
- **Turtle Excluder Devices (TEDs):** Net attachments that allow turtles to escape while retaining fish; mandatory but unevenly enforced.

Way Forward

- **Stricter enforcement:** Keep mechanized trawlers beyond the 8-km no-fishing zone during breeding months.
- **Community-led protection:** Engage fishers as "Turtle Guardians" to protect nests and manage hatcheries.
- **Eco-friendly lighting:** Shielded, downward-facing coastal lights to reduce hatchling disorientation.

Conclusion

Protecting Olive Ridley turtles demands coordinated enforcement, fisher participation, and habitat-friendly coastal planning. Sustained action during nesting seasons can curb bycatch, secure arribada beaches, and preserve India's vital marine biodiversity for future generations.

Kashmir Markhor

Context

Wildlife experts and **Down To Earth** reported a grave crisis for the Kashmir Markhor. India's rarest wild goat faces **local extinction**, with an estimated **200–300 individuals** left in the wild. The **Kazinag range** in **Jammu & Kashmir** now stands as the species' last stronghold in the country.

About the Kashmir Markhor

- **What it is:** A large, cliff-dwelling wild goat; a subspecies of the Markhor (*Capra falconeri*), famed for its dramatic spiral (corkscrew) horns.
- **Etymology:** From Persian—*Mar* (snake) + *Khor* (eater). Despite folklore, Markhor are strictly herbivorous.
- **Endemism in India:** Confined to the north-western Himalayas of Jammu & Kashmir.

Habitat and Distribution

Adapted to near-vertical cliffs and alpine meadows at **600–3,600 m** elevation.

- **Kazinag National Park:** Core refuge with the bulk of the surviving population.
- **Hirpora Wildlife Sanctuary:** Once a key habitat, now under severe pressure.
- **Tattakuti Wildlife Sanctuary** & **Khara Gali:** Fragmented, high-altitude remnants.

Key Characteristics

Feature	Description
Horns	Spectacular spiral horns up to **160 cm** (males).
Build	Stocky and powerful; males up to **~100 kg**.
Coat	Long ruff on neck/chest; thickens in winter.
Agility	Split hooves enable scaling sheer cliffs.
Sociality	Males largely solitary; females with young in small herds.

Conservation Status & Threats

Legal status

- **IUCN Red List:** Near Threatened globally; **Critically Endangered locally in India**.
- **Wildlife (Protection) Act, 1972:** Schedule I (highest protection).
- **CITES:** Appendix I.

Major threats

- **Livestock competition:** Seasonal influxes of sheep and goats (often **30:1** vs. Markhor) deplete forage during **May–June fawning**.
- **Infrastructure fragmentation:** Mughal Road through Hirpora and high-tension lines disrupt corridors.
- **Poaching:** Residual pressure for meat and trophy horns in remote border zones.
- **Militarization:** Proximity to the LoC and fencing restrict movement and gene flow.

Significance

- **Ecological indicator:** Presence signals a healthy high-altitude ecosystem.
- **Flagship role:** Protection benefits co-occurring Himalayan fauna.
- **Trophic importance:** A key prey base sustaining apex predators.

Way Forward

- **Grazing regulation:** Rotational grazing and **anti-grazing camps** in critical fawning sites (notably Kazinag).
- **Green infrastructure:** Wildlife corridors to offset impacts of roads and linear projects.
- **Community engagement:** Partnerships with Gujjar and Bakarwal herders; enlist local **"Markhor Watchers."**
- **International recognition:** Observance of **International Day of the Markhor (24 May)**,declared by the **United Nations** in 2024 to mobilize global support.

Zehanpora Stupa

Context

Archaeological excavations at **Zehanpora** in Baramulla, Jammu & Kashmir, have uncovered a sprawling **2,000-year-old Buddhist complex**. Dating back to the **Kushan period**, this discovery offers a rare scientific glimpse into the monastic architecture and urban-type settlements of ancient Kashmir.

About the Site

- **Location:** Situated in Zehanpora village, Baramulla district (North Kashmir), along the ancient **Silk Route** corridor.
- **Composition:** A massive 10-acre site comprising multiple stupas, **apsidal chaityas** (prayer halls), **viharas** (monk residences), and residential settlements.
- **Geographical Links:** Positioned as a vital link between Kashmir and the **Gandhara region** (modern-day Afghanistan and Pakistan).

Historical Significance

- **The Kushan Peak (1st–3rd Century CE):** The site flourished under rulers like **Kanishka** and Huvishka, a period when Kashmir became a global powerhouse for **Mahayana Buddhism**.
- **Buddhist Transmission:** Under the Kushans, Buddhist philosophy from sites like Zehanpora spread through the mountain passes into **Central Asia and China**.
- **Ancient Heritage:** While the structures are Kushan, they represent a continuity of the Buddhist tradition in Kashmir that was originally established by **Emperor Ashoka** in the 3rd Century BCE.

Architectural Characteristics

- **Stupa-like Plateaus:** The site features prominent man-made raised platforms that served as bases for large stupas.
- **Clustered Layout:** Unlike isolated shrines, the landscape suggests a **monastic city** with a high density of interconnected structures.
- **Wooden Superstructures:** Archaeological evidence points to the use of wooden structures built atop the stone/earthen mounds, a common feature in Himalayan and Gandharan architecture.

Modern Scientific Exploration

To document the site without causing damage, archaeologists utilized a suite of high-tech tools:

- **Aerial Mapping:** Use of **drones** and aerial photography to understand the site's layout.

- **Remote Sensing:** Ground-penetrating surveys to identify buried walls and foundations.
- **Comparative Analysis:** Researchers are comparing Zehanpora's "construction signature" with other regional sites to map the specific architectural evolution of the Kashmir-Gandhara circuit.

Significance

- **Unmatched Scale:** Experts suggest that no other site in the region matches the scale of Zehanpora, making it a "signature" discovery for Kashmir's material history.
- **Hub of Learning:** The presence of both viharas and urban settlements confirms that this was not just a place of worship, but a **trans-regional hub** for pilgrims, scholars, and traders.
- **Cultural Mapping:** It reinforces Kashmir's role as the "melting pot" where Indian, Greek, and Persian artistic influences merged into the unique Gandharan-Kashmiri style.

Conclusion

The Zehanpora excavation is a pivotal chapter in reconstructing the **Kushan Empire's** cultural footprint. By preserving and studying this site, India strengthens its historical link to the Silk Route, showcasing Kashmir as an ancient center of global intellectual and religious exchange.

India's PV Manufacturing

Context

In January 2026, **The Energy and Resources Institute (TERI)** released a landmark report titled **"India's PV Manufacturing & Its Strategic Inflection Points"** at the **Bharat Climate Forum 2026**. The release coincided with the unveiling of the **National Cleantech Manufacturing Implementation Plan**, aimed at securing India's leadership in the global solar supply chain.

About the Report

- **Definition:** A strategic assessment of the solar Photovoltaic (PV) value chain, spanning from polysilicon and ingots/wafers to cells and modules, identifying critical "inflection points" for policy and investment.
- **Key Trends Highlighted:**
  - **China's Upstream Monopoly:** Global supply is heavily concentrated in China, which controls **~98% of wafers** and **~92% of polysilicon** production.
  - **India's Downstream Success:** India has "won the module battle" with a capacity of **~120–144 GW/year**, far exceeding annual domestic demand.
  - **The "War Upstream":** Despite module growth, India still imports nearly **90% of wafers** and almost all its **polysilicon**.
  - **Equipment Chokepoints:** Over **90% of critical manufacturing tools** (like high-end furnaces and diamond-wire saws) are imported, creating high foreign exchange (FX) exposure.

Opportunities for Value Capture

- **Upstream Integration:** India's massive module capacity (~280 GW projected by 2030) provides a ready market for domestic polysilicon and wafer units.
- **Low-Cost Capital:** The report proposes **"Green PV Bonds"** to offer capital at **4–5% interest**, making capital-intensive "giga-fabs" more bankable.
- **Innovation Hubs:** Establishing **Solar Manufacturing Technology Parks** with shared clean rooms and pilot labs (for HJT/TOPCon technologies) to accelerate commercialization.
- **ESG & Circularity:** Tapping into new markets by building a robust **PV recycling industry** and using digital traceability for "Made-in-India" modules to meet EU/US trade norms.

Key Challenges

- **Supply Chain Vulnerability:** Near-total reliance on Chinese upstream inputs makes Indian deployment susceptible to geopolitical disruptions.

- **High Risk Perception:** The massive capital expenditure required for polysilicon plants makes traditional commercial financing prohibitively expensive.
- **Technological Lag:** Rapid evolution in cell technology (e.g., from PERC to TOPCon/Perovskites) risks making current domestic lines obsolete without continuous R&D.
- **Recycling Infrastructure:** A lack of structured "take-back" programs for end-of-life panels poses a long-term environmental and resource risk.

Way Forward

- **Ecosystem Building:** Set up dedicated industrial parks in states like **Gujarat and Tamil Nadu** to cut "time-to-market" for manufacturers.
- **Financial De-risking:** Deploy sovereign bonds and **blended finance** (via NIIF/DFIs) to lower the cost of capital.
- **Workforce Readiness:** Establish a **PV–Semiconductor Skill Council** to create a pipeline of technicians and engineers specifically trained for advanced fab operations.
- **Circular Economy:** Formalize PV recycling through **MNRE-led consortia** to recover valuable materials like silver, silicon, and high-grade glass.

Conclusion

India has successfully scaled its solar module assembly, but the next phase of **Atmanirbhar (Self-Reliant) Cleantech** requires moving upstream. By focusing on equipment manufacturing, affordable finance, and technology clusters, India can mitigate import risks and transform from a consumer into a global hub for solar technology.

Digitalizing India's Dairy Sector

Context

The National Dairy Development Board (NDDB) has achieved a major milestone in the digitalization of the dairy industry, notably generating over **35.68 crore "Pashu Aadhaar" IDs** to enhance traceability and animal health management.

About the News

- **The Second White Revolution:** India is the global leader in milk production (25% of world output). Digitalization marks a shift from simple production volume to a focus on traceability, efficiency, and value addition.
- **Key Trends and Data:**
  - **Production Growth:** 221.06 million tonnes produced (2021-22), a 73% increase over the last decade.
  - **Digital Integration:** Over 17.3 lakh producers are now integrated into the **Automatic Milk Collection System (AMCS)**.
  - **Consumption:** Per capita availability has risen to **444 grams per day**, exceeding the global average.
  - **Market Projection:** The sector is on a trajectory to reach significant multi-billion dollar valuations by 2027.

Importance of the Dairy Sector in India

- **Rural Livelihood Security:** Provides regular income for over **80 million households**, acting as a safety net against crop failure (e.g., in Vidarbha and Marathwada).
- **Economic Contribution:** Often surpasses the combined value of rice and wheat in agricultural GDP; the **Amul model** in Gujarat is a primary example of this commercial power.
- **Nutritional Security:** Essential protein source for a largely vegetarian population; used in government programs like **Mid-Day Meals** to combat vitamin deficiencies.
- **Women Empowerment:** Dairying is primarily managed by women. Self-Help Groups (SHGs) in states like Odisha have enhanced social standing by managing collection centers.
- **Inclusive Growth:** Livestock distribution is more equitable than land ownership; **75% of rural households** own only 2–4 animals yet drive the national output.

Initiatives for Digitalization

- **National Digital Livestock Mission (NDLM):** Establishes "Bharat Pashudhan," a centralized database for breeding, health, and vaccination.
- **Pashu Aadhaar:** 12-digit unique ID ear tags for animals to ensure full lifecycle traceability.
- **Automatic Milk Collection System (AMCS):** Digitizes fat testing and payments, ensuring farmers receive fair, instant transparency.
- **NDDB Dairy ERP (NDERP):** Employs open-source software (ERPNext) to manage the entire supply chain from "cow to consumer."
- **GIS Route Optimization:** Uses satellite mapping to reduce procurement distances and fuel costs for cooperatives.

Challenges

- **Low Productivity:** Average yield (987 kg per lactation) is less than half the global average (2,038 kg) due to the genetic profile of indigenous breeds.
- **Fragmented Supply Chain:** 75–85% of surplus flows through unorganized sectors, often lacking the cold chain infrastructure necessary to prevent spoilage.
- **Input Costs:** Rising prices of maize and soybean (feed) and shrinking grazing lands squeeze farmer profit margins.
- **Quality Standards:** India's share in global exports is **<1%** because many products struggle to meet strict European or US phytosanitary norms.
- **Credit Access:** Smallholders often rely on high-interest local moneylenders as banks perceive livestock as a high-risk asset.

Way Forward

- **Breed Improvement:** Scale **Artificial Insemination (AI)** and genomic selection through the Semen Station Management System (SSMS) to boost yield.
- **Cold Chain Infrastructure:** Expand village-level bulk milk chillers and use AMCS to monitor milk temperature in real-time.
- **Value-Added Products:** Shift focus from liquid milk to high-margin items like cheese, probiotics, and organic yogurts to meet urban demand.
- **Export Competitiveness:** Align Indian standards with **Codex Alimentarius** and create specialized Export Zones to tap into Middle Eastern and South Asian markets.
- **Fintech Integration:** Use "Pashu Aadhaar" data to create **Livestock Credit Scores**, allowing banks to use digital records as collateral for loans.

Conclusion

By merging the traditional cooperative strength of the White Revolution with cutting-edge tools like NDLM and AI, India is evolving into a transparent dairy superpower. This digital shift ensures that the benefits of technology reach the smallest farmer, securing a sustainable and technology-driven future for global milk production.

NASA's Artemis II Mission

Context

As of January 2026, NASA has entered the final integration phase for **Artemis II**, the first crewed mission of the Artemis program. The Space Launch System (SLS) rocket and Orion spacecraft are scheduled for rollout to **Launch Pad 39B** at Kennedy Space Center in late January, with the primary launch window opening on **February 6, 2026**.

About the Mission

Objective: To send a four-person crew on a **10-day journey** around the Moon and safely back to Earth. This mission acts as a critical "live test" of Orion's life-support systems, communications, and heat shield performance under human-occupied conditions.

Mission Profile:

- **Type:** Crewed lunar flyby (no landing).
- **Trajectory:** A **hybrid free-return trajectory**. Orion will orbit Earth twice to

check systems before a Trans-Lunar Injection (TLI) burn sends it around the lunar far side.

- **Altitude:** At its closest, Orion will fly roughly **7,400 km** above the lunar surface.
- **Return:** The spacecraft will use the Moon's gravity to "slingshot" back toward Earth, ending with a high-speed reentry and splashdown in the **Pacific Ocean**.

The Crew

The mission shatters several records, carrying the most diverse lunar crew in history:

- **Reid Wiseman (NASA):** Commander; veteran of the ISS.
- **Victor Glover (NASA):** Pilot; will be the **first person of color** to travel to the vicinity of the Moon.
- **Christina Koch (NASA):** Mission Specialist; will be the **first woman** to travel to the Moon.
- **Jeremy Hansen (CSA):** Mission Specialist; will be the **first non-American** to leave low-Earth orbit.

Technology and Infrastructure

- **Space Launch System (SLS):** The most powerful rocket ever built by NASA, in its **Block 1 configuration**, providing 8.8 million pounds of thrust.
- **Orion Spacecraft:** Consists of the Crew Module (nicknamed **"Integrity"**) and the European Service Module (ESM), which provides air, water, and propulsion.
- **O2O System:** Artemis II will demonstrate the **Orion Optical Communications System**, using lasers to transmit high-definition video from lunar distances, a significant upgrade over traditional radio waves.

Strategic Significance

- **Bridge to Artemis III:** Success is mandatory before NASA attempts a human landing at the **Lunar South Pole** (currently targeted for 2027/2028).
- **Deep Space Testing:** Unlike the uncrewed Artemis I, this flight exposes humans to deep-space radiation and evaluates "manual piloting" capabilities of the Orion capsule.
- **Mars Precursor:** Proving that humans can thrive in the cislunar void is the foundational step for the eventual multi-year journey to **Mars**.

Conclusion

Artemis II is humanity's "proof of concept" for returning to deep space. While the Apollo missions were about "getting there," Artemis is about "staying there." By sending a diverse crew around the Moon in 2026, NASA is moving from the era of exploration into the era of sustainable lunar presence.

Combating "Digital Arrest" Scams

Context

The Supreme Court of India took **suo motu cognisance** of the "Digital Arrest" menace, describing the siphoning of nearly **₹3,000 crore** as "shocking." The court has empowered the **CBI** with pan-India jurisdiction to lead a unified crackdown, overriding traditional state consent requirements to ensure a swift, coordinated response.

About the Issue

What is a "Digital Arrest"?

It is a sophisticated **cyber-extortion scam** where fraudsters impersonate law enforcement officials (CBI, ED, Police, or even Judges) to convince victims they are under "arrest" via video calls.

The Modus Operandi:

1. **Initial Threat:** Victims receive a call alleging their involvement in illegal activities (e.g., drug-laden parcels, money laundering, or "blood-stained clothes").
2. **Visual Deceit:** Fraudsters move the call to **Skype or WhatsApp video**, sitting in front of fake police station backdrops and wearing forged uniforms.
3. **Extortion:** They "digitally arrest" the victim, demanding they stay on camera for hours or days, eventually coercing them into transferring "security deposits" or

"fines" to fake RBI/Escrow accounts to avoid physical arrest.

Legal Fact:

"Digital Arrest" is not a legal concept in India. Law enforcement agencies do not conduct arrests or legal proceedings via video calls. Under the **BNSS (Bharatiya Nagarik Suraksha Sanhita)**, all arrests follow strict physical protocols.

Government & Judicial Response

Supreme Court Directives :

- **Pan-India CBI Probe:** The CBI is authorized to investigate these syndicates nationwide, targeting offshore networks in the **"Golden Triangle"** (Laos, Myanmar, Cambodia).
- **Bank Accountability:** The Court labeled bank lapses in allowing mule accounts as a **"deficiency in service"** and impleaded the **RBI** to deploy AI/ML tools for real-time fraud detection.
- **Telecom Norms:** Ordered the Department of Telecommunications (DoT) to tighten **KYC norms** and curb the issuance of multiple SIMs on a single ID.

Inter-Departmental Committee (IDC): Formed on **December 26, 2025**, to examine real-time implementation gaps.

- **Chair:** Special Secretary (Internal Security), Ministry of Home Affairs (MHA).
- **Members:** Senior officials from MeitY, DoT, RBI, CBI, NIA, and the Attorney General of India.
- **Member Secretary:** CEO of the Indian Cyber Crime Coordination Centre (I4C).

Role of I4C (Indian Cyber Crime Coordination Centre)

The I4C acts as the central nodal agency for coordinating the national fight against cybercrime.

- **Helpline 1930:** The primary tool for victims to report fraud during the **"Golden Hour"** to freeze siphoned funds before they leave the banking system.
- **Blocking Infrastructure:** So far, I4C has proactively blocked over **83,000 WhatsApp accounts** and **3,900 Skype IDs** linked to these scams.
- **Samanvaya & Pratibimb:** Platforms used to map the locations of cybercriminals and track inter-state linkages of crime syndicates.

Action Plan & Way Forward

- **Real-time Blocking:** An integrated system between DoT and Telecom providers to block international spoofed calls that appear as Indian numbers.
- **Intermediary Accountability:** MeitY is holding platforms like **Google, WhatsApp, and Microsoft** accountable for detecting and removing fraudulent IDs using AI filters.
- **Public Awareness:** A massive "Stop, Think, Take Action" campaign (pushed by PM Modi in *Mann Ki Baat*) aimed at vulnerable groups like senior citizens.
- **Suspect Registry:** A shared database of known cyber-fraud identifiers accessible to all banks to decline suspicious transactions immediately.

Conclusion

"Digital Arrest" scams weaponize the fear of law and order to exploit innocent citizens. The Supreme Court's "iron hand" approach, combined with I4C's technological intervention, aims to dismantle the infrastructure of these transnational syndicates and restore public trust in digital governance.

Pax Silica Initiative

Context

The United States announced that **India** would be invited to join the **Pax Silica initiative** as a full member in February 2026. This follows India's initial exclusion from the group's launch in December 2025 and signals a strategic pivot by the U.S. to include India as a "trusted partner" in the global AI and semiconductor ecosystem.

About the Pax Silica Initiative

What is it?

Pax Silica is a U.S.-led economic security and technology partnership. It aims to build a secure, resilient, and innovation-driven global supply chain for **silicon**, **semiconductors**, **artificial intelligence**, **critical minerals**, and **advanced manufacturing**. The name "Pax Silica" reflects a rules-based technological order (Pax) centered on silicon-based computing (Silica).

Launched by: The initiative is spearheaded by the **U.S. Department of State** and was formally inaugurated at the first Pax Silica Summit on **December 12, 2025**, in Washington, D.C.

Nations Involved:

- **Founding Members:** United States, Japan, South Korea, Singapore, United Kingdom, Israel, Australia, and the Netherlands.
- **New/Prospective Members: India** (Invited Jan 2026), United Arab Emirates (UAE), and Qatar.
- **Special Guests/Partners:** Taiwan, European Union, Canada, and the OECD.

Key Features of the Initiative

- **Full-Stack Coverage:** Unlike narrow chip alliances, Pax Silica covers the entire value chain—from the extraction of **critical minerals** and energy inputs to high-end **fabrication**, AI infrastructure (data centers), and logistics.
- **Trusted Ecosystems:** Collaboration is restricted to nations that commit to high standards of data security, reducing the risk of **espionage**, sabotage, or technology theft by "hostile actors."
- **Economic Security as National Security:** The framework operates on the principle that controlling the "compute" and the minerals that feed it is indispensable to national power in the 21st century.
- **Anti-Coercion Coordination:** Members coordinate on **export controls**, investment screening, and responses to non-market practices like **dumping** to prevent any single country from weaponizing supply chain dependencies.
- **Investment Mobilization:** It facilitates joint ventures and strategic co-investment, such as aligning public and private capital to build new semiconductor "fabs" and processing units across partner countries.

Significance for India

- **Strategic "High Table":** India's inclusion marks its recognition as a credible alternative hub for manufacturing and innovation, shifting away from concentrated production in East Asia.
- **Semiconductor Mission Boost:** Joining Pax Silica provides India with direct access to high-end chip technologies and global investors, accelerating the **India Semiconductor Mission (ISM)**.
- **Critical Mineral Security:** As India is currently dependent on imports for rare earth minerals, this partnership helps diversify sources and secure raw materials for the EV and defense sectors.
- **Mending Ties:** The invitation is viewed as a major diplomatic step by the U.S. to stabilize and deepen strategic ties with New Delhi following a period of perceived uncertainty in trade relations.

Challenges

- **Capacity Gaps:** India still lacks cutting-edge logic foundries and large-scale mineral refining capacity compared to established members like the Netherlands (ASML) or South Korea (Samsung).
- **Policy Alignment:** Integrating into the bloc may require India to align more closely with U.S.-led **export controls** and investment screening standards, which could impact other trade relationships.
- **Implementation Speed:** Critics note that while high-level declarations are significant, the real test will be the speed at which joint ventures and fab constructions materialize on the ground.

Conclusion

Pax Silica represents a shift from traditional globalization to a system of **"friend-shoring"** and trusted blocs. For India, joining this initiative is not just an economic opportunity but a strategic

necessity to ensure it remains at the forefront of the AI-driven world order. By securing the "backbone" of modern technology, India aims to transform from a consumer to a key provider in the global silicon value chain.

Aerosols

Context

A groundbreaking study led by **IIT Madras** and published in *Science Advances* revealed that aerosol pollution is a primary driver of the intensifying winter fog across North India. The research highlights a "vicious cycle" where aerosols not only trigger fog but also make it significantly thicker and longer-lasting, disrupting aviation and public health in the Indo-Gangetic Plain.

About Aerosols

What are they?

Aerosols are tiny solid or liquid particles suspended in the atmosphere. They range in size from a few nanometers to several micrometers and can remain airborne for days or weeks.

Origin and Types:

- **Natural Sources:** Mineral dust from deserts, sea spray (salt), volcanic ash, and smoke from wildfires.
- **Human Sources:** Vehicle exhausts, industrial smoke, biomass burning (crop residue), and coal combustion.
- **Formation:**
  - **Primary Aerosols:** Emitted directly as particles (e.g., soot/black carbon).
  - **Secondary Aerosols:** Formed in the air through chemical reactions of gases like sulfur dioxide and nitrogen oxides .

Key Findings: The IIT Madras Study (2026)

The study introduced a new metric called **AODFOG** (Aerosol Optical Depth above Fog) to quantify how pollution above the fog layer affects its behavior.

- **Fog Invigoration:** High aerosol concentrations act as "seeds" (Cloud Condensation Nuclei), allowing more water vapor to condense.
- **Thickening Mechanism:** On highly polluted days, fog layers in North India were found to be **15–20% thicker** (reaching heights of 400–600 meters).
- **Vertical Mixing:** Aerosols at the top of the fog layer enhance radiative cooling and latent heat release, which creates buoyancy and "stirs" the fog, preventing it from dispersing.
- **Nighttime Intensity:** This "invigoration" is most pronounced during the night, leading to the zero-visibility conditions frequently seen at Delhi's IGI Airport.

Implications of Aerosols

1. Environmental and Weather

- **Cloud Formation:** Aerosols are essential for clouds; without them, water vapor wouldn't have a surface to condense upon.
- **Albedo Effect:** Reflective aerosols (like sulfates) bounce sunlight back into space, causing **global dimming** and surface cooling.
- **Warming Effect:** Absorptive aerosols (like black carbon or soot) soak up solar energy, warming the upper atmosphere while cooling the surface—this stabilizes the air and traps pollutants near the ground.

2. Public Health

- **Respiratory Impact:** Fine particles ($PM_{2.5}$) penetrate deep into the lungs and enter the bloodstream, worsening asthma and bronchitis.
- **Cardiovascular Issues:** Long-term exposure is linked to heart disease and stroke.

Challenges and Way Forward

- **The Feedback Loop:** Fog traps aerosols near the ground, which in turn makes the fog denser, leading to "severe hazy episodes" where pollution levels spike by 30–40%.
- **Regional Transport:** Research shows aerosols from North India can travel as far as the southeast coast (Chennai), worsening air quality thousands of kilometers away.

- **Policy Needs:** Tackling winter fog requires a shift from just "managing visibility" to aggressively reducing aerosol emissions from biomass burning and vehicles.

Conclusion

Aerosols are no longer seen as just a byproduct of pollution but as active "weather makers." The ability of these tiny particles to thicken fog and alter local temperatures makes them a critical factor in India's climate and public safety strategies.

BHASHINI Samudaye

Context

In January 2026, the **Digital India BHASHINI Division (DIBD)** under the Ministry of Electronics and Information Technology (MeitY) organized the **"BHASHINI Samudaye: Strengthening India's Language AI Ecosystem"** workshop in New Delhi. The event focused on creating a collaborative, sovereign, and inclusive language AI landscape to eliminate digital barriers.

About BHASHINI Samudaye

What it is?

BHASHINI Samudaye (meaning "Community") is a collaborative ecosystem designed to co-create, govern, and scale Indian-language AI tools. It acts as a participatory governance model that connects government agencies, academia, startups, and civil society to build **Digital Public Infrastructure (DPI)** for languages.

Developed by: It is spearheaded by the **Digital India BHASHINI Division (DIBD)** as a key implementation arm of the **National Language Translation Mission (NLTM)**.

Key Features and Initiatives

- **Participatory Governance:** Moves away from top-down policy to a community-led model involving language experts, data practitioners, and researchers.
- **BhashaDaan:** A crowdsourcing platform where citizens contribute voice and text data to train AI models in their native languages (both Scheduled and non-Scheduled dialects).
- **Dataset Onboarding Supporting Team (DOST):** Launched in 2026 in collaboration with the **Gates Foundation**, DOST helps identify and prepare high-value datasets for integration into BHASHINI and AI Kosh.
- **Voice-First Governance:** Prioritizes speech-to-speech translation to help non-literate or digitally excluded populations access government services.
- **Multimodal Capabilities:** Includes real-time translation, Automated Speech Recognition (ASR), and Text-to-Speech (TTS) across 22+ languages.

Significance

- **Digital Inclusion:** Ensures that technology is accessible in 1,300+ mother tongues, preventing language from being a barrier to digital services.
- **Sovereign AI:** Reduces dependence on foreign language models by building indigenous, bias-aware, and ethically sourced datasets.
- **Sectoral Impact:** AI models are being deployed in **Justice** (Supreme Court judgments), **Education** (learning materials), **Health**, and **Agriculture**.
- **Cultural Preservation:** Helps digitize and preserve regional dialects and tribal languages that are often neglected by mainstream tech companies.

Conclusion

BHASHINI Samudaye represents India's ambition to democratize AI. By treating language as a shared public good rather than a private asset, the mission ensures that the benefits of the digital economy reach the last mile, fulfilling the vision of **"Bhasha Anek, Bharat Ek"** (Many Languages, One India).

PESA Act Implemented in Jharkhand after 25 Years

Context

Jharkhand notified the **Jharkhand PESA Rules, 2025**, marking the end of a 25-year delay since the state's formation. This move extends formal tribal self-governance to the state's **Fifth**

Schedule areas, following persistent judicial pressure from the Jharkhand High Court and long-standing demands from Adivasi organizations.

About the News

What is PESA?

The **Panchayat (Extension to Scheduled Areas) Act, 1996 (PESA)** is a central legislation that extends the provisions of Part IX of the Constitution (Panchayati Raj) to Fifth Schedule areas. It recognizes the **Gram Sabha** as the supreme authority for local governance, protecting tribal culture and resources.

Key History of the PESA Act:

- **Colonial Legacy:** Historically, British land and forest laws displaced tribal communities, criminalizing their customary use of ancestral lands.
- **Bhuria Committee (1994–95):** Recommended that tribal regions require a specialized governance model where the Gram Sabha, rather than the bureaucracy, controls resources.
- **73rd Amendment Gap:** While the 1992 amendment introduced Panchayati Raj, Scheduled Areas were initially excluded to protect their unique social fabric, leading to the enactment of PESA in 1996.

Key Features of the Jharkhand PESA Rules

- **Gram Sabha Primacy:** Recognizes one Gram Sabha for each revenue village. The President must be a person recognized by the village according to **traditional customs** (e.g., Manki-Munda or Majhi-Pargana systems).
- **Natural Resource Management:** Gram Sabhas now hold rights over **minor forest produce (MFP)**, village water bodies, and **minor minerals** (like sand and stone).
- **Land Safeguards:** Mandatory consultation with the Gram Sabha is required before any land acquisition. The rules aim to prevent and reverse illegal land transfers.
- **Dispute Resolution:** Villages are empowered to resolve local disputes and can impose penalties (up to ₹2,000) for social or minor offences.
- **Police Accountability:** Authorities must inform the Gram Sabha within **48 hours** of any arrest made within its jurisdiction.
- **Financial Autonomy:** Gram Sabhas can manage their own funds (Food, Labor, and Cash funds) and have a say in the utilization of the **District Mineral Foundation Trust (DMFT)** funds.

Successes & Potential Impact

- **Restoration of Identity:** Legally validates traditional governance systems that predate modern administration.
- **Economic Empowerment:** Shifting MFP ownership from the Forest Department to the community turns gatherers into stakeholders.
- **Democratic Inclusion:** The rules mandate the presence of **one man and one woman per household** to complete a quorum, ensuring gender-inclusive decision-making.
- **Resource Sovereignty:** Successful models (like those in Gadchiroli) show that community-led sand or bamboo management can generate significant revenue for local schools and healthcare.

Challenges in Implementation

- **Bureaucratic Oversight:** Critics argue the rules still give excessive power to the **District Deputy Commissioner** regarding the notification of village boundaries.
- **"Loop of Ambiguities":** Legal experts point out that while the Gram Sabha is "supreme," final arbitration in many disputes remains with the district administration.
- **Exclusion from Major Projects:** The rules focus heavily on *minor* minerals and forest produce, often leaving Gram Sabhas sidelined in *major* mining or industrial projects.
- **Fragmented Governance:** There is a lack of harmony between PESA and the **Forest Rights Act (FRA), 2006**, leading to overlapping jurisdictions and confusion.

Way Forward

- **Legal Convergence:** Synchronize PESA rules with the FRA and the **Samata Judgment** to ensure community consent is non-negotiable for all extraction activities.
- **Capacity Building:** Provide Gram Sabhas with independent secretariats and technical training to manage budgets and developmental planning.
- **Strengthening the TAC:** The **Tribes Advisory Council (TAC)** should play a more active role in monitoring implementation rather than leaving it to the state bureaucracy.
- **Judicial Redressal:** Establish specialized grievance bodies in Scheduled Areas to handle PESA violations without the delays of mainstream courts.

Conclusion

PESA is more than a law; it is a constitutional promise of **"Self-Rule" (Gram Swaraj)** for India's tribal heartland. Jharkhand's notification is a historic step, but its success depends on whether the Gram Sabha acts as a genuine legislative body or merely a procedural formality. Real empowerment will require shifting power from the "Dikus" (outsiders/bureaucracy) back to the community.

Early Investment in Children

Context

In early 2026, policy experts and economists emphasized that addressing foundational learning gaps is critical for India to harness its demographic dividend. As India targets a $30-trillion economy by 2047, the debate on early childhood investment has gained urgency, highlighting that economic growth is fundamentally rooted in early human development.

About the News

Definition: Early investment refers to systematic public and social support from pre-conception to age eight (the first 3,000 days). This encompasses nutrition, health, emotional care, and cognitive stimulation.

Key Trends:

- **Foundational Literacy and Numeracy (FLN):** A pivot toward ensuring basic reading and math by Grade 3; localized mother-tongue instruction has shown a 12% rise in oral fluency.
- **Integrated Nutrition and Learning:** Under Mission Saksham Anganwadi, over two lakh centers have been upgraded with digital tools to merge "Poshan" (nutrition) with "Padhai" (education).
- **Learning Deficits:** Despite near-universal enrollment, ASER reports indicate that nearly 40% of Grade 5 students in certain regions still require Grade 2 level remedial support.
- **New-Age Risks:** Urban children face a 15% rise in digital eye strain and emotional isolation due to increased screen time and sedentary lifestyles.

Significance of Early Investment

- **Biological Window:** Approximately 85% of brain development occurs by age six. Rich early interactions can lead to vocabularies three times larger by age five.
- **The Heckman Curve:** Economic research suggests that returns on early childhood spending far exceed later interventions. NITI Aayog estimates ₹1 spent early saves ₹11 in future remedial costs.
- **Economic Productivity:** Quality preschooling correlates with roughly 20% higher entry-level wages in adulthood.
- **Social Equity:** Early intervention prevents the solidification of inter-generational poverty and increases female labor force participation by providing reliable childcare.
- **Public Savings:** High coverage in Early Childhood Care and Education (ECCE) is linked to a 25% reduction in school dropouts and juvenile delinquency.

Policy and Institutional Framework

Current Initiatives:

- **ICDS (1975):** The foundational scheme providing nutrition and health check-ups via Anganwadis.
- **NEP 2020:** Introduced the 5+3+3+4 structure, formally integrating ECCE into the formal schooling framework.
- **NIPUN Bharat:** A mission-mode project targeting universal foundational literacy and numeracy by the end of Grade 3.
- **Mission POSHAN 2.0:** Focuses on the "Poshan bhi, Padhai bhi" philosophy for holistic growth.

Major Challenges:

- **Governance Silos:** Lack of synchronization between mother-child health records and school enrollment databases.
- **Pedagogical Gaps:** Anganwadi workers are often primary health/nutrition providers and lack specific training in early childhood pedagogy.
- **School Readiness:** One-third of rural children enter Grade 1 without basic cognitive skills like identifying shapes or colors.
- **Budgetary Constraints:** ECCE spending remains a fraction of the total education budget, hovering near 0.1% of GDP.

Way Forward

- **National ECCD Mission:** Establish an integrated mission that bridges health, nutrition, and learning from pre-conception to age eight to prevent policy fragmentation.
- **Structural Integration:** Co-locate Anganwadis with primary schools to ensure a seamless transition for children and shared resource utilization.
- **Parental Engagement:** Launch nationwide programs to train parents in responsive caregiving and "active play," ensuring stimulation continues within the home environment.
- **Legal Empowerment:** Consider bringing the 3–6 age group under the Right to Education (RTE) Act to make quality preschool access a justiciable right.
- **Public-Private Partnerships:** Leverage CSR and philanthropic funding to modernize Anganwadi infrastructure and provide high-quality learning kits.

Conclusion

The trajectory of India's future workforce is determined in its Anganwadis and early classrooms. Investing in the first 3,000 days is not a matter of social welfare, but a strategic imperative for nation-building. Without a solid foundational base, the peak of India's economic ambition cannot be sustained.

Euthanasia

Context

The Supreme Court of India reserved its judgment in the case of Harish Rana, a 31-year-old man in a Permanent Vegetative State (PVS) for over 13 years after a fall. The Bench led by Justice J.B. Pardiwala and Justice K.V. Viswanathan personally interacted with the family to understand their long struggle and the economic burden of clinically assisted nutrition, making it a crucial moment in India's end-of-life jurisprudence.

Understanding Euthanasia

Euthanasia comes from Greek: *eu* ("good") + *thanatos* ("death"). It is classified as:

1. **Active Euthanasia**
   - Direct act to end life (e.g., lethal injection)
   - **Illegal in India** (treated as **homicide**)
2. **Passive Euthanasia**
   - Withdrawal/withholding of life support (ventilator, feeding support, etc.)
   - **Legal in India** under strict safeguards
3. **Assisted Suicide**
   - Providing means for a person to end life (e.g., prescription drugs)
   - **Illegal in India** under **Section 306 IPC (Abetment of Suicide)**

Legal Framework in India

India does not have a dedicated euthanasia law; the framework is based mainly on Supreme Court judgments:

- **Aruna Shanbaug Case (2011)**
  - First recognition of **passive euthanasia** for PVS patients
- **Common Cause v. Union of India (2018)**
  - SC held **Right to Die with Dignity** is part of **Article 21 (Right to Life)**
  - Recognised legality of **Living Wills (Advance Medical Directives)**
- **2023 Guidelines Modification (Living Will Procedure Simplified)**
  - Removed need for **Judicial Magistrate countersignature**
  - Empowered **Medical Boards** to take final decisions under safeguards

Two-Tier Safeguard System (For Passive Euthanasia)

Stage	Body Involved	Function
Stage 1	**Primary Medical Board**	3 doctors (minimum **20 years experience**) certify that treatment is **futile**
Stage 2	**Secondary Medical Board**	Independent review board (includes **district-nominated doctor**) confirms findings

Ethical and Economic Dimensions

1. Futile Treatment Debate In the Harish Rana case, the SC observed that continuing mechanical life support with **no recovery possibility** may itself violate **human dignity**.

2. Economic Distress (Healthcare Cost Burden)
The family argued that **13 years of care** exhausted savings. In India, high **Out-of-Pocket Expenditure (OOPE)** often makes long-term vegetative care financially impossible for middle-class families.

3. Autonomy vs Sanctity of Life

- **Supporters:** Emphasise **patient autonomy** and dignity-based choice
- **Opponents:** Stress **sanctity of life**, warning of a **"slippery slope"** where vulnerable elderly/disabled persons may face pressure

Global Status (Comparison)

- **Active Euthanasia allowed:** **Netherlands, Belgium, Luxembourg, Spain, Canada**
- **Assisted suicide allowed:** **Switzerland** (legal since **1942**), and some US states (e.g., **Oregon**)
- **India's Middle Path:** Allows **Passive Euthanasia** under safeguards but rejects **Active Euthanasia** and **Assisted Suicide**, aiming to balance **dignity** with **misuse prevention**.

Conclusion

The Harish Rana case (2026) is the first major judicial test after the 2023 simplified guidelines. It compels the Court to clarify whether feeding tubes/clinically assisted nutrition qualify as life-sustaining treatment that can be withdrawn under passive euthanasia. The judgment is likely to shape how India balances constitutional dignity (Article 21), medical ethics, family suffering, and the economics of long-term care.

Shaksgam Valley

Context

Shaksgam Valley emerged as a major diplomatic flashpoint after China reaffirmed its territorial claims and defended its large-scale infrastructure construction in the region. This followed a strong protest from India's Ministry of External Affairs (MEA) on January 9, 2026, which asserted that the valley is an "integral and inalienable" part of India and that New Delhi reserves the right to take necessary measures to safeguard its interests.

About Shaksgam Valley

- **What it is:** Also known as the **Trans-Karakoram Tract**, it is a remote, high-altitude region spanning approximately 5,180 sq. km. It is characterized by rugged terrain and is drained by the Shaksgam River, a tributary of the Yarkand River.
- **Location & Geography:**
  - Situated in the eastern **Karakoram Range**, north of the **Siachen Glacier**.
  - Borders China's Xinjiang region to the north and Pakistan-occupied Kashmir (PoK) to the south and west.
  - Strategically positioned near the **Karakoram Pass**, a historical gateway between South and Central Asia.
- **Current Administration:** Administered by China as part of the **Xinjiang Uyghur Autonomous Region** (Taxkorgan and Yecheng counties), but claimed in its entirety by India as part of the **Union Territory of Ladakh**.

Historical Evolution and Dispute

- **Pre-1947:** The valley was part of the princely state of **Jammu and Kashmir**. Historical evidence, including Balti and Ladakhi place names, reflects its deep civilizational ties to the region.
- **Pakistan's Occupation:** Following the 1947–48 conflict, the area came under the illegal occupation of Pakistan.
- **The 1963 Sino-Pakistan Frontier Agreement:**
  - Signed on **March 2, 1963**, Pakistan illegally ceded the Shaksgam Valley to China.
  - **India's Stand:** India has consistently rejected this agreement as "illegal and invalid," maintaining that Pakistan had no sovereign right to transfer Indian territory.
  - **Article 6 Provision:** The agreement itself notes that the boundary is **provisional** and must be renegotiated after a final settlement of the Kashmir dispute.

Recent Developments

- **Infrastructure Push:** China has accelerated the construction of an **all-weather road** (approx. 75 km long and 10 meters wide) through the valley, crossing the 4,805-metre **Aghil Pass**.
- **Proximity to Siachen:** The new road reportedly reaches a location less than **50 km from India's Indira Col** (the northernmost point of the Siachen Glacier), heightening military surveillance concerns.
- **Diplomatic Sparring: * India (Jan 2026):** MEA spokesperson Randhir Jaiswal and Army Chief Gen. Upendra Dwivedi reaffirmed that India does not recognize the 1963 pact or the **CPEC 2.0** projects passing through the region.
  - **China (Jan 2026):** Beijing dismissed India's objections as "groundless," stating that its construction activities on "its own territory" are beyond reproach.

Strategic Significance

Aspect	Impact
Two-Front Threat	Enhances military connectivity between China and Pakistan, potentially allowing coordinated pressure on India's northern defenses.
Siachen Security	Provides China with a northern vantage point to monitor Indian troop movements on the Siachen Glacier.
CPEC Expansion	The valley serves as a critical link for the China-Pakistan Economic Corridor (CPEC), bypasses maritime chokepoints, and consolidates China's footprint in PoK.
Salami Slicing	Analysts view the road construction as part of China's incremental strategy to alter the ground reality and normalize its presence in disputed zones.

Conclusion

The Shaksgam Valley dispute is no longer a "forgotten" border issue; it is a central pillar of the modern India-China strategic contest. As China entrenches its position through permanent infrastructure, the region has become a litmus test for India's ability to protect its territorial integrity in the high Himalayas. For India, maintaining a "constant vigil" while asserting legal and diplomatic rights remains the primary priority.

M.S. Sahoo Committee

Context

The **Pension Fund Regulatory and Development Authority (PFRDA)** constituted a **15-member high-level expert committee** chaired by **M.S. Sahoo** (former Chairperson, **IBBI**). The committee has been formed to design a **regulatory and operational framework for assured pension payouts under the National Pension System (NPS)**, marking a shift from a **purely market-linked pension model** towards **predictable retirement income**.

About the News

Purpose:
To create a structured system for **assured/guaranteed pension payout products** under NPS.

Nature of Committee:

- **15-member panel**
- Experts from **law, actuarial science, finance, insurance, and academia**
- Constituted as a **Standing Advisory Committee** on structured pension payouts

Core Vision:
Aligned with **"Viksit Bharat 2047"** to ensure **financial independence, dignity, and stable income security** for citizens in old age.

Primary Mandate:
To transform NPS from a **"savings-only" product** into a **reliable lifelong income system** through **legally enforceable, market-based guarantees**.

Key Terms of Reference (ToR)

1. **Framework Development**
    - Draft regulations for **assured payout products**
    - Explore schemes suggested in PFRDA's **Sept 2025 consultation paper**, including:
        - **Minimum Assured Return Scheme (MARS)**
2. **Seamless Transition (Accumulation → Decumulation)**
    - Ensure smooth movement from:
        - **Accumulation phase** (saving/investing)
        - **Decumulation phase** (pension payouts)
3. **Operational Standards to be Defined**
    - **Lock-in periods:** Minimum investment duration to qualify for assurance
    - **Pricing mechanism:** Cost of "assurance" to the subscriber
    - **Withdrawal limits:** Partial withdrawal rules to protect guaranteed payouts
    - **Risk management:** Capital + solvency norms for long-term payout ability
    - **Taxation & legal clarity:** Tax treatment of assured payouts inside NPS
    - **Consumer protection:**
        - Standard disclosures
        - Prevention of mis-selling
        - Clarity between **fully guaranteed** vs **market-linked protection**

Comparison: Current NPS vs Proposed Assured Payout Framework

Feature	Current NPS (Market-Linked)	Proposed Assured Payout Framework
Returns	Depends on market performance (Equity/Debt)	Predictable minimum return / assured pension

Risk	Fully borne by subscriber	Risk partly shared via provider/reserve mechanism
Exit Rule	40% annuity purchase compulsory at retirement	Scope for structured, hybrid, phased payouts
Predictability	Uncertain pension amount	Higher clarity on target income (e.g., ₹50,000/month)

Significance

- **Addresses Market Volatility Risk:** Protects retirees from a market crash just before retirement (a major criticism of NPS).
- **Boosts Financial Inclusion:** Encourages participation from **private sector workers and self-employed**, who prefer "defined benefit-like" certainty.
- **Strengthens Social Security:** Critical for India's aging population as the number of senior citizens is **projected to double by 2050**.

Conclusion

The **M.S. Sahoo Committee** marks a major shift in India's pension reforms. By enabling **assured payouts under NPS**, PFRDA aims to combine **market-based growth** with **retirement income certainty**, improving pension coverage, stability, and long-term financial security for India's workforce.

BRICS India 2026 Logo

Context

On **13 January 2026**, India's External Affairs Minister **Dr. S. Jaishankar** launched the **logo, theme, and official website** for **India's BRICS Chairship 2026** in **New Delhi**. This launch marks India's BRICS presidency for the **calendar year 2026** and coincides with the grouping's **20th anniversary (2006–2026)**.

About the News

What it is:
The **official visual identity** for the **18th BRICS Summit** and the series of **ministerial meetings and engagements** held throughout India's Chairship.

How it was selected:
Chosen through an **open national design contest**, created by **Sudeep Subhash Gandhi**.

Chairship timeline:

- **Period: 1 January – 31 December 2026**
- **Host country: India (4th time hosting BRICS)**

Strategic vision:
Aligned with Prime Minister Modi's **"Humanity First"** and **people-centric development** approach.

Logo Theme & Tagline

- **Tagline:** **"Building for Resilience, Innovation, Cooperation and Sustainability."**
- **Core philosophy:** Inspired by **Vasudhaiva Kutumbakam (The World is One Family)**, highlighting **unity, collective welfare, and global partnership**.

Logo Design Elements & Symbolism

Element	Meaning
Lotus shape	India's national flower; symbol of **purity, resilience, and growth through adversity**

Namaste gesture at the center	Represents **respect, dialogue, harmony, and a welcoming global outreach**
Multi-coloured petals	Reflects the **colours of BRICS member flags**, symbolising **unity in diversity**
Modern + traditional design blend	Combines India's **civilizational identity** with its **modern, tech-driven leadership**

Strategic Significance (India's BRICS Agenda)

India projects BRICS as a **development-oriented and reform-driven platform**, especially for the **Global South**.

Four Strategic Pillars:

1. **Resilience**
   Strengthening capacity against global shocks in **health, energy, and supply chains**.
2. **Innovation**
   Promoting inclusive growth through **Digital Public Infrastructure (DPI)**, **AI**, and **startups**.
3. **Cooperation**
   Reviving **multilateralism** and pushing for **global governance reforms**.
4. **Sustainability**
   Emphasis on **climate action**, **green finance**, and **LiFE (Lifestyle for Environment)**.

Expanded BRICS Context (Why 2026 Matters)

India's 2026 Chairship is its **first after BRICS expansion**, with new members such as **Egypt, Ethiopia, Iran, UAE, and Indonesia**. This strengthens BRICS as a large economic bloc, collectively contributing **nearly 40% of global GDP**.

Global and Strategic Implications

For India:

- Positions India as a **bridge-builder for the Global South**
- Enhances India's diplomatic leadership in **global economic governance**
- Strengthens India's role in **technology-led development cooperation**

At the global level:

- BRICS gains greater weight in shaping **trade, finance, development, and climate narratives**
- Expansion increases BRICS influence in the emerging **multipolar world order**

Way Forward

- **Consensus-driven reforms:** Strengthen BRICS cohesion despite diverse national interests
- **Inclusive development focus:** Use DPI, innovation, and cooperation to deliver outcomes for the Global South
- **Sustainability push:** Promote climate-resilient growth models through finance and green partnerships
- **Institutional strengthening:** Make BRICS mechanisms more action-oriented and impactful

Conclusion

The launch of the **BRICS India 2026 logo and theme** signals a proactive and leadership-driven Chairship. By combining India's traditional symbols (**Lotus, Namaste**) with forward-looking priorities (**resilience, innovation, cooperation, sustainability**), India aims to position BRICS as a modern, inclusive, and solution-oriented platform capable of responding to contemporary global challenges.

The Iranian Conundrum

Context

In late December 2025, Iran entered a period of intense nationwide unrest triggered by a dramatic collapse of the national currency (the rial), which plummeted to approximately 1.45 million rials per USD. The protests began with historic bazaar shutdowns in Tehran and quickly evolved into a broader challenge against the country's structural economic and political framework.

About the News

- **The "Conundrum" :** A self-perpetuating cycle where economic distress, political legitimacy gaps, and external sanctions converge. While the state often uses short-term force to contain unrest, the underlying structural causes remain unaddressed.
- **Key Incidents (2025–2026):**
    - **Bazaar Strike:** Traditional merchant classes, historically a pillar of social stability, closed shops to protest hyperinflation.
    - **Nationwide Escalation:** Movements shifted from purely economic grievances to anti-government slogans across multiple provinces.
    - **Information Warfare:** Significant discrepancies exist between official state casualty reports and independent trackers, hampered by strict digital communication controls.
- **Leadership Crisis:** President Masoud Pezeshkian, despite his 2024 mandate, faces a "dual-power" system where the executive branch lacks control over the security apparatus and clerical oversight bodies.

Historical Evolution of the Iranian State

- **Constitutional Era (1905–1911):** The first mass movement for a parliament (*Majlis*) and rule of law, later weakened by foreign intervention.
- **Pahlavi Monarchy (1925–1979):** A period of rapid Westernization and oil-led growth, marred by political repression and rising inequality.
- **The 1953 Coup:** The CIA-MI6 backed ousting of PM Mohammad Mossadegh after he nationalized oil, cementing a long-standing Iranian distrust of Western interference.
- **1979 Revolution:** The transition from a monarchy to an Islamic Republic under Ayatollah Khomeini, driven by a desire for "independence, freedom, and an Islamic republic."
- **Contemporary Protest Cycle:** Mass unrest in 2009, 2019, 2022, and now 2025 illustrates a persistent friction between state ideology and the aspirations of a young, digital-native population.

Governance Structure & Power Centers

Body	Function & Power
Supreme Leader	Ultimate authority; controls the military, judiciary, and state media. Sets the final tone for foreign and nuclear policy.
Guardian Council	12-member body that vets all election candidates and ensures laws comply with Islamic principles.
IRGC & Bonyads	The Revolutionary Guards and religious foundations control the "deep state," including massive sectors of the economy and internal security.
Elected Government	The President and *Majlis* manage day-to-day administration but remain subordinate to clerical institutions.

Global and Strategic Implications

- **Impact on India:**
    - **Energy Security:** Volatility in the Persian Gulf threatens oil price stability, impacting India's domestic inflation.
    - **Connectivity:** Prolonged instability hampers the development of the International North-South Transport Corridor (INSTC) and routes to Central Asia.
    - **Diaspora:** Stability is vital for the safety of Indian workers in the broader West Asian region.
- **Global Level:**

- **Shipping Risks:** Potential escalation near the Strait of Hormuz increases global insurance and freight costs.
- **Geopolitical Alignment:** Iran remains a central focal point in the friction between US-led sanctions and regional blocs.

Way Forward

- **Economic Normalization:** Address the structural roots of inflation and currency devaluation through transparent fiscal reforms, though this requires easing external sanctions.
- **Governance Reform:** Bridge the gap between the elected executive and the unelected clerical bodies to allow for responsive policy-making.
- **Diplomatic Buffers:** For partners like India, the focus must remain on "risk insulation", maintaining energy reserves, ensuring diaspora safety, and pursuing balanced regional diplomacy.

Conclusion

The current crisis is a structural stress test for the Islamic Republic. While the state may achieve short-term containment through security measures, the recurring nature of these protests suggests that without durable economic relief and political evolution, the "Iranian Conundrum" will continue to manifest in increasingly volatile cycles.

Dugong (Sea Cow)

Context

In **January 2026**, the Union Ministry of Environment's **Expert Appraisal Committee (EAC)** directed the Tamil Nadu government to revise the design of the proposed **International Dugong Conservation Centre** at **Manora**, Thanjavur. The committee cited concerns over the use of heavy concrete in the environmentally sensitive **Coastal Regulation Zone (CRZ)** and recommended a low-impact, eco-friendly construction approach.

Characteristics of the Dugong

- **Physical Traits:** A large, plump marine mammal with paddle-like flippers and a **whale-like fluked tail** (unlike the rounded tail of a manatee).
- **Diet:** The only strictly herbivorous marine mammal, feeding almost exclusively on **seagrass**.
- **Role as "Ecosystem Engineers":** By grazing, they prevent seagrass from becoming overgrown and facilitate the growth of more nutritious young shoots, maintaining a healthy habitat for other marine life.
- **Slow Reproduction:** They reach sexual maturity late (9–10 years) and give birth every 3–7 years, making their populations highly vulnerable to decline.

Habitat and Distribution

- **Environment:** Warm, shallow coastal waters of the **Indian and Western Pacific Oceans**.
- **Strictly Marine:** Unlike manatees, dugongs **never enter freshwater** rivers or lakes.
- **In India:** Found in four primary pockets:
  1. **Palk Bay** (Home to India's first Dugong Conservation Reserve).
  2. **Gulf of Mannar**.
  3. **Gulf of Kutch**.
  4. **Andaman and Nicobar Islands**.

Conservation Status

- **IUCN Red List: Vulnerable** (Global status officially recognized at the 2025 World Conservation Congress).
- **Wildlife (Protection) Act, 1972: Schedule I** (Highest legal protection in India).
- **CITES: Appendix I** (Bans international commercial trade).
- **CMS (Bonn Convention):** India is a signatory to the **CMS Dugong MoU** since 2008.

Threats

- **Habitat Loss:** Degradation of seagrass meadows due to coastal dredging, pollution, and climate change.
- **Incidental Capture:** Accidental entanglement in fishing nets (by-catch).
- **Vessel Strikes:** Collisions with boats in shallow waters.
- **Pollution:** Bioaccumulation of heavy metals in their tissues from industrial runoff.

Way Forward

- **Eco-friendly Infrastructure:** Adopting the EAC's suggestion for **timber-based or prefabricated materials** for the Manora center to minimize the carbon footprint.
- **Community Involvement:** Expanding the current "reward system" for Tamil Nadu fishermen who rescue and release accidentally caught dugongs.
- **Cross-Border Cooperation:** Collaborating with Sri Lanka (Palk Bay region) to prevent poaching and ensure safe migratory corridors.
- **Technological Monitoring:** Using **drones and satellite telemetry** to track movement patterns between Palk Bay and the Gulf of Mannar.

Conclusion

The **2025 global recognition** of India's Dugong Reserve by the IUCN underscores India's leadership in marine conservation. However, the success of the Manora center depends on balancing educational infrastructure with the very coastal ecosystem it aims to protect.

Guillain-Barré Syndrome (GBS)

Context

In **January 2026**, health authorities in Madhya Pradesh issued a high alert following an outbreak of **Guillain-Barré Syndrome** in **Manasa town (Neemuch district)**. As of January 18, 2026, the outbreak has claimed **two lives** and affected at least **18 people**, including many children. The state government has established dedicated wards and launched door-to-door screenings involving over 150 health teams.

Definition and Pathophysiology

What is GBS?

GBS is a rare **autoimmune neurological disorder** where the body's immune system mistakenly attacks the **peripheral nervous system** (nerves outside the brain and spinal cord).

How it Works:

- **Myelin Sheath Attack:** The immune system damages the **myelin sheath**, the protective insulation surrounding nerve fibers.
- **Signal Disruption:** When myelin is damaged, nerves cannot transmit signals efficiently. This causes the brain to lose control over muscles and receive fewer sensory signals from the body.

Causes and Triggers

The exact cause is unknown, but most cases follow a **viral or bacterial infection** (post-infectious polyneuropathy).

- **Bacterial:** *Campylobacter jejuni* (most common, often from undercooked poultry or contaminated water).
- **Viral:** Zika virus, Influenza, Epstein-Barr virus, and Cytomegalovirus.
- **Other:** Rarely triggered by surgeries or as an extremely infrequent side effect of certain vaccinations.

Symptoms

Symptoms typically appear quickly (within hours or days) and often follow an "ascending" pattern:

- **Early Signs:** "Pins and needles" sensations in fingers and toes; weakness starting in the **legs**.
- **Progression:** Weakness spreads to the arms and upper body (**Ascending Paralysis**).
- **Severe Indicators:** Difficulty swallowing, speaking, or chewing; rapid heart rate; and life-threatening **respiratory failure** due to paralyzed breathing muscles.

Treatment and Management

There is no known "cure," but treatments significantly hasten recovery and reduce severity:

- **Intravenous Immunoglobulin (IVIG):** Healthy antibodies from donor blood are injected to block the harmful antibodies attacking the nerves.
- **Plasma Exchange (Plasmapheresis):** The liquid part of the blood (plasma) is removed, "washed" to filter out rogue antibodies, and returned to the body.
- **Supportive Care:** Severe cases require **ventilator support** in an ICU to assist with breathing.

Conclusion

The **2026 outbreak in Madhya Pradesh** highlights the critical need for early detection and public hygiene. While GBS can be devastating, most patients eventually recover with timely medical intervention. Current investigations in Neemuch are focusing on **water and food contamination** as the primary source of the trigger.

Delimitation Commission

Context

Following the **84th Amendment (2001)**, the freeze on the total number of seats in the Lok Sabha is set to expire after **2026**. Delimitation, the process of redrawing boundaries and reallocating seats based on population is expected to commence after the first census conducted post-2026.

The North-South Conflict

The core issue lies in the **demographic divergence** between Indian states over the last five decades:

- **The "Punishment" Factor:** Southern states (e.g., Kerala, Tamil Nadu) successfully implemented population control measures. Conversely, Northern states (e.g., UP, Bihar) have seen significant population growth.
- **Representational Shift:** A strict population-based reallocation could lead to a massive shift of political power to the North, potentially reducing the parliamentary voice of the South despite their higher contributions to GDP and social development.

Proposed Solution: Digressive Proportionality

To balance "one person, one vote" with federal stability, experts suggest borrowing from the **European Union Parliament** model:

- **What it is:** A system where smaller states are allocated more seats per capita than larger states.
- **Mechanism:** It ensures that while larger states still have more total seats, the ratio of seats-to-population decreases as the population increases.
- **Goal:** To prevent a few high-population states from completely dominating the national legislature.

Commission Structure & Powers

The Delimitation Commission is a high-power, independent body appointed by the **President of India**:

- **Composition:** * A retired **Supreme Court Judge** (Chairperson).
    - The **Chief Election Commissioner** (or an Election Commissioner).
    - **State Election Commissioners** of the respective states.
- **Unchallengeable Authority:** The orders of the Commission have the force of law and **cannot be challenged in any court**.
- **Finality:** Once its reports are laid before the Lok Sabha or State Assemblies, no modifications are permitted by the legislatures.

History of Delimitation Acts

Act Year	Based on Census	Key Outcome
1952	1951	First formal delimitation post-independence.

1963	1961	Seats increased from 494 to 522.
1973	1971	Seats increased to 543; frozen later by the 42nd Amendment.
2002	2001	Redrew boundaries within states but kept total seats frozen.

Conclusion

The post-2026 delimitation is not merely a mathematical exercise but a significant **federal challenge**. Upholding democratic equality while rewarding states for successful social policies will require "constitutional creativity" and political consensus.

POCSO Act & Fast Track Special Courts

Context

In recent judicial reviews of the **Protection of Children from Sexual Offences (POCSO) Act, 2012**, a concerning trend has emerged: while the speed of case disposal has increased through **Fast Track Special Courts (FTSCs)**, the quality of justice is under scrutiny. The prevailing theme among legal experts is that **"Faster is not always Fairer."**

Current Status and Statistics

- **Disposal vs. Conviction:** Statistics indicate that while cases are being closed at a higher frequency, the conviction rate has dropped from **35% to 29%**.
- **Institutional Framework:** FTSCs were designed to ensure time-bound trials (ideally within one year), yet the focus on "clearing pendency" is often prioritized over procedural depth.

Challenges to Effective Justice

- **Quality of Investigation:** Poor forensic data collection and rushed police investigations often lead to a "benefit of doubt" for the accused. Trials that proceed without robust scientific evidence frequently result in acquittals.
- **Lack of Support Systems:** Many police stations lack **Paralegal Volunteers (PLVs)**. Without them, victims often remain unaware of their legal rights, leading to inconsistent statements or lack of preparation for the trial.
- **Marriage Compromises:** A controversial trend exists where courts or families facilitate "compromises," leading to the acquittal of perpetrators if they agree to marry the minor victim once she reaches the age of 18.
    - **Legal Conflict:** This undermines the core philosophy of POCSO, which treats such acts as non-compoundable offenses against a child.
- **Re-traumatization:** Rapid trials can sometimes overlook the need for a child-friendly atmosphere, causing secondary victimization during cross-examinations.

Structural Barriers

- **High Pendency:** Despite the "Fast Track" label, the sheer volume of cases leads to overworked judges and prosecutors.
- **Witness Hostility:** Delays, even in fast-track settings often lead to witnesses turning hostile due to pressure from the perpetrator's family or community.

Way Forward

- **Specialized Training:** Sensitizing judges and public prosecutors specifically on child psychology and the nuances of the POCSO Act.
- **Strengthening Midstream Infrastructure:** Deploying permanent PLVs in all police stations to ensure victims have a legal "buddy" from the moment a FIR is filed.
- **Judicial Consistency:** The Supreme Court needs to provide clear guidelines against "marriage compromises" to ensure that the criminal nature of the offense is not diluted by social arrangements.
- **Focus on Forensic Evidence:** Reducing reliance on oral testimony by improving

the quality and speed of forensic laboratory reports.

Conclusion

The POCSO Act's success cannot be measured by the speed of the gavel alone. For justice to be truly served, the legal system must balance **efficiency with empathy**, ensuring that the rush to close a file does not result in the failure to protect the child.

Accountability in Democratic Institutions

Context

Lok Sabha Speaker **Om Birla** addressed the **28th Commonwealth Speakers and Presiding Officers Conference (CSPOC)** in New Delhi. He emphasized that the legitimacy of democratic institutions depends on their ability to remain transparent, inclusive, and accountable, especially in the era of Artificial Intelligence and social media.

About Accountability in Democratic Institutions

Definition: Accountability is the ethical obligation of those in power to provide an account of their actions, justify decisions, and face consequences. It is a relational concept where the **agent** (government) is answerable to the **principal** (citizens).

Key Features:

- **Answerability:** The duty to explain decisions and provide reliable information to the public.
- **Enforceability:** Mechanisms to penalize misconduct or rectify institutional failures.
- **Responsiveness:** The capacity of institutions to adapt to the evolving needs and feedback of the citizenry.

Importance of Accountability

- **Fostering Public Trust:** Bridges the gap between the rulers and the ruled.
    - *E.g.* The **National Critical Mineral Mission (2025)** includes transparency clauses to ensure unbiased resource management.
- **Curbing Corruption:** Constant scrutiny prevents the misuse of authority.
    - *E.g.* The **130th Constitution Amendment Bill (2025)** proposes the automatic removal of ministers detained for serious crimes.
- **Enhancing Service Delivery:** Ensures welfare benefits reach beneficiaries without leakages.
    - *E.g.* **Social audits** in MGNREGA have identified and corrected fund distribution irregularities at the grassroots level.
- **Protecting Marginalized Voices:** Accountable systems ensure inclusive deliberation.
    - *E.g.* Speaker Om Birla highlighted that inclusivity is essential to prevent social polarization caused by digital misinformation.
- **Upholding Rule of Law:** Ensures no individual is above the legal framework.
    - *E.g.* The Supreme Court's **2025 judgment** on State Governors' veto powers reaffirmed that constitutional heads are accountable to the legislative will.

Challenges to Accountability

- **Misuse of Technology:** AI and deepfakes can manipulate public opinion and evade truth.
- **Opaque Decision Making:** Excessive secrecy under the guise of national security hinders public oversight (e.g., delays in **RTI applications**).
- **Erosion of Parliamentary Propriety:** Frequent disruptions and record suspensions of members reduce the time available for executive scrutiny.
- **Structural Delays:** A slow judicial process with over **5 crore cases pending** as of 2025, dilutes the deterrent effect of legal sanctions.
- **Information Overload:** Social media often prioritizes engagement over

accuracy, making it harder for citizens to distinguish truth from disinformation.

Way Forward

- **Strengthening Standing Committees:** Empowering "mini-parliaments" to provide technical scrutiny of every major bill and budget.
- **Adopting Ethical AI Frameworks:** Establishing clear guidelines for the responsible use of AI in legislative work.
- **Institutionalizing Social Audits:** Making social audits a mandatory feature for all public departments beyond individual welfare schemes.
- **Judicial and Electoral Reforms:** Ensuring the faster disposal of cases involving public officials to strengthen enforceability.
- **Deepening Citizen Engagement:** Leveraging platforms like **MyGov** to invite direct feedback on draft policies before they are enacted into law.

Conclusion

True democracy transcends the act of voting; it requires the ongoing ethical conduct of elected representatives. As highlighted at the CSPOC, prioritizing transparency and inclusivity transforms power into a **public trust**, ensuring that governance remains a service rather than a privilege.

India's Minerals Diplomacy

Context

In **2025**, India launched the **National Critical Mineral Mission (NCMM)** to recalibrate its global mineral strategy. This move follows tightening export controls by China on rare earths and aims to secure India's supply chain for the green energy transition and high-tech manufacturing.

About India's Minerals Diplomacy

Definition: Minerals diplomacy is the strategic use of international partnerships and multilateral mineral clubs (like the **Mineral Security Partnership**) to secure a reliable supply of minerals such as **Lithium** and **Cobalt**. It integrates upstream mining, midstream processing, and downstream manufacturing collaborations to ensure national economic security.

Status of Mineral Resources:

- **Refining Growth:** Domestic refined copper production surged by **43.5%** in early **FY26**, indicating a rebound in local smelting capacity.
- **Import Reliance:** India remains **100% import-dependent** for 10 critical minerals, including Lithium and Cobalt, essential for EV batteries.
- **Global Standing:** As of 2025, India is the **2nd largest producer** of aluminium and the **3rd largest** iron ore producer globally.
- **Exploration Surge:** The **Geological Survey of India (GSI)** has undertaken over **368** critical mineral exploration projects in the last three years.
- **Financial Outlay:** A sovereign fund of **₹34,300 crore** has been allocated for the NCMM through 2031.

Need for India's Mineral Diplomacy

- **Energy Transition Goals:** Securing vast lithium reserves to meet the **500 GW non-fossil fuel target**.
- **Mitigating China Risk:** Creating a **"China-plus-one"** supply chain. The **2025 India-Japan Memorandum** focuses on joint extraction in third countries to bypass Chinese processing dominance.
- **Technological Sovereignty:** Accessing refining technologies through initiatives like the **TRUST Initiative (USA)** for rare-earth processing and battery recycling.
- **Economic Resilience:** Managing global price volatility. India's **₹200 crore agreement** with Argentina via **KABIL** aims to fix long-term costs for domestic battery makers.
- **Global South Leadership:** Positioning India as a partner for mineral-rich nations. Recent deals with **Namibia** focus on local value creation rather than just extraction.

Initiatives Taken

- **National Critical Mineral Mission (NCMM) 2025:** A 7-year, **₹34,300 crore** mission for end-to-end supply chain security.
- **Mines and Minerals (Amendment) Act 2025:** Grants the Central Government exclusive authority to auction mining leases for **24 strategic and critical minerals**.
- **KABIL (Khanij Bidesh India Ltd):** A PSU joint venture focused on acquiring overseas assets in the **"Lithium Triangle"** (Argentina and Chile).
- **Mineral Security Partnership (MSP):** India joined this 14-nation club to coordinate with the US and EU on sustainable global supply chains.
- **Recycling Incentive Scheme:** A **₹1,500 crore** scheme launched in 2025 to promote "urban mining" from e-waste.

Challenges Associated

- **Processing Choke Points:** India often finds ore but lacks high-tech refineries, forcing reliance on foreign midstream capacity.
- **Intense Global Competition:** Competing with the deep pockets of Chinese firms, especially in resource-rich African nations like Zambia.
- **Policy Volatility:** "Resource Nationalism" and foreign subsidies (e.g., the US Inflation Reduction Act) can complicate "friend-shoring" efforts.
- **Environmental and Social Concerns:** Aligning Indian mining with strict **EU environmental standards** and global ESG transparency norms.
- **Long Lead Times:** Mining projects typically take **10 to 15 years** from discovery to production.

Way Forward

- **Integrated Value-Chain Mapping:** Finalizing trilateral agreements (e.g., with Australia and Canada) to link raw reserves with Indian manufacturing scale.
- **Sovereign Wealth Support:** Using NCMM funds to de-risk private sector entry via a proposed **Critical Minerals Overseas Acquisition Authority**.
- **Focus on Circular Economy:** Scaling the recycling scheme to recover **40 kilo tonnes** of minerals annually by 2030.
- **Strengthening ESG Standards:** Adopting the **Indian Mineral Industry Code** to attract Western investment.
- **Diplomatic Expansion:** Creating a dedicated **Mineral Diplomacy Division** and appointing Mineral Attachés in strategic hubs like Perth and Santiago.

Conclusion

India's minerals diplomacy has transitioned from reactive trade to a sophisticated geopolitical strategy. By balancing domestic exploration with strategic global clusters, India is laying the foundation for its **2047 Viksit Bharat** vision. Success hinges on converting signed MoUs into operational refineries and stable supply lines.

Corporate Social Responsibility (CSR)

Context

On **December 19, 2025**, the Supreme Court of India delivered a landmark judgment in **M.K. Ranjitsinh v. Union of India**, significantly expanding the meaning and scope of **Corporate Social Responsibility (CSR)**. The Court held that CSR must **inherently include environmental and ecological protection**, transforming CSR from a largely "voluntary charity-based activity" into a **constitutional responsibility** rooted in **Article 51A(g)**.

About the News

Background of the Case

The ruling emerged during hearings concerning the conservation of the **critically endangered Great Indian Bustard (GIB)**. Environmental concerns were raised that **power transmission lines** and other infrastructure activities were severely damaging the GIB's habitat in **Rajasthan and Gujarat**, accelerating the species' decline.

Key Observations of the Supreme Court

1. CSR as a Constitutional Duty (Article 51A(g))

The Court emphasized that corporations are **"legal persons"** and function as influential societal institutions. Hence, they are bound by the **Fundamental Duty under Article 51A(g)**, which requires protection and improvement of the natural environment, including wildlife.

2. Redefining "Community" Beyond Humans

A major legal shift introduced by the Court was the interpretation of the term **"community"** under CSR norms. The Court clarified that community welfare cannot be restricted to humans alone, but must include:

- Local ecosystems
- Flora and fauna
- Shared ecological resources

This approach recognizes the environment as a living stakeholder in development.

3. Polluter Pays Principle Through CSR Funding

The Court applied the **Polluter Pays Principle**, stating that companies whose operations harm biodiversity and habitats (such as mining, energy projects, and transmission networks) must bear the cost of ecological restoration and species recovery. Importantly, the Court indicated that **CSR funds can be used for such recovery measures**, making corporate environmental accountability enforceable.

4. "Guest in the Abode" Metaphor

The Court used a powerful ethical standard, stating that companies operating in sensitive ecological areas must behave like **"guests in the abode"** of wildlife, meaning development must be carried out with restraint, respect, and responsibility toward ecological survival.

Constitutional and Legal Framework Supporting CSR

Article 51A(g) – Fundamental Duty

Mandates every citizen and institution to protect and improve the natural environment, including:

- Forests
- Lakes and rivers
- Wildlife
- Ecological balance

Article 21 – Right to a Clean Environment

The Court linked CSR to **Article 21**, under which the right to life includes the right to live in a **clean, safe, and healthy environment**, reinforcing corporate responsibility in environmental harm cases.

Section 135, Companies Act, 2013

India became the **first country** to legally mandate CSR spending through statutory provisions under the Companies Act.

Schedule VII – Permissible CSR Activities

Schedule VII already includes activities such as:

- Ensuring environmental sustainability
- Conservation of natural resources
- Protection of biodiversity

The 2025 ruling strengthens these provisions by giving them **constitutional enforceability**.

CSR Applicability: Eligibility Criteria

CSR provisions apply to companies that meet **any one** of the following thresholds in the preceding financial year:

Criterion	Threshold
Net Worth	₹500 crore or more
Turnover	₹1,000 crore or more
Net Profit	₹5 crore or more

Mandatory Spending Requirement

Eligible companies must spend at least **2% of the average net profits of the last three financial years** on CSR activities.

Key Features of CSR in India

1. Mandatory Disclosure

CSR policy, implementation details, and spending must be reported in the **Board's Report**, ensuring public transparency.

2. CSR Committee

Companies must form a **CSR Committee** at the board level (generally at least three directors, including one independent director) to:

- Frame CSR policy
- Monitor implementation
- Ensure compliance

3. Treatment of Unspent CSR Funds

If CSR spending is not completed:

- The company must provide reasons for non-spending
- Unspent amounts may be transferred to prescribed government funds (such as the **Prime Minister's National Relief Fund**) within a fixed timeline, as per legal requirements

4. Environmental CSR Becomes Justiciable

After the 2025 ruling, environmental responsibility under CSR is no longer merely a discretionary corporate preference, it becomes **legally enforceable and reviewable**, especially in cases involving ecological damage.

Significance

1. CSR Moves Beyond Branding to Binding Responsibility

The judgment prevents CSR from being reduced to a publicity tool. It strengthens CSR as a **core corporate obligation**, aligning it with directors' duties under **Section 166(2) of the Companies Act**, which requires directors to act in good faith for the benefit of stakeholders and the environment.

2. Ecological Justice and Rights of Nature Thinking

By recognizing ecosystems and wildlife as part of the "community," the ruling introduces a stronger foundation for **ecological justice** within corporate law.

3. Holistic Sustainability Approach

The judgment restricts companies from claiming social responsibility through welfare projects (education/health) while simultaneously harming:

- habitats
- biodiversity
- local environment

It enforces the idea that **true CSR must not coexist with ecological destruction**.

Way Forward

1. Integration of Conservation Funding

The Court suggested coordinating large environmental funds like **National CAMPA** with corporate CSR contributions for major biodiversity projects, including high-cost conservation needs.

2. Restoration in Sensitive Sectors

Companies in sectors like:

- Energy
- Mining
- Infrastructure

must prioritize both:

- **In-situ conservation** (protecting habitats in natural conditions)
- **Ex-situ conservation** (captive breeding, rehabilitation, controlled protection)

especially in ecologically fragile zones.

3. Improved Audit and Reporting Standards

The Ministry of Corporate Affairs may need to upgrade CSR reporting to explicitly track:

- Environmental responsibility spending
- Biodiversity restoration outcomes
- Habitat compensation measures
- Long-term ecological impact indicators

Conclusion

The Supreme Court's ruling transforms CSR into an instrument of **Environmental Democracy**, ensuring corporations cannot separate profit-making from ecological accountability. By rooting CSR obligations in **Article 51A(g)** and linking them with the right to a clean environment under **Article 21**, the Court has strengthened the vision that development must be sustainable, inclusive, and ecologically just, so that economic progress and environmental protection advance together.

First Open-Sea Marine Fish Farming

Context

On **January 18, 2026**, India launched its **first open-sea marine fish farming project** at **North Bay in the Andaman Sea**. This initiative is a key step under India's **Blue Economy 2047** vision, aimed at unlocking the vast maritime potential of the **Andaman and Nicobar Islands** through **science-led, sustainable aquaculture**.

About the Project

What is it?

This project is a **pioneering pilot initiative** for **open-sea aquaculture**, designed to farm **high-value marine finfish** (such as **Cobia** and **Seabass**) along with **seaweed cultivation** in **natural oceanic conditions**.

Location

- **North Bay**, near **Sri Vijaya Puram** (formerly Port Blair)
- **Andaman Sea**

Implementing Agencies

- **Ministry of Earth Sciences (MoES)**
- Executed by the **National Institute of Ocean Technology (NIOT)**
- In collaboration with the **Andaman & Nicobar UT Administration**

Technoloy Used

The project uses **indigenously developed automated open-sea cages**, built to withstand **strong ocean currents and high wave action**, making them suitable for **high-energy open-ocean environments**.

Key Features and Objectives

1. Marine Fish Cultivation

The project focuses on farming premium finfish species such as:

- **Cobia (Rachycentron canadum)**
- **Silver Pompano**

These species are cultivated using **NIOT's specialized open-sea cage technology**, enabling commercial aquaculture beyond coastal limits.

2. Seaweed Farming as a Natural Bio-Filter

The project promotes **deep-water seaweed cultivation**, which supports ecosystem health by:

- Absorbing excess nutrients (bio-filtration)
- Improving water quality
- Supporting **carbon sequestration** and climate-friendly aquaculture

3. Blue Economy Alignment

The initiative complements national fisheries goals and aligns with **Pradhan Mantri Matsya Sampada Yojana (PMMSY)**, strengthening India's ambition to become a **global hub for sustainable seafood production**.

4. Livelihood Generation for Local Communities

A major focus is empowering local fishing communities by providing:

- Quality seeds
- Technology support
- Alternate livelihood options

This reduces pressure on **overfished near-shore ecosystems** while creating long-term income opportunities.

5. Scalability and PPP Potential

As a pilot project, it will serve as a **feasibility assessment** for expanding open-sea farming through:

- **Public-Private Partnership (PPP)** models
- Larger cage networks
- Commercial-scale marine production systems

Andaman Sea

The **Andaman Sea** is a marginal sea in the **northeastern Indian Ocean**, known for both ecological richness and strategic relevance.

Key Geographical Features

- **Area: ~ 7.98 lakh sq km**
- **Boundaries:**
  - Myanmar (North/East)
  - Thailand (East)
  - Indonesia (South)

- Andaman & Nicobar Islands (West)

Geological Significance

- Lies along the **Andaman–Nicobar Ridge**
- Located near a major **subduction zone**, where the **Indian Plate** subducts beneath the **Burma microplate**
- Hosts **Barren Island**, the **only active volcano** in the Indian subcontinent

Exclusive Economic Zone (EEZ) Advantage

The Andaman & Nicobar Islands contribute around **6.6 lakh sq km** to India's EEZ, nearly **one-third of India's total EEZ**, giving the region major relevance for fisheries and maritime development.

Why This Project Matters

1. Resource Potential

The region has a marine fisheries potential of around **1.48 lakh tonnes**, including a major **Tuna Cluster**, which is ideal for deep-sea and export-oriented fisheries.

2. Climate Resilience and Sustainable Shift

Moving aquaculture into open seas reduces dependence on stressed coastal ecosystems, enabling production in:

- Cleaner waters
- Nutrient-rich deeper zones
- Lower pollution environments

3. Strategic and Maritime Presence

Expanding the Blue Economy in this region strengthens India's presence in an Indo-Pacific zone vital for international trade, especially near the **Strait of Malacca**, one of the world's busiest sea routes.

Way Forward

1. AI and Satellite-Based Monitoring

Future phases may integrate:

- AI-driven feeding systems
- Satellite and sensor-based tracking
- Real-time monitoring for fish health and cage conditions

2. Export and Processing Ecosystem

To move from local markets to international competitiveness, India may focus on:

- Processing facilities
- Cold-chain infrastructure
- Export-oriented branding for **Tuna and Cobia**

3. Conservation-Friendly Expansion

Expansion must ensure ecological protection by maintaining activities outside sensitive zones such as:

- **Mahatma Gandhi Marine National Park** This will balance aquaculture growth with marine biodiversity conservation.

Conclusion

The launch of the **North Bay open-sea marine fish farming project** marks India's shift from traditional coastal aquaculture toward **deep-sea, technology-enabled ocean farming**. By combining **NIOT's engineering innovation** with **community participation**, India is laying the foundation for a resilient, sustainable, and strategically significant Blue Economy model in the **Indo-Pacific region**.

BRICS Plus Naval Exercise: "Will for Peace 2026"

Context

In January 2026, the **"Will for Peace 2026"** naval exercise held off the coast of South Africa sparked international debate. India's decision to skip the drills was clarified by the Ministry of External Affairs (MEA), which emphasized that such exercises are not institutionalized activities of the **BRICS** grouping but rather host-led initiatives.

About the News

Background: The exercise is the rebranded third edition of the "Mosi" series (previously Mosi I and II). It was originally scheduled for late 2025 but was moved to January 2026 to avoid a conflict with the G20 summit hosted by South Africa.

Details of the Exercise:

- **Host Nation:** South Africa (conducted near the **Simon's Town Naval Base**, Cape Town).
- **Lead Coordinator:** China.
- **Participating Navies:** China, Russia, Iran, United Arab Emirates (UAE), and South Africa.
- **Observers:** Brazil, Egypt, Ethiopia, and Indonesia.
- **Non-Participants: India** (declined both participation and observer status).

Key Features of "Will for Peace 2026"

- **Theme:** *"Joint Actions to Ensure the Safety of Key Shipping Lanes and Maritime Economic Activities."*
- **Core Operations:**
  - Armed rescue of hijacked commercial vessels (Special Forces drills).
  - Anti-sea strike maneuvers and formation tactical exercises.
  - Search and Rescue (SAR) and helicopter transfers of the wounded.
- **Framework:** Conducted under the **"BRICS Plus"** outreach, extending engagement to the expanded membership (Egypt, Ethiopia, Iran, UAE, and Indonesia).

India's Stand and Strategic Rationale

The MEA spokesperson, Randhir Jaiswal, clarified that India does not view these drills as a "regular" BRICS activity.

- **Non-Institutional Nature:** India asserts that BRICS is primarily an economic and developmental forum. Participation in a China-led military drill would contradict India's efforts to prevent the "militarization" of the bloc.
- **Strategic Autonomy:** Participation alongside sanctioned states like **Russia** and **Iran** in a China-led exercise could signal an "anti-Western" alignment, which India seeks to avoid to maintain its balanced ties with the U.S. and Europe.
- **The "IBSAMAR" Alternative:** India highlighted that its preferred maritime engagement within this context is **IBSAMAR** (India-Brazil-South Africa Maritime), a regular institutionalized exercise.
- **Caution with China:** Despite recent diplomatic thaws (e.g., the 2025 SCO summit), India remains wary of high-level military cooperation with China until the border situation at the Line of Actual Control (LAC) is fully resolved.

Challenges and Global Perceptions

- **"Uncle Judge" Synergy:** Critics in South Africa's opposition parties questioned the move, fearing it undermines the country's neutrality and "rules-based order" by aligning with "rogue" military interests.
- **Diverging Visions:** The exercise highlights a split in BRICS: **China and Russia** see it as a security signaling tool against Western influence, while **India and Brazil** prefer it as a South-South economic cooperation platform.
- **Geopolitical Tension:** The involvement of Iran during a period of domestic unrest and heightened Middle East tensions drew sharp criticism from Washington.

Way Forward

- **Defining BRICS Security:** As India holds the **BRICS Chairmanship for 2026**, it is expected to steer the group back toward institutional reforms and economic cooperation rather than security blocs.
- **Strengthening Bilateral Ties:** India continues to engage with BRICS members individually (e.g., the **Indra 2025** exercises with Russia) while maintaining a firewall between those ties and multilateral "BRICS" military branding.
- **Maritime Security Public Goods:** Participants aim to frame future iterations as "public goods" for the international community, focusing on anti-piracy and trade route safety to reduce Western alarm.

Conclusion

India's refusal to join "Will for Peace 2026" is a "considered political choice" that reinforces its

commitment to strategic autonomy. It underscores New Delhi's vision of BRICS as a platform for global governance reform rather than a nascent military alliance that could heighten global polarization.

Chips to Start-up (C2S) Programme

Context

In January 2026, the Ministry of Electronics and Information Technology (MeitY) highlighted the significant progress of the **Chips to Start-up (C2S) Programme**. The initiative has reached a major milestone with over **1 lakh student enrollments** and the successful fabrication of **56 student-designed chips**, marking a pivotal shift in India's indigenous semiconductor design capabilities.

About the News

Background:

Launched in 2022 as part of the broader **Semicon India Programme**, the C2S initiative aims to transform India from a chip-consumption hub into a chip-designing powerhouse. It addresses the global shortage of semiconductor talent by integrating academic research with industrial application.

Key Achievements (as of Jan 2026):

- **Chip Fabrication:** 56 student-designed chips have been successfully fabricated, packaged, and delivered for testing.
- **Intellectual Property:** Over **75 patents** have been filed by participating institutions.
- **Training Reach:** Out of 1 lakh+ enrolled students, approximately **67,000 have completed hands-on training** in advanced VLSI (Very Large Scale Integration) design.
- **Institutional Participation:** Engagement from nearly **400 organizations**, including 305 academic institutions (IITs, NITs, and private universities) and 95 startups.
- **Infrastructure Usage:** Users have logged over **175 lakh hours** on shared national EDA (Electronic Design Automation) tools.

Functional Framework of C2S

- **Nodal Agency:** Implemented by the **Centre for Development of Advanced Computing (C-DAC)**.
- **Centralized Hub:** The **ChipIN Centre** (Bengaluru) serves as the primary national facility, providing remote access to high-end design tools and hardware.
- **Fabrication Partner:** Student designs are manufactured through shared wafer runs at the **Semi-Conductor Laboratory (SCL), Mohali**, typically using 180nm process technology.
- **SMART Labs:** Specialized facilities (like the one at NIELIT Calicut) provide certification and niche technical training.

Key Program Features

- **Financial Outlay:** ₹250 crore over a 5-year period.
- **Human Resource Targets:**
  - **PhDs:** 200 scholars engaged in advanced research.
  - **Post-Graduates:** 7,000 M.Tech (VLSI) and 8,800 M.Tech (related streams).
  - **Undergraduates:** 69,000 B.Tech students.
- **Technical Access:** Shared EDA tools (Cadence, Synopsys, Siemens, etc.), High-Performance Computing (HPC), and FPGA prototyping boards.
- **Innovation Focus:** Aims to incubate **25 semiconductor startups** and facilitate **10 technology transfers**.

Significance

- **Addressing Skill Gaps:** Builds a strategic talent pipeline to meet the projected global demand for 1 million semiconductor professionals by 2026.
- **Democratization of Design:** Grants students in Tier-2 and Tier-3 cities access to expensive tools previously restricted to elite institutions.
- **Strategic Autonomy:** Strengthens **Atmanirbhar Bharat** by reducing reliance

on foreign-owned Intellectual Property (IP) for critical sectors like defense and telecom.

- **Economic Impact:** Contributes to India's goal of capturing a significant share of the global semiconductor market, projected to reach $1 trillion by 2030.

Challenges

- **Infrastructure Scaling:** While storage and compute power have grown, current fabrication capacity at SCL Mohali needs further expansion to handle higher-volume submissions.
- **Technology Node Gap:** Most student fabrications are currently at the **180nm node**, while the industry is rapidly moving toward sub-7nm nodes for advanced applications.
- **Industry Integration:** Ensuring that the 85,000-strong workforce is absorbed into high-value design roles rather than just basic support services.

Way Forward

- **Advanced Fabrication:** Progressing from 180nm to more advanced nodes (e.g., 28nm or 3nm) to align with modern smartphone and AI chip standards.
- **Global Collaboration:** Leveraging dialogues like the **India-Japan AI and Semiconductor Strategic Dialogue** to facilitate cross-border research and training.
- **Startup Incubation:** Strengthening the link between C2S and the **Design Linked Incentive (DLI) Scheme** to help student projects transition into commercial ventures.

Conclusion

The C2S Programme has moved beyond theoretical training into the tangible production of silicon hardware. By fostering a "Design in India" culture, it ensures that India's contribution to the global semiconductor value chain is defined by innovation and ownership of intellectual property rather than just service delivery.

India Emerges as a Global Cooperative Powerhouse

Context

The United Nations has declared **2025 as the International Year of Cooperatives (IYC)**. This global recognition coincides with India's rise as a cooperative leader, boasting over 8.5 lakh registered societies and a strategic shift toward **"Sahkar Se Samriddhi"** (Prosperity through Cooperation).

About the News

Key Data and Statistics:

- **Global Scale:** India accounts for approximately **27% of all cooperatives worldwide**, representing one of the largest organized economic networks.
- **Membership:** As of late 2025, there are nearly **32 crore members**, covering roughly 98% of rural India across 30 sectors.
- **Functional Strength:** Of the 8.5 lakh societies, **6.6 lakh are fully operational**, including 80,000 Primary Agricultural Credit Societies (PACS).
- **Financial Inclusion:** 1,457 urban cooperative banks hold assets worth **₹7.38 trillion** (as of March 2025).
- **Women Empowerment:** Nearly **10 crore women** have been integrated into the organized economy through links with Self-Help Groups (SHGs).

Importance of Cooperatives in India

- **Grassroots Credit Access:** Provides essential liquidity to farmers; PACS are being computerized to link directly with **NABARD** for transparent credit flow.
- **Market Integration:** Aggregates small-scale produce to enhance bargaining power (e.g., **Amul** connecting millions of milk producers to global supply chains).
- **Food Security:** Decentralizing storage to reduce post-harvest losses via the **World's Largest Grain Storage Plan**.
- **Sustainable Livelihoods:** Promoting organic farming and allied activities

through entities like **National Cooperative Organics Limited (NCOL)**.

- **Affordable Service Delivery:** Over 800 PACS now operate as **Janaushadhi Kendras**, providing low-cost medicines to rural residents.

Key Initiatives Taken

- **Digitalization & ERP:** A **₹2,925 crore project** to computerize PACS using a common national software available in 14 languages.
- **Apex Multi-State Societies:** Creation of three national bodies: **NCEL** (Exports), **NCOL** (Organics), and **BBSSL** (Seeds).
- **White Revolution 2.0:** A plan to increase milk procurement by 50% in five years by establishing **20,070 new Dairy Cooperative Societies**.
- **Legislative Reforms:** Reducing the cooperative surcharge from **12% to 7%** and enabling PACS to undertake over 25 new business activities.

Success and Global Competitiveness

- **Global Rankings:** 15 Indian entities currently feature in the **Global Top 300** rankings based on turnover and impact.
- **Export Penetration:** The **National Co-operative Exports Limited (NCEL)** recently exported 13.77 LMT of commodities worth over ₹5,500 crore to 28 countries.
- **Digital Transparency:** Transition from manual ledgers to digital systems has processed over **34 crore transactions** digitally across 60,000 PACS.
- **Social Inclusivity:** The NCDC has disbursed over **₹95,000 crore**, with schemes like *Nandini Sahakar* specifically targeting women-led cooperatives.

Challenges

- **Regional Imbalance:** Cooperative growth is concentrated in states like Maharashtra (2.21 lakh societies), while North-Eastern states face low density.
- **Infrastructure Gaps:** Many primary societies lack modern hardware or sufficient storage capacity for national produce.
- **Operational Inefficiency:** Issues like nepotism ("Uncle Judge Syndrome") and a lack of professional management persist in older societies.
- **Financial Constraints:** High levels of **Non-Performing Assets (NPAs)** and limited capital for technology adoption in Urban Cooperative Banks.

Way Forward

- **Universal Professionalization:** Establishing **Tribhuvan Sahkari University** to create a cadre of professionally trained managers.
- **Pan-India Expansion:** Replicating the successful Gujarat and Maharashtra models in the Eastern and North-Eastern regions.
- **Technological Deepening:** Integrating **AI and Blockchain** into the National Cooperative Database for fraud-proof auditing.
- **Credit-Plus Services:** Transforming all functional PACS into **Multi-Service Centers** to diversify revenue streams.
- **Global Brand Building:** Aggressively scaling the **"Bharat" brand** for seeds and organics to capture high-value export markets.

Conclusion

India's cooperative sector has evolved into a vital economic pillar, supporting a quarter of the world's cooperatives. By balancing digital reform with grassroots empowerment, India offers a global model for inclusive, collective-led development during the International Year of Cooperatives.

Artemis II Mission

Context

As of **January 2026**, the **Artemis II** mission has entered its **final pre-launch phase**. On **January 17, 2026**, the **Space Launch System (SLS)** rocket and **Orion spacecraft** were successfully

rolled out to **Launch Complex 39B** at the **Kennedy Space Center**. The mission marks the transition from robotic testing to **crewed lunar exploration**.

Mission Details

- **Agencies:** NASA (lead) in partnership with the Canadian Space Agency (CSA)
- **Primary Goal:** First crewed mission to the vicinity of the Moon since **Apollo 17 (1972)**
- **Mission Type: ~10-day lunar flyby** mission
- **Trajectory: Hybrid free-return**, looping around the Moon's far side without entering lunar orbit or landing.

Key Objectives

- Validate Orion's **life support, communication, and navigation** systems with a human crew
- Test **high-speed re-entry (~25,000 mph)** and **Pacific Ocean splashdown**
- Demonstrate **deep-space optical communications (O2O)** for high-rate data transfer

Launch Timeline

- **Earliest launch window: February 6, 2026**
- **Backup opportunities:** Through **April 2026**

Mission Profile

1. **Launch & Earth Orbit:** SLS launches Orion into a **high elliptical Earth orbit** for initial checks
2. **Trans-Lunar Injection (TLI):** Orion performs a burn to head toward the Moon
3. **Lunar Flyby: ~6,400 miles (10,300 km)** above the lunar surface; may exceed **Apollo 13** human-distance record
4. **Return & Splashdown:** Gravity assists return; **Pacific Ocean splashdown**

Challenges and Current Status

- **Heat Shield Concerns:** Investigations continued through 2025 after Orion heat shield "charring" during **Artemis I**
- **Current Phase (late Jan 2026): Wet Dress Rehearsal** underway (fueling + full countdown simulation)

Conclusion

Artemis II is the **proof of concept** for the Artemis campaign. Its success is the prerequisite for **Artemis III**, targeted for **2027/2028**, which aims to land the **first woman** and **first person of color** on the **lunar South Pole**.

Juvenile Justice Act

Context

A **Private Member Bill** was introduced in Parliament proposing to lower the age at which a juvenile can be tried as an adult for "heinous crimes" from **16 to 14 years**. This has reignited a fierce national debate regarding the balance between public safety and the rehabilitative goals of the juvenile justice system.

Background: The 2015 Evolution

Following the 2012 Delhi Gang Rape case, the **Juvenile Justice (Care and Protection of Children) Act, 2015** replaced the 2000 Act.

- **Key Change:** It introduced a provision allowing children in the **16–18 age group** to be tried as adults for heinous offenses (crimes with a minimum punishment of 7 years).
- **The Mechanism:** This is not automatic; the Juvenile Justice Board (JJB) must conduct a **Preliminary Assessment** regarding the child's mental and physical capacity to commit the crime and their understanding of the consequences.

Arguments for Lowering the Age to 14

- **Nature of Crimes:** Proponents argue that the brutality of certain crimes (e.g., murder, gang rape) committed by 14- and 15-year-olds necessitates a deterrent that the juvenile system, which focuses on reformation cannot provide.

- **Increasing Involvement:** There is a perception of rising involvement of younger teenagers in organized crime and heinous acts, suggesting that the current age bar of 16 is being exploited.

Arguments Against (Critiques)

Critics and child rights activists argue that lowering the age further is a regressive step for several reasons:

- **Principle of Care and Protection:** The fundamental philosophy of the JJ Act is that children are "doli incapax" (incapable of forming criminal intent) to a certain degree and deserve **rehabilitation** over retribution.
- **Psychological Impact:** Adult prisons are "universities of crime." Exposing 14-year-olds to hardened criminals stunts their mental growth and effectively ends any chance of social reintegration.
- **Class Disparity:** There is a significant risk of **socio-economic bias**. Wealthier families can afford legal counsel and psychologists to help a child pass the "mental assessment," whereas underprivileged children, often the victims of poor environments will be disproportionately sent to adult jails.
- **Lack of Empirical Evidence:** National Crime Records Bureau (**NCRB**) data does not show a statistically significant surge in heinous crimes committed by the 14-16 age group that would justify such a drastic legislative shift.

Way Forward

- **Strengthening Rehabilitation:** Instead of lowering the age, focus on improving the conditions and effectiveness of Special Homes and Observation Homes.
- **Root Cause Analysis:** Addressing the socio-economic factors, such as lack of education and poverty, that lead children toward crime.
- **Judicial Scrutiny:** Ensuring that the "Preliminary Assessment" for 16-18 year olds is scientifically rigorous and not influenced by public outcry, as emphasized by the Supreme Court in various rulings.

Conclusion

Lowering the threshold to 14 years risks violating international standards, such as the **UN Convention on the Rights of the Child**. While the demand for justice in heinous crimes is valid, the law must distinguish between a "hardened criminal" and a "vulnerable child" who is a product of their circumstances.

Removal of Judges

Context

In **July 2025**, the "INDIA" opposition bloc moved a resolution in the Lok Sabha seeking the removal of **Madras High Court Justice G.R. Swaminathan**. The motion alleges that certain judicial actions by the judge were contrary to the principles of secularism and individual dignity.

Constitutional Provisions

- **Supreme Court Judges:** Governed by **Article 124(4)**.
- **High Court Judges:** Governed by **Articles 217 and 218**, which stipulate that a High Court judge is removed using the same procedure as a Supreme Court judge.
- **Terminology Note:** The term **"Impeachment"** is technically reserved by the Constitution only for the President (Article 61). For judges, the official term is **"Removal,"** though "impeachment" is common in colloquial and media usage.

Grounds for Removal

Under the Constitution, a judge can only be removed on two specific grounds:

1. **Proved Misbehavior:** Includes corruption, lack of integrity, or conduct that undermines public confidence in the judiciary.
2. **Incapacity:** Physical or mental inability to perform judicial duties.

The Removal Process (Judges Inquiry Act, 1968)

The procedure is a rigorous multi-stage process designed to protect judicial independence:

1. **Initiation:** A motion must be signed by at least **100 members** of the Lok Sabha OR **50 members** of the Rajya Sabha and submitted to the Speaker/Chairman.
2. **Discretionary Admission:** The Speaker or Chairman may admit or reject the motion after consulting relevant materials. They are not legally required to provide reasons for rejection.
3. **Inquiry Committee:** If admitted, a 3-member committee is formed to investigate the charges:
    - A Supreme Court Judge (or the Chief Justice of India).
    - A Chief Justice of a High Court.
    - An eminent jurist.
4. **The Verdict:** * If the committee finds the judge **not guilty**, the process ends immediately.
    - If the committee finds the judge **guilty**, the motion is taken up for debate and voting in the House where it originated.
5. **Special Majority:** To pass, the motion requires a "Special Majority" in **each** House:
    - More than **50% of the total membership** of the House.
    - At least **two-thirds** of the members present and voting.
6. **Presidential Order:** Once passed by both Houses in the same session, an address is presented to the President, who then issues the final order of removal.

Key Facts and Judicial Precedents

- **No Successful Removal:** To date, **no judge** in India has been successfully removed through this full process.
- **Justice V. Ramaswami (1993):** The first such case; though the inquiry committee found him guilty, the motion failed in the Lok Sabha because the ruling party abstained from voting.
- **Resignation as an "Escape":** In several cases (e.g., **Justice Soumitra Sen** in 2011 and **Justice P.D. Dinakaran**), judges resigned after the inquiry committee found them guilty but before the final parliamentary vote, effectively ending the proceedings.

Conclusion

The high threshold for the removal of judges is a double-edged sword: it ensures that judges can deliver unpopular judgments without fear of political retaliation, but it also makes judicial accountability extremely difficult to achieve. The current move against Justice Swaminathan once again brings the "political vs. judicial" nature of this process into the national spotlight.

Bharatiya Nyaya Sanhita & Sexual Intercourse on False Promise

Context

With the implementation of the **Bharatiya Nyaya Sanhita (BNS)**, which replaced the Indian Penal Code (IPC) in 2024, **Section 69** was introduced as a distinct statutory offense. It specifically addresses sexual intercourse obtained through "deceitful means," a scenario that previously relied on judicial interpretations of "consent" under the law of rape.

About the Provision

- **The Offense:** Section 69 criminalizes sexual intercourse by any man with a woman where consent is obtained by employing "deceitful means" or a "false promise of marriage."
- **Defining "Deceitful Means":** The provision explicitly defines this to include:
    - False promise of employment or promotion.
    - Inducement by suppressing one's true identity.
    - False promise of marriage without the intention of fulfilling it.
- **Legal Distinction:**

    - **Versus Rape:** Unlike Section 63 (Rape), which focuses on lack of consent or force, Section 69 deals with cases where **physical consent exists** but is legally vitiated because it was secured through fraud or misrepresentation.
- **Punishment:** The offense is punishable with imprisonment of either description for a term which may extend to **10 years** and shall also be liable to fine.

Judicial & Legal Background

- **Historical Context:** Under the IPC, such cases were often prosecuted as rape under the theory that consent given under a "misconception of fact" (Section 90 IPC) is no consent at all.
- **The Shift:** By creating a separate category, the BNS acknowledges that "deceitful" consensual sex is a distinct wrong, separate from the violent or non-consensual nature of rape.

Challenges and Criticisms

- **Proof of Intention:** A primary legal hurdle is distinguishing between a "breach of promise" (where a man intended to marry but could not) and a "false promise" (where there was never an intention to marry). Proving initial intent is evidentiary complex.
- **Gender Neutrality:** Critics point out that the provision is gender-specific, applying only to men. In an era of evolving gender jurisprudence, many advocate for gender-neutral sexual offense laws.
- **Potential for Misuse:** Concerns have been raised by legal activists that the section could be used as a tool for harassment following the breakdown of consensual romantic relationships.
- **Vagueness:** The term "deceitful means" is broad, potentially allowing for varied judicial interpretations that may lead to legal uncertainty.

Way Forward

- **Clearer Evidentiary Standards:** Courts must establish strict guidelines to differentiate between a genuine change of heart and a premeditated fraud to prevent wrongful convictions.
- **Sensitization:** Legal and police authorities require training to handle these sensitive cases with a focus on objective evidence rather than subjective relationship narratives.
- **Legislative Review:** Over time, the legislature may need to consider making the provision gender-neutral to align with modern social realities.

Conclusion

Section 69 of the BNS represents a significant shift in India's criminal law by codifying "deceitful sex" as a standalone offense. While it aims to protect women from exploitation and fraud, its success depends on the judiciary's ability to balance the protection of victims with the prevention of potential misuse against defendants in failed relationships.

Roadmap for Green Transition of MSMEs

Context

NITI Aayog released a landmark report titled **"Roadmap for Green Transition of MSMEs."** Launched alongside decarbonization strategies for the cement and aluminum sectors, this initiative is a critical step toward India's **Viksit Bharat 2047** vision and its commitment to achieving **Net-Zero emissions by 2070**.

About the Roadmap

- **Definition:** A strategic **10-year action plan** aimed at guiding India's 63-69 million Micro, Small, and Medium Enterprises (MSMEs) toward a low-carbon economy.
- **The Three Levers:** The plan identifies three primary pillars for decarbonization:
    1. **Energy Efficiency:** Reducing waste through modern machinery.
    2. **Green Electricity:** Shifting to renewable energy sources.
    3. **Alternative Fuels:** Transitioning from coal/oil to biomass or natural gas.

- **Institutional Framework:** Proposes the creation of a **National Project Management Agency (NPMA)** to oversee implementation and demand aggregation.

Key Trends: The Economic & Environmental Footprint

The MSME sector is often called the "Silent Engine" of India, but its environmental impact is significant:

Metric	Data Point
GDP Contribution	Nearly **30%** of India's GDP
Employment	Over **250 million** people (2nd after Agriculture)
Exports	Approximately **45.7%** of total national exports
Emissions	**~135 million tonnes** of CO_2e (as of 2022)
Energy Intensity	Consumes over **25%** of total industrial energy

The Necessity: Why Green Transition?

- **Global Market Access:** Mechanisms like the EU's **Carbon Border Adjustment Mechanism (CBAM)**, effective in 2026, will impose "carbon costs" on exports like steel and textiles. Green practices are now a prerequisite for global trade.
- **Climate Resilience:** MSMEs are highly vulnerable to disasters. For instance, **Cyclone Michaung (2023)** caused losses of ~$360 million to 4,800 units in Tamil Nadu.
- **Regulatory Compliance:** The **BRSR (Business Responsibility and Sustainability Reporting)** framework now requires the top 1,000 listed companies to track their **Scope 3 emissions** (value chain), forcing their MSME suppliers to go green.
- **Profitability:** Modern green tech typically has a payback period of **1–5 years**, after which energy savings directly increase profit margins.

Key Initiatives & Schemes

The government has launched several programs to facilitate this shift:

- **ADEETIE Scheme:** Provides interest subventions for upgrading to energy-efficient tech.
- **GIFT Scheme:** Concessional institutional finance for waste management and clean transport.
- **ZED Certification:** The "Zero Defect, Zero Effect" scheme promotes high-quality manufacturing with zero environmental impact.
- **SPICE Initiative:** Supports circular economy practices in plastics and electronics.

Major Challenges

- **Finance Gap:** High perceived risk and lack of collateral lead to high interest rates for green loans.
- **Awareness Gap:** Currently, only **1 in 25** small businesses measure their carbon footprint.
- **High Upfront Costs:** The initial Capital Expenditure (CAPEX) for solar or efficient boilers often exceeds a micro-unit's annual turnover.
- **Trust Deficit:** A lack of understanding regarding "Pay-as-You-Save" models with **Energy Service Companies (ESCOs)**.

Way Forward

- **NPMA Operationalization:** Effectively manage industrial clusters to distribute subsidies.
- **Demand Aggregation:** Bulk-buying solar panels and motors to lower costs for individual units via "cluster-based" procurement.
- **Climate Sister Impact Fund (CSIF):** A hybrid debt/equity fund to provide low-cost capital for emerging low-carbon technologies.

- **Standardized MRV:** Implementing a simple **Monitoring, Reporting, and Verification** tool to help MSMEs certify their emission reductions for global buyers.

Conclusion

The green transition is no longer a choice but a strategic necessity for the global competitiveness of Indian MSMEs. By bridging the financial and technical gaps through the NPMA and targeted funds, India can ensure its smallest enterprises lead the charge toward a resilient and **Viksit Bharat by 2047**.

Indira Gandhi Prize for Peace, Disarmament, and Development (2025)

Context

The Indira Gandhi Memorial Trust announced the recipient of its prestigious annual award, highlighting the intersection of human rights, education, and global peace. The prize continues its legacy of honoring individuals or organizations that have made outstanding contributions to international peace and development.

About the News

- **Winner: Graça Machel**, the renowned **Mozambican politician** and social activist.
- **Significance:** She is uniquely distinguished as the only woman in history to have been the First Lady of two different nations (Mozambique and South Africa), using her platform to drive systemic change across the African continent.

Reason for Award:

- **Educational Reform:** Recognized for her transformative work in increasing literacy rates and advocating for universal access to quality education in Africa.
- **Rights of Women and Children:** Honored for her decades-long struggle to protect children from the impacts of armed conflict and for promoting the legal rights of women.
- **Economic Empowerment:** Acknowledged for her initiatives through the Graça Machel Trust, which focuses on nurturing African women's leadership and financial inclusion.
- **Global Advocacy:** Her leadership in "The Elders" (an international non-governmental organization of public figures) was cited as a key factor in her selection.

Background of the Indira Gandhi Prize

- **Establishment:** Launched in **1986** by the Indira Gandhi Memorial Trust in memory of India's former Prime Minister.
- **Objective:** To recognize exceptional efforts in promoting international peace, disarmament, and a new international economic order.
- **The Award:** Consists of a monetary prize of **₹2.5 million** (25 lakh rupees) and a citation.
- **Selection Process:** A jury of eminent national and international personalities, chaired by notable leaders (previously including former Vice Presidents or Chief Justices), selects the winner.

Crocodilian Species in India

Context

A recent ecological survey conducted across the **Ganga river basin** has recorded a population of **337 Gharials**. While the numbers show signs of localized recovery, the species remains under intense pressure, maintaining its status as **Critically Endangered** on the IUCN Red List.

Gharial Profile (*Gavialis gangeticus*)

The Gharial is one of the largest crocodilians in the world, uniquely evolved for a specialized aquatic lifestyle.

- **Physical Features:** They possess a distinctively **long, narrow snout** lined with interlocking teeth, perfectly adapted for a diet consisting almost exclusively of fish.
    - **The "Ghara":** Adult males develop a large, cartilaginous protuberance

at the end of their snout resembling a pot (*ghara* in Hindi). It is used to amplify vocalizations and blow bubbles during courtship. This feature is absent in females.

- **Habitat & Distribution:**
    - **Native Range:** Historically found across the river systems of India, Nepal, Bangladesh, Bhutan, Myanmar, and Pakistan.
    - **Primary Stronghold:** The **Chambal River** in India remains the most significant and best-protected natural habitat for the species.
    - **Other Rivers:** Significant populations exist in the Girwa, Rapti, and Narayani (Nepal) rivers.
- **Life Cycle:** Mating occurs between November and January. Being hole-nesters, they lay eggs in **river sandbanks** from March to May, making them highly dependent on stable, undisturbed river banks.
- **Major Threats:** Habitat loss due to **dam construction**, illegal **sand mining** (which destroys nesting sites), and entanglement in nylon fishing nets.

Comparison of Indian Crocodilian Species

India is home to three distinct crocodilian species, each occupying a specific ecological niche.

Feature	Gharial	Mugger (Marsh Crocodile)	Saltwater Crocodile
IUCN Status	**Critically Endangered**	Vulnerable	Least Concern
Snout Shape	Extremely long and thin	Broad and blunt	Large and heavy
Habitat	Clean, fast-flowing freshwater	Marshes, lakes, and slow rivers	Estuaries and brackish coastal waters
Locations	Chambal, Girwa, Ganga	Throughout India (e.g., Gujarat)	Bhitarkanika, Sundarbans, A&N
Key Trait	Primarily a fish-eater	Can walk long distances on land	Highly salt-tolerant; largest of the three

Legal Protection

Despite their differing conservation statuses, the Indian government provides uniform high-level protection to ensure their survival:

- **Wildlife Protection Act (1972):** All three species are listed under **Schedule I**, granting them the highest level of legal protection against hunting, poaching, and trade.
- **CITES:** Listed under **Appendix I**, which prohibits international commercial trade in specimens of these species.

Way Forward

- **Community-Led Conservation:** Engaging local riverine communities to reduce human-crocodile conflict and prevent net-entanglement.
- **Sandbank Protection:** Implementing stricter regulations on sand mining to preserve critical nesting grounds during the breeding season.
- **River Rejuvenation:** Maintaining environmental flows (e-flows) in rivers like the Ganga and Chambal to ensure the aquatic health necessary for fish populations, the Gharial's primary food source.

Conclusion

The survival of the Gharial is an indicator of the health of India's river systems. While legal protections are robust, the future of the species depends on balancing infrastructure development with the preservation of the specialized riverine habitats they call home.

National Legislative Index (NLI)

Context

On **January 21, 2026**, during the valedictory session of the **86th All India Presiding Officers' Conference (AIPOC)** in Lucknow, Lok Sabha Speaker **Om Birla** announced the creation of the **National Legislative Index (NLI)**. This first-of-its-kind initiative aims to standardize and rank the performance of India's legislative bodies.

About the National Legislative Index (NLI)

- **Definition:** A data-driven benchmarking framework designed to evaluate the productivity, accountability, and quality of dialogue in both **Parliament and State Legislatures**.
- **Mechanism:** A dedicated committee of Presiding Officers has been constituted to finalize the specific parameters and operational guidelines for the index.
- **Primary Objective:** To foster a spirit of **"Healthy Competition"** among states, encouraging them to adopt innovations and best practices in legislative functioning.

Performance Parameters (The Indicators)

The NLI will transition legislative evaluation from subjective political opinions to objective metrics:

Category	Key Metrics
Sittings & Time	Total number of annual sittings (Proposed minimum of **30 days** per year), hours devoted to debate, and utilization of House time.
Legislative Quality	Quality of dialogue, number of laws passed, and time spent on scrutiny of bills.
Committee Efficiency	Active participation in and output of **Departmentally Related Standing Committees (DRSCs)**.
Member Participation	Use of Question Hour, number of private member resolutions, and attendance records.
Technological Integration	Implementation of **Digital Sansad** or **e-Vidhan** models, and the use of AI for legislative transparency.

Significance of the Initiative

- **Curbing Disruptions:** By making performance public, the index discourages "planned disruptions" and incentivizes members to engage in constructive dialogue.
- **Outcome-Oriented Governance:** Aligns legislative work with the national goal of **Viksit Bharat @2047**, ensuring that law-making directly translates into public welfare.
- **Accountability:** Shifts the representative's accountability from "once every five years" to "every sitting and every moment."
- **Institutional Strengthening:** Enhances the role of Presiding Officers as the "sentinels of the Constitution" by providing them with a framework to maintain House decorum.

The 86th AIPOC: Key Resolutions

The NLI was one of **six major resolutions** adopted at the Lucknow conference:

1. **Viksit Bharat 2047:** A commitment to align legislative business with national development.
2. **30 Sittings Mandate:** Building consensus to ensure State Assemblies meet for at least 30 days annually.
3. **Technology Adoption:** Strengthening the "ease of doing legislative business" through digital tools.

4. **Capacity Building:** Continuous training for legislators, particularly in research and digital technology.

Conclusion

The National Legislative Index marks a shift toward **evidence-based democracy**. By benchmarking legislatures, India aims to transform its houses of debate into more efficient, transparent, and people-centric institutions, ensuring that the voice of the last person is heard with impact and dignity.

The Miyawaki Method

Overview

The Miyawaki Method is a specialized afforestation technique designed to restore native forests in record time, particularly within cramped urban environments.

- **Definition:** A scientific method of urban forestry that creates "tiny forests" that are dense, multi-layered, and resilient.
- **Origin:** Developed by the late Japanese botanist **Akira Miyawaki** in the 1970s.
- **Alternative Name:** Often referred to as the **Pot Plantation Method** due to the initial stage of sapling preparation.

Key Characteristics

The method mimics the natural process of forest regeneration but accelerates it through specific interventions.

- **Dense Plantation:** Unlike traditional plantations where trees are spaced apart, Miyawaki forests plant 30 to 50 times more trees in the same area. This creates intense competition for sunlight, forcing trees to grow **upward** rather than sideways.
- **Native Species Only:** The method strictly uses **Potential Natural Vegetation (PNV)**—species that would naturally exist in the area without human intervention. This ensures high survival rates and supports local fauna.
- **Rapid Growth:** Forests grown this way develop **10 times faster** than conventional ones.
- **Self-Sustaining:** After an initial maintenance period of **2–3 years** (watering and weeding), the forest becomes a self-sufficient ecosystem that requires no further human interference.

Benefits

This method has gained global popularity as a "quick fix" for urban environmental degradation.

- **Urban Cooling:** Acts as a natural air conditioner, significantly lowering local temperatures to combat the **Urban Heat Island** effect.
- **Pollution & Noise Control:** The density of the forest allows it to absorb massive amounts of **Carbon Dioxide (CO_2)** and dust. It also serves as a high-density sound barrier against traffic noise.
- **Soil Health:** The use of organic mulch and microbial activity prevents soil erosion and restores fertility to degraded land.
- **Efficient Land Use:** Highly adaptable to "wasteland" or neglected patches such as roadsides, school corners, and industrial buffer zones.
- **Biodiversity Hubs:** Even a small patch can become a sanctuary for local insects, birds, and pollinators, boosting the local ecosystem.

Comparison: Traditional vs. Miyawaki Forestry

Feature	Traditional Plantation	Miyawaki Method
Spacing	2–3 meters apart	0.5–1 meter apart (dense)
Growth Rate	Normal (decades)	Accelerated (10x faster)
Maintenance	Long-term (5+ years)	Short-term (2–3 years)

Diversity	Often monoculture	Multi-layered (native mix)

Conclusion

The Miyawaki Method represents a shift from "planting trees" to "creating ecosystems." By turning small urban voids into thriving green lungs, it provides a practical solution for cities to meet climate goals and improve the quality of life for residents.

Indian Bison (Gaur)

Context

In recent ecological assessments, the population of the **Indian Bison**, commonly known as the **Gaur**, has shown a significant increase within the **Debrigarh Wildlife Sanctuary** in Odisha. This surge highlights the effectiveness of local conservation efforts and habitat management in the region.

About the News

- **Location Focus:** Debrigarh Wildlife Sanctuary, situated near the Hirakud Dam in Odisha, has emerged as a critical stronghold for the species.
- **Population Trend:** Systematic monitoring indicates a healthy growth rate, attributed to improved protection against poaching and the restoration of grassland ecosystems.
- **Scientific Classification:** * **Scientific Name:** *Bos gaurus*
    - **Characteristics:** It is the largest species among the wild cattle and the bovids, known for its massive build and high convex ridge on the forehead.

Conservation and Legal Framework

The Gaur is afforded the highest levels of legal protection to ensure its survival against habitat loss and hunting.

- **IUCN Red List:** Classified as **Vulnerable**. This status reflects a declining global population trend due to habitat fragmentation and potential disease transmission from domestic cattle.
- **CITES:** Listed under **Appendix I**. This prohibits international trade of the species or its body parts, except for non-commercial purposes like scientific research.
- **Wildlife Protection Act (1972):** Listed under **Schedule I**. This provides the species with absolute protection in India, with the highest penalties for offenses committed against them.

Darwin's Bark Spider

Context

The discovery of **Darwin's Bark Spider** (*Caerostris darwini*) has revolutionized our understanding of biological materials. While many spiders are known for their intricate webs, this specific species produces silk that outperforms almost every other known natural or synthetic fiber in terms of toughness.

About the Discovery

- **Species Profile:** Discovered in **Madagascar** in 2009, this spider is famous for building the largest orb webs in the world, sometimes spanning rivers and lakes.
- **The Record Holder:** The silk produced by the adult females is considered the **toughest biological material** on Earth. It is roughly ten times tougher than Kevlar and significantly stronger than steel of the same weight.
- **Web Architecture:** Their webs can reach up to 2.8 square meters, with anchor lines stretching as long as 25 meters to bridge bodies of water.

Biological Mechanism

The secret to the spider's "super-material" lies in its molecular composition and specialized spinning glands.

- **Amino Acid Composition:** The silk contains exceptionally high concentrations of **Proline**. This amino acid acts as a "molecular spring," providing the silk with

extreme elasticity without sacrificing tensile strength.

- **Energy Absorption:** Because of its unique chemistry, the silk can absorb a massive amount of kinetic energy before breaking. This allows the web to withstand the impact of large prey or heavy winds over open water.
- **Unique Proteins:** Research identifies two primary proteins (MaSp1 and MaSp2) that are arranged in a way that maximizes both stiffness and flexibility.

Geographical Significance

- **Endemicity:** Darwin's Bark Spider is **endemic to Madagascar**, meaning it is found nowhere else on Earth.
- **Habitat:** It primarily inhabits the riparian zones (riverbanks) of Ranomafana National Park and Andasibe-Mantadia National Park.
- **Evolutionary Adaptation:** The ability to spin webs across rivers allows the spider to occupy a unique ecological niche, catching insects flying over water that other spiders cannot reach.

Applications

The study of this spider's silk has sparked interest in the field of **biomimetics**, with potential uses including:

- **Body Armor:** Developing lightweight, flexible vests that surpass the performance of current ballistics materials.
- **Medical Sutures:** Creating ultra-strong, biocompatible threads for complex surgeries.
- **Aerospace:** Engineering high-tension cables and components that require extreme durability and low weight.

Conclusion

Darwin's Bark Spider serves as a prime example of evolutionary specialization. By combining the unique properties of Proline with massive-scale engineering, this species has created a material that challenges our modern industrial capabilities, highlighting the importance of preserving Madagascar's unique biodiversity.

Root Wilt Disease (RWD)

Context

Coconut Root Wilt Disease (RWD) remains one of the most debilitating challenges for the coconut industry in India. First reported in **Kerala nearly 150 years ago** following the great floods of 1882, the disease has since become endemic to the region, significantly impacting the livelihoods of millions of farmers.

Pathogen and Transmission

The disease is unique because it is not caused by a typical fungus or bacteria, but by a specialized pathogen.

- **Causal Agent:** It is caused by **Phytoplasma**, a microscopic, wall-less organism that lives in the plant's phloem (the tissue that transports sugars).
- **Disease Vectors:** The pathogen is transmitted from infected palms to healthy ones via sap-sucking insects.
    - **Lace Bug** (*Stephanitis typica*)
    - **Whitefly**
- **Symptoms:** Characterized by the "flaccidity" or drooping of leaflets, yellowing, and necrosis. Unlike some lethal diseases, RWD is a debilitating disease that slowly reduces the yield until the palm becomes commercially unproductive.

The Indian Coconut Industry

Coconut cultivation is a cornerstone of the coastal Indian economy, making the management of RWD a national priority.

- **Global Standing:** India is the **3rd largest producer** of coconuts in the world.
- **Top Producing States:**
    1. **Kerala** (The heart of production and the most affected by RWD)
    2. **Tamil Nadu**
    3. **Karnataka**
- **Nutritional Fact:** Coconut oil is highly valued for containing **Lauric Acid**. This medium-chain fatty acid provides the oil

with a long shelf life and is sought after for both culinary and industrial uses.

Institutional Governance

To manage production and combat diseases, the Indian government operates through a specialized framework.

- **Coconut Development Board (CDB):**
  - **Status:** A **Statutory Body** established under the Ministry of Agriculture & Farmers Welfare.
  - **Headquarters:** Located in **Kochi, Kerala**.
  - **Role:** Implements policies for the integrated development of coconut cultivation and industry, including financial assistance for replanting disease-affected gardens.

Challenges and Management

- **Non-Lethal but Destructive:** Because the palm does not die immediately, farmers often keep infected trees, which act as a reservoir for the Phytoplasma to spread.
- **Management Strategies:**
  - **Eradication:** Removing severely affected, unproductive palms.
  - **Nutrition:** Balancing soil nutrients (adding Magnesium and Potash) to improve the tree's resilience.
  - **Intercropping:** Encouraging farmers to grow cocoa, pepper, or banana to maintain income as coconut yields decline.
  - **Resistant Varieties:** Developing and planting hybrids like **Kalpa Raksha** and **Kalpa Sree** which show resistance to RWD.

Conclusion

Root Wilt Disease continues to pose a persistent threat to the "Kalpavriksha" (the tree of heaven) in India. Through the coordinated efforts of the Coconut Development Board and research institutions, the focus has shifted from total eradication to "living with the disease" through improved management practices and the distribution of resistant varieties.

International Monetary Fund (IMF)

Context

In January 2026, the **International Monetary Fund (IMF)** revised its growth estimates for India upward, reflecting the country's robust economic momentum. India remains a "bright spot" in the global landscape, outperforming other major emerging markets.

About the News

- **Growth Projection:** The IMF upgraded its GDP growth forecast for India for the fiscal year **2025–26 to 7.3%** (up from an earlier estimate of 6.6%).
- **Key Drivers:** This 0.7 percentage point increase reflects better-than-expected performance in the third quarter and strong momentum in the final quarter of the fiscal year.
- **Inflation:** The report predicts inflation will return toward the **4% target** level, supported by a decline in food prices.
- **Global Context:** While India leads, the IMF projects global growth to remain resilient at roughly **3.3%** for 2026, bolstered by investments in **Artificial Intelligence (AI)** and technology.

International Monetary Fund (IMF)

The IMF acts as a global financial watchdog, providing loans and economic analysis to maintain international monetary stability.

- **Origin:** Established in 1944 via the **Bretton Woods Conference** (alongside the World Bank).
- **Membership:** Includes **190+ countries**.
  1. *Note:* Membership in the IMF is a mandatory prerequisite for joining the World Bank.
- **Key Reports:**
  1. **World Economic Outlook (WEO):** Published twice a year with periodic updates (like the January 2026 update).

2. **Global Financial Stability Report (GFSR):** Assesses risks to the global financial system.
3. **Fiscal Monitor:** Surveys public finance developments.
4. **External Sector Report:** Analyzes exchange rates and external imbalances.

Challenges and Future Outlook

- **Moderation Ahead:** Growth is projected to moderate to **6.4% in 2026–27** as cyclical and temporary factors (like post-pandemic demand normalization) begin to wane.
- **External Risks:** The IMF cautioned that global trade policy shifts, tariffs, and geopolitical tensions remain significant "headwinds" for emerging economies.
- **AI Impact:** The IMF estimates that AI adoption could boost global growth by up to **0.8 percentage points** annually over the medium term.

Conclusion

The IMF's latest upward revision underscores India's position as the world's fastest-growing major economy. By balancing resilient domestic demand with strategic technological investments, India is effectively navigating global trade uncertainties and positioning itself as a primary engine of international growth.

Copper Crunch

Context

In 2026, the global economy is facing a critical **"Copper Crunch"**, a structural deficit where demand is projected to reach **30 million tonnes** against a supply of only **28 million tonnes**. This imbalance is primarily driven by the "Green Transition," as copper is indispensable for decarbonization technologies.

About the News

- **Driving Factors:**
  - **Electric Vehicles (EVs):** An EV requires **4 to 5 times more copper** than a traditional internal combustion engine vehicle.
  - **Renewables:** Solar and wind farms require significantly more copper per megawatt for power generation and grid integration compared to fossil fuel plants.
  - **Data Centers:** The surge in **Artificial Intelligence (AI)** has increased demand for high-capacity cooling and power distribution systems, which rely heavily on copper wiring.
- **Economic Impact:** Copper prices are projected to average **$12,075/mt** in 2026, directly increasing the manufacturing costs of green technologies.

Physical and Chemical Properties

Copper's unique characteristics make it nearly impossible to substitute at scale.

- **Conductivity:** It has the highest electrical conductivity of any non-precious metal.
- **Durability:** Resistant to corrosion and highly malleable.
- **Recyclability:** It is **100% recyclable** without any loss in performance. Currently, recycling meets about 30% of global demand, but primary mining remains essential to close the "jaw-opening deficit."
- **Ores:** * **Chalcopyrite:** The most abundant copper ore (a sulfide of copper and iron).
  - **Chalcocite** and **Bornite**: Other high-value sulfide ores.

Resource Distribution

The "Copper Crunch" is exacerbated by the geographical concentration of reserves and declining ore grades.

Region	Key Mining Details
India	**Madhya Pradesh** leads production (~52%). The **Malanjkhand Mine** (Balaghat) is India's largest open-pit copper mine. Other hubs include the **Khetri Belt** (Rajasthan) and **Singhbhum** (Jharkhand).

Global	**Chile** is the world's top producer (~24% of global output). Other major players include **Peru**, **Australia**, and **Russia**.
Chilean Profile	Known for **Porphyry Copper** deposits, massive, lower-grade ore bodies. While the grade is declining (now ~0.65–0.85%), the sheer scale of these deposits makes them the backbone of global supply.

Challenges for India

- **Import Reliance:** India is not self-sufficient, importing over **50%** of its refined copper needs.
- **Smelting Constraints:** While new facilities like **Adani's Kutch Copper plant** (0.5 million-tonne capacity) are coming online in 2026, raw material (copper concentrate) must still be sourced globally.
- **Exploration:** Copper is a "deep-seated" mineral, making exploration more expensive and technologically demanding than surface minerals like iron ore.

Way Forward

- **Strategic Partnerships:** India is actively pursuing "friend-shoring" and joint ventures in copper-rich nations like Argentina and Chile to secure long-term supply.
- **Urban Mining:** Enhancing the **Non-Ferrous Metal Scrap Recycling Framework** to increase the recovery of copper from electronic waste.
- **Policy Reform:** Leveraging the **MMDR Amendment Act** to encourage private sector participation in deep-seated mineral exploration.

Conclusion

The "Copper Crunch" of 2026 serves as a reminder that the digital and green revolutions are built on a physical foundation. For India, securing a resilient copper supply chain is no longer just an industrial goal but a prerequisite for achieving its net-zero and "Make in India" EV ambitions.

CBDC & BRICS

Context

As India prepares to chair **BRICS in 2026**, the Reserve Bank of India (RBI) has formally proposed a groundbreaking initiative: the **interlinking of Central Bank Digital Currencies (CBDCs)** among member nations. This proposal aims to create a secure, sovereign digital bridge for trade and tourism, moving beyond theoretical discussions into functional financial architecture.

About the News

- **The Proposal:** At the upcoming 2026 Summit, India intends to lead the development of a **"BRICS CBDC Bridge."** This builds on the 2025 Rio Declaration, which emphasized payment system interoperability.
- **Scope:** The system would initially link the digital currencies of the core members (Brazil, Russia, India, China, and South Africa) and potentially newer members like the UAE, Iran, and Indonesia.
- **Technological Shift:** Unlike traditional systems that rely on a chain of intermediary banks, this would enable **direct ledger-to-ledger transfers** between central banks.

Key Feature

One of the most transformative aspects of the CBDC (specifically India's **e-Rupee**) is its "programmability." This allows the currency to behave more like a smart contract than passive cash.

- **Sector-Specific Use:** Money can be "tagged" for specific purposes. For example, trade credit could be programmed to only be valid for purchasing specific commodities (like oil or grain) within the BRICS bloc.
- **Time-Bound Validity:** Digital currency can have **expiry dates**, encouraging rapid circulation and preventing hoarding in specific economic stimulus scenarios.

- **Automated Compliance:** Tax deductions, customs duties, and regulatory checks can be embedded directly into the digital coin, triggering automatically upon a transaction.

Strategic Goal: De-dollarization & Resilience

While the RBI frames the project as a move toward "efficiency," the strategic implications for the global financial order are significant.

- **Bypassing SWIFT:** Traditional international payments use the **SWIFT** messaging system, which is largely dollar-centric. A CBDC bridge allows nations to settle trades in local digital currencies (e.g., e-Rupee to Digital Yuan) without touching the US Dollar.
- **Sanction Shielding:** By creating an independent payment "rail," countries can continue trade even if they are cut off from Western-controlled financial infrastructures.
- **Reducing Settlement Time:** Traditional cross-border transfers take 3–5 days; CBDC settlements are **near-instant**, significantly improving liquidity for exporters.

Challenges to Implementation

- **Geopolitical Friction:** The U.S. has expressed concerns over "anti-dollar" policies, with some political figures suggesting tariffs on countries that move away from the greenback.
- **Trust Deficit:** Member nations must agree on a common technological standard and governance framework, which can be difficult given varying degrees of digital maturity (e.g., China's advanced e-CNY vs. other pilots).
- **Cybersecurity:** A linked digital network creates a larger "attack surface" for state-sponsored cyberattacks, requiring high-level cryptographic synchronization.

Conclusion

The 2026 BRICS Summit in India marks a potential "Bretton Woods moment" for the digital age. By proposing a CBDC bridge, India is not just seeking faster payments but is helping design a **multipolar financial system** that prioritizes regional sovereignty and technological autonomy.

Secondary Pollutants

Context

Recent environmental studies in 2026 highlight a shift in urban air quality management. While "primary" emissions like smoke from tailpipes are visible, the invisible formation of **Secondary Pollutants** has become the leading cause of severe PM 2.5 episodes in major global cities, including Delhi and Beijing.

Definition and Mechanism

Unlike primary pollutants, which are discharged directly from a source (like a chimney or exhaust pipe), secondary pollutants are "cooked" in the air.

- **The Process:** They are formed through complex chemical reactions between primary pollutants and atmospheric gases.
- **The Chemical Trigger:** Nitrogen Oxides (**NOx**) and Sulfur Oxides (**SOx**) from industrial and vehicular combustion react with **Ammonia (NH_3)** in the presence of sunlight and moisture.
- **The Outcome:** This reaction creates secondary inorganic aerosols, primarily **Ammonium Nitrate** and **Ammonium Sulfate**.

The Ammonia Factor

A critical, often overlooked component in this chemical chain is Ammonia (NH-3).

- **Agriculture's Role:** Approximately **80% of global Ammonia emissions** originate from the agricultural sector.
- **Primary Sources:**
  - **Fertilizers:** The breakdown of urea and other nitrogen-based fertilizers.
  - **Livestock:** Volatilization from animal waste and manure management.
- **Urban Interaction:** When agricultural Ammonia drifts into urban areas and mixes with city-bred NOx/SOx, it acts as a "binder," accelerating the formation of fine particulate matter.

Health Impacts: Beyond the Lungs

The resulting secondary particles are typically categorized as **PM 2.5** (fine particles less than 2.5 micrometers in diameter). Their small size makes them particularly lethal.

- **Deep Penetration:** These particles bypass the body's natural filters in the nose and throat, settling deep within the alveolar sacs of the lungs.
- **Bloodstream Entry:** Due to their microscopic scale, they can translocate into the **bloodstream**, leading to systemic inflammation.
- **Organ Damage:** Linked to cardiovascular diseases, strokes, and cognitive decline, in addition to chronic respiratory conditions like asthma and bronchitis.

Challenges in Regulation

- **Cross-Sectoral Issue:** Reducing air pollution now requires a "farm-to-city" approach, as urban air quality is directly tied to rural agricultural practices.
- **Monitoring Gaps:** Most air quality sensors measure the *presence* of PM 2.5 but do not always distinguish between primary dust and secondary chemical aerosols, making targeted policy difficult.

Way Forward

- **Precision Farming:** Encouraging the use of coated fertilizers that release nitrogen slowly, reducing NH-3 runoff.
- **Aerosol Management:** Tightening NOx and SOx standards for heavy industries to remove the "precursors" that react with ammonia.
- **Integrated Policies:** Coordinating between Ministries of Agriculture and Environment to create holistic "Air Shed" management plans.

Conclusion

Secondary pollutants represent a "stealth" threat in the fight for clean air. Understanding that the haze over a city often begins with the fertilizers in a field is essential for developing the next generation of environmental regulations.

Child Trafficking

Context

In late 2024 and throughout 2025, the **Supreme Court of India** issued landmark observations and guidelines to address the "deeply disturbing reality" of child trafficking. The Court emphasized that trafficking is not just a statutory crime but a direct violation of **Article 21** (Right to Life and Personal Liberty) and **Article 23** (Prohibition of traffic in human beings and forced labor), striking at the core of constitutional dignity and bodily integrity.

About the News

- **Judicial Observation:** In *K.P. Kiran Kumar v. State (2025)*, the Supreme Court declared that trafficked children should be treated as **"injured witnesses"** rather than accomplices.
- **Guidelines for Testimony:** The Court directed lower judiciaries to assess victim testimonies with sensitivity, noting that minor inconsistencies or delays in reporting are common results of trauma and should not be grounds for dismissing a case.
- **Organized Crime Link:** The judiciary recognized trafficking as a **layered organized crime**, making it difficult for victims to provide a linear narrative of their exploitation.

The Prosecution Gap

Despite increased vigilance, there remains a significant "conviction deficit" in India's anti-trafficking efforts.

- **Rising Rescues:** Between April 2024 and March 2025, more than **53,000 children** were rescued nationwide through operations like **Operation AAHT** (by Railway Protection Force) and **Operation Nanhe Farishtey**.
- **Conviction Rate:** The conviction rate for trafficking offenses remains alarmingly low at approximately **4.8%** (based on data from 2018–2022).
- **Factors for Low Conviction:**

- High rates of witnesses turning hostile due to threats.
- Lack of inter-state coordination (as trafficking often involves transporting victims across state borders).
- Socio-economic vulnerabilities that discourage marginalized families from pursuing lengthy legal battles.

International Standard: The Palermo Protocol

India is a signatory to the **Palermo Protocol** (ratified in 2011), which provides the global benchmark for defining and combating human trafficking.

- **Definition:** Trafficking is defined by three elements: the **Act** (recruitment/transport), the **Means** (threat/force/fraud), and the **Purpose** (exploitation).
- **The Consent Rule:** A pivotal clause of the protocol states that a **child's consent is irrelevant** in determining the offense of trafficking. Even if a minor "agrees" to work or move, if the purpose is exploitation, it is legally classified as trafficking.
- **The 3P Framework:** The protocol mandates a strategy based on **P**revention, **P**rotection of victims, and **P**rosecution of traffickers.

Way Forward

- **Fast-Track Justice:** Strengthening the **400+ Fast Track Special Courts (FTSCs)** to handle POCSO and trafficking cases within strictly defined timelines.
- **Victim-Centric Investigation:** Training Anti-Human Trafficking Units (AHTUs) to use **trauma-informed questioning** to avoid re-victimizing children during the investigation.
- **Empowering DMs:** Ensuring District Magistrates exercise their power to order immediate rescue and provide interim medical and financial aid without waiting for a trial's conclusion.
- **Standard Operating Procedures (SOPs):** Uniform implementation of transit-point monitoring at railway stations and bus terminals to intercept traffickers in real-time.

Conclusion

Child trafficking is a constitutional failure that demands a multi-sectoral response. While the Supreme Court's "injured witness" doctrine provides a stronger legal footing for victims, bridging the gap between high rescue numbers and low conviction rates remains the primary challenge for India's criminal justice system.

Padma Awards and Gallantry Awards

Context

On the eve of the 77th Republic Day in January 2026, the Government of India announced the prestigious **Padma Awards** and **Gallantry Awards**. These honors recognize exceptional service and bravery across various fields, maintaining a tradition that dates back to 1954.

Padma Awards 2026: Statistics and Key Recipients

The President of India approved the conferment of **131 Padma Awards** for the year 2026, including two duo cases.

- **Padma Vibhushan (5):** Awarded for exceptional and distinguished service.
  - **Dharmendra Singh Deol (Posthumous):** Art (Maharashtra)
  - **V.S. Achuthanandan (Posthumous):** Public Affairs (Kerala)
  - **K.T. Thomas:** Public Affairs (Kerala)
  - **N. Rajam:** Art (Uttar Pradesh)
  - **P. Narayanan:** Literature and Education (Kerala)
- **Padma Bhushan (13):** Awarded for distinguished service of high order.
  - **Key Names:** Alka Yagnik (Art), Mammootty (Art), Uday Kotak (Trade & Industry), and Shibu Soren (Posthumous).
- **Padma Shri (113):** Awarded for distinguished service in any field.
  - **Notable Awardees:** Rohit Sharma (Sports), Harmanpreet Kaur Bhullar

(Sports), and 45 "Unsung Heroes" including Anke Gowda (Social Work) and Armida Fernandez (Medicine).

Note: The 2026 list includes **19 women** and **16 posthumous** awardees, reflecting a diverse range of contributions to Indian society.

Constitutional Framework and Validity

The status of National Awards is governed by specific constitutional provisions and judicial clarifications to ensure they do not create a titled aristocracy.

- **Article 18(1):** Explicitly abolishes titles. The State is prohibited from conferring any title except military or academic distinctions.
- **Article 14:** National Awards must not violate the right to equality by creating "artificial distinctions."
- **Judicial Precedent - Balaji Raghavan v. Union of India (1996):**
  - The Supreme Court upheld the **constitutional validity** of National Awards.
  - **Ruling:** These awards are "decorations" and not "titles" within the meaning of Article 18.
  - **Restriction:** Recipients cannot use these awards as **prefixes or suffixes** to their names (e.g., on letterheads, nameplates, or in books). Any such use can lead to the forfeiture of the award.

Gallantry Awards: Bravery in Focus

Gallantry Awards are announced twice a year on Republic Day and Independence Day to honor acts of bravery and sacrifice.

- **Classification:**
  - **War Time:** Param Vir Chakra, Maha Vir Chakra, Vir Chakra.
  - **Peace Time:** Ashok Chakra, Kirti Chakra, Shaurya Chakra.
- **2026 Highlight:**
  - **Ashok Chakra:** Conferred upon **Group Captain Shubhanshu Shukla** for his extraordinary courage during the Axiom Mission 4 to the International Space Station (ISS). He is the first Indian astronaut to receive this honor for a space mission.
  - **Kirti Chakra:** Awarded to Major Arshdeep Singh and Group Captain Prashanth Balakrishnan Nair.

Historical Context

- **Origin:** Instituted in 1954 to recognize merit and service.
- **Suspensions:** The awards were not conferred during two periods due to political changes and judicial reviews:
  - **1978–1979:** Suspended by the Morarji Desai-led government.
  - **1993–1997:** Suspended during the pendency of the *Balaji Raghavan* case in the Supreme Court.

Way Forward

- **Transparency:** Continued emphasis on a "People's Padma" through public nominations to discover unsung heroes.
- **Integrity:** Ensuring that awardees adhere to the constitutional mandate of not using honors as titles.
- **Global Recognition:** Utilizing these platforms to highlight India's advancements in science, such as recognizing space exploration milestones with traditional gallantry honors.

Conclusion

The 2026 honors list serves as a bridge between India's traditional appreciation for service and its modern aspirations in space and technology. While the awards celebrate individual excellence, they remain firmly anchored in the egalitarian principles of the Indian Constitution.

ExoMiner++

Context

In late 2025 and early 2026, NASA's Ames Research Center unveiled **ExoMiner++**, a significant upgrade to its deep learning AI model. Building on the original ExoMiner (2021), the "++" version is specifically engineered to handle the

vast, complex data streams from current missions like TESS, while incorporating lessons learned from the retired Kepler mission.

About the News

- **Definition:** An enhanced deep learning artificial intelligence model designed for the automated classification and vetting of potential exoplanets.
- **The Breakthrough:** In its initial run on data from the **Transiting Exoplanet Survey Satellite (TESS)**, ExoMiner++ successfully flagged over **7,000 new exoplanet candidates**.
- **Open Science:** To accelerate global research, NASA released ExoMiner++ as **open-source software** on GitHub, allowing independent astronomers to verify findings and hunt for planets in public archives.

Methodology:

ExoMiner++ mimics the decision-making process of human experts but at a scale and speed impossible for individuals.

- **Data Sources:** It utilizes high-cadence data (e.g., 2-minute cadence) from **Kepler**, **K2**, and **TESS**.
- **The Transit Method:** The model monitors "light curves", the graph of a star's brightness over time. A periodic dip in brightness suggests a planet is passing in front of the star.
- **Multi-Branch Neural Network:** Unlike a "black box" AI, ExoMiner++ uses specific diagnostic tests:
    - **Flux Trend Analysis:** Checking if the light dip matches a planetary transit shape.
    - **Difference Imaging:** Ensuring the signal comes from the target star and not a bright neighbor.
    - **Centroid Motion:** Tracking if the star "wobbles" or shifts position during the transit.

Significance and Challenges

Feature	Importance
Accuracy	Distinguishes real planets from "imposters" (e.g., eclipsing binary stars or instrumental noise) with higher precision than previous ML models.
Scale	Can process hundreds of thousands of signals simultaneously, a necessity as TESS scans nearly the entire sky.
Explainability	Researchers can see exactly which features (e.g., transit depth or duration) led the AI to its conclusion, ensuring scientific "gold-standard" transparency.
Transfer Learning	Successfully applies knowledge gained from Kepler's deep, narrow field of view to TESS's wide-area survey.

Way Forward

- **Raw Data Integration:** Future versions (ExoMiner 2.0/3.0) aim to detect transits directly from raw satellite data, eliminating the need for pre-filtered candidate lists.
- **Upcoming Missions:** The model is being prepared for the **Nancy Grace Roman Space Telescope** (launching mid-2020s), which is expected to provide tens of thousands of additional transit signals.
- **Life Detection:** While currently focused on "vetting" (confirming the existence of a planet), the next frontier is developing AI that can analyze atmospheric data to detect signs of habitability.

Conclusion

ExoMiner++ represents a shift from manual "planet hunting" to automated "planet mining." By combining deep learning with open-source collaboration, NASA is ensuring that the thousands of worlds hidden within its data

archives are brought to light faster than ever before.

Forever Chemicals

Context

In recent years, global environmental regulators have intensified their scrutiny of **Per- and Polyfluoroalkyl Substances (PFAS)**. Often dubbed "Forever Chemicals," these substances have moved from industrial miracles to public health priorities as their persistence in the global water supply and human bloodstream becomes undeniable.

About the News

- **The Scale of Contamination:** Recent studies in 2025-2026 have detected PFAS in rainwater in some of the most remote locations on Earth, including Antarctica and the Tibetan Plateau, suggesting that no environment is truly "clean" from these synthetics.
- **Regulatory Shift:** Major economies, including the EU and several US states, have begun implementing strict "Maximum Contaminant Levels" (MCLs) for PFAS in drinking water, forcing a massive overhaul of water treatment infrastructure.

Chemistry: The "Forever" Mechanism

The durability of PFAS is a result of their unique molecular structure.

- **The C-F Bond:** PFAS are defined by a chain of carbon atoms bonded to fluorine atoms. The **Carbon-Fluorine (C-F) bond** is one of the strongest in organic chemistry.
- **Properties:** This bond is virtually unbreakable by natural processes (bacteria, sunlight, or water), making the chemicals resistant to heat, oil, and water.
- **Surfactant Nature:** One end of the molecule is hydrophobic (water-repelling) and lipophobic (oil-repelling), while the other is hydrophilic (water-attracting), making them incredibly effective in industrial coatings.

Common Usage and Exposure Pathways

PFAS have been integrated into daily life since the 1940s.

- **Consumer Goods:** Non-stick cookware (PTFE/Teflon), grease-resistant food wrappers, stain-resistant carpets, and "breathable" waterproof clothing (Gore-Tex).
- **Industrial Applications:** Aqueous Film-Forming Foams (AFFF) used to extinguish high-heat jet fuel fires at airports and military bases.
- **Personal Care:** Shampoos, dental floss, and cosmetics (specifically "long-wear" or "waterproof" varieties).

Health and Environmental Risks

Because PFAS do not break down, they **bio-accumulate**, meaning their concentration increases as they move up the food chain.

- **Human Impact:** They bind to proteins in the blood and can remain in the liver and kidneys for years.
- **Medical Links:** Exposure is clinically linked to:
  - **Immune Suppression:** Reduced vaccine response in children.
  - **Hormonal Disruption:** Thyroid disease and fertility issues.
  - **Oncology:** Increased risk of kidney and testicular cancers.
  - **Developmental:** Lower birth weights and developmental delays in infants.

Regulatory Framework

Instrument	Role
Stockholm Convention	An international treaty that lists specific PFAS (like PFOS and PFOA) as **Persistent Organic Pollutants (POPs)**, mandating their elimination.

REACH (EU)	Implements a "precautionary principle," pushing for a broad ban on all non-essential uses of the entire PFAS class.
EPA (USA)	Established legally enforceable limits for PFAS in public drinking water systems as of 2024-2025.

Way Forward

- **Remediation Technology:** Deployment of high-tech filtration such as **granular activated carbon (GAC)**, ion exchange resins, and emerging "Supercritical Water Oxidation" (SCWO) to actually destroy the C-F bond.
- **Green Chemistry:** Shifting industries toward PFAS-free alternatives, such as silicone-based coatings or wax-based water repellents.
- **Universal Screening:** Increasing blood-serum testing for high-risk populations living near airports or manufacturing plants.

Conclusion

The challenge of PFAS lies in their ubiquity and longevity. While they provided 20th-century industries with unparalleled convenience, the 21st-century's task is "de-fluorinating" the planet to prevent a multi-generational health crisis.

Agarwood: India's "Liquid Gold" Initiative

Context

In early 2026, the Government of India intensified its push for the **Agarwood Mission**, allocating **₹80 Crore** to boost the Agarwood value chain in Northeast India. The project specifically focuses on **Tripura**, which aims to become a global hub for agar-oil processing, leveraging the state's ideal agro-climatic conditions.

About the News

- **The "Wood of the Gods":** Agarwood (also known as *Oudh*) is one of the most expensive natural raw materials in the world, primarily used in high-end perfumery, traditional medicine, and religious ceremonies.
- **Economic Shift:** Historically, the trade was largely unorganized and faced legal hurdles. The new policy aims to formalize the industry, supporting the **"Act East"** policy and doubling farmers' income in the region.

Biological Process: From Infection to Resin

The formation of Agarwood is a unique biological phenomenon where "stress leads to value."

- **The Host:** Derived from the **Aquilaria tree** (*Aquilaria malaccensis*).
- **The Catalyst:** A healthy Aquilaria tree is odorless and pale. Agarwood only forms when the heartwood is infected by a specific fungal mold (**Aspergillus** or **Fusarium** species) or suffers physical injury (e.g., boring by insects or human-induced "wounding").
- **Defense Mechanism:** In response to the infection, the tree produces a dark, aromatic, and highly dense **oleoresin** to protect itself. This resin-embedded wood is what we call Agarwood.
- **Extraction:** The fragrant oil is typically extracted through **steam distillation**, often requiring hundreds of kilograms of wood to produce a few milliliters of oil.

Conservation and Legal Status

Due to over-exploitation in the wild, the species is strictly monitored under international and domestic laws.

Metric	Status	Significance
IUCN Red List	**Critically Endangered**	Highlights the extreme risk of extinction in the wild.
CITES	**Appendix II**	Regulates international trade to ensure it is not detrimental to the survival of the species.

Export Policy	**Liberalized (2025-26)**	Recent easing of export restrictions on "cultivated" Agarwood from Tripura and Assam to encourage legal trade.

Distribution and Ecology

- **Primary Range:** Native to the rainforests of **Northeast India** (Assam, Tripura, Arunachal Pradesh) and parts of **Southeast Asia** (Vietnam, Cambodia, Indonesia).
- **Environment:** Thrives in hilly, well-drained terrain with high humidity.

Way Forward

- **Artificial Inoculation:** Promoting the use of "fungal inoculants" to induce resin formation in plantation trees, reducing the need to fell wild trees.
- **Geographical Indication (GI):** Efforts are underway to secure a GI tag for **Tripura Agarwood** to ensure premium pricing in Middle Eastern and European markets.
- **Ethical Sourcing:** Establishing testing and certification labs in Agartala to verify the purity of agar-oil for international buyers.

Conclusion

The Agarwood initiative represents a perfect blend of environmental conservation and high-value commerce. By shifting from wild harvesting to sustainable plantation-based inoculation, India is poised to recapture its historical dominance in the global luxury perfume market.

Federal Tensions & Constitutional Mandate

Context

In January 2026, the constitutional role of the Governor became a flashpoint again in opposition-ruled states like **Tamil Nadu** and **Kerala**. The controversy centered on Governors either skipping the customary address, walking out of the Assembly, or refusing to read specific portions of the speech prepared by the elected State Government.

In a notable escalation on **January 20, 2026**, the Tamil Nadu Governor walked out after a dispute over the National Anthem and the content of the prepared speech, marking the fourth consecutive year of such friction in the state.

About the News

- **The Incident:** Governors have alleged that government-prepared speeches contain "misleading claims" or "factual inaccuracies," leading them to omit paragraphs or decline the address entirely.
- **State Response:** Governments argue that the Governor's Address is a statement of **Cabinet policy**, and any alteration by the Governor is an "unconstitutional faux pas" that undermines the will of the people.
- **The Mic Controversy:** During the 2026 Tamil Nadu session, Raj Bhavan alleged the Governor's microphone was switched off, while the Government moved a resolution to record only the Cabinet-approved text.

Constitutional Framework

The Constitution defines the Governor's role in the legislature through two primary articles:

- **Article 176 (Special Address):** Mandates that the Governor **"shall"** address the Legislative Assembly at the commencement of the **first session of each year** and after every general election.
    - This is a mandatory constitutional duty, not an optional one.
- **Article 175 (Right to Address):** Grants the Governor the right to address the House at any other time or send messages regarding pending bills.
- **Article 163 (Aid and Advice):** Establishes that the Governor must act on the **aid and advice** of the Council of Ministers, except where the Constitution expressly provides for discretion. Articles

175 and 176 do **not** fall under discretionary powers.

Judicial Precedents & Legal Interpretation

The Supreme Court has consistently narrowed the scope of gubernatorial discretion to prevent the office from becoming a "parallel power center."

Case	Year	Key Ruling
Shamsher Singh v. State of Punjab	1974	A 7-judge bench held that the Governor is a formal head and must act on ministerial advice. Publicly criticizing Cabinet policy is a "faux pas."
Nabam Rebia v. Deputy Speaker	2016	Confirmed that functions under Articles 175 and 176 are **executive in nature** and the Governor has no free hand to shape the legislative agenda.
State of TN v. Governor of TN	2025	The Court emphasized that a Governor cannot use "discretion" to negate the authority of an elected government or cause "legislative stagnancy."

Significance: Impact on Federalism

- **Erosion of Neutrality:** The Governor is intended to be a "neutral constitutional sentinel." Constant friction portrays the office as a political agent of the Union.
- **Federal Structure:** Since the Governor is appointed by the Centre, using the "Address" to block state programs is viewed as a **de facto Union veto** over state autonomy.
- **Constitutional Morality:** Skipping the address is seen as a violation of the "rules of the game" that maintain the balance between the Centre and States.

Way Forward

- **Codification of Conventions:** Experts suggest formalizing the "Westminster convention" into binding guidelines to ensure the Governor reads the Cabinet-cleared text without deviation.
- **Inter-State Council:** Utilizing the Inter-State Council to resolve gubernatorial disputes before they reach the Assembly floor.
- **Judicial Clarification:** A definitive ruling may be needed to establish whether a walkout or refusal to address constitutes a "Constitutional Breakdown" under Article 356.

Conclusion

The Governor's Address is not a personal manifesto but a formal relay of a government's program. Maintaining the sanctity of Article 176 is essential to protect the parliamentary spirit where the "dignified" head of state (Governor) respects the "efficient" part of the government (the Cabinet)

Malaria

Context

In early 2026, India continues to be recognized for its historic trajectory in malaria reduction. Between 2015 and 2023, the country achieved an **80.5% reduction in malaria cases** and a **78.3% drop in deaths**. A major milestone reported in late 2025 is that **160 districts** across 23 States and UTs successfully maintained **zero indigenous cases** for three consecutive years (2022–2024), positioning them for official subnational verification.

About the News

- **HBHI Exit (2024):** A defining achievement was India officially exiting the WHO's **"High Burden to High Impact" (HBHI)** group in 2024, signaling its transition from a high-endemic country to an elimination-phase nation.
- **Elimination vs. Eradication:** **Elimination:** Interruption of local

transmission (zero indigenous cases) in a specific area (e.g., India).

    - **Eradication:** Permanent global reduction to zero cases (e.g., Smallpox).

- **The Target:** India aims for **zero indigenous cases by 2027** and WHO malaria-free certification by **2030**.

Key Trends and Statistics

Indicator	2015 Status	2023/24 Status	Trend
Confirmed Cases	11.69 Lakh	~2.27 Lakh	**80.5% Decrease**
Malaria Deaths	385	83	**78.3% Decrease**
ABER (Surveillance)	9.58	11.62	**Increasing** (Better detection)

- **Species Shift: Plasmodium vivax** now accounts for nearly **40% of cases**. Unlike *P. falciparum*, it can remain dormant in the liver as "hypnozoites," causing relapses months later.
- **Geographic Concentration:** Over **85% of cases** are now concentrated in high-burden states: **Odisha, Chhattisgarh, Jharkhand, and West Bengal**. As of 2026, only **Tripura and Mizoram** remain above the threshold of 1 case per 1000 population (API > 1).

Challenges to Elimination

Despite progress, several "stumbling blocks" threaten the 2030 goal:

- **Asymptomatic & Relapsing Malaria:** The dormant liver stages of *P. vivax* act as a hidden reservoir.
- **Urban Malaria & Anopheles stephensi:** This invasive, city-breeding mosquito thrives in man-made containers (overhead tanks, tires, construction sites). It is highly adapted to dense urban settlements like **Delhi and Chennai**.
- **Drug & Insecticide Resistance:** Emerging resistance to **Artemisinin-based Combination Therapy (ACT)** in the Northeast and resistance to **synthetic pyrethroids** in mosquitoes necessitates more expensive dual-insecticide nets.
- **Migration:** Movement of workers from endemic states (like Odisha) to low-transmission states (like Tamil Nadu) frequently triggers "imported" outbreaks.

Initiatives and Strategies

- **National Strategic Plan (2023-2027):** Operationalizes the **"Test, Treat, Track" (3Ts)** strategy to ensure every case is identified and followed.
- **Integrated Vector Management (IVM):** Combines **Indoor Residual Spraying (IRS)** with the distribution of **Long-Lasting Insecticidal Nets (LLINs)**.
- **MERA India:** The Malaria Elimination Research Alliance (by ICMR) focuses on operational research like mapping insecticide resistance.
- **Global Tools:** Rollout of the **RTS,S and R21 vaccines** (the latter co-developed by the Serum Institute of India) has opened new doors for prevention, particularly for children.

Way Forward

1. **Mandatory Reporting:** Strengthening private sector notification, where ~70% of the population seeks care.
2. **1-3-7 Surveillance Rule:** 1 day to notify a case, 3 days to investigate, and 7 days to complete focal vector control.
3. **Urban-Specific Control:** Linking malaria prevention with the **Swachh Bharat Mission** and construction-site regulations to target *Anopheles stephensi*.
4. **Radical Cure Adherence:** Ensuring patients complete the 14-day primaquine course required to kill dormant *P. vivax* liver stages.

Conclusion

India has transitioned from "High Burden" to a "Pre-elimination" phase. Success now hinges on

sustaining zero-case status in 160 districts while aggressively tackling the remaining "forest-tribal" and "urban-invasive" hotspots. With accurate real-time data through the **Integrated Health Information Platform (IHIP)**, a malaria-free India is within reach.

India and the EU Partnership

Context

The India-EU relationship reached a historic zenith in **January 2026**. For the first time, both the European Commission President **Ursula von der Leyen** and European Council President **António Costa** served as **Chief Guests** at India's **77th Republic Day** parade.

Following the celebrations, the **16th India-EU Summit** (held on January 27, 2026) marked the formal conclusion of negotiations for a landmark **Free Trade Agreement (FTA)**, described by von der Leyen as the "mother of all deals" and the signing of a new **Security and Defence Partnership**.

About the Partnership

- **What it is:** A "fit partnership" based on **strategic autonomy**. Both entities seek to reduce dependencies: the EU is "de-risking" from China, while India is diversifying away from its historical reliance on Russian defense equipment.
- **Economic Scale:** The FTA creates a combined market of **2 billion people**, representing nearly **one-quarter of global GDP**.
- **Key Summit Outcomes (Jan 2026):**
    - **FTA Conclusion:** Agreement to slash tariffs on EU automobiles (down to 40%) and spirits, while granting India duty-free access for textiles and leather.
    - **Security & Defence Pact:** Expansion of maritime cooperation (specifically the ATALANTA and ASPIDES missions) and joint R&D in defense technology.
    - **Mobility Framework:** A new agreement to streamline visas for Indian students and ICT professionals.

Current Trends in Trade & Investment

India and the EU have moved from being "distant democracies" to "indispensable economic engines."

Indicator	Status (2025-26)	Significance
Bilateral Goods Trade	~US$136 Billion	EU remains India's largest goods trading partner.
Services Trade	~US$53 Billion	Driven by Indian IT and European financial services.
FDI Stock	€140 Billion	Over 6,000 European companies now operate in India.
Strategic Shift	Value-added focus	Growth in electronics and specialty chemicals, moving beyond raw commodities.

Opportunities & Strategic Pillars

- **Textiles & Apparel:** Elimination of the 10% EU tariff is expected to boost Indian garment exports by **US$5-7 billion** annually, rivaling Bangladesh.
- **Defense Co-production:** Transitioning from a buyer-seller model to joint production. India has already begun exporting ammunition to nations like **Poland and Germany** to replenish strategic stockpiles.
- **Digital Public Infrastructure (DPI):** The EU is exploring the adoption of elements of the "India Stack" (like UPI and digital identity) for its cross-border digital economy.

- **Connectivity (IMEC):** The **India-Middle East-Europe Economic Corridor** is being fast-tracked as a "green and digital bridge" to reduce transit times between Mumbai and Piraeus by 40%.

Critical Challenges

Despite the 2026 breakthroughs, significant "non-tariff" friction points remain:

- **Carbon Border Adjustment Mechanism (CBAM):** Fully operational as of **January 1, 2026**. This 20%-35% carbon tax on steel and aluminum is a major hurdle for Indian metal exporters.
- **EU Deforestation Regulation (EUDR):** New compliance costs for Indian coffee, leather, and rubber exporters who must prove their products are not sourced from deforested land.
- **Data Sovereignty:** Disagreements over **data localization** persist, as the EU pushes for "data adequacy" status while India maintains strict local storage rules for financial data.
- **Agriculture & Spirits:** India's high tariffs (150%) on European wines and the EU's strict sanitary and phytosanitary (SPS) standards for Indian fruits remain sensitive areas.

Way Forward: The 2026+ Agenda

- **Operationalizing the TTC:** Using the **Trade and Technology Council** to harmonize standards on 6G, Artificial Intelligence, and green hydrogen.
- **European Legal Gateway Office:** A proposed office in India to fast-track "Blue Cards" for skilled Indian talent to fill labor gaps in Europe's aging economies.
- **Green Transition Fund:** Potential for a joint fund to help Indian MSMEs upgrade technology to bypass CBAM and other environmental taxes.

Conclusion

The 2026 Summit signals that India and the EU have chosen each other as reliable "geopolitical anchors." By bridging the gap between trade ambitions and climate regulations, this partnership is no longer just about commerce, it is about providing a stable alternative in a fractured, multipolar world.

Drug Rules Amendment

Context

The Union Ministry of Health and Family Welfare notified sweeping amendments to the **New Drugs and Clinical Trials (NDCT) Rules, 2019**. These reforms, colloquially dubbed the "Quick Pill" initiative, aim to dismantle the "License Raj" in pharmaceutical R&D, significantly accelerating the timeline from laboratory research to clinical application.

Key Changes: From Licensing to Intimation

The primary shift replaces the traditional, time-consuming approval process with a trust-based regulatory mechanism for non-commercial activities.

- **Old Rule:** Developers were required to obtain a mandatory "Test License" from the **CDSCO** even to manufacture minuscule quantities of a drug for trial, testing, or analysis.
- **New Rule:** Formal licenses are **scrapped** for manufacturing small quantities intended strictly for research, testing, or analysis.
- **The Mechanism:** Researchers now only need to submit a **"Notice of Intent"** via the **SUGAM Portal**. Once acknowledged online, they can proceed immediately with drug synthesis.

  Note: This exemption applies only to **non-commercial** manufacturing. Any drug produced under this route cannot be sold or commercially supplied.

Scope and Exceptions

While the rules aim for broad ease of business, certain high-risk categories still require rigorous oversight.

Feature	Exempt from License (Intimation Only)	Formal License Required (Halved Timeline)
Drug Types	Most new chemical entities, analytical testing, and low-risk BA/BE studies.	**High-Risk:** Cytotoxic drugs, Narcotics, Psychotropic substances, Sex Hormones, and Live Biologics.
Study Type	Standard non-clinical research and specific low-risk Bioavailability studies.	High-risk clinical trials or those involving specialized controlled substances.
Statutory Timeline	**Immediate** (upon online acknowledgement).	Reduced from **90 days to 45 days**.

The SUGAM Portal & Technology Integration

The **SUGAM Portal**, launched in 2016 by the **Central Drugs Standard Control Organization (CDSCO)**, serves as the digital backbone for these reforms.

- **Single Window:** It acts as the central interface for all drug-related approvals, including clinical trials, ethics committee registrations, and now, research intimations.
- **Transparency:** Every "Notice of Intent" is trackable in real-time, reducing human intervention and the possibility of arbitrary delays.
- **Jan Vishwas Siddhant:** The move aligns with the government's broader "Trust-based Governance" philosophy, favoring self-declaration over prior-permission for low-risk activities.

Expected Benefits

- **Time Savings:** The Ministry anticipates a reduction of at least **90 days** in the overall drug development lifecycle.
- **Economic Impact:** Reduces the administrative burden on the CDSCO, which processes nearly **30,000 to 35,000** test license applications annually.
- **Global Positioning:** Strengthens India's position as a preferred global destination for pharmaceutical R&D and clinical research by aligning domestic rules with global best practices.

Conclusion

The "Quick Pill" amendment represents a major leap toward "Ease of Doing Business" in the pharmaceutical sector. By replacing "permission" with "intimation," the government is betting on the integrity of Indian researchers to drive innovation while maintaining safety through strict documentation and post-facto oversight.

Cess and Surcharge

Context

In the 2025-26 fiscal cycle, a significant debate has emerged regarding "fiscal federalism" in India. State governments have raised concerns over the Central Government's increasing reliance on **Cess and Surcharge** to raise revenue. Because these levies are excluded from the "Divisible Pool," states argue that their effective share of national tax revenue is shrinking, despite the official devolution targets set by the Finance Commission.

The Federal Conflict: Shrinking Divisible Pool

The core of the grievance lies in how tax money is categorized and distributed between the Union and the States.

- **The Divisible Pool:** This refers to the portion of Gross Tax Revenue (GTR) that the Center is constitutionally mandated to share with States. Currently, based on the **15th Finance Commission** recommendations, this share is **41%**.

- **The "Loophole":** Under **Article 270** (as amended by the **80th Amendment Act, 2000**), Cesses and Surcharges are explicitly excluded from this pool. The Center retains **100%** of these collections.
- **The Trend:** Data indicates that the share of Cess and Surcharge in the Center's GTR has risen from approx. **5.9% (2015-16)** to an estimated **10.8% - 11% (2025-26)**. This reduces the "actual" effective devolution to states to nearly **30-31%**, well below the nominal 41%.

Definitions & Key Differences

While both are "taxes on top of taxes," they serve distinct legal and fiscal purposes:

Feature	Cess	Surcharge
Legal Basis	Article 270	Article 271
Purpose	**Specific:** Must be used for a designated cause (e.g., Education, Health, Swachh Bharat).	**General:** Can be used for any government expenditure or to reduce fiscal deficit.
Target Group	Generally applied to all taxpayers or specific goods (like fuel).	Targeted at **high-income groups** or profitable corporations (Progressive).
Accountability	Funds must be transferred to a specific **Reserve Fund** (e.g., Prarambhik Shiksha Kosh).	Credited directly to the **Consolidated Fund of India** for general use.
Sharing	**Not shared** with States.	**Not shared** with States.

Current Issues & Observations

1. Lack of Transparency (CAG Findings):

The Comptroller and Auditor General (CAG) has frequently observed that billions of rupees collected as Cess are often not transferred to their designated reserve funds. For instance, between FY20-22, nearly **₹2.19 lakh crore** of cess collections remained in the Consolidated Fund instead of being utilized for their specific purposes (like oil industry development or research).

2. State Demands for 2026-27:

As the **16th Finance Commission** (chaired by Arvind Panagariya) prepares its roadmap for 2026-2031, many states are demanding:

- A **cap** on the total percentage of GTR that can be raised via Cess and Surcharge.
- Inclusion of these levies in the **Divisible Pool** if they exceed a certain threshold (e.g., 10% of total revenue).
- A "Sunset Clause" to ensure cesses are abolished once their specific objective is met.

Conclusion

The use of Cess and Surcharge has become a double-edged sword: while it provides the Union government with the fiscal flexibility to fund national priorities and manage deficits, it strains the "Cooperative Federalism" model by limiting the resources available to States for local development (Health, Education, Agriculture).

India & Arab League

Context

On **January 30–31, 2026**, India is hosting the landmark **2nd India-Arab Foreign Ministers' Meeting (IAFMM)** at Bharat Mandapam in New Delhi. This high-level summit, co-chaired by India and the UAE, marks the revival of this diplomatic platform after a 10-year hiatus (the first was held in Bahrain in 2016), occurring against a backdrop of significant West Asian instability.

About the Arab League (League of Arab States)

Foundational Facts:

- **Established:** March 22, 1945, in Cairo, Egypt.
- **Membership:** 22 member states across North Africa, the Horn of Africa, and West Asia.
- **Objective:** To strengthen relations between member states, coordinate political activities, and safeguard sovereignty.

India's Connection:

- **Observer Status:** India was granted Observer status in **2007**, becoming the first member to enter the League without an indigenous Arabic-speaking population or Arab community.
- **Institutional Dialogue:** Formalized in 2002 via an MoU. The **Arab-India Cooperation Forum** was established in 2008 to drive multi-sectoral engagement.

Strategic Dimensions of the Partnership

The relationship has evolved from a "buyer-seller" dynamic into a comprehensive strategic alliance:

1. Energy & Economic Security:

- **Trade Volume:** Bilateral trade exceeds **$240 billion**.
- **Energy Dependence:** Arab nations supply nearly **60% of India's crude oil**, 95% of its LPG, and over 50% of its fertilizer requirements.
- **Investment:** Shifting from oil to technology, renewable energy, and food security corridors (e.g., I2U2 initiatives).

2. The Diaspora Factor:

- **Human Link:** Over **9 million Indians** live and work in Arab League nations, remitting over $40 billion annually.
- **Security:** Ensuring the safety of this diaspora is a primary pillar of India's "Look West" (now "Link West") policy.

3. Maritime & Connectivity:

- **Trade Routes:** Most of India's external trade passes through the **Suez Canal**, Red Sea, and Gulf of Aden.
- **Geopolitics:** Initiatives like the **India-Middle East-Europe Economic Corridor (IMEC)** aim to integrate India further with the Arab world.

Geopolitical Stance: The Palestine Issue

India's approach to the Arab world is anchored by its long-standing principled position on Palestine:

- **Historical Pioneer:** India was the **first non-Arab country** to recognize the Palestine Liberation Organization (PLO) as the sole representative of the Palestinian people (1974) and the first to recognize the State of Palestine (1988).
- **Two-State Solution:** India consistently advocates for a sovereign, independent, and viable State of Palestine living side-by-side in peace with Israel.
- **Recent Solidarity:** At the 2026 Delhi meeting, India reaffirmed its partnership with Palestine, welcoming their Foreign Minister to emphasize that stability in Gaza is central to regional peace.

Key Verticals of Cooperation

The 2026 Summit focuses on expanding the five priority verticals identified in 2016:

Vertical	Focus Areas
Economy	Supply chain resilience, MSME integration, and Digital Trade.
Energy	Green Hydrogen, Solar alliances, and long-term LNG contracts.
Education	Mutual recognition of degrees and the India-Arab Universities' Conference.
Security	Counter-terrorism (addressing the "Pahalgam attack" model) and maritime safety.

Culture	Promoting shared heritage through the biennial Arab-India Cultural Festival.

Conclusion

The hosting of all 22 Arab nations in New Delhi signals India's emergence as a "stabilizing power" in West Asia. By balancing its strategic ties with Israel alongside a rejuvenated partnership with the Arab League, India seeks to secure its energy interests and diaspora while advocating for a multipolar, peaceful regional order.

UN Security Council (UNSC)

Context

In November 2025, the UN Security Council adopted **Resolution 2803**, a pivotal development regarding the conflict in Gaza. India, maintaining its stance on regional stability, supported the resolution, which endorsed a "Comprehensive Plan" to transition Gaza from a conflict zone into a demilitarized territory under the oversight of a new **Board of Peace (BoP)**.

About the News

Resolution 2803 (2025):

- **The Vote:** Adopted with 13 votes in favor and 2 abstentions (China and Russia). No P5 member exercised a veto.
- **Core Mandate:** Authorized the establishment of an **International Stabilization Force (ISF)** and a **Board of Peace** to manage Gaza's reconstruction and security.
- **Key Objective:** To transform Gaza into a "terror-free zone" and facilitate the withdrawal of Israeli forces while ensuring humanitarian aid and redevelopment.

India's Position:

- India has been invited by the U.S. to join the **Board of Peace**.
- Supporting the resolution aligns with India's long-standing policy of a two-state solution and its increasing role as a mediator and "voice of the Global South."

Structure of the UNSC

The Council is composed of 15 members, categorized by their tenure and authority:

Category	Number of Seats	Duration	Curr
Permanent (P5)	5	Indefinite	Chin
Non-Permanent	10	2-year terms	(Vari

The Veto Power (Article 27)

The "power of veto" is the most significant distinction between the P5 and other members.

- **Mechanism:** Decisions on substantive matters require 9 affirmative votes, including the **concurring votes** of all 5 permanent members. A single negative vote from a P5 member blocks a resolution.
- **Exceptions:** A veto cannot block "procedural" decisions (e.g., setting the meeting agenda) or prevent the Council from discussing a topic.
- **Double Veto:** A P5 member can also use a veto to decide whether a matter is substantive or procedural.

Challenges & Critique

The 1945 Anachronism:

- India argues that the current structure reflects the post-WWII world order and fails to account for 21st-century geopolitical realities.
- **Demand for Reform:** India, along with the **G4 nations** (Brazil, Germany, Japan), demands permanent seats to improve regional representation, particularly for Africa and Asia.

Ineffectiveness on Global Issues:

- **Terrorism:** The Council has struggled to reach a **unified definition of terrorism**, often due to the differing strategic interests of P5 members.
- **Veto Misuse:** Critics point to frequent gridlocks where P5 members use the veto to protect their national interests or allies,

leading to inaction in major crises (e.g., Ukraine, Syria).

Way Forward

- **Intergovernmental Negotiations (IGN):** India continues to push for text-based negotiations to expand both permanent and non-permanent categories.
- **The "15-Year" Proposal:** As a gesture of flexibility, India and its G4 partners have suggested that new permanent members could **waive their veto power** for an initial period of 15 years to facilitate consensus on reform.

Conclusion

The passage of Resolution 2803 demonstrates that the UNSC can still act when the interests of major powers align, yet the systemic issues of veto and under-representation remain. For India, the path forward involves balancing its current role within the existing UN framework while leading the charge for a more democratic and representative "UN 2.0."

Pygmy Hog (*Porcula salvania*)

Context

The Pygmy Hog, the world's smallest and rarest wild suid, has become a focal point for conservation in Northeast India. As a highly sensitive species, its survival is intricately linked to the management of South Asian alluvial grasslands.

About the Species

Key Characteristics:

- **Size:** It is the smallest species of wild pig, standing only about 25 cm tall.
- **Unique Behavior:** Unlike most other suids, the Pygmy Hog builds a **thatch house** (nest) with a roof to sleep in throughout the year.
- **Ecological Role:** It is a vital **Indicator Species**. Its presence reflects the health and biodiversity of the tall, wet grassland ecosystem.

Diet and Soil Health:

- **Omnivorous:** They consume roots, tubers, insects, and earthworms.
- **Natural Tillers:** By digging the soil for food, they increase soil aeration and fertility, facilitating the growth of native grasses.

Conservation Status & Location

Legal and Biological Standing:

- **IUCN Red List: Critically Endangered**
- **Wildlife Protection Act, 1972:** Schedule I (Highest protection)
- **CITES:** Appendix I

Current Distribution: Formerly found in a narrow strip of tall grasslands along the foothills of the Himalayas (Nepal, Bhutan, and India), they are now restricted to:

- **Manas National Park (Assam):** The primary remaining stronghold.
- **Orang National Park (Assam):** Reintroduced through conservation programs.
- **Barnadi Wildlife Sanctuary (Assam):** Original site of discovery; focus of restoration.

Threats and Challenges

The Pygmy Hog faces a precarious future due to its highly specialized habitat requirements:

- **Habitat Loss:** Conversion of grasslands for agriculture and human settlement.
- **Degradation:** Improper burning of grasslands (controlled burning is necessary, but high-intensity fires destroy nests).
- **Encroachment:** Invasion of woody trees (succession) and weeds into the open grasslands.
- **Small Population Size:** High risk of local extinction due to disease or natural disasters like floods.

Conservation Efforts: PHCP

The **Pygmy Hog Conservation Programme (PHCP)** , a collaboration between the Assam Government, Durrell Wildlife Conservation Trust, and local NGOs has been highly successful.

- **Captive Breeding:** Raising hogs in controlled environments to maintain genetic diversity.
- **Reintroduction:** Successfully releasing captive-bred hogs into the wild (e.g., Orang and Sonai-Rupai).
- **Habitat Management:** Removing invasive species and implementing scientific grassland burning cycles.

Conclusion

The survival of the Pygmy Hog is a litmus test for the survival of the entire Himalayan grassland ecosystem. Protecting this "tiny hog" ensures the protection of larger species like the One-horned Rhino and the Bengal Florican that share the same habitat.

Representation in Government Jobs

Context

Department of Personnel and Training (DoPT) released its Annual Report for 2024–25. The report provides a comprehensive look at the representation of Scheduled Castes (SC), Scheduled Tribes (ST), and Other Backward Classes (OBC) across **32.52 lakh** Central Government employees as of January 1, 2024. This is the first full dataset released by the department since 2018–19.

About the News

The Occupational Concentration:

- **Group C (Sanitation):** A significant **66%** of *safai karmacharis* (sanitation workers) belong to SC, ST, or OBC categories.
- **Implication:** Critics argue this highlights a persistent link between traditional caste hierarchies and manual labor/sanitation work, suggesting "reservation without vertical mobility" for certain segments.

Hierarchical Disparity:

- While representation is high at lower levels, it thins out in decision-making roles (Group A).
- **Data Transparency:** Notably, the report **does not provide any data on EWS (Economically Weaker Section)** representation, despite the 10% quota being in place since 2019.

Representation vs. Norms (Group-wise)

The following table compares the actual representation of different categories against the mandated reservation quotas in direct recruitment:

Category	Reservation Quota	Group A (Higher)	Group B (Middle)	Group C (Excl. Sanitation)
SC	15%	14.20%	16.20%	16.75 %
ST	7.5%	6.54%	7.63%	8.94 %
OBC	27%	**19.14%**	21.95%	27.29 %

Key Trends & Observations

Shift since 2018–19:

- **OBC Growth:** The most significant increase was seen in the OBC category, rising from **21.57% to 26.32%** overall.
- **SC Decline:** Overall SC representation saw a marginal decline from 17.49% to 16.84%.
- **ST Stability:** ST representation remained relatively stable, moving slightly from 8.47% to 8.7%.

The "Glass Ceiling":

- Representation in **Group A** remains below the mandated targets for all three categories, with the widest gap seen in the OBC segment (a deficit of nearly 8%).
- Reasons cited by the government for lower representation at the top include the lack of reservation in promotions for OBCs and the late entry of many reserved-category officers into service.

Challenges in Representation

- **Occupational Segregation:** Marginalized communities remain over-represented in

hazardous and low-status roles (Group C Sanitation).

- **Data Gaps:** Recurrent delays in data submission by various Ministries (only 80 out of 100+ departments typically report on time) hinder evidence-based policymaking.
- **The "Not Found Suitable" Clause:** Parliamentary committees have often questioned the frequent use of this clause to justify vacancies in reserved seats at higher levels.

Way Forward

- **Vertical Mobility:** Implementing career progression pathways and technical training for Group C workers to move into supervisory roles.
- **Mandatory Disclosure:** Ensuring all departments report EWS data to maintain the integrity of the 10% quota monitoring.
- **Streamlining Recruitment:** Addressing "backlog vacancies" through special recruitment drives to reach the 50% (plus 10% EWS) constitutional threshold at all levels.

Conclusion

The latest DoPT report reveals a "pyramid of privilege" where diversity is high at the base but thins significantly at the apex of power. While the overall increase in OBC representation is a positive indicator of Mandal-era reforms reaching fruition, the concentration of marginalized groups in sanitation work serves as a reminder of the long road toward achieving substantive equality.

India–EU Free Trade Agreement (FTA)

Context

In late January 2026, India and the European Union (EU) officially concluded negotiations for a landmark Free Trade Agreement (FTA) at the 16th India-EU Summit in New Delhi. Termed the **"Mother of all Deals,"** this pact marks the culmination of nearly two decades of dialogue (2007–2026) and establishes a strategic economic partnership between the world's second and fourth-largest economies.

About the News

Negotiation Milestone:

- **Conclusion:** Negotiations were finalized on **January 27, 2026**, during the visit of EU Commission President Ursula von der Leyen and Council President António Costa.
- **Scope:** The deal covers 24 chapters including goods, services, digital trade, and investment protection.
- **Timeline:** Legal scrubbing is expected to take 5–6 months, with formal signing and implementation targeted for **late 2026 or early 2027**.

Key Significance:

- **Market Access:** Creates a unified market of nearly **2 billion people**, representing 25% of global GDP.
- **Trade Volume:** The EU is currently India's largest trading partner (approx. 11.5% of total trade), with bilateral merchandise trade crossing **$136 billion** in 2024-25.
- **Strategic Shift:** Reduces India's reliance on traditional markets and strengthens supply chain resilience amid global trade disruptions.

Tariff Liberalization & Economic Impact

The agreement follows an asymmetrical model to balance developmental needs with market openness:

Feature	Commitment by EU	Commitment by India
Tariff Elimination	**99.5%** of trade value (97% of lines)	**97.5%** of trade value (92% of lines)
Immediate Access	**90.7%** of Indian exports become duty-free instantly	**30.6%** of EU exports become duty-free instantly
Phased Reduction	Remaining tariffs removed over 3–7 years	Remaining tariffs removed over 5–10 years

Sectoral Gainers:

- **Indian Exports:** Massive boost for labor-intensive sectors like **textiles, apparel, leather, and gems & jewelry**, which previously faced tariffs of 10–17%.
- **European Imports:** Significant price drops for **machinery, chemicals, pharmaceuticals**, and **luxury automobiles** (tariffs on cars slashed from 110% to 10% under specific quotas).
- **Services:** EU opened 144 subsectors (IT, education, R&D); India opened 102 subsectors.

The Challenge: CBAM (Carbon Tax)

The **Carbon Border Adjustment Mechanism (CBAM)** remained the most contentious point during the 2025-26 final rounds.

- **The Mechanism:** A tax on carbon-intensive imports (steel, aluminum, cement, etc.) entering the EU to prevent "carbon leakage."
- **Final Agreement Outcome: * No Exemption:** The EU confirmed that India will **not** receive an exemption from CBAM, as it must maintain parity with all global partners.
    - **Technical Dialogue:** A dedicated "Technical Dialogue" platform was established to help Indian exporters align with EU carbon standards.
    - **Financial Support:** The EU pledged **€500 million** over two years to support India's green transition and greenhouse gas mitigation efforts.

Way Forward

- **Legal Scrubbing:** Both sides are now conducting a technical review of the text to ensure legal consistency across all official languages.
- **Ratification:** The deal requires approval from the Union Cabinet in India and the European Parliament/Member States in the EU.
- **Implementation:** Anticipated entry into force by **early 2027**, potentially doubling EU exports to India by 2032 and significantly integrating Indian MSMEs into European value chains.

Conclusion

The India–EU FTA is a watershed moment that moves beyond simple trade into a deep strategic partnership. While challenges like CBAM and regulatory alignment persist, the deal provides a predictable and stable environment for Indian businesses to become a global manufacturing hub.

The President's Address

Context

In early 2026, the President of India, Droupadi Murmu, addressed a joint sitting of Parliament at the commencement of the Budget Session. This address serves as a formal statement of the government's agenda and performance for the upcoming year.

About the News

Nature of the Address:

- The address is a **constitutional obligation** rather than a personal choice of the President.
- It serves as a platform for the executive to inform the legislature of the causes for its summons.

Content and Drafting:

- The speech outlines the government's proposed policies, legislative initiatives, and achievements.
- **Drafting Authority:** The text is prepared and approved by the **Union Government** (the Cabinet), not personally by the President.

Procedural Timeline:

- The address occurs at the first session after a General Election and at the beginning of the first session of every calendar year.

Constitutional Framework (Article 87)

Mandatory Occasions:

- **Post-Election:** The first session after each General Election to the Lok Sabha.

- **Annual:** The commencement of the first session of each year (typically the Budget Session).

Historical Evolution:

- Originally, the Constitution required the President to address **every** session.
- The **First Constitutional Amendment Act** modified this to the current two-occasion requirement to streamline parliamentary proceedings.

The Motion of Thanks

Procedure:

- Following the address, the speech is debated in both Houses of Parliament.
- Members can move amendments to the motion during this discussion.

Constitutional Significance:

- **Voting:** The motion must be passed by a **simple majority** in the Lok Sabha.
- **Political Implication:** Failure to pass the Motion of Thanks is viewed as a vote of no confidence. Since it signifies that the government has lost the majority of the House, the government is constitutionally required to **resign**.

Parliamentary Session Terminology

To understand the context of the President's role, it is essential to distinguish between different parliamentary actions:

Term	Action	Authority
Summon	Calling the House to meet	President
Prorogue	Terminating a session of the House	President
Adjourn	Suspending a sitting for a specific time	Speaker / Chairperson
Dissolve	Ending the life of the Lok Sabha	President

Key Observations

- **Frequency:** While convention dictates three sessions a year (Budget, Monsoon, and Winter), the Constitution does not prescribe a minimum number of working days.
- **Gap Between Sessions:** Article 85 ensures that six months shall not intervene between the last sitting in one session and the date appointed for the first sitting in the next session.

Conclusion

The President's Address is more than a ceremonial ritual; it is a vital constitutional tool that ensures executive accountability to the legislature. By requiring a Motion of Thanks, the framework maintains a check on the government's majority and provides a clear roadmap of the nation's governance for the citizens.

RACE IAS®
Since 2010

उत्तर प्रदेश लोक सेवा आयोग
MAINS TEST SERIES -2025
सामान्य अध्ययन, हिन्दी एवं निबंध

Test No.	Paper	Set	Date	Topic
1	GS	Sectional	13 Dec., 25	Polity + Constitution
2	GS	Sectional	20 Dec., 25	Governance + Social Justice + IR
3	GS	Sectional	27 Dec., 25	History + Art & Culture
4	GS	Sectional	3 Jan., 26	Geography + Indian Society
5	GS	Sectional	10 Jan., 26	Environment & Ecology + Disaster Management
6	GS	Sectional	17 Jan., 26	Science & Tech. + Economy + Internal Security
7	GS 4	Full Length	24 Jan., 26	Ethics Integrity & Aptitude
8	GS 5	Full Length	31 Jan., 26	UP Special
9	GS 6	Full Length	07 Feb., 26	UP Special
10	GS 1	Full Length	14 Feb., 26	GS Paper 1 (Full Syllabus)
11	GS 2	Full Length	21 Feb., 26	GS Paper 2 (Full Syllabus)
12	GS 3	Full Length	28 Feb., 26	GS Paper 3 (Full Syllabus)
13	Essay	Full Length	07 March, 26	Essay (All three Section)
14	Hindi	Full Length	14 March, 26	Hindi (Full Syllabus)

प्रारंभ 13 दिसम्बर 2025

Mode: Offline I Online

Available in English & हिन्दी

REGISTRATION OPEN

Every Saturday

Time : 3:00 to 6:00 PM

प्रश्नों की प्रकृति

परम्परागत, अवधारणात्मक एवं करेंट अफेयर्स आधारित

Total 14 Tests

Fee ₹ 5,000/-

Contact for info.:

ALIGANJ	INDIRA NAGAR	ALAMBAGH	KANPUR
7388114444	9044137462	8917851448	9044327779

Scan the QR CODE for more information

सिविल सेवा परीक्षा हेतु उत्तर भारत का प्रतिष्ठित संस्थान

RACE IAS

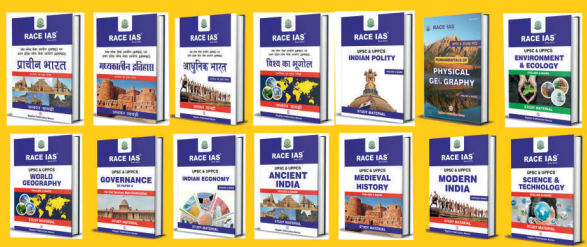
Dr. Rajesh Shukla
Chairman, RACE Group
Expert in Governance & Public Ad.

BATCHES FOR IAS / PCS

Mrs Lori Shukla
Managing Director, RACE IAS

ADMISSION OPEN

Comprehensive Study Material



& many more ....

Optional Subjects

Public Administration
Political Science
History / Geography

Enriched Library

All India Test Series

12वीं के विद्यार्थी अभी से शुरू करें IAS/PCS की तैयारी

आरम्भ जितना शीघ्र सफलता उतनी दीर्घ

उत्कर्ष

12वीं के बाद 3 वर्ष का कोर्स

हिन्दी और अंग्रेजी माध्यम में कक्षाएं उपलब्ध

प्रारम्भिक परीक्षा, मुख्य परीक्षा तथा साक्षात्कार की सम्पूर्ण तैयारी

संकल्प

स्नातक के बाद 1 वर्ष का कोर्स

Call for information :

Lucknow : ALIGANJ 7388114444 | INDIRA NAGAR 9044137462 | ALAMBAGH 8917851448

Kanpur : Coca Cola Crossing, G.T. Road

@RACEIASCIVILSERVICE

Scan the QR CODE & Join now Telegram Channel

YouTube/raceiaslko | www.raceias.com | /raceiaslucknow