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Governance & Policy

Centre Launches Integrated E-Bill Platform for ₹2 Lakh Crore Fertiliser Subsidy Processing

What's the News?

The Union Government has launched an **integrated e-bill platform** to fully digitise processing of **fertiliser subsidies**, valued at nearly **₹2 lakh crore annually**. Inaugurated by Union Minister **Jagat Prakash Nadda**, the system replaces paper-based workflows with an end-to-end digital process for claim submission, verification, and disbursement.

Key Features of the E-Bill Platform

- **End-to-End Digitisation:**
 - Eliminates physical bill movement and manual scrutiny.
 - Enables **online submission**, approval, and real-time tracking of subsidy claims.
- **System Integration:**
 - Built by integrating the **Integrated Fertiliser Management System (iFMS)** of the **Department of Fertilisers** and the **Public Financial Management System (PFMS)** of the **Ministry of Finance**.
- **Operational Efficiency:**
 - Implements **first-in-first-out (FIFO)** claim processing.
 - Supports **weekly subsidy releases**, cutting payment delays.
- **Transparency & Accountability:**
 - Provides a **tamper-proof digital audit trail**.
- Features **built-in validation checks** to ensure compliance and reduce fraud risks.

Institutional Framework & Governance

- **iFMS:** A department-specific financial management system used by the **Department of Fertilisers** (Ministry of Chemicals & Fertilisers) for budgeting, accounting, and payment processing.
- **PFMS:** A central platform under the **Controller General of Accounts**, Ministry of Finance, designed for **real-time fund tracking**, monitoring, and reporting for all Central schemes.
- Oversight by key officials:
 - **Fertilisers Secretary Rajat Kumar Mishra** (platform design & rollout).
 - **CGA Santosh Kumar** (financial control & audit integrity).

Additional Info

- **Public Financial Management System (PFMS):**
 - A web-based online software application developed and implemented by the **Controller General of Accounts (CGA)**, Ministry of Finance.
 - It facilitates direct payment to beneficiaries and real-time monitoring of government expenditure.
- **Fertiliser Subsidy Framework:**
 - **Urea Subsidy:** Provided to farmers at a statutorily notified Maximum Retail Price (MRP); the difference between the cost of production/import and the MRP is paid to manufacturers/importers as a subsidy.
 - **Nutrient Based Subsidy (NBS):** Applicable to Phosphatic and Potassic (P&K) fertilisers, where a fixed amount of subsidy is decided based on the nutrient content.
- **Controller General of Accounts (CGA):**
 - The principal advisor on accounting matters to the Union Government and is responsible for establishing and maintaining a technically sound management accounting system.

Centre Launches Land Stack Glossary and Pilot to Modernize Land Governance

What's the News?

- The **Ministry of Rural Development** has launched the **Land Stack Glossary**, a comprehensive document aimed at standardizing land-related terminology across India.
- Alongside the glossary, the **Land Stack Pilot** project was inaugurated in **Chandigarh** and **Tamil Nadu** by Minister of State **Chandra Sekhar Pemmasani**.

Land Stack: Key Features & Objectives

- **Integrated GIS-Based Platform:**
 - Consolidates land records, ownership details, cadastral maps, mutation history, encumbrance certificates, and land-use classification across departments.

- o Built on **geo-spatial infrastructure** for accurate land parcel identification and boundary mapping.
- **Citizen & Administrative Benefits:**
 - o Enables **single-window access** to land-related data, reducing duplication and error-prone manual searches.
 - o Reduces risk of fraudulent or non-compliant property transactions by improving data transparency.
 - o Supports **inter-departmental coordination** (e.g., revenue, urban development, forest, and disaster management departments).
- **Scalability & Standards:**
 - o Designed as a **national framework**—pilot outcomes will inform pan-India rollout.
 - o Aligns with international best practices from **Singapore, UK, and Finland**.

Glossary of Revenue Terms (GoRT)

- First-ever **standardised national lexicon** for over 1,200 land and revenue administration terms.
- Resolves regional terminological inconsistencies (e.g., *patta, khasra, jamabandi, khatauni*) to ensure uniform understanding across states and digital systems.
- Critical for effective implementation of **DILRMP, e-Dharti**, and future land reforms.

Additional Info

- **Digital India Land Records Modernization Programme (DILRMP):**
 - o The central sector scheme that forms the foundation for the Land Stack initiative.
 - o It aims to modernize management of land records, minimize scope of land/property disputes, and enhance transparency in the land records maintenance system.
- **Bhu-Aadhar (ULPIN):**
 - o The **Unique Land Parcel Identification Number (ULPIN)** is a 14-digit alphanumeric ID for every land parcel in India, often called "Aadhar for Land".
- **Constitutional Context:**

- o **Land** is a **State Subject** under **Entry 18 of the State List (List II)** of the Seventh Schedule.
- o However, the Central Government provides technical and financial assistance for modernization through initiatives like the Land Stack.

Centre Launches Digital e-Bill System for ₹2 Lakh Crore Fertilizer Subsidy

What's the News?

- Union Minister for Chemicals and Fertilizers **Jagat Prakash Nadda** launched an integrated **e-Bill System** to digitally process fertilizer subsidies worth approximately **₹2 lakh crore**.
- The system marks a complete transition from manual, paper-based workflows to a **fully digital, system-to-system workflow**, eliminating the physical movement of bills.
- Launched at **Kartavya Bhawan**, New Delhi, this reform is a collaborative technological effort between the **Integrated Fertilizer Management System (iFMS)** of the Department of Fertilizers and the **Public Financial Management System (PFMS)** of the Ministry of Finance.

Integrated e-Bill System: Key Features

- **Technology Integration:**
 - o Built on convergence of **Integrated Financial Management System (IFMS)** (Dept. of Fertilizers) and **Public Financial Management System (PFMS)** (Ministry of Finance).
- **End-to-End Workflow Automation:**
 - o **Online submission** of subsidy claims by fertilizer companies.
 - o **Real-time tracking** of payment status and processing stage.
 - o **First-In-First-Out (FIFO)** processing to ensure fairness and timeliness.
- **Enhanced Controls & Auditability:**
 - o Every transaction logged with **tamper-proof digital audit trail**.
 - o **Pre-validation checks** against eligibility criteria (e.g., verified sales data, DBT linkage).

- o **Fraud mitigation** through multi-layered authorization and anomaly detection.
- **Operational Gains:**
 - o Weekly subsidy disbursements accelerated; eliminates physical bill movement and manual follow-ups.
 - o Reduces processing time by ~60% (per pilot data from 10 companies).

Additional Info

- **Fertilizer Subsidy Overview:**
 - o India is the **world's second-largest user** and third-largest producer of fertilizers.
 - o **Urea Subsidy:** Farmers purchase urea at a fixed MRP (₹242 per 45kg bag); the government pays the difference to manufacturers.
 - o **Nutrient Based Subsidy (NBS):** Fixed subsidy rates for Phosphatic and Potassic (P&K) fertilizers based on their nutrient content.
- **Budgetary Context:**
 - o The budget for **2025–26** allocated approximately **₹1.67 lakh crore** for fertilizer subsidies.
 - o This digital reform aligns with the **Digital India** vision and the goal of **Viksit Bharat @ 2047**.

Government Notifies Timeline for Phase I of Census 2027

What's the News?

- The **Ministry of Home Affairs (MHA)** has officially notified the schedule for the first phase of the **Census of India 2027**, which was delayed from 2021 due to the COVID-19 pandemic.
- The first phase, known as the **Houselisting and Housing Census**, will be conducted across all States and Union Territories between **April 1 and September 30, 2026**.
- This exercise marks the **16th Census of India** and the **8th since Independence**, notable for being the country's first-ever **fully digital census**.

Houselisting and Housing Census (Phase I)

- **Timeline:** While the national window is six months, each State and UT will specify a continuous **30-day period** for field operations within this timeframe.
- **Objective:** This phase focuses on systematically identifying and listing all structures, houses, and households to create a framework for the subsequent population count.
- **Data Collection:** Enumerators will collect information on housing conditions, household assets, and basic amenities such as:
 - o Type of house and construction materials.
 - o Access to drinking water, electricity, and cooking fuel.
 - o Ownership of assets like television, internet, and vehicles.
- **Self-Enumeration:** A new feature allows citizens to submit their details digitally via a web portal or mobile app during a **15-day window** preceding the house-to-house visits.

Digital Infrastructure and Implementation

- **Digital Tools:** For the first time, data will be collected using **mobile applications** (available on Android and iOS) instead of paper forms, featuring real-time uploading and GPS-tagging.
- **Monitoring:** A dedicated **Census Management & Monitoring System (CMMS)** portal has been developed to track progress and ensure data quality at the block, district, and state levels.
- **Workforce:** Approximately **30 lakh field functionaries**, primarily government teachers, will be deployed as enumerators and supervisors.
- **Budget:** The Union Cabinet has approved an outlay of ₹11,718.24 crore for the entire Census 2027 operation.

Additional Info

- **Legal and Constitutional Framework:**
 - o **Union Subject:** Conducted under **Entry 69** of the Union List in the Seventh Schedule of the Constitution.
 - o **Statutory Basis:** Governed by the **Census Act, 1948** and the **Census Rules, 1990**.

- **Confidentiality:** Under the Census Act, individual data is strictly confidential and cannot even be accessed by courts.
- Phase II (Population Enumeration):
 - Scheduled for **February 2027**, with the reference date set as **00:00 hours on March 1, 2027**.
 - Exception: In snow-bound and remote areas (Ladakh, parts of J&K, Himachal Pradesh, and Uttarakhand), population enumeration will occur in **September 2026**.
- **Caste Enumeration:**
 - The 2027 Census will include **caste data** for the first time in post-independence India (previously only SC/ST data was recorded).
 - This decision was approved by the Cabinet Committee on Political Affairs on April 30, 2025.
- **Political and Policy Significance:**
 - **Delimitation:** Census 2027 data will serve as the basis for redrawing Lok Sabha and Assembly constituencies under **Article 82** of the Constitution.
 - **Women's Reservation:** The implementation of the **106th Constitutional Amendment Act** (33% reservation for women) is legally tied to the completion of the first census conducted after 2026.

Wayanad Becomes India's First Fully Paperless District Judiciary

What's the News?

- The district judiciary of **Wayanad (Kalpetta)** in Kerala has become **India's first fully paperless court system**, with all courts in the district transitioning to an exclusively digital mode of operation.
- The initiative was inaugurated virtually by the **Chief Justice of India (CJI), Justice Surya Kant**, on **January 6, 2026**, marking a historic shift towards "green jurisprudence."
- The project covers every stage of a case—from **filing and pre-trial to evidence recording and final adjudication**—eliminating the need for physical files entirely.

Key Features of the Paperless System

- End-to-end digitisation:
 - All stages filing, scrutiny, evidence recording, interim orders, and final judgments are conducted electronically.
 - Physical files completely phased out; digital records serve as the sole authoritative source.
- In-house AI integration:
 - AI tools generate **structured case summaries** from electronic records.
 - Judges can **query case-specific details**, annotate documents, and mark statutory provisions digitally.
 - **Voice-to-text technology** ensures accurate transcription of witness depositions and judicial dictation.
- **Secure authentication:**
 - All orders and judgments carry **legally valid digital signatures**, ensuring integrity and non-repudiation.
- **Indigenous development:**
 - Entire system built internally by the **Kerala High Court**, avoiding reliance on external proprietary platforms.

Additional Info

- **e-Courts Project:**
 - A **Pan-India Mission Mode Project** monitored by the **Supreme Court e-Committee** (chaired by Justice Vikram Nath) and the Department of Justice.
 - **Objective:** To provide designated services to litigants, lawyers, and the judiciary through universal computerisation of district and subordinate courts.
- **Constitutional Context:**
 - **Article 21:** The move supports the fundamental right to **speedy justice**.
 - **Article 39A:** Promotes **equal justice and free legal aid**, facilitated here by making justice more accessible and less costly through technology.

Supreme Court Flags POCSO Misuse

What's the News?

- The **Supreme Court of India** has highlighted the increasing misuse of the **Protection of Children from Sexual Offences (POCSO) Act, 2012** in cases involving consensual adolescent relationships.
- While deciding the case *State of Uttar Pradesh v. Anurudh*, the Court urged the legislature to consider a **"Romeo and Juliet" clause** to protect teenagers in consensual relationships from being treated as hardened criminals.
- The Court observed that the current law often fails to distinguish between **predatory sexual abuse** and **adolescent romance**, leading to the unintended incarceration of young boys.

"Romeo and Juliet" Clause Explained

- **Definition:** A legal provision that provides a sentencing or prosecution safeguard for individuals close in age (typically within 2-4 years) who engage in consensual sexual activity.
- **Objective:** To prevent the harsh penalties of child protection laws from being applied to **"quasi-consensual"** acts between peers.
- **Judicial Stance:** The Court noted that in many POCSO cases, the "offender" is a teenager or young adult in a relationship with a girl slightly below the **age of consent (18 years)**.
- **International Precedents:** Similar clauses exist in jurisdictions like the **United Kingdom, Canada**, and several **US states**, where age proximity is a mitigating factor.

Why a Romeo-Juliet Clause?

- **Current Law:** Under POCSO and **Section 63 of the Bharatiya Nyaya Sanhita (BNS), 2023**, any sexual activity with a person below **18 years** is treated as statutory rape, regardless of consent.
- **Judicial Concern:** The Court observed that POCSO is increasingly being weaponized by families to oppose consensual relationships among adolescents aged **16–18 years**, rather than to address actual exploitation.
- **Empirical Evidence:**

- **Enfold & Project 39A studies (2016–20)** found that **~25% of POCSO cases** involved consensual adolescent relationships.
- In **82% of such cases**, the girl refused to testify, indicating absence of coercion.

The Age of Consent Debate

- **Current Legal Status:** Under the **POCSO Act** and the **Indian Penal Code (Bhartiya Nyaya Sanhita)**, the age of consent is strictly **18 years**.
- **The Conflict:** Law commission reports and various High Courts (like Delhi and Madras) have previously suggested that the strict threshold does not align with the biological and social realities of modern adolescents.
- **Justice Verma Committee (2013):** Originally recommended keeping the age at **18** but acknowledged the need for nuanced handling of adolescent consensual acts.
- **Law Commission of India (279th Report):** Recently recommended that while the age should not be lowered, **discretionary sentencing** should be introduced for cases involving 16-18 year olds.

Additional Info

- **POCSO Act, 2012:**
 - A comprehensive law to protect children (defined as anyone under 18) from sexual assault, harassment, and pornography.
 - It is **gender-neutral** and provides for **Special Courts** for speedy trials.
- **Section 7 and 8:** Deal with sexual assault and prescribed punishments, which are mandatory and leave little room for judicial discretion regarding the age of the offender.
- **Constitutional Articles:**
 - **Article 14:** Right to Equality (questioning if peers are treated equally to predators).
 - **Article 21:** Right to Liberty (protecting youth from disproportionate imprisonment).

PESA Act Implemented in Jharkhand After 25 Years

What's the News?

- The **Jharkhand Government** has officially notified the rules for the **Provisions of the Panchayats (Extension to Scheduled Areas) Act, 1996 (PESA)**, nearly 25 years after the state's formation.
- The notification aims to empower **Gram Sabhas** (village assemblies) in **Scheduled Areas**, granting them significant autonomy over local governance, traditional customs, and natural resources.
- Jharkhand becomes the **ninth state** in India to notify PESA rules, joining states like Chhattisgarh, Gujarat, and Maharashtra.

Key Provisions of Jharkhand's PESA Rules

- **Gram Sabha as Supreme Authority:**
 - Must give **prior consent** for land acquisition, rehabilitation, and resettlement.
 - Has rights over **ownership, collection, use, and marketing of minor forest produce (MFP)**.
- **Resource and Social Control:**
 - **Prohibition of child labour**; mandatory reporting if workers are taken outside the village.
 - **Ban on liquor manufacture, storage, or sale** without Gram Sabha approval.
 - Police must **inform the Gram Sabha** of any arrest made in the area.
- **Local Institutional Mechanisms:**
 - Each Gram Sabha can establish a **Gram Kosh (Village Fund)** with four components:
 - Grain Fund
 - Labour Fund
 - Goods Fund
 - Cash Fund
 - Revenue from **MFP royalties, pond leases, sand ghats, market fees**, etc., will be deposited into this fund.
- **Boundary Delimitation:**
 - **Deputy Commissioners** will lead block-level teams to demarcate traditional Gram Sabha

boundaries in consultation with local communities.

Additional Info

- **PESA Act, 1996:**
 - Enacted to extend the provisions of **Part IX** of the Constitution (related to Panchayats) to the **Fifth Schedule Areas**.
 - It recognizes the right of tribal communities to govern themselves through their own systems.
- **Fifth Schedule Areas:**
 - These are areas designated under **Article 244(1)** of the Constitution for the protection of the interests of Scheduled Tribes.
 - In Jharkhand, **13 out of 24 districts** are fully or partially covered under the Fifth Schedule.
- **Bhuria Committee (1995):**
 - The PESA Act was based on the recommendations of this committee, which emphasized that tribal self-governance should be based on traditional practices.
- **Constitutional Context:**
 - **Article 40:** Directive Principle to organize village panchayats.
 - **73rd Constitutional Amendment:** Institutionalized the Panchayati Raj system but initially excluded Scheduled Areas until PESA was passed.

National Sports Governance Rules 2026 Notified to Reform Sports Administration

What's the News?

- The **Ministry of Youth Affairs and Sports** has notified the **National Sports Governance (National Sports Bodies) Rules, 2026**, under the **National Sports Governance Act, 2025**.
- The rules aim to professionalize Indian sports administration by ensuring **transparency, athlete-centric governance**, and mandatory **gender representation**.
- National Sports Federations (**NSFs**) and the **National Olympic Committee** are now required to align their

internal bye-laws with these statutory rules within **six months**.

Key Provisions of the Rules

- **Athlete Representation:**
 - Minimum **4 Sportspersons of Outstanding Merit (SOMs)** must be included in the **General Body** of every NSB.
 - **50% of SOMs must be women.**
 - **At least 4 women** must be represented in the **Executive Committee**, with provisions to reserve specific posts via byelaws.
- **Eligibility Criteria for SOMs:**
 - Minimum age: **25 years**
 - Must have **retired from active sports**
 - Should not have participated in any selection-level event (district/state/national) for **at least one year** prior to application.
- **Tiered Achievement Framework:**
 - **10-tier system** based on sporting accomplishments:
 - Tier 1: Olympic/Paralympic/Winter Olympic medalists
 - **Tiers 2–9:** Participation in Olympics and other international competitions.
 - Tier 10: National Games or National Championship medalists
 - Designed to be inclusive across diverse sports disciplines.
- **Election & Governance Reforms:**
 - **National Sports Election Panel** must maintain a roster of **at least 20 qualified members**.
 - Electoral officer fees capped at **₹5 lakh**, plus mutually agreed assistant fees.
 - **Structured election timelines** for:
 - SOM applications
 - Electoral roll publication
 - Nomination process
 - Poll conduct.
- **Disqualification Clause:**
 - Any person **convicted by a court and sentenced to imprisonment** is barred from membership or contesting elections.
- **Compliance Deadline:**

- All NSBs must **amend their byelaws within 6 months** to align with the Act and Rules.
- Central Government may grant **up to 12 months' relaxation** in exceptional cases.

Electoral and Ethical Oversight

- **National Sports Election Panel:** A standing roster of at least **20 qualified members** will oversee and conduct fair elections for sports bodies.
- **Term Limits:** The term of office for the Executive Committee cannot exceed **four years**, and office-bearers are limited to a maximum of **three consecutive terms**.
- **Mandatory Committees:** All NSFs must establish three core institutional committees:
 - **Athletes Committee:** To represent active player interests.
 - **Ethics Committee:** To ensure integrity and fair play.
 - **Dispute Resolution Committee:** To provide a mechanism for internal grievance redressal.
- **Disqualification:** Individuals convicted of an offense followed by **imprisonment** or those declared **insolvent** are barred from contesting elections or holding any committee membership.

Supreme Court Rules on Migration of Reserved Category Candidates to General Seats

What's the News?

- The **Supreme Court of India** has ruled that candidates from **reserved categories** (OBC, SC, ST) are entitled to be selected against **General (Unreserved) category** seats if they secure higher marks than the last unreserved candidate.
- The Court emphasized that the "Unreserved" category is not a separate quota for the general population but is **"open to all"** based purely on merit.
- This judgment upholds the principle of **merit-based migration**, ensuring that reserved category candidates are not restricted to their specific quotas if they qualify on open competition standards.

Legal Principles Upheld

- **Open Category Nature:** The Bench clarified that unreserved seats must be filled first based on merit, regardless of the candidate's social category.
- **No Double Benefit:** While merit-based migration is allowed, the Court noted a "catch": if a candidate has already availed of a **relaxation** (like age limit or reduced fee) specific to a reserved category, they may be ineligible to migrate to a General seat in certain jurisdictions.
- **Merit Over Quota:** If an OBC, SC, or ST candidate scores more than the general cut-off, they are counted against the unreserved pool, thereby leaving more seats available within their respective reserved quotas for other candidates.

Context of the Case

- Originated from a **2013 recruitment** by the **Airports Authority of India (AAI)** for Junior Assistant (Fire Service).
- AAI had filled **122 unreserved posts** with meritorious reserved-category candidates, which was later challenged.
- **Kerala High Court** had initially ruled against this practice, but the **Supreme Court overturned** the decision, calling it a violation of constitutional equality.

Additional Info

- **Constitutional Basis:**
 - **Article 16(4):** Enables the State to make provisions for the reservation of appointments or posts in favour of any backward class.
 - **Article 14:** Right to Equality, which the Court interpreted as allowing merit to transcend category labels in open competition.
- **Historical Context:**
 - This ruling follows the precedent set in cases like **Indra Sawhney (1992)**, where the Court first established that reserved category members can occupy general seats based on merit.
- **The "Vertical vs. Horizontal" Rule:**
 - **Vertical Reservation:** Social reservations (SC/ST/OBC) where migration is allowed.
 - **Horizontal Reservation:** Special reservations (Women, PwD, Ex-servicemen) which are

generally compartmentalized within each vertical category.

India Launches Responsible Nations Index (RNI) 2026

What's the News?

- Former President of India **Ram Nath Kovind** launched the inaugural **Responsible Nations Index (RNI) 2026** at the Dr. Ambedkar International Centre in New Delhi.
- India has been ranked **16th** out of **154 countries** in this first-of-its-kind global framework.
- The index, developed by the **World Intellectual Foundation (WIF)**, shifts the global assessment lens from raw economic or military power to **ethical governance** and **social responsibility**.

Rankings & Performance

- **Top Performers:** **Singapore** topped the global rankings with a score of **0.61945**, followed by **Switzerland** (2nd) and **Denmark** (3rd).
- **India's Standing:** India secured the **16th spot** with an overall score of **0.551513**, outperforming major economies like the **United States** (66th) and **China** (68th).
- **Regional Context:** India is the **top-ranked Asian nation** in the index, highlighting its progress in people-centered governance and environmental policies.
- **Bottom of the Index:** The **Central African Republic** (154th), **Syria** (153rd), and **South Sudan** (152nd) were the lowest-ranked nations.

The Three Core Pillars

The **RNI** evaluates national success based on how responsibly a country exercises its power across three primary dimensions:

- **Internal Responsibility:** Focuses on a nation's obligations toward the **dignity, well-being, and empowerment** of its own citizens.
- **Environmental Responsibility:** Analyzes a country's commitment to **ecological protection**, climate action, and sustainable resource management.
- **External Responsibility:** Measures how a nation behaves within the international system, focusing on

its contribution to **global peace, stability, and cooperation**.

Assessment Framework & Methodology

- **Structural Components:** The index is operationalized through **7 dimensions, 15 aspects, and 58 specific indicators**.
- **Key Dimensions:** These include quality of life, governance, **social justice**, economic performance, environmental stewardship, commitment to peace, and international economic relations.
- **Academic Collaboration:** The framework was developed over three years in partnership with **Jawaharlal Nehru University (JNU)** and received methodological validation from the **Indian Institute of Management (IIM) Mumbai**.
- **Data Sources:** It draws from globally recognized sources, including the **World Bank, United Nations agencies (WHO, ILO, FAO), IMF, and the World Justice Project**.

Central Motor Vehicles Rules Amended: Toll Dues Clearance Mandatory for Vehicle Services

The Government of India has notified the **Central Motor Vehicles (Second Amendment) Rules, 2026**, amending the **Central Motor Vehicles Rules, 1989** to link clearance of unpaid toll dues with key vehicle-related services. Under the new rules, authorities will not issue a **No Objection Certificate (NOC)** for vehicle ownership transfer or inter-state movement, renew or issue a **Certificate of Fitness**, or grant a **National Permit** to commercial vehicles if any toll dues remain unpaid.

Mandatory Toll Clearance for Key Services

- **No Objection Certificate (NOC):** An **NOC** for the transfer of ownership or moving a vehicle from one state to another will not be granted if there are pending toll dues.
- **Fitness Certificate:** The renewal or generation of a **Certificate of Fitness** for any vehicle is now conditional upon the payment of all outstanding user fees.
- **National Permits:** Commercial vehicles seeking a **National Permit** must ensure they have no unpaid user fees recorded against them.

- **Updated Form 28:** **Form 28** (application for **NOC**) has been modified to require applicants to disclose any pending demands for unpaid toll fees.

Technical and Regulatory Framework

- **Definition of Unpaid Fee:** The rules define "unpaid user fee" as any fee payable for using a National Highway section where the **ETC system** has recorded the passage, but the fee has not been received.
- **Integration with Portals:** The system leverages the **Vahan** portal and **FASTag** data to track defaults and block services electronically.
- **Multi-Lane Free Flow (MLFF):** These changes act as a precursor to the implementation of **MLFF systems**, which will enable barrier-less tolling using **Automatic Number Plate Recognition (ANPR)** and **AI analytics**.
- **Digital Issuance:** To promote digital governance, the amended rules enable the electronic issuance of relevant portions of **Form 28** through designated online portals.

Additional Info

- **Legal Basis:**
 - **Motor Vehicles Act, 1988:** The parent legislation under which the Central Motor Vehicles Rules are framed.
 - **National Highways Act, 1956:** Governs the collection of user fees (tolls) on national highway networks.
- **Drafting Process:**
 - The final notification follows the publication of draft rules in **July 2025**, which allowed for public and stakeholder feedback.

Lok Sabha to Launch Digital Attendance System for Budget Session 2026

What's the News?

- **Lok Sabha Speaker Om Birla** announced that Members of Parliament (MPs) will now be required to record their attendance **digitally from their designated seats** inside the House.
- Starting from the **Budget Session** (commencing January 28, 2026), the traditional practice of signing physical registers or using tablets in

the **lobbies** outside the main chamber will be discontinued.

- This reform, announced during the **86th All India Presiding Officers' Conference** in Lucknow, aims to enhance **accountability**, transparency, and ensure the actual physical presence of members during legislative proceedings.

The New Attendance Mechanism

- **Seat-Based Recording:** Attendance will be captured via **Multimedia Devices (MMDs)** already installed on the desk of every MP's allocated seat.
- **Authentication Methods:** Members can log their presence using three secure options:
 - **Biometric Thumb Impression:** Scanning a thumbprint on the console.
 - **Smart ID Card:** Tapping their official identity card on the device.
 - **Personal Identification Number (PIN):** Entering a unique code for secure login.
- **Strict Time Limits:** The digital consoles will be **locked automatically** once the House is adjourned (even due to disruptions), preventing any late-entry attendance marking.

Rationale and Governance Implications

- **Curbing Proxy Attendance:** Prevents MPs from marking presence and leaving without participating in debates or voting.
- **Boosting Productivity:** Builds on the high productivity of the 2025 Winter Session (**111% for Lok Sabha**) by encouraging sustained engagement.
- **Digital Parliament Initiative:** Part of broader efforts to modernize parliamentary processes, including **AI-assisted real-time transcription and translation** of proceedings.
- **Accountability to Electorate:** Reinforces democratic responsibility by aligning MP attendance with public expectations and fiscal prudence (daily allowances funded by public exchequer).

Additional Info

- **Digital Sansad Project:**
 - This initiative is a core component of the **Digital Sansad** mission, launched in 2022 to transition the Indian Parliament into a paperless institution.

- It integrates attendance, electronic voting (Division), and access to legislative documents through a single digital platform.

- **Exemptions:**

- **Union Ministers** and the **Leader of the Opposition (LoP)** are traditionally exempt from the requirement to sign the attendance register for daily allowances.

- **Constitutional Context:**

- **Article 106:** Empowers Parliament to determine the salaries and allowances of its members.
- **Quorum (Article 100):** While the attendance system tracks presence for allowances, a **quorum** (one-tenth of total members) remains mandatory for the House to conduct business.

National Legislative Index (NLI) to Benchmark Indian Legislatures

What's the News?

- Lok Sabha Speaker **Om Birla** announced the creation of a **National Legislative Index (NLI)** to evaluate and rank the performance of parliamentary and state legislative bodies.
- The initiative was formalized through a resolution adopted at the **86th All India Presiding Officers' Conference (AIPOC)** held in Lucknow.
- The index is designed to foster **"healthy competition"** among legislatures by benchmarking them against objective parameters related to productivity, transparency, and accountability.
- A dedicated committee will be constituted to define the specific standards and standards for evaluation within a week.

Objectives and Key Parameters

- **Performance Benchmarking:**
 - The NLI will serve as a common yardstick to measure **legislative productivity**, innovation, and the quality of dialogue across all states.
 - It aims to convert complex legislative processes into **measurable public data**, allowing for external scrutiny and comparison.

- **Key Indicators:**
 - **Sittings & Duration:** Evaluation of the total number of **sitting days** and the length of sessions.
 - **Committee Scrutiny:** Tracking the percentage of **Bills referred to committees** and the time taken for their passage.
 - **Accountability Tools:** Monitoring hours devoted to **Question Hour** and floor discussions to ensure executive oversight.
 - **Digitization:** Assessing efforts in **technological integration**, knowledge preservation, and the adoption of paperless proceedings.

AIPOC Resolutions for Legislative Reform

- **Minimum Sittings:** The conference resolved to build a consensus among political parties to ensure state legislatures hold a **minimum of 30 sittings per year**.
- **One Nation, One Legislative Platform:** A target was set to bring the proceedings of all **Vidhan Sabhas** onto a single integrated digital platform by **2026**.
- **Capacity Building:** Emphasis was placed on strengthening **research and analytical support** for legislators and training them in the efficient use of digital tools like **Artificial Intelligence (AI)**.
- **Viksit Bharat 2047:** All legislatures are called to conduct business in a manner that contributes to the national goal of becoming a developed nation by **2047**.

Additional Info

- **All India Presiding Officers' Conference (AIPOC):**
 - Established in **1921**, it is the apex body for discussing parliamentary procedures and strengthening democratic ethos in India.
 - The **86th edition** saw participation from **36 Presiding Officers** across 24 States and Union Territories.
- **Decline in Scrutiny Data:**
 - Only **10% of Bills** were referred to committees in the **17th Lok Sabha**, a sharp decline from **71% in the 15th** and **60% in the 14th** Lok Sabha terms.
 - During the **17th Lok Sabha**, Question Hour functioned for only **19%** of scheduled time in the Lower House and **9%** in the Rajya Sabha.

- **Digital Infrastructure:**
 - **NeVA (National e-Vidhan Application):** A mission-mode project aimed at digitizing all Indian legislatures to improve transparency and accessibility.
- **Constitutional Basis:**
 - **Articles 118 and 208:** Grant Parliament and State Legislatures the power to frame rules for their own procedures and conduct of business.

Section 17A of the Prevention of Corruption Act: Supreme Court Split Verdict

What's the News?

- The **Supreme Court of India** delivered a split verdict concerning the interpretation and application of **Section 17A** of the **Prevention of Corruption (PC) Act, 1988**.
- The two-judge bench disagreed on whether the mandatory requirement for **prior government approval** to investigate a public servant applies to offenses committed **before** the 2018 amendment.
- Due to this difference in opinion, the matter has been referred to the **Chief Justice of India (CJI)** for the constitution of a larger bench to provide a definitive ruling.

Understanding Section 17A

- **Introduction:** This section was inserted into the PC Act through an amendment in **July 2018**.
- **The Mandate:** It stipulates that no police officer shall conduct any inquiry or investigation into any offense allegedly committed by a public servant—where the offense is relatable to any **recommendation made or decision taken**—without the **prior approval** of the competent authority.
- **Objective:** The provision aims to protect honest officials from "policy paralysis" and malicious prosecution by ensuring they are not harassed for legitimate administrative decisions.
- **Timeline for Approval:** The competent authority is required to convey its decision on the request for approval within **three months**, which can be extended by one month for specific reasons.
- **Exceptions:** No prior approval is required for cases involving the **arrest of a person on the spot** (trap

cases) for accepting or attempting to accept any undue advantage.

The Split Verdict & Legal Debate

- **Justice Aniruddha Bose's View:**
 - Held that the protection under Section 17A **cannot be applied retrospectively**.
 - Stated that if an alleged offense occurred before the **2018 amendment**, the requirement for prior sanction does not apply, even if the investigation begins after the amendment.
- **Justice Bela M. Trivedi's View:**
 - Argued that Section 17A is a **substantive provision** intended to prevent the abuse of the legal process.
 - Emphasized that the benefit of the amendment cannot be extended to those who committed offenses prior to its enactment, as it would grant unintended immunity for past corrupt acts.
- **Core Controversy:** The debate centers on whether Section 17A is a **procedural safeguard** (which could apply to current investigations of past acts) or a **substantive right** (which only applies to acts committed after the law was passed).

Additional Info

- **Constitutional Context:**
 - **Article 14 (Right to Equality):** In the past, the SC in *Subramanian Swamy v. Director, CBI (2014)* struck down Section 6A of the DSPE Act (similar to Section 17A), ruling that discriminating between different levels of public servants for prior sanction was unconstitutional.
 - **Separation of Powers:** Section 17A is often viewed through the lens of balancing executive independence with judicial and investigative accountability.
- **Related Legal Provisions:**
 - **Section 19 (PC Act):** Deals with the requirement of sanction for **prosecution** (post-investigation), whereas Section 17A applies at the **initial inquiry/investigation stage**.

- **Section 197 (CrPC/BNSS):** Provides similar immunity to judges and public servants for acts done in the discharge of official duties, requiring government sanction before a court can take cognizance of an offense.

- **Vinit Narain Case (1997):** A landmark judgment where the SC emphasized that the **CBI** must be free from executive control to ensure fair investigations into corruption at high levels.

India Unveils Draft National Electricity Policy 2026 to Power "Viksit Bharat"

What's the News?

- The **Ministry of Power** has released the **Draft National Electricity Policy (NEP) 2026**, providing a comprehensive roadmap to overhaul India's power sector in alignment with the **Viksit Bharat @2047** vision.
- Once finalized, the new policy will replace the nearly two-decade-old **NEP 2005**, reflecting modern shifts in technology, energy demand, and global climate priorities.
- The government has invited stakeholders and the public to submit comments and suggestions on the draft by **February 19, 2026**.

Objectives of NEP 2026

- Achieve **per capita electricity consumption of 2,000 kWh by 2030** and **over 4,000 kWh by 2047**.
- Support India's climate commitments: **45% reduction in emissions intensity (from 2005 levels) by 2030** and **net-zero by 2070**.
- Scale up **nuclear capacity to 100 GWe by 2047**—a more than tenfold increase from the current **8.8 GWe**.

Nuclear Energy as a Strategic Pillar

- Promote **Small Modular Reactors (SMRs)** and **Bharat Small Reactors** for flexible, scalable deployment.
- Enable **direct use of nuclear power** by **commercial and industrial consumers**, including replacement of **coal-based captive plants** with nuclear alternatives.
- Facilitate **repurposing of retired thermal plant sites** for nuclear generation.
- Allow nuclear projects to access **Green Bond financing** under India's sustainable finance framework.

- Align with the **SHANTI Act**, which opens the nuclear sector to **private participation**.

Tariff and Cross-Subsidy Reforms

- Introduce an **index-linked automatic tariff revision mechanism**: if state regulators fail to revise tariffs annually, tariffs will auto-adjust based on a pre-defined index.
- **Exempt** the following from cross-subsidy charges and surcharges when procuring power via open access:
 - **Manufacturing units**
 - **Indian Railways**
 - **Metro rail systems**
- Aim: Reduce logistics and production costs, enhance export competitiveness, and lower urban commuting expenses.

Focus on Discom Financial Health

- Promote **cost-reflective tariffs** and **timely cost pass-through** to reduce revenue gaps.
- Target reduction in **Aggregate Technical & Commercial (AT&C) losses** through smart metering and infrastructure upgrades.
- Encourage **multi-year tariff frameworks** to provide predictability for investors and utilities.

Renewables and Grid Stability

- Continue support for **renewable energy expansion** via market mechanisms and **captive solar/wind plants**.
- Emphasize **energy storage integration** to manage variability from solar and wind sources.
- Explore **two-part tariffs for nuclear plants** to enable flexible operation alongside renewables.
- **Aspirational Blocks (6 KPIs)**:
 - **Supplementary Nutrition**: Regular intake by children (**6 months to 6 years**) under **Integrated Child Development Services (ICDS)**.
 - **Growth Monitoring**: Real-time measurement and tracking of enrolled children at **Anganwadi Centres**.
 - **Anganwadi Sanitation**: Percentage of operational centers with **functional toilets**.
 - **Safe Drinking Water**: Availability of clean drinking water at Anganwadi facilities.
 - **Girls' Education**: Schools with adequate and functional separate toilet facilities for girls.

NITI Aayog Launches Sampoornata Abhiyan 2.0 for Aspirational Districts and Blocks

What's the News?

- **NITI Aayog** launched **Sampoornata Abhiyan 2.0**, a mission-mode campaign to achieve **100% saturation** of critical social indicators across **112 Aspirational Districts** and **513 Aspirational Blocks**.
- The three-month intensive drive aims to ensure universal coverage of essential services in **health, nutrition, education, sanitation, and livestock welfare** through convergent governance.
- **NITI Aayog CEO** emphasized the campaign builds upon the first phase's success, targeting the most underserved regions to ensure **Antyodaya** (last-mile delivery) under the **Viksit Bharat** vision.

Key Performance Indicators?

- **Aspirational Districts (5 KPIs)**:
 - **Newborn Health**: Proportion of live births weighed at birth.
 - **TB Elimination**: Case notification rates from both public and private healthcare sectors.
 - **Health Outreach**: Regular conduct of Village/Urban Health, Sanitation and Nutrition Days (**VHSND/UHSND**).
 - **School Infrastructure**: Availability of functional separate toilets for girls.
 - **Livestock Security**: Universal vaccination coverage for bovine animals against **Foot and Mouth Disease (FMD)**.
 - **Animal Welfare**: Coverage of cattle vaccination against FMD.

Implementation Architecture?

- **Mission-Mode Execution**: District and Block administrations to formulate **three-month action plans** with clear monthly milestones and saturation targets.
- **Concurrent Monitoring**: Mandated frequent field visits by **district-level officers** for real-time data validation and bottleneck resolution.
- **Behavior Change Communication**: Intensive awareness campaigns using **Nukkad Nataks, Gram**

Sabhas, and community mobilization to drive beneficiary participation.

- **Inter-Departmental Convergence:** Coordinated efforts between **Central Ministries, State Governments**, and **NITI Aayog** for resource optimization and technical support.
- **Competitive Federalism:** Monthly tracking and ranking of districts/blocks to foster healthy competition and knowledge sharing through **Champions of Change** platform.

Additional Info

- **Aspirational Districts Programme (ADP):**
 - Launched by the Prime Minister in **January 2018**.
 - Covers **112 districts** across 28 states identified based on **49 quantitative development indicators**.
 - **Five thematic areas:** Health & Nutrition, Education, Agriculture & Water Resources, Financial Inclusion & Skill Development, and Infrastructure.
 - **Delta Ranking:** Monthly performance ranking system to track incremental progress rather than absolute achievement.
- **Aspirational Blocks Programme (ABP):**
 - Launched in **January 2023** to extend the ADP model to sub-district level.
 - Covers **513 Blocks** across **329 Districts** identified from **40 key socioeconomic indicators**.
 - **Five focus sectors:** Health & Nutrition, Education, Agriculture and Allied Services, Basic Infrastructure, and Social Development.
- **Constitutional & Policy Framework:**
 - **Article 38:** Directive Principle mandating the State to secure a social order for the promotion of welfare of the people by minimizing inequalities.
 - **Article 46:** Obligation to promote educational and economic interests of **weaker sections**, particularly **Scheduled Castes (SCs)** and **Scheduled Tribes (STs)**.
 - **Sustainable Development Goals (SDGs):**

- **SDG 3 (Good Health and Well-being):** TB notification, newborn health, vaccination coverage.
- **SDG 4 (Quality Education):** Girls' education infrastructure.
- **SDG 6 (Clean Water and Sanitation):** Anganwadi WASH facilities.

Social Issues & Empowerment

Surat Set to Become India's First Slum-Free City

What's the News?

- **Surat**, widely known as India's "**Diamond City**," is on track to become the first city in the country with a population of over **70 lakh** to be officially declared **slum-free**.
- The **Gujarat State Government** announced that the city has successfully rehabilitated thousands of slum dwellers into formal housing, transforming the urban landscape.

Slum-Free Urban Strategy

- **In-Situ Redevelopment Model:**
 - Slum clusters replaced with **multi-storey apartment complexes** on the same land, minimizing displacement and preserving livelihood linkages.
 - Over **4.5 lakh households** rehabilitated since 2015 (as per SMC data).
- **Scheme Convergence:**
 - **Pradhan Mantri Awas Yojana (Urban)** provides central assistance (up to ₹1.5 lakh per EWS house).
 - **Gujarat Affordable Housing Policy** offers additional state subsidies and fast-tracked approvals.
- **Civic Infrastructure Integration:**
 - All new housing colonies equipped with:
 - Piped water supply & **individual** metering
 - Underground drainage & sewage connectivity
 - Paved internal roads, street lighting, and open spaces
 - Community facilities (anganwadis, health sub-centres, skill centres)

Challenges & Governance Innovations

- **Migrant Workforce Management:**
 - Surat attracts ~3 lakh seasonal migrants annually for diamond/textile work; SMC

introduced **rental housing**

modules and **transit shelters** for short-term workers.

- **Land Titling & Participation:**
 - **Slum enumeration drives** with biometric verification ensured inclusive beneficiary lists.
 - **70:30 cost-sharing model:** 70% by govt (central + state), 30% by beneficiaries (waived for poorest).
- **Technology Use:**
 - GIS mapping of all slum pockets (2018 baseline) → real-time progress dashboard for officials and citizens.

Supreme Court Declares Menstrual Health a Fundamental Right, Mandates Free Sanitary Pads in Schools

What's the News?

- The **Supreme Court of India**, in the case of *Dr. Jaya Thakur v. Union of India*, ruled that the **right to menstrual health** is an integral part of the **fundamental right to life and dignity** under **Article 21** of the Constitution.
- A division bench comprising **Justices JB Pardiwala and R Mahadevan** issued binding directives to all **States and Union Territories** to ensure free access to menstrual hygiene management (MHM) measures in every school, regardless of whether they are government-run, aided, or privately managed.
- The judgment mandates the provision of **free oxo-biodegradable sanitary napkins** to girl students from **Classes 6 to 12**, alongside functional **gender-segregated toilets** and **Menstrual Hygiene Management (MHM) corners** in all schools.
- Non-compliance will attract stringent consequences, including **de-recognition of private schools** under the **Right of Children to Free and Compulsory Education (RTE) Act, 2009**, and direct **accountability of State governments** for public institutions.

Key Directives and Implementation

- **Free Menstrual Absorbents:** All schools must provide **oxo-biodegradable sanitary napkins** (compliant with ASTM D-6954 standards) free of cost, accessible via vending machines within toilet premises or designated areas.
- **Sanitation Infrastructure:**
 - Functional, **gender-segregated toilets** with usable water connectivity in all urban and rural schools.
 - **Privacy and accessibility** features for children with disabilities.
 - Functional hand-washing facilities with soap and water at all times.
- **MHM Corners:** Every school must establish dedicated corners equipped with **spare uniforms, innerwear, disposable bags**, and other materials to address menstrual emergencies.
- **Safe Disposal:** Installation of covered bins in toilet units and **environmentally compliant disposal mechanisms** adhering to **Solid Waste Management Rules**.
- **Monitoring Mechanism:**
 - **District Education Officers (DEOs)** must conduct annual inspections of school infrastructure and obtain anonymous student feedback.
 - **NCPCR and SCPCR** are tasked with overseeing implementation and ensuring accountability.

Constitutional and Legal Framework

- **Article 21 (Right to Life):** The Court held that dignity cannot be abstract; it requires conditions enabling individuals to live without humiliation or exclusion. Lack of MHM measures subjects girl children to stigma and violates their **bodily autonomy** and **privacy**.
- **Article 14 (Right to Equality): Substantive equality** requires the State to remove structural barriers that prevent girls from participating in education on equal terms with boys. Inaccessibility to menstrual hygiene constitutes a **gender-specific barrier** that impairs educational opportunities.
- **Article 21A and RTE Act, 2009:** The right to education includes **quality infrastructure**. The Court ruled that MHM measures are inseparable from the right to

education, and absenteeism due to menstrual poverty violates this fundamental right.

Additional Info

- **Relevant Government Schemes:**
 - **PM Bhartiya Janaushadhi Pariyojna:** Provides '**Suvidha**' **oxo-biodegradable sanitary napkins** at ₹1 per pad through over 16,000 Kendras.
 - **Menstrual Hygiene Scheme (MHS):** Implemented under the **National Health Mission (NHM)**, where ASHAs distribute subsidized sanitary napkins (Freedays brand) at ₹6 per pack.
 - **Samagra Shiksha:** Funds installation of sanitary pad vending machines and incinerators in schools; States must now prioritize biodegradable options per the Court's directive.
 - **Swachh Bharat Mission (Grameen) Phase 2:** Focuses on **Menstrual Waste Management (MWM)** through small-scale incinerators and deep burial pits to prevent environmental clogging.
- **Technical Standards:**
 - **Oxo-biodegradable plastic:** Contains additives that facilitate breakdown into micro-fragments when exposed to oxygen and heat, unlike conventional plastic that persists for centuries.
 - **ASTM D-6954:** International standard for oxo-biodegradable plastics ensuring safety and environmental compliance.

Government Launches PANKHUDI Portal to Boost CSR Partnerships for Women & Child Welfare

What's the News?

- The **Ministry of Women and Child Development (MWCD)** has launched the **PANKHUDI** portal, a digital platform designed to streamline and enhance **Corporate Social Responsibility (CSR)** partnerships for women's and children's welfare.

- Union Minister **Annapurna Devi** unveiled the initiative, which aims to create a structured ecosystem for collaboration between the government and various stakeholders, including corporates, NGOs, and individuals.

PANKHUDI

- **Single-window interface:** Centralised access for stakeholders to identify, propose, and track contributions across WCD schemes.
- **Non-monetary contributions only:** Accepts in-kind support such as equipment, training modules, digital tools, and infrastructure upgrades; **no cash donations allowed.**
- **End-to-end tracking:** Clear workflows for proposal submission, approval, implementation, and outcome monitoring.
- **Thematic focus areas:**
 - Nutrition and health
 - Early Childhood Care and Education (ECCE)
 - Child protection and rehabilitation
 - Women's safety, skilling, and empowerment.

Flagship Mission Integration

- Supports three core WCD missions:
 - **Mission Saksham Anganwadi & Poshan 2.0:** Enhances infrastructure and services at **14 lakh+ Anganwadi Centres.**
 - **Mission Vatsalya:** Strengthens **5,000+ Child Care Institutions (CCIs)** through resource partnerships.
 - **Mission Shakti:** Bolsters **800+ One Stop Centres (OSCs), 500+ Shakhi Niwas,** and **400+ Shakti Sadan** for women in distress.

Rare Kushan Coins and Artifacts Unearthed at Taxila's Bhir Mound

What's the News?

- Archaeologists in **Pakistan** have unearthed a hoard of rare **Kushan Empire** coins and decorative artifacts at the **Bhir Mound** site near **Taxila**, a **UNESCO World Heritage** site.
- The discovery includes copper coins dating back approximately **2,000 years** to the era of **King Vasudeva I**, the last great ruler of the Kushan dynasty.

Key Findings at Bhir Mound

- **The Coin Hoard:**
 - Several copper coins were found, primarily attributed to the reign of **King Vasudeva I** (reigned approx. 191–232 CE).
 - The coins typically feature the King on the obverse and deities like **Shiva** or **Oesho** on the reverse, reflecting the religious syncretism of the era.
- **Precious Stones and Artifacts:**
 - Alongside the coins, archaeologists discovered **Lapis Lazuli**, a deep-blue metamorphic rock highly prized in antiquity.
 - Other finds include decorative stones, terracotta objects, and beads, indicating the site's historical role as a hub for craftsmanship.
- **Archaeological Context:**
 - The artifacts were found during excavation work aimed at preserving and studying the oldest part of the Taxila archaeological complex.

Historical Significance of the Site

- **Bhir Mound:** It is the oldest of the four main settlements at Taxila, with layers dating back to the **6th century BCE** (Achaemenid period).
- **Kushan Empire Connection:** Taxila was a critical city for the Kushans, serving as a gateway between Central Asia and the Indian subcontinent.

- **Trade and Culture:** The presence of Lapis Lazuli suggests active trade links with regions like modern-day **Afghanistan**, where the stone was traditionally mined.

Additional Info

- **The Kushan Empire:**
 - Founded by **Kujula Kadphises**, the empire reached its zenith under **Kanishka the Great**.
 - It was instrumental in the spread of **Mahayana Buddhism** and the development of **Gandhara Art**.
- **King Vasudeva I:**
 - He was the last of the "Great Kushans." His coins often depict him making an offering at an altar, showcasing his patronage of Hindu and Buddhist traditions.
- **Taxila (Takshashila):**
 - Located in the Rawalpindi District of Punjab, Pakistan.
 - Famed as an ancient "university" where scholars like **Chanakya** (author of *Arthashastra*) and **Panini** (Sanskrit grammarian) are said to have taught.
 - Designated a **UNESCO World Heritage Site** in 1980.
- **Gandhara Civilization:**
 - A historical region centered in the Peshawar Valley and extending to Taxila.
 - Known for a unique blend of Greek, Persian, and Indian cultural influences (Graeco-Buddhism).

Neolithic Relics and Jain Pedestal

Unearthed at Lakkundi Boost UNESCO Bid

What's the News?

- Ongoing archaeological excavations at **Lakkundi village** in **Karnataka's Gadag district** have unearthed significant relics, including **Neolithic-period pottery** and a **Jain pedestal**.

- The excavation, supervised by the **Archaeological Survey of India (ASI)**, began on **January 16, 2026**, following the accidental discovery of **470 grams of gold ornaments** by a local boy while digging a house foundation.
- These findings have provided a major fillip to the Karnataka government's push to include Lakkundi in the **UNESCO World Heritage Sites** tentative list.
- The excavation is currently focused on the premises of the **Kote Veerabhadraswamy (Veerabhadreshwara) Temple**, reaching a depth of approximately **1.55 metres**.

Key Archaeological Discoveries

- **Prehistoric Artefacts:**
 - **Neolithic Pottery:** A broken piece of **grey clay pot** believed to date back to the **New Stone Age** (Neolithic period).
 - **Stone Tools:** A **stone axe** and **cowrie shells** (kavade) were discovered, indicating human habitation dating back nearly **3,000 years**.
- **Religious and Cultural Relics:**
 - **Jain Pedestal:** A broken stone pedestal featuring a carving of a **Jina** was recovered, highlighting the site's significance as a historical Jain centre.
 - **Seven-Hooded Naga:** A rare **Vijayanagara-era** seven-hooded Naga stone idol was unearthed, traditionally symbolising protection and prosperity.
 - **Other Finds:** Excavations also yielded a **panipitha** (ablution base) of a Shiva linga, **Dwarapalaka** (gatekeeper) sculptures, and **Shatavahana-period** pottery.

The UNESCO World Heritage Bid

- **Nomination Status:** The **Karnataka Tourism Department** and **INTACH** are finalising a proposal to include Lakkundi's monuments in the **UNESCO Tentative List**.
- **Architectural Significance:** Lakkundi is a prime example of the **Vesara style** of architecture—a hybrid of **Nagara** (Northern) and **Dravida** (Southern) styles developed under the **Kalyani Chalukyas**.

- **Infrastructure and Conservation:** The state has sanctioned **₹10.16 crore** for the conservation of six major monuments, including the **Virupaksha** and **Mallikarjuna** temples.
- **Selection Criteria:** The site meets UNESCO criteria for **cultural interchange** and **technological advancements**, particularly in its intricate **schist stone** carvings and advanced **stepwell (Kalyani)** hydrological systems.

Additional Info

- **Historical Context of Lakkundi:**
 - **Ancient Names:** Known in inscriptions as **Lokkigundi**, it was compared to the mythical city of **Amaravati** for its affluence.
 - **Dynastic Rule:** It served as a major cultural and economic hub under the **Chalukyas, Rashtrakutas, Hoysalas, Kalachuris, and Seunas**.
 - **The Royal Mint:** Lakkundi was famous for its "**tankashale**" (mint), producing gold coins known as **Lokki ponna** and **Lokki gadyana**.
- **Key Monuments:**
 - **Brahma Jinalaya:** Built in **1007 CE** by the philanthropist queen **Attimabbe**, it is one of the oldest and largest Jain temples in the region.
 - **Kasi Visvesvara Temple:** Renowned as the most ornate and sophisticated example of **Kalyana Chalukya** architecture.
 - **Musukina Bavi:** A prominent example of the "101 stepped wells" that once defined the village.

Dynamic Ground Water Resource

Assessment Report 2025

What's the News?

- The **Ministry of Jal Shakti** has released the **Dynamic Ground Water Resource Assessment Report 2025**, providing a detailed analysis of the country's aquifer health and water usage.
- The report highlights a positive trend, showing an **increase in the total annual ground water recharge** and a gradual **decline in the stage of extraction** compared to previous years.
- This annual assessment is a collaborative effort between the **Central Ground Water Board (CGWB)** and various **State Governments/Union Territories** to guide sustainable water management policies.

Key Findings

- **Recharge & Availability:**
 - Total annual groundwater **recharge: 446.90 BCM**.
 - **Annual extractable resource: 398.82 BCM**.
 - **Net annual availability: 173.18 BCM** (after deducting 245.64 BCM annual extraction).
- **Stage of Groundwater Extraction (SOE):**
 - National average SOE: **60.47%** (up from 59.21% in 2017).
 - SOE >100% indicates over-extraction (draft exceeds recharge in that unit).
- **Unit-wise Classification (out of 6,762 assessment units):**
 - **Safe: 73.4%** (up from 62.6% in 2017).
 - **Over-exploited: 11.13%** (751 units; down from 17.24% in 2017).
 - **Critical: 4.45%**
 - **Semi-critical: 6.62%**

Regional Groundwater Stress

- **High-concentration zones of over-exploited units:**
 - **Northwest:** Punjab, Haryana, Delhi, Western Uttar Pradesh.
 - **West & South:** Rajasthan, Gujarat, Tamil Nadu.

- States like **Punjab, Haryana, Rajasthan, Delhi,** and **Dadra & Nagar Haveli and Daman & Diu** continue to report SOE >100%.

Additional Info

- **Institutional & Legal Framework:**
 - **Central Ground Water Board (CGWB):** The national apex organization under the **Ministry of Jal Shakti** responsible for monitoring and managing ground water resources.
 - **Constitutional Position:** While **Water** is a **State Subject (Entry 17, List II)**, the Central Government provides policy frameworks and technical support under the **Environment (Protection) Act, 1986**.
 - **Article 21:** The Supreme Court has repeatedly interpreted the **Right to Life** to include the right to access clean and sufficient water.
- **Key Government Initiatives:**
 - **Atal Bhujal Yojana (ABY):** A ₹6,000 crore **World Bank-funded** central sector scheme focusing on community-led sustainable ground water management in water-stressed blocks.
 - **Jal Shakti Abhiyan (JSA):** A campaign focused on rainwater harvesting, borewell recharge, and intensive afforestation.
 - **PM-KUSUM:** Promotes solar irrigation pumps to reduce the use of diesel/electricity, indirectly helping regulate ground water extraction through better power management.
- **Assessment Methodology:** The report follows the **GEC-2015 (Ground Water Estimation Methodology)**, which considers both rainfall and non-monsoon sources like canal seepage and return flow from irrigation.

India Records 166 Tiger Deaths in 2025: Highest in Recent Years

What's the News?

- India recorded the deaths of **166 tigers** in 2025, a significant increase from the **126 deaths** reported in 2024.
- The data, released by the **National Tiger Conservation Authority (NTCA)**, highlights a growing trend of mortality linked to **habitat saturation** and **territorial conflicts**.
- Of the total fatalities, **31 were cubs**, and alarmingly, **60% of deaths** (approximately 100 tigers) occurred **outside protected areas**.

State-wise Mortality Patterns

- **Madhya Pradesh:** For the third consecutive year, the "Tiger State" recorded the highest mortality with **55 deaths**.
- **Maharashtra:** Followed with **38 deaths**, including the first fatality of the year reported in the **Bramhapuri forest division**.
- **Other States:** Significant numbers were reported from **Karnataka (15)**, **Kerala (13)**, and **Assam (12)**.
- **Context of Growth:** High mortality in states like Madhya Pradesh is often correlated with their large populations; the state's tiger numbers grew by nearly **60%** since 2014, reaching **785** in the 2022 estimation.

Causes of Death and Habitat Challenges

- **Territorial Infighting:** Approximately **70% of deaths** were attributed to natural causes, predominantly fierce battles between tigers over limited territory.
- **Habitat Saturation:** Experts state that many reserves have reached their **carrying capacity**, forcing young and dispersing sub-adults to move into human-dominated landscapes.
- **Human-Induced Factors:**
 - **Electrocution:** Seven cases nationwide were directly linked to illegal electric fences.
 - **Accidents:** Road and rail accidents remain a persistent threat to tigers moving through fragmented corridors.

- **Poaching:** While the majority of deaths are natural, at least **10 deaths** in MP were confirmed as poaching, often involving "non-targeted killings" meant for other wildlife.

- **Staffing Shortages:** A critical challenge cited is that **1 in 5 staff positions** across tiger reserves remain vacant, hindering anti-poaching vigilance and forensic responses.

Additional Info

- **National Tiger Conservation Authority (NTCA):**
 - A **statutory body** under the **Ministry of Environment, Forest, and Climate Change (MoEFCC)**.
 - Established in **2006** following an amendment to the **Wildlife (Protection) Act, 1972**.
 - Mandated to strengthen tiger conservation, approve **Tiger Conservation Plans**, and set standard operating procedures for mortality investigations.
- **Project Tiger:**
 - Launched in **1973** as a Centrally Sponsored Scheme to ensure a viable population of Bengal tigers in their natural habitats.
- **Constitutional and Legal Context:**
 - **Article 48A:** The State shall endeavor to protect and improve the environment and safeguard the forests and wildlife of the country.
 - **Article 51A(g):** It is the fundamental duty of every citizen to protect and improve the natural environment including forests, lakes, rivers, and wildlife.
 - **Wildlife Protection Act (WPA), 1972:** Empowers the government to notify **Tiger Reserves** and core/critical habitats.
- **Global Standing:** India hosts nearly **75% of the world's wild tiger population**, estimated at **3,682** as of the 2022 census.

India Inaugurates World's Second National Environmental Standard Laboratory

What's the News?

- Union Minister **Dr. Jitendra Singh** inaugurated the world's second **National Environmental Standard Laboratory (NESL)** at the **CSIR–National Physical Laboratory (NPL)** in New Delhi.
- The launch took place during the **80th Foundation Day** celebrations of **CSIR-NPL**, marking a significant advancement in India's environmental governance and self-reliance.
- Alongside NESL, the Minister also inaugurated the **National Primary Standard Facility for Solar Cell Calibration (NPSF-SCC)**, making India the fifth country in the world to possess such a high-precision solar metrology facility.

National Environmental Standard Laboratory (NESL)

- **Global Standing:** India is now only the second country in the world, after the **United Kingdom**, to establish a national-level facility for testing and calibrating air pollution monitoring equipment.
- **Core Objective:** To provide India-specific calibration and certification for air quality monitoring systems, ensuring they function accurately under local climatic conditions such as high temperature, humidity, and dust loads.
- **Economic Impact:**
 - Reduces heavy dependence on imported equipment certified by foreign agencies (like **USEPA** or **TUV**).
 - Bolsters indigenous manufacturing under **Atmanirbhar Bharat**, aiming to turn India into an exporter of standardized monitoring tools.
 - Targets a global air pollution monitoring market valued at approximately **\$4 billion**.
- **Policy Support:** The facility will provide traceable data to strengthen the enforcement of the **National Clean Air Programme (NCAP)**.

National Primary Standard Facility for Solar Cell Calibration

- **Elite League:** With this facility, India joins an elite group of nations—including the **USA, Germany, China, and Japan**—with advanced primary standards for solar metrology.
- **Technical Precision:**
 - Developed in collaboration with **PTB Germany**, it utilizes a laser-based **Differential Spectral Responsivity (L-DSR)** system.
 - Achieves a world-leading calibration uncertainty of just **0.35%**, ensuring globally comparable measurements.
- **Significance:** It shortens turnaround times for solar cell certification, saves foreign exchange, and boosts investor confidence in India's rapidly expanding renewable energy sector.

Additional Info

- **CSIR–National Physical Laboratory (CSIR-NPL):**
 - Established in **1947**, it is one of the earliest of the 37 CSIR laboratories and serves as India's **National Metrology Institute (NMI)**.
 - It was mentored by eminent leaders like **Dr. Syama Prasad Mukherjee** and **Sardar Vallabhbhai Patel**.
 - **Custodian of Time:** NPL maintains **Indian Standard Time (IST)** through a series of high-precision **Cesium atomic clocks**.
- **Key Releases:**
 - During the event, **14 Phytochemical Bharatiya Nirdeshak Dravya (BNDs)**—reference materials for quality assurance—were released.
 - The **'SAMARTH' Application** was launched to streamline calibration and certification processes.

Destabilization of Thwaites Glacier: The "Doomsday Glacier"

What's the News?

- Recent scientific studies and satellite observations have revealed that **Antarctica's Thwaites Glacier**, commonly known as the **"Doomsday Glacier,"** is

experiencing rapid destabilization and frequent **"iceberg earthquakes."**

- Researchers have detected hundreds of seismic events caused by the fracturing and movement of massive ice blocks, indicating that the glacier is thinning and retreating at an accelerating pace.
- The collapse of this glacier is a major concern for global climate security, as it acts as a "cork" holding back the vast **West Antarctic Ice Sheet**.

Understanding the "Doomsday Glacier"

- **Location:** Situated in **West Antarctica**, it is one of the widest glaciers in the world, spanning roughly 120 kilometers.
- **Why "Doomsday"?:** If Thwaites were to melt completely, it could raise global sea levels by approximately **65 centimeters (2 feet)**.
- **The Domino Effect:** Its collapse could further destabilize neighboring glaciers, potentially leading to an eventual sea-level rise of up to **3 meters**, threatening coastal cities worldwide.
- **Iceberg Earthquakes:** Unlike tectonic earthquakes, these are seismic signals generated by the "calving" (breaking off) of ice and the scraping of the glacier against the seabed as it loses its grip.

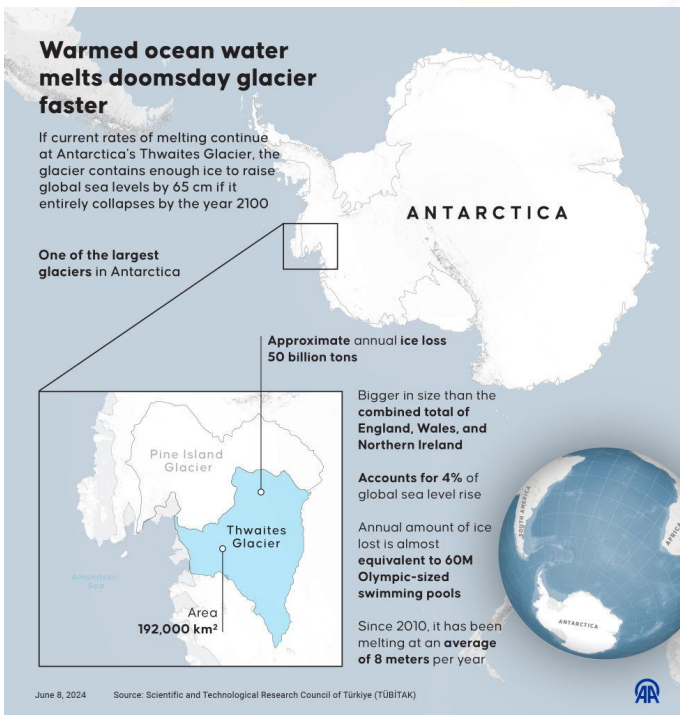


Image Credit: Time.com

Key Scientific Findings

- **Fracture dynamics:** A four-stage structural decline identified in TEIS, featuring:

- Growth of long fractures aligned with ice flow, followed by cross-cutting short fractures.
- A **positive feedback loop**: fractures → faster ice flow → more fractures.

- **Glacial earthquakes:**

- **245 out of 362** detected events clustered near Thwaites' marine terminus.
- Linked to **iceberg capsizing events**, not seasonal air warming but possibly **ocean-driven ice-tongue acceleration** (notably during 2018–2020).

- **Pinning point shift:** Once a stabilising feature, it now contributes to shelf instability due to weakened shear zones.

Additional Info

- **West Antarctic Ice Sheet (WAIS):**

- A massive ice mass that sits on a basin below sea level.
- It is considered a "tipping point" in the global climate system because its melting is largely irreversible once a certain threshold is crossed.

- **International Thwaites Glacier Collaboration (ITGC):**

- A multi-year, multi-million dollar joint mission by the **UK (British Antarctic Survey)** and the **USA (National Science Foundation)**.
- It is the largest scientific field program ever undertaken in Antarctica to understand how quickly the glacier is melting.

- **Global Impacts:**

- **Sea Level Rise:** Accelerated melting threatens low-lying island nations (e.g., **Maldives, Kiribati**) and Indian coastal hubs like **Mumbai** and **Chennai**.
- **Albedo Effect:** Loss of white ice surfaces reduces the Earth's ability to reflect sunlight, leading to further atmospheric warming.

- **Scientific Tools Used:**

- **Icefin:** An underwater robot used to swim under the ice shelf to measure temperature and salt levels.
- **Seismometers:** Instruments placed on the ice to record the "thumping" sounds of icequakes.

Kashmir Markhor: India's Rarest Wild Goat Faces Local Extinction Risk

What's the News?

- A recent state-wide survey by the **Wildlife Trust of India (WTI)** has revealed that the **Kashmir Markhor** (*Capra falconeri cashmeriensis*), India's rarest wild goat, is on the brink of local extinction.
- The population has plummeted to an estimated **200–300 individuals** in India, primarily restricted to fragmented pockets in **Jammu & Kashmir**.
- The **Kazinag range** in the Baramulla district remains the species' last significant stronghold, while smaller populations in the **Pir Panjal** range are teetering on the edge of disappearance.

Understanding the "Snake-Killer" Goat

- **Distinctive Features:** Known for its majestic **spiral corkscrew horns** (reaching up to 160 cm in males) and a long, flowing ruff on the chin and neck.
- **Physical Prowess:** A large mountain ungulate weighing up to **100 kg**, it possesses extraordinary agility, capable of navigating nearly **vertical 90-degree cliffs** to escape predators.
- **Name Origin:** The word "Markhor" is derived from Persian, meaning "**snake-killer**", based on local folklore.
- **Ecological Role:** As a flagship species, it acts as a key prey for **snow leopards, common leopards,** and **wolves**, while its grazing habits help maintain soil health and prevent vegetation overgrowth.

Critical Threats to Survival

- **Livestock Competition:** Heavy grazing by domestic sheep and goats (especially from migratory **Bakarwal** communities) leads to severe dietary overlap and habitat degradation.
- **Infrastructure Development:** The construction of the **Mughal Road** and high-tension power transmission lines has fragmented habitats and disrupted natural migration corridors.
- **Poaching:** Despite legal bans, illegal hunting for meat and its prized horns—often used in **traditional Chinese medicine**—remains a persistent threat in remote areas.

- **Climate Change:** Rising temperatures are shifting vegetation to higher altitudes, pushing the Markhor into sub-optimal habitats with scarce food resources.

Conservation Status and Efforts

- **Legal Protection:** Classified as "**Near Threatened**" on the **IUCN Red List** and protected under **Schedule I** of India's **Wildlife (Protection) Act, 1972**.
- **Markhor Recovery Project:** Launched in 2004 by WTI and the J&K Wildlife Department, this project focuses on tracking habitat usage, fencing sensitive areas, and establishing **anti-grazing camps**.
- **Protected Areas:** Key sanctuaries dedicated to its protection include **Kazinag National Park, Hirpora Wildlife Sanctuary,** and **Tattakuti Wildlife Sanctuary**.
- **Community Engagement:** Conservationists are working with local herders to promote **rotatory grazing** and reduce human disturbance during the sensitive birthing season in May and June.
- **Legal Status:**
 - Listed under **Schedule I** of the **Wildlife (Protection) Act, 1972** (highest protection).
 - **IUCN Status:** *Near Threatened* globally; **critically endangered within India**.
 - Recognized internationally: **24 May** declared **International Day of the Markhor** by UNGA (since 2024).
- **International Recognition:** The **United Nations General Assembly** designated **May 24** as the **International Day of the Markhor** to promote global conservation.

Crocodile Population Records Rise in Odisha's Similipal National Park

What's the News?

- The latest **Crocodile Census (2026)** in Odisha's **Similipal National Park** has recorded a significant rise in the population of **Mugger crocodiles**.
- The census report indicates that the population has increased to **84**, reversing a two-year downward trend in the park's river systems.
- Forest officials attribute this recovery to intensive **conservation measures**, including the

release of hatchery-bred crocodiles into the wild to bolster natural numbers.

- The survey was conducted across major water bodies within the park, specifically targeting the **Khairi, Deo,** and **West Deo** rivers.

Census Findings & Population Dynamics

The 2026 census provides a detailed breakdown of the crocodile demographics within the reserve, showing a healthy distribution across age groups:

- **Total Count:** The population rose to **84**, up from **81** recorded in the previous census and **78** in 2024.
- **Demographic Breakdown:**
 - **Adults:** 29 individuals.
 - **Sub-adults:** 27 individuals.
 - **Juveniles:** 28 individuals.
- **Geographic Distribution:** The highest concentration was observed in the **Deo River**, followed by the **Khairi River**, which serve as primary habitats for the species within the park.

Population Trend (2021–2026)

- **2021:** 81
- **2022:** 83
- **2023:** 86 (peak)
- **2024:** 82
- **2025:** 81
- **2026:** **84** (recovery begins)

Conservation Mechanisms

- **Ramatirtha Crocodile Breeding Centre:**
 - Established for **ex-situ conservation** of *Mugger crocodiles* (*Crocodylus palustris*)
 - Regularly releases hatchlings into natural water bodies within Similipal
- **Habitat Protection:**
 - Focus on maintaining ecological integrity of rivers and wetlands
 - Monitoring of human-wildlife conflict zones
- **Community Involvement:**
 - Local participation in monitoring and reporting
 - Awareness programmes to reduce anthropogenic threats

Additional Info

- **Similipal National Park:**

- Located in the **Mayurbhanj district** of Odisha, it is the **7th largest national park** in India.
- It was formally designated as a **Tiger Reserve** in 1956 and became part of the **UNESCO World Network of Biosphere Reserves** in 2009.
- It is the only habitat in the world to house **melanistic (black) tigers** in the wild.

- **The Mugger Crocodile:**

- Also known as the **Marsh Crocodile**, it is native to freshwater habitats across the Indian subcontinent.
- **IUCN Status:** Vulnerable.
- **Wildlife Protection Act, 1972:** Listed under **Schedule I**, providing it the highest level of legal protection in India.

- **Project Crocodile:** Launched in **1975** with support from the **United Nations Development Programme (UNDP)**, it aimed to save three Indian crocodilian species: the Gharial, the Saltwater Crocodile, and the Mugger.

Union Ministry Amends Forest

Conservation Guidelines

What's the News?

- The **Ministry of Environment, Forest and Climate Change (MoEFCC)** has issued the **Forest (Conservation) Guidelines, 2026**, which significantly amend the regulatory framework for using forest land for non-forest purposes.
- These guidelines supplement the **Forest (Conservation) Amendment Act, 2023**, focusing on simplifying the diversion of forest land and incentivizing **private plantations**.
- The primary objective is to align forest management with India's climate goals, such as achieving **Net Zero by 2070** and creating an additional carbon sink of **2.5 to 3 billion tonnes**.

Major Changes in Guidelines

Incentives for Private Plantations

- **Removal of Financial Obligations:** Private developers are now exempt from paying **Net Present Value (NPV)** and undertaking **Compensatory Afforestation**

(CA) for plantations raised on forest land, provided they meet specific criteria.

- **Commercial Harvesting:** The guidelines allow for the harvesting and transit of timber from these private plantations without stringent forest department clearances, treating them similarly to agricultural produce.

Land Categorization & Exemptions

- **De-reserved Land:** Land diverted for non-forest use before **October 25, 1980**, but not yet used, is now officially exempted from the purview of the Act.
- **Infrastructure Priorities:** Areas within **100 km of international borders** or Line of Control (LoC) intended for "strategic linear projects of national importance" are exempt from seeking prior central approval.
- **Small-scale Exemptions:** Up to **0.10 hectares** of forest land along roads and rail lines can be diverted for providing access to habitations or roadside amenities without central clearance.

Rationale Behind the Amendments

- **Degraded Forests:** India has **2.08 lakh sq. km** of open and scrub forests needing restoration.
- **33% Forest Cover Target:** Current forest and tree cover stands at **25.17%** (ISFR 2023); large-scale restoration is needed to meet national and international commitments.
- **Resource Constraints:** Limited public finances necessitate private participation to scale up afforestation efforts.

Concerns Raised by Experts

- **Risk of Monocultures:** Commercial plantations may prioritise fast-growing species (e.g., eucalyptus, teak), undermining native biodiversity.
- **Weakened Safeguards:** Removing NPV and CA obligations reduces funds available for forest protection and ecological compensation.
- **Impact on Forest Communities:** Potential exclusion of **Gram Sabhas** and violation of rights under the **Forest Rights Act (FRA), 2006**, especially if leases bypass community consultation.
- **Regulatory Ambiguity:** Lack of clear criteria for DPR approval could enable misuse or conversion of natural forests into commercial plantations.

Additional Info

- **Constitutional Provision:**
 - **Article 48A:** Mandates the State to protect and improve the environment and safeguard forests.
 - **Article 51A(g):** Defines it as a fundamental duty of citizens to protect the natural environment including forests.
- **The 1980 Act vs. 2026 Guidelines:** While the original **Forest (Conservation) Act, 1980** aimed to restrict deforestation, the 2026 guidelines shift the focus toward "regulated use" and "plantation-led conservation".
- **Net Present Value (NPV):** A monetary proxy for the loss of ecosystem services (like water recharge and carbon sequestration) when a forest is cut down.

Giant 300-Year-Old Black Coral Discovered in New Zealand

What's the News?

- Marine researchers from **Te Herenga Waka—Victoria University of Wellington** and the **Department of Conservation (DOC)** discovered a massive black coral in the deep waters of **Fiordland**, New Zealand.
- The specimen is estimated to be between **300 and 400 years old**, making it the largest black coral ever recorded in New Zealand's territorial waters.

About the Discovery

- **Species:** Belongs to the **Antipatharia** class (black corals), known for slow growth and longevity.
- **Location:** Found in **deep-sea habitats** of **Fiordland**, a region renowned for rich marine biodiversity.
- **Age & Size:**
 - Estimated to have begun growing in the **early 17th century**
 - Far exceeds typical black coral dimensions (usually a few meters tall)
- **Research Method:** Documented using **high-resolution underwater cameras** and **3D mapping technology** during deep-sea dives.

Ecological Significance

- **Biodiversity Hotspot:** Acts as a **critical habitat and breeding ground** for deep-sea fish, invertebrates, and other marine organisms.
- **Ecosystem Engineers:** Large coral structures support complex food webs and enhance resilience of fragile deep-ocean ecosystems.
- **Climate Indicators:** Long-lived corals serve as **natural archives** of oceanic changes over centuries, including temperature and pollution trends.

Conservation Context

- **Legal Protection:** Black corals are **fully protected under New Zealand law**; damaging or collecting them carries **strict penalties**.
- **Threats:** Vulnerable to **deep-sea trawling, climate change, ocean acidification**, and **sedimentation** from coastal development.

Additional Info

- **Black Corals (Antipatharians):**
 - Skeleton is **jet-black or dark brown**; living tissue often appears **white or pale**
 - Grow extremely slowly—often **less than 1 mm per year**
 - Found in **tropical to polar waters**, typically at depths >50 meters
- **Scientific Value:**
 - Used in **paleoclimatology** to reconstruct historical ocean conditions
 - Source of **bioactive compounds** with potential pharmaceutical applications
- **New Zealand's Marine Policy:**
 - Over **30% of its Exclusive Economic Zone (EEZ)** is under some form of protection
 - Part of the **Global Ocean Alliance** advocating for **30x30 conservation target** (protect 30% of oceans by 2030)

Central Government Notifies Rules for Environmental Protection Fund (EPF)

What's the News?

The Union Government has notified the **Environmental (Protection) Fund Rules, 2026**, operationalising the statutory **Environmental (Protection) Fund** under

the **Environment (Protection) Act, 1986**. These rules detail how monetary penalties collected from violations of environmental laws including the **Air Act, 1981, Water Act, 1974**, and **EPA, 1986** will be utilised for environmental restoration, monitoring, research, and capacity building.

Features of the EPF Rules

- **Fund Sources:**
 - Amounts collected as penalties under **Section 15** of the **Environment (Protection) Act**.
 - Environmental compensation and fines imposed by the **National Green Tribunal (NGT)** or other authorities.
 - Interest earned on the accumulated funds and any other specific grants provided by the Central Government.
- **Management & Administration:**
 - The fund will be managed by a **Committee** chaired by the **Secretary of MoEFCC**.
 - Members include representatives from the **Central Pollution Control Board (CPCB)** and financial experts to ensure transparent allocation.
- **Authorized Utilization:**
 - **Remediation:** Cleaning up contaminated sites and restoring damaged ecosystems.
 - **Pollution Control:** Funding projects to improve air, water, and soil quality in critically polluted areas.
 - **R&D and Monitoring:** Supporting scientific research, laboratory upgrades, and the establishment of advanced monitoring systems.
 - **Public Awareness:** Promoting education and training programs related to environmental protection.

Impact of the Jan Vishwas Act

- **Decriminalization:** The **Jan Vishwas (Amendment of Provisions) Act, 2023** amended the **Environment (Protection) Act, 1986**, replacing many criminal penalties (imprisonment) with monetary penalties.
- **Funding Stream:** By converting minor offenses into civil penalties, the government has created a steady

stream of revenue for the **EPF** specifically dedicated to environmental causes.

- **Simplified Compliance:** The move reduces the burden on the judiciary by allowing an **Adjudicating Officer** to impose penalties rather than proceeding through long criminal trials.

Additional Info

- **Legal & Constitutional Framework:**
 - **Environment (Protection) Act, 1986:** Enacted under **Article 253** of the Constitution following the **Stockholm Conference (1972)** to provide a comprehensive framework for environmental protection.
 - **Article 48A:** A **Directive Principle of State Policy** that mandates the State to protect and improve the environment.
 - **Article 51A(g):** Establishes a **Fundamental Duty** for citizens to protect the natural environment.
- **The Polluter Pays Principle:**
 - The **EPF** is an institutionalization of the **Polluter Pays Principle**, a legal concept where those who produce pollution bear the costs of managing it to prevent damage to human health or the environment.
- **Related Organizations:**
 - **Central Pollution Control Board (CPCB):** A statutory organization established under the **Water (Prevention and Control of Pollution) Act, 1974**, which provides technical services to the **MoEFCC**.
 - **National Green Tribunal (NGT):** A specialized body established under the **NGT Act, 2010** for effective and expeditious disposal of cases relating to environmental protection.

Central Government Notifies Greenhouse Gases Emission Intensity (GEI) Target (Amendment) Rules, 2025

What's the News?

- The **Ministry of Environment, Forest and Climate Change (MoEFCC)** has notified the **Greenhouse Gases Emission Intensity (GEI) Target (Amendment) Rules,**

2025, expanding the mandatory emission reduction regime to four additional carbon-heavy sectors.

- The newly included sectors are **Petroleum Refinery, Petrochemicals, Textiles, and Secondary Aluminium**, bringing a total of **208 industrial units** under legally binding targets.
- These rules operationalize the **Carbon Credit Trading Scheme (CCTS), 2023**, and are a key part of India's commitment to reduce its GDP's emission intensity by **45% by 2030**.

GEI Amendment Rules

- **Sectors covered:**
 - **Petroleum refineries** (21 units, including Indian Oil, BPCL, HPCL, ONGC, Reliance)
 - **Petrochemical units** (11 units)
 - **Textile sector** (173 units across spinning, processing, fibre, and composites)
 - **Secondary aluminium** (3 units)
- **Emission intensity metric:**
 - Measured as **tonnes of CO₂ equivalent (tCO₂e) per unit of output**.
 - Baseline set at **2023–24 levels**; targets apply for **2025–26 and 2026–27**.
- **Compliance mechanism:**
 - Units meeting targets earn **carbon credit certificates** issued by the **Bureau of Energy Efficiency (BEE)**.
 - Non-compliant units must pay **environmental compensation = twice the average carbon credit price** of the compliance year, enforced by the **Central Pollution Control Board (CPCB)** within **90 days**.
- **Carbon market linkage:**
 - Integrated with India's **Carbon Credit Trading Scheme (CCTS), 2023**, enabling trading, banking, and inter-sectoral offsetting of credits.

Additional Info

- **Carbon Credit Trading Scheme (CCTS), 2023:**
 - Established under the **Energy Conservation Act, 2001** (as amended in 2022) to create a domestic carbon market.
 - Includes a **Compliance Mechanism** (for obligated industries) and an **Offset**

Mechanism (for voluntary emission reduction projects).

- **Nodal Agencies:**
 - **BEE:** Sets targets, monitors reporting, and issues carbon credits.
 - **CERC:** Regulates the trading of carbon credits on exchanges.
 - **CPCB:** Responsible for enforcement and imposing penalties for non-compliance.
- **Transition from PAT:** This regime builds upon the existing **Perform, Achieve and Trade (PAT)** scheme, shifting the focus from energy efficiency to specific greenhouse gas emission limits.

New Blind Caecilian Species Discovered in Northern Western Ghats

What's the News?

- A research team led by the **Zoological Survey of India (ZSI)** has identified a new species of rare, subterranean amphibian in **Maharashtra**.
- The species, named **Gegeneophis valmiki**, marks the first discovery within its genus in more than a decade.
- The discovery was published in the international peer-reviewed journal **Phyllomedusa** after years of morphological and genetic analysis.

Gegeneophis valmiki?

- **Discovery Location:** The species was identified on the **Valmiki Plateau** in the **Satara district** of **Maharashtra**, located in the **Northern Western Ghats**.
- **Etymology:** It has been named in honor of the historic **Maharshi Valmiki Mandir** situated near the site where it was first collected.
- **Physical Characteristics:**
 - It is a limbless, worm-like amphibian with a smooth, elongated body.
 - The species is functionally blind, as its eyes are concealed beneath its bony skull and skin.
 - Unlike many other amphibians, it does not produce vocal calls, making it extremely difficult to detect in the wild.
- **Habitat:** It is a **fossorial** (burrowing) creature that lives deep within moist soil, humus, and organic matter.

Biodiversity and Conservation Context

- **Western Ghats:**
 - A **UNESCO World Heritage Site** and one of the world's **36 biodiversity hotspots**.
 - Home to **26 endemic caecilian species**, including **11 from the *Gegeneophis* genus**.
- **Amphibian vulnerability:**
 - **41% of global amphibian species** are threatened with extinction.
 - Caecilians constitute only **231 of 8,983 known amphibian species worldwide**.
 - In India, **42 caecilian species** exist among **457 total amphibians**.

World's Largest Iceberg A23a in Final Stages of Disintegration

What's the News?

- China's **Fengyun-3D satellite** has captured imagery showing that **iceberg A23a**, formerly the world's largest iceberg, has entered the final stage of its disintegration.
- High-resolution data from **January 14, 2026**, reveals the main body of the iceberg has shrunk to approximately **506 square kilometers**, less than one-eighth of its original size.
- The collapse has accelerated dramatically, losing nearly half of its remaining mass in just three weeks as it drifts into warmer waters.

Accelerated Disintegration & "Hydrofracturing"

- **Rapid Mass Loss:** When it calved from Antarctica's **Filchner Ice Shelf** in 1986, A23a measured **4,170 square kilometers**; it is now expected to vanish completely within weeks.
- **The Hydrofracturing Process:** Disintegration is being driven by **hydrofracturing**, where meltwater ponds on the surface exert immense pressure on the ice, forcing open internal cracks.
- **Environmental Triggers:**
 - **Sea Temperature:** The iceberg has reached waters exceeding **3 degrees Celsius**, significantly higher than the freezing point.

- o **Southern Summer:** Elevated air temperatures and clear skies in the Southern Hemisphere are fueling surface melting.
- o **Ocean Currents:** Strong currents continue to push fragments into the "iceberg graveyard" of the warmer **South Atlantic**.

Monitoring via Fengyun-3D Satellite

- **Technical Precision:** The **Fengyun-3D**, part of China's second-generation polar-orbiting meteorological constellation, used its **Medium Resolution Spectral Imager (MERSI-II)** to track the breakup.
- **High Resolution:** The satellite provided true-color imagery at **250-meter resolution**, allowing experts to identify blue meltwater pools trapped by natural ridges.
- **Scientific Significance:** Continuous tracking by the **National Satellite Meteorological Center** since 2023 has provided critical data on "megaberg" evolution and its impact on ocean ecosystems.

Additional Info

- **A23a Historical Timeline:**
 - o **1986:** Calved from the Filchner Ice Shelf and quickly became grounded on the Weddell Sea floor.
 - o **2020:** After 34 years, it regained buoyancy and began its northward drift.
 - o **2024:** Briefly became trapped in a **Taylor Column** (a rotating ocean vortex) for several months.
 - o **2025:** Reached the vicinity of **South Georgia Island**, where rapid fragmentation began.
- **Fengyun Satellite Program:**
 - o A series of meteorological satellites managed by the **China Meteorological Administration (CMA)**.
 - o **Fengyun-3 (FY-3)** series provides global 3D atmospheric sounding and is vital for monitoring polar ice loss and climate change.

Forest Fire Rages in Sikkim's Pangolakha Wildlife Sanctuary

What's the News?

- A major **forest fire** has been raging for several days in the **Pangolakha Wildlife Sanctuary** in the **Pakyong district** of East Sikkim.
- The fire broke out in the high-altitude areas of the sanctuary, specifically near the **Indo-China border**, posing a threat to the region's sensitive ecosystem.
- Rescue and containment operations are being led by the **Sikkim Forest Department**, with assistance from the **Indian Army**, **Sikkim Police**, and local volunteers.
- Heavy winds and the **rugged, steep terrain** at high altitudes (above 10,000 feet) have made it extremely difficult for ground teams to reach the active fire lines.

Factors Behind the Fire

- **Prolonged dry weather:** Unusually low winter precipitation and absence of snowfall have created highly flammable conditions across the Himalayan region.
- **Fuel accumulation:** Dry grass, leaf litter, and deadwood on forest floors act as ready fuel, enabling rapid fire spread from even minor ignition sources.
- **Geographical constraints:** Inaccessible slopes and high-altitude conditions limit mechanical and aerial firefighting options.
- **Administrative restrictions:** Parts of the sanctuary fall under **Army jurisdiction**, delaying civilian firefighting deployment.

Rising Forest Fire Incidents in India

- According to **Forest Survey of India (FSI)** data, states with highest fire alerts include:
 - o **Uttarakhand:** 1,756 alerts
 - o **Maharashtra:** 1,028 alerts
 - o **Karnataka:** 924 alerts
 - o **Madhya Pradesh:** 868 alerts
 - o **Chhattisgarh:** 862 alerts
- **Himalayan states** like Jammu & Kashmir, Himachal Pradesh, and Sikkim are increasingly vulnerable due to **climate-induced dry winters** and erratic snowfall patterns.

Pangolakha Wildlife Sanctuary

- **Geographical Significance:** It is the **largest wildlife sanctuary in Sikkim**, covering an area of approximately **128 square kilometers**.
- **Connectivity:** It serves as a tri-junction between **Sikkim (India), Bhutan, and Tibet (China)**, making it strategically and ecologically vital.
- **Biodiversity:**
 - The sanctuary is a known habitat for the **Red Panda** (Sikkim's state animal).
 - It features unique **high-altitude lakes**, including the famous **Tsongmo (Changu) Lake** in its vicinity.
- **Climate Context:** Forest fires in this region during January are relatively rare but are increasingly linked to **prolonged dry spells** and a lack of winter precipitation.

UNEP Releases "State of Finance for Nature 2026" Report

What's the News?

- The **United Nations Environment Programme (UNEP)** has released the fourth edition of its flagship report, titled "**Nature in the Red: Powering the Trillion-Dollar Nature Transition Economy.**"
- The report highlights a stark imbalance in global financial priorities, revealing that for every **\$1** invested in protecting nature, the world spends **\$30** on activities that destroy it.
- It tracks global financial flows to **Nature-based Solutions (NbS)** and identifies the massive funding gap required to meet international targets for climate, biodiversity, and land restoration.

Global Finance Gap for Nature

- **Nature-negative finance:** Includes subsidies and investments that degrade ecosystems (e.g., fossil fuels, environmentally harmful subsidies).
- **Nature-positive finance:** Focuses on NbS—actions to **protect, restore, and sustainably manage** ecosystems to address societal challenges.
- **Funding shortfall:** Annual NbS investment must rise **over 2.5 times** to **\$571 billion by 2030** to meet **Rio**

Convention targets (1.5°C warming limit and halting biodiversity loss).

Public vs Private Sector Role

- **90% of NbS funding** comes from **public sources**; private sector contribution remains minimal at **\$23.4 billion**.
- Private capital largely flows into **high-impact sectors** like fossil fuels and heavy industry.
- Over **730 organizations** globally have adopted the **Taskforce on Nature-related Financial Disclosures (TNFD)** framework to track nature-related risks.

Key Successes and Failures

- **Successes:**
 - **Debt-for-Nature Swaps (DNS):** Agreements in **Ecuador, Belize, and Gabon** unlocked significant conservation funds.
 - **Sustainable bonds:** E.g., UK's **United Utilities** issued a **GBP 300 million** bond for peatland restoration.
 - **Innovation:** Use of **self-healing concrete** and **fungi-based leather** in real economy sectors.
- **Failures:**
 - **Harmful subsidies persist:** India continues large **fertilizer and power subsidies**, contributing to groundwater depletion and soil degradation.
 - **CAMPA limitations:** India's **Compensatory Afforestation Fund** (US\$0.86 billion) struggles to replicate lost biodiversity effectively.
 - **Weak private mobilization:** Despite renewable energy growth, **private debt finance** for NbS projects lags.
 - **Regulatory erosion:** Recent amendments to **forest and environmental clearance rules** risk ecological zones.
 - **Insufficient international finance:** Official Development Finance (ODF) remains inadequate for India's **30×30 conservation goals**.

Recommendations

- **Reform subsidies:** Redirect **\$2.4 trillion** in harmful public subsidies toward regenerative agriculture and clean energy.
- **Mandatory disclosure:** Enact laws requiring large firms and financial institutions to disclose nature-related risks.
- **Scale blended finance:** Use public funds to **de-risk** private NbS investments via guarantees and co-financing.
- **Integrate NbS into budgets:** Embed nature-based infrastructure into **national fiscal frameworks** and green budgeting.
- **Ensure equity:** Prioritize support for vulnerable communities and developing nations.

Additional Info

- **United Nations Environment Programme (UNEP):**
 - **Established:** 1972 (following the Stockholm Conference).
 - **Headquarters:** Nairobi, Kenya.
 - **Key Reports:** Emission Gap Report, Adaptation Gap Report, and Global Environment Outlook.
- **Nature-based Solutions (NbS):**
 - Defined as actions to protect, sustainably manage, and restore natural or modified ecosystems to address societal challenges (e.g., carbon sequestration via forests, mangrove restoration for disaster risk reduction).
- **Rio Conventions:**
 - Refers to the three major environmental agreements from the **1992 Earth Summit**:
 - **UNFCCC** (Climate Change)
 - **UNCBD** (Biological Diversity)
 - **UNCCD** (Desertification)

Centre Amends Uniform Consent Guidelines Under Air and Water Acts

What's the News?

- The **Union Ministry of Environment, Forest and Climate Change** has amended the **Uniform Consent Guidelines** notified under the **Air (Prevention and**

Control of Pollution) Act, 1981 and the **Water (Prevention and Control of Pollution) Act, 1974**.

- The amendments aim to **streamline environmental approvals** for industries across all States and Union Territories, reduce procedural delays, and strengthen compliance mechanisms while maintaining environmental safeguards.
- Key reforms include **lifetime validity** for Consent to Operate (until cancelled), **single-window consolidated consents, deemed approvals** for micro and small enterprises in notified industrial estates, and involvement of **private environmental auditors** in compliance verification.

Key Amendments Explained

Consent to Operate: Valid Until Cancelled

- **Change: Consent to Operate (CTO),** once granted, will remain **valid until cancelled** rather than requiring periodic renewals (previously every 5–15 years depending on pollution potential).
- **Impact:** Eliminates repeated renewals, reduces paperwork, cuts compliance burden, and prevents operational disruptions caused by renewal delays.
- **Safeguard:** Environmental compliance continues through **periodic inspections**, and consent can be **cancelled for violations**.
- **Red Category Industries:** Processing time reduced from **120 days to 90 days** for high-pollution industries.

Consolidated Consent and Authorisation

- **Single-Window System:** State Pollution Control Boards (SPCBs) and Pollution Control Committees (PCCs) can now process **one common application** and issue integrated permissions covering:
 - Consents under **Air and Water Acts**
 - Authorisations under various **Waste Management Rules** (Hazardous, Plastic, E-waste, etc.)
- **Benefit:** Reduces multiple applications, shortens approval timelines, and maintains monitoring/compliance provisions.

Third-Party Verification

- **Registered Environmental Auditors:** Certified under the **Environment Audit Rules, 2025**, can now conduct site visits and verify compliance alongside SPCB officers.

- **Objective:** Strengthens verification while enabling Boards to focus on **high-risk industries** and enforcement.
- **Concern:** Environmentalists question consistency and independence of private audits.

Special Provisions for MSMEs

- **Deemed Consent to Establish:** Micro and Small Enterprises (**MSEs**) operating in **notified industrial estates** receive automatic CTE upon submitting **self-certified applications**, as land in these estates has undergone prior environmental assessment.
- **Siting Norms:** Rigid minimum-distance criteria replaced with **site-specific environmental assessments** based on proximity to water bodies, settlements, monuments, and ecologically sensitive zones.
- **Fee Structure:** States can levy **one-time CTO fees** for periods ranging from 5 to 25 years, reducing repetitive collection.

Balancing Business and Environment

Ease of Doing Business

- Aligns with **"One Nation, One Consent"** principle, ensuring consistency, transparency, and accountability across States.
- **Uniform definition of capital investment** introduced in Schedule II to remove ambiguity in fee assessment.
- Addresses uncertainty caused by delays in CTO renewals that previously disrupted industrial operations.

Environmental Safeguards Retained

- Provisions for **refusal or cancellation** of consent remain intact in cases of:
 - Non-compliance with environmental standards
 - Violation of consent conditions
 - Environmental damage
 - Operation in **prohibited areas**
- **CETP Exemption:** Common Effluent Treatment Plants exempted from separate environmental clearance requirements, streamlining infrastructure development.

Additional Info

Legal and Constitutional Framework

- **Article 14** (Right to Equality): Ensures uniform application of consent rules across States, preventing arbitrary discrimination.
- **Article 19(1)(g)** (Freedom to practice trade/profession): Facilitates industrial growth while subject to reasonable restrictions under **Article 19(6)** for environmental protection.
- **Article 21** (Right to Life): Interpreted by Supreme Court to include **right to clean environment** and **right to health**, forming basis for stringent environmental regulation.
- **Article 48A** (Directive Principles): Mandates State to protect and improve environment, safeguarding forests and wildlife.

Key Statutes and Bodies

- **Air (Prevention and Control of Pollution) Act, 1981:** Regulates air emissions from industrial plants and vehicles; establishes **Central and State Pollution Control Boards**.
- **Water (Prevention and Control of Pollution) Act, 1974:** Controls water pollution and maintains water quality standards.
- **Environment (Protection) Act, 1986:** Umbrella legislation providing framework for coordination of central and state environmental regulation.
- **Industry Categorisation:**
 - **Red Category:** High pollution potential (e.g., chemicals, cement, heavy industries) – requires stringent monitoring. (Pollution Index score of **60 and above**)
 - **Orange Category:** Moderate pollution. (Pollution Index score of **41 to 59**.)
 - **Green Category:** Low pollution potential. (Pollution Index score of **21 to 40**.)
 - **White Category:** Practically non-polluting – exempt from consent requirements. (Pollution Index score **up to 20**)

World Bank Releases 'A Breath of Change' Report on Indo-Gangetic Air Pollution

What's the News?

- The **World Bank** released a comprehensive report titled '**A Breath of Change: Solutions for Cleaner Air in the Indo-Gangetic Plains and Himalayan Foothills**'.
- Highlights that the **Indo-Gangetic Plains (IGP)** and **Himalayan Foothills (HF)** region faces the world's most severe air pollution crisis, affecting **India, Pakistan, Nepal, and Bangladesh**.
- Calls for **urgent cross-border cooperation** and region-specific mitigation strategies to address transboundary pollution and protect **1.5 billion people** living in the region.

Indo-Gangetic Pollution Crisis?

- **Geographic Spread:** The IGP-HF region covers **57% of India's population** but generates only **25% of national GDP**, indicating high population density with relatively lower economic productivity.
- **Pollution Levels:** **PM2.5 concentrations** in the region are **10-12 times higher** than WHO prescribed guidelines, with seasonal spikes during winter months due to **stubble burning** and **temperature inversion**.
- **Health Burden:** **40% of global air pollution-related deaths** occur in South Asia, disproportionately affecting vulnerable populations including children and elderly; causes an estimated **8-10% GDP loss** annually due to health costs and productivity losses.
- **Climate Nexus:** **Black carbon** deposits from IGP pollution accelerate **Himalayan glacier melt**, threatening water security for downstream nations.

Report Recommendations?

- **Regional Cooperation:** Establish **South Asia Air Quality Management Framework** to tackle transboundary pollution through standardized monitoring, data sharing, and joint early warning systems.
- **Sectoral Interventions:**
 - **Agriculture:** Promote alternatives to crop residue burning through **ex-situ management, bio-decomposer usage, and crop diversification**.

- **Transport:** Accelerate adoption of **electric vehicles (EVs)**, strengthen **public transport networks**, and enforce **BS-VI norms** strictly.
- **Industry:** Mandate **Flue Gas Desulphurization (FGD)** units in thermal power plants and promote **zig-zag technology** in brick kilns.
- **Household:** Expand **LPG penetration** under **Pradhan Mantri Ujjwala Yojana (PMUY)** and promote **improved biomass cookstoves** in rural areas to reduce **solid fuel burning**.
- **Institutional Strengthening:** Enhance technical and financial capabilities of **State Pollution Control Boards (SPCBs)** and establish **dedicated air quality cells** at district levels.

Additional Info

- **Indo-Gangetic Plains (IGP):**
 - Also known as **Indus-Ganga-Brahmaputra Plains**, stretches from **Pakistan to Bangladesh** covering approximately **2.5 million sq km**.
 - Home to over **400 million people**, making it one of the world's most densely populated regions.
 - **Agricultural Heartland:** Accounts for **50% of India's food grain production** with intensive **rice-wheat cropping system** contributing to seasonal biomass burning.
- **Regulatory Framework:**
 - **National Clean Air Programme (NCAP):** Launched by **Ministry of Environment, Forest and Climate Change (MoEFCC)**, targets **20-30% reduction in PM10 and PM2.5 levels** by 2024-25 in **131 non-attainment cities** through **city-specific action plans**.
 - **Commission for Air Quality Management (CAQM):** Statutory body established under **CAQM Act, 2021** for **National Capital Region (NCR)** and adjoining areas; replaced **Environment Pollution (Prevention and Control) Authority (EPCA)**.
 - **Graded Response Action Plan (GRAP):** Emergency measures triggered based on **Air**

Quality Index (AQI) levels in Delhi-NCR; implemented by **CAQM**.

- o **National Ambient Air Quality Standards (NAAQS)**: Prescribed by **Central Pollution Control Board (CPCB)**; PM_{2.5} annual limit **40 µg/m³** (against WHO's **5 µg/m³**).
- **Constitutional & Legal Provisions:**
 - o **Article 21**: Right to clean air recognized as part of **Right to Life** (*Subhash Kumar v. State of Bihar*, 1991; *M.C. Mehta v. Union of India* series).
 - o **Article 48A**: Directive Principle for State to **protect and improve the environment** and safeguard forests and wildlife.
 - o **Article 51A(g)**: Fundamental duty of citizens to **protect and improve the natural environment** including forests, lakes, rivers, and wildlife.
 - o **Article 253**: Empowers Parliament to legislate on matters related to **international agreements** (led to **Environment Protection Act, 1986** following Stockholm Conference, 1972).
 - o **Air (Prevention and Control of Pollution) Act, 1981**: Primary legislation administered by **CPCB** and **SPCBs**; provides framework for air quality monitoring and regulation.
- **International Commitments:**
 - o **Sustainable Development Goals (SDGs)**: **SDG 11** (Sustainable Cities and Communities) and **SDG 3** (Good Health and Well-being).
 - o **Paris Agreement**: India's **Nationally Determined Contributions (NDCs)** include reducing emission intensity of GDP by **45%** by 2030 from 2005 levels and achieving **Net Zero** by 2070.
 - o **Climate and Clean Air Coalition (CCAC)**: India is a partner in this global initiative to reduce **short-lived climate pollutants (SLCPs)** including **methane** and **black carbon**.
- **Key Pollutants & Sources:**
 - o **PM_{2.5} and PM₁₀**: Primary pollutants of concern; major sources include **vehicular emissions** (20-30%), **industrial discharge** (20-25%), **dust** (construction and

road), **agricultural burning** (15-20% during winter), and **domestic heating/cooking**.

- o **Ground-level Ozone**: Secondary pollutant formed by reaction between **NO_x** and **VOCs** in presence of sunlight; affects crop yields significantly.

Centre Notifies Solid Waste Management Rules 2026

What's the News?

- The **Ministry of Environment, Forest and Climate Change (MoEFCC)** notified the **Solid Waste Management (SWM) Rules, 2026**, replacing the **SWM Rules, 2016** to address emerging challenges in urban waste management.
- Introduces stringent compliance mechanisms for **urban local bodies (ULBs)**, enhanced **Extended Producer Responsibility (EPR)** frameworks, and mandates **digital monitoring** of waste streams from generation to disposal.
- Targets **complete remediation of legacy waste** (old landfill sites) by **2031** and mandates **100% source segregation** in all statutory towns within two years of notification.

Key Regulatory Changes?

- **Source Segregation Mandate:**
 - o **Three-bin system** (dry, wet, hazardous) mandatory at all households, commercial establishments, and institutions.
 - o **Bulk waste generators** (housing societies, hotels, malls producing >100 kg/day) must process biodegradable waste **on-site** or pay operational charges to ULBs for external processing.
- **Digital Waste Tracking:**
 - o **GPS-enabled monitoring** of waste transport vehicles and **QR-code based tracking** of waste collection to prevent illegal dumping.
 - o **Centralized digital platform** integration mandatory for all ULBs with population >1 lakh for real-time compliance reporting.
- **Enhanced EPR Framework:**

- **Producers, importers, and brand owners (PIBOs)** now accountable for **plastic packaging waste** and **e-waste** through revised EPR targets with quarterly compliance filings.
- **Deposit Refund Scheme (DRS)** introduced for specific plastic products to incentivize return and recycling.
- **Legacy Waste Remediation:**
 - **Bio-mining and bio-remediation** made mandatory for all landfill sites >10 years old.
 - **Landfill reclamation targets:** 50% by 2028, 100% by 2031; reclaimed land to be used for **parks, green belts, or solar installations** only.
- **Construction & Demolition (C&D) Integration:**
 - **C&D waste processing facilities** mandatory in all cities with population >5 lakh.
 - **Utilization of recycled C&D waste** mandated in all government infrastructure projects within 100 km radius of processing facilities.

Implementation Architecture?

- **Institutional Hierarchy:**
 - **Central Pollution Control Board (CPCB):** National monitoring and EPR registry maintenance.
 - **State Pollution Control Boards (SPCBs):** State-level enforcement, authorization to waste processing facilities, and penalty imposition.
 - **District Magistrates:** Chairman of **District Level Monitoring Committees (DLMC)** for rural and small town oversight.
- **Financial Mechanisms:**
 - **Solid Waste Management Cess:** ULBs empowered to levy user charges based on **polluter pays principle**; differential pricing for residential, commercial, and industrial categories.
 - **Green Bonds:** Municipal corporations eligible to raise funds through SWM-specific green municipal bonds for capital infrastructure.
- **Penalty Structure:**
 - **Environmental Compensation (EC)** charges for non-segregation: ₹500–₹20,000

depending on waste volume and repeat violations.

- **Criminal liability** for illegal dumping in water bodies or public spaces, including imprisonment up to **5 years** and fines up to ₹1 crore for repeat corporate offenders.

Additional Info

- **Constitutional & Legal Framework:**
 - **Article 243W (12th Schedule):** Municipalities mandated to manage solid waste and public sanitation as per **74th Constitutional Amendment Act, 1992**.
 - **Article 51A(g):** Fundamental duty of citizens to **protect and improve the natural environment**.
 - **Environment (Protection) Act, 1986:** Parent legislation enabling SWM Rules notification under **Section 3** and **Section 6**.
 - **Biomedical Waste Management Rules, 2016** and **Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016:** Operate concurrently; SWM Rules exclude these specific waste streams from their purview.
- **Related Initiatives:**
 - **Swachh Bharat Mission-Urban 2.0:** Focuses on **garbage-free cities** and **sewerage management**; SWM Rules 2026 provide statutory backing to mission targets.
 - **Circular Economy Action Plan:** MoEFCC's framework promoting **reduce, reuse, recycle (3R)** principles; SWM Rules operationalize circularity in municipal solid waste.
 - **Plastic Waste Management Rules, 2016 (Amended):** Convergence with SWM Rules for **single-use plastic ban** enforcement and **plastic waste minimization**.
- **Key Concepts:**
 - **Legacy Waste:** Old municipal waste deposited at landfill sites without proper segregation or processing, often spanning decades; estimated **3,000+ lakh tonnes** accumulated across Indian landfills.

- o **Biomining:** Processing of legacy waste to recover recyclables (metals, plastics), inert materials (sand, grit), and organic fractions for composting.
- o **Material Recovery Facilities (MRFs):** Specialized centers for sorting dry waste into high-value recyclables; Rules mandate MRFs in all cities >10 lakh population and towns >1 lakh with high waste generation.



Health Ministry Bans High-Dose Nimesulide and Tightens Cough Syrup Regulations

What's the News?

- The **Ministry of Health and Family Welfare** has banned the manufacture, sale, and distribution of all **oral formulations** of the painkiller **Nimesulide** containing more than **100 mg** in immediate-release form.
- The ban, effective immediately, was issued under **Section 26A** of the **Drugs and Cosmetics Act, 1940**, following recommendations from the **Drugs Technical Advisory Board (DTAB)** and the **Indian Council of Medical Research (ICMR)**.
- Simultaneously, the government has moved to end **Over-the-Counter (OTC)** sales of **cough syrups** by removing them from **Schedule K** of the Drugs Rules, 1945, meaning they will now require a prescription.
- These measures are part of a broader regulatory push to enhance **patient safety** and align Indian drug standards with global best practices.

Understanding the Nimesulide Ban

- **Specific Target:** The prohibition applies only to **oral tablets or liquids** exceeding 100 mg in **immediate-release** form.
 - It does **not** affect lower-dose formulations (100 mg or less) or non-oral forms like **topical gels and creams**.
- **Health Rationale:** Regulators cited significant risks of **hepatotoxicity** (liver toxicity), especially in cases of prolonged use or higher doses.
- **Vulnerable Groups:** The ICMR highlighted increased risks for **pregnant women, lactating mothers**, and the **elderly** (60+ years), who are more prone to fatal gastrointestinal bleeding and kidney stress.
- **Availability of Alternatives:** The government noted that safer **Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)** like **Paracetamol** are readily available, making high-dose Nimesulide unnecessary.

Key Regulatory Bodies & Legal Framework

- **Drugs and Cosmetics Act, 1940:** The primary legislation regulating the import, manufacture, and distribution of drugs in India.
- **Section 26A:** Empowers the Central Government to prohibit a drug if it is satisfied that the drug involves **risk to human beings** or lacks therapeutic justification.
- **Drugs Technical Advisory Board (DTAB):** The highest technical body that advises both Central and State governments on drug-related technical matters.
- **Schedule K:** A list of medicines that were previously exempted from certain regulatory requirements, such as requiring a prescription for sale.

India Jumps to 8th Rank Globally in WHO Pharmacovigilance Contributions

What's the News?

- India has achieved a significant milestone by rising from **123rd to 8th rank** globally in terms of **pharmacovigilance contributions** to the **World Health Organization (WHO)**.
- Union Health Minister **J.P. Nadda** announced this achievement, highlighting India's strengthened mechanism for monitoring **Adverse Drug Reactions (ADRs)**.
- This jump reflects a robust increase in reporting drug safety data to the **WHO-Uppsala Monitoring Centre (UMC)**, ensuring safer medicine usage globally.

What is Pharmacovigilance?

- **Definition:** The science and activities relating to detection, assessment, understanding, and prevention of adverse effects or any other medicine- or vaccine-related problems.
- **WHO's Role:** Coordinates global efforts through **VigiBase**, managed by the **Uppsala Monitoring Centre (UMC)**, Sweden.
- **Key Functions:**
 - **ADR collection & analysis** from national centres.

- **Signal detection** (early warning of emerging risks).
- **Risk–benefit evaluation** for regulatory actions.
- **Capacity-building** in low- and middle-income countries.

India's Pharmacovigilance Progress

- **Data Contribution:** India now contributes approximately **5% of the total global ADR reports** sent to the WHO database, **VigiBase**.
- **Reporting Numbers:** The number of ADR reports from India increased from a few hundred annually a decade ago to over **1.5 lakh reports** in recent years.
- **Institutional Growth:** The expansion of **Adverse Drug Reaction Monitoring Centres (AMCs)** across the country, from a handful to over **800**, has been a key driver of this progress.
- **Digital Integration:** Use of the **VigiFlow** software and the **PvPI (Pharmacovigilance Programme of India)** mobile app has streamlined the reporting process for healthcare professionals and consumers.

Pharmacovigilance Programme of India (PvPI)

- **Launch & Management:** Launched in **2010**, PvPI is coordinated by the **Indian Pharmacopoeia Commission (IPC)**, Ghaziabad, which acts as the **National Coordination Centre (NCC)**.
- **Objective:** To monitor the safety of medicines, vaccines, and medical devices to reduce the risks associated with their use.
- **Regulatory Link:** Data generated by PvPI assists the **Central Drugs Standard Control Organization (CDSCO)** in making informed regulatory decisions, such as changing drug labels or banning unsafe medicines.

FDA Approves 'Aqvesme': First Oral Pill for

Thalassemia Anemia

What's the News?

- The **U.S. Food and Drug Administration (FDA)** approved **Aqvesme (mitapivat)** on **December 23, 2025**, as the first oral treatment for anemia in adults with **alpha-** or **beta-thalassemia**.

- The twice-daily pill is a landmark "disease-modifying" therapy that targets the disorder at its **cellular core** rather than just managing symptoms.
- It is the only medication approved for both **transfusion-dependent (TDT)** and **non-transfusion-dependent (NTDT)** forms of the disease.
- While initially available in the U.S. starting in **late January 2026**, Indian experts hail the approval as a "game changer" for India's high thalassemia burden, pending local regulatory clearance.

How Aqvesme Works?

- **Pyruvate Kinase (PK) Activator:** Aqvesme works as an oral small-molecule allosteric activator of the **red blood cell-specific pyruvate kinase (PKR)** enzyme.
- **Energy Boost:** By enhancing PK activity, it improves the **energy balance** (ATP production) within red blood cells.
- **Increased Survival:** The treatment stabilizes fragile red blood cells, allowing them to **survive longer** in the bloodstream and improving their ability to transport oxygen.
- **Reduced Burden:** By addressing **ineffective erythropoiesis** (poor RBC production), it significantly increases hemoglobin levels and reduces dependence on lifelong blood transfusions.

Key Clinical Findings

- **ENERGIZE Trials:** Approval was based on data from the global Phase 3 **ENERGIZE** and **ENERGIZE-T** trials involving **452 adults**.
- **Hemoglobin Response:** In the ENERGIZE trial (NTDT), **42%** of patients achieved a hemoglobin increase of **≥1 g/dL**, compared to only 2% in the placebo group.
- **Transfusion Reduction:** In the ENERGIZE-T trial (TDT), **30%** of patients achieved a **reduction in transfusion burden** of at least 50%.
- **Quality of Life:** Patients reported significant reductions in **debilitating fatigue** and improved walking capacity.

About Thalassemia in India

- India bears the **highest global burden** of thalassemia:
 - **~100,000–120,000** individuals live with **β-thalassemia major**

- o ~3.9% of the population (~42 million) are **carriers** of β -thalassemia trait
- o ~10,000–15,000 children born annually with thalassemia major
- States with highest prevalence: **Punjab, Gujarat, West Bengal, Bihar, Uttar Pradesh**, and **Northeast** tribal communities
- Current treatment burden:
 - o **Regular blood transfusions** (every 2–4 weeks)
 - o **Iron chelation therapy** (e.g., deferasirox, deferiprone) to prevent iron overload
 - o **Stem cell transplant**—only curative option, but limited by cost (~₹15–25 lakh) and donor availability

Centre Imposes Norms for AI-Based Cancer Detection

What's the News?

- The **Ministry of Health and Family Welfare** has brought **Artificial Intelligence (AI)** driven cancer detection and diagnostic software under formal regulatory oversight.
- The **Central Drugs Standard Control Organisation (CDSCO)** issued a notification classifying this software as **Class C medical devices**, a category reserved for **moderate-to-high risk** products.
- This decision means that **AI tools** already in use in some hospitals and diagnostic centers now require **official approval, safety validation, and continuous monitoring** before widespread clinical adoption.

New Regulatory Framework for AI Diagnosis

- **Classification:** AI software that analyzes **X-rays, CT scans**, and other medical images for cancer is now legally on par with medical devices.
- **Approval Process:** Developers must obtain **regulatory licenses** and undergo rigorous **safety and performance evaluations** to verify diagnostic accuracy.
- **Ongoing Oversight:** Once approved, these tools are subject to **post-market surveillance**, requiring developers to report any issues related to **patient safety**.

- **Quality Standards:** All manufacturers and developers must comply with prescribed **quality management systems**.

Why Class C? Regulatory Implications

Class C devices are deemed **moderately high-risk** and require stringent regulatory controls under the **Medical Device Rules, 2017**. AI cancer tools now fall under the same risk tier as lung ventilators and implantable devices, triggering the following obligations:

- **Pre-market approval** from the Central Licensing Authority;
- **Clinical evaluation report (CER)** demonstrating diagnostic accuracy and safety;
- **Risk analysis documentation** as part of the technical dossier;
- **Quality management system (QMS)** certification (e.g., ISO 13485) and potential CDSCO audits;
- **Mandatory adverse event reporting** and post-market safety surveillance via **Form MD-41**.
The approval process is estimated to take **6–12 months**, including clinical evaluation and central-level review.

Additional Info

- **CDSCO (Central Drugs Standard Control Organisation):**
 - o The national regulatory body for pharmaceuticals and medical devices in India.
 - o Functions under the **Directorate General of Health Services**, Ministry of Health and Family Welfare.
- **Medical Devices Rules, 2017:**
 - o Categorizes devices into four risk classes: **Class A** (Low Risk) to **Class D** (High Risk).
 - Class A: Low risk (e.g., tongue depressors)
 - Class B: Low–moderate (e.g., syringes)
 - **Class C: Moderate–high risk (e.g., CT scanners, AI cancer diagnostics)** 20
 - Class D: High risk (e.g., cardiac stents)

Odisha to Launch India's First Chronic Kidney Disease (CKD) Registry

What's the News?

- **Odisha** is set to become the first state in India to implement a comprehensive **Chronic Kidney Disease (CKD) Registry**.
- The initiative, expected to roll out by **March 2026**, aims to establish a structured, state-wide database to track prevalence, enable early detection, and support long-term disease management.
- This move follows the observation of a rising burden of kidney diseases in the state, with official data recording nearly **20,000 cases** and over **4,700 deaths** in the last three years.
- The registry will fill a critical gap in public health data, as nearly **90% of CKD patients** are currently in early stages and often remain undocumented until they require dialysis.

Institutional Framework

The state has established a multi-layered governance structure to oversee the planning and implementation of the registry:

- **State Task Force:** A **12-member** body chaired by the **Chief Secretary of Odisha** to direct the initiative.
- **Technical Sub-Committee:** A **17-member** working group comprising experts from **AIIMS**, the **Indian Council of Medical Research (ICMR)**, and state health institutions.
- **Cross-Sectoral Collaboration:** The committee includes representatives from the **Pollution Control Board** and departments handling **drinking water, geology, and rural governance** to investigate environmental risk factors.
- **Digital Infrastructure:** The **National Informatics Centre (NIC)** is developing dedicated, web-based software to capture real-time data from all healthcare levels, from **Primary Health Centres (PHCs)** to medical colleges.

Key Objectives & Strategy

The registry is designed to transition from reactive treatment to proactive disease management:

- **Early Detection:** By tracking patients in early stages, the state aims to slow disease progression and reduce the need for expensive treatments like dialysis.

- **Hotspot Mapping:** The government will conduct surveys to identify **block-level hotspots** and investigate environmental causes like contaminated drinking water or soil.
- **Standardised Protocol:** A uniform protocol will be established for investigating CKD clusters and analysing disease burden to guide targeted interventions.
- **Addressing CKDu:** The registry will focus on **CKD of unknown origin (CKDu)**, which currently accounts for roughly **40%** of cases in the state.

Disease Burden in Odisha

According to recent state health reports and surveys:

- **Prevalence:** CKD affects approximately **14%** of Odisha's population above the age of 15.
- **Leading Causes:** **Diabetes** and **hypertension** are responsible for about **60%** of total cases.
- **Districts at Risk:** Regions like **Sambalpur, Cuttack, Koraput, and Ganjam** have reported significantly higher case counts and mortality rates.
- **Healthcare Capacity:** Odisha currently operates **70 dialysis centres** with over 500 machines, providing free treatment under the **National Dialysis Programme**.

FDA Approves ZYCUBO: First-Ever Treatment for Rare Pediatric Menkes Disease

What's the News?

- The **US Food and Drug Administration (FDA)** has granted approval to **ZYCUBO (copper histidinate)**, making it the first and only approved therapy for **Menkes disease** in pediatric patients.
- Developed by **Sentyln Therapeutics**, a US-based subsidiary wholly owned by India's **Zydu Lifesciences**, the drug addresses a critical unmet medical need for a condition that was previously considered untreatable.
- Clinical data demonstrated that early intervention with the drug reduces the risk of death by nearly **80%** compared to untreated patients.

What is Menkes Disease?

- **Genetic Cause:** A rare **X-linked recessive disorder** caused by mutations in the **ATP7A gene**, which is responsible for transporting copper throughout the body.
- **Key Symptoms:** Characterized by distinctive sparse, brittle, and depigmented "**kinky hair**," as well as seizures, weak muscle tone (**hypotonia**), and severe neurodevelopmental delays.
- **Prognosis:** Without treatment, most affected children do not survive beyond **three years of age** due to progressive neurological deterioration.
- **Prevalence:** It primarily affects male infants, occurring in approximately **1 in 35,000** to **1 in 100,000** live births.

Features of ZYCUBO® and Clinical Evidence

- **Mechanism:** Delivers bioavailable copper directly into the bloodstream to counteract defective **ATP7A gene** function.
- **Dosing Regimen:**
 - **Twice daily** until age 12 months
 - **Once daily** thereafter, up to 3 years
- **Efficacy Outcomes:**
 - **Median overall survival: 177.1 months** with early treatment vs **17.6 months** in untreated historical controls
 - **80% reduction** in risk of death when initiated within 4 weeks of birth
- **Safety Profile:** Most common adverse events include pneumonia, seizures, dehydration, and injection-site reactions; no treatment discontinuations due to drug-related side effects.

Odisha Imposes Comprehensive Ban on Gutka and Tobacco Products

What's the News?

- The **Odisha government** has issued a fresh notification imposing a total ban on the manufacture, storage, sale, and distribution of **gutka, pan masala**, and all food products containing **tobacco** or **nicotine**.
- This decision aligns with the directives of the **Supreme Court of India** and the **Food Safety and Standards Authority of India (FSSAI)** to safeguard public health.

- The ban is primarily aimed at curbing the high prevalence of **oral cancer** and protecting the youth from the harmful effects of smokeless tobacco.
- Unlike previous orders, this notification explicitly prohibits the sale of tobacco and pan masala even in separate sachets intended to be mixed by consumers.

Gutka and Tobacco Ban in Odisha?

- **Scope of the Ban:** The prohibition covers a wide array of products including **gutka, pan masala, zarda, khaini**, and any other flavoured or scented food products containing nicotine or tobacco as ingredients.
- **Legal Framework:** The order has been issued under **Regulation 2.3.4** of the **Food Safety and Standards (Prohibition and Restrictions on Sales) Regulations, 2011**, framed under the **Food Safety and Standards Act, 2006**.
- **Closing Loopholes:** The 2026 notification supersedes a 2013 order. It addresses the "twin-pack" loophole where manufacturers sold pan masala and tobacco in separate conjoined sachets to bypass the definition of "food containing tobacco."
- **Enforcement & Penalties:**
 - **District Drugs Inspectors** and police officials have been authorized to conduct enforcement activities and raids.
 - Violations can lead to **strict penal action**, including the seizure of products, cancellation of trade licenses, and prosecution under the Food Safety Act.
 - Historical penalties under the Act include fines up to **₹10 lakh** and imprisonment up to **six years** for selling unsafe food causing grievous injury.

Additional Info

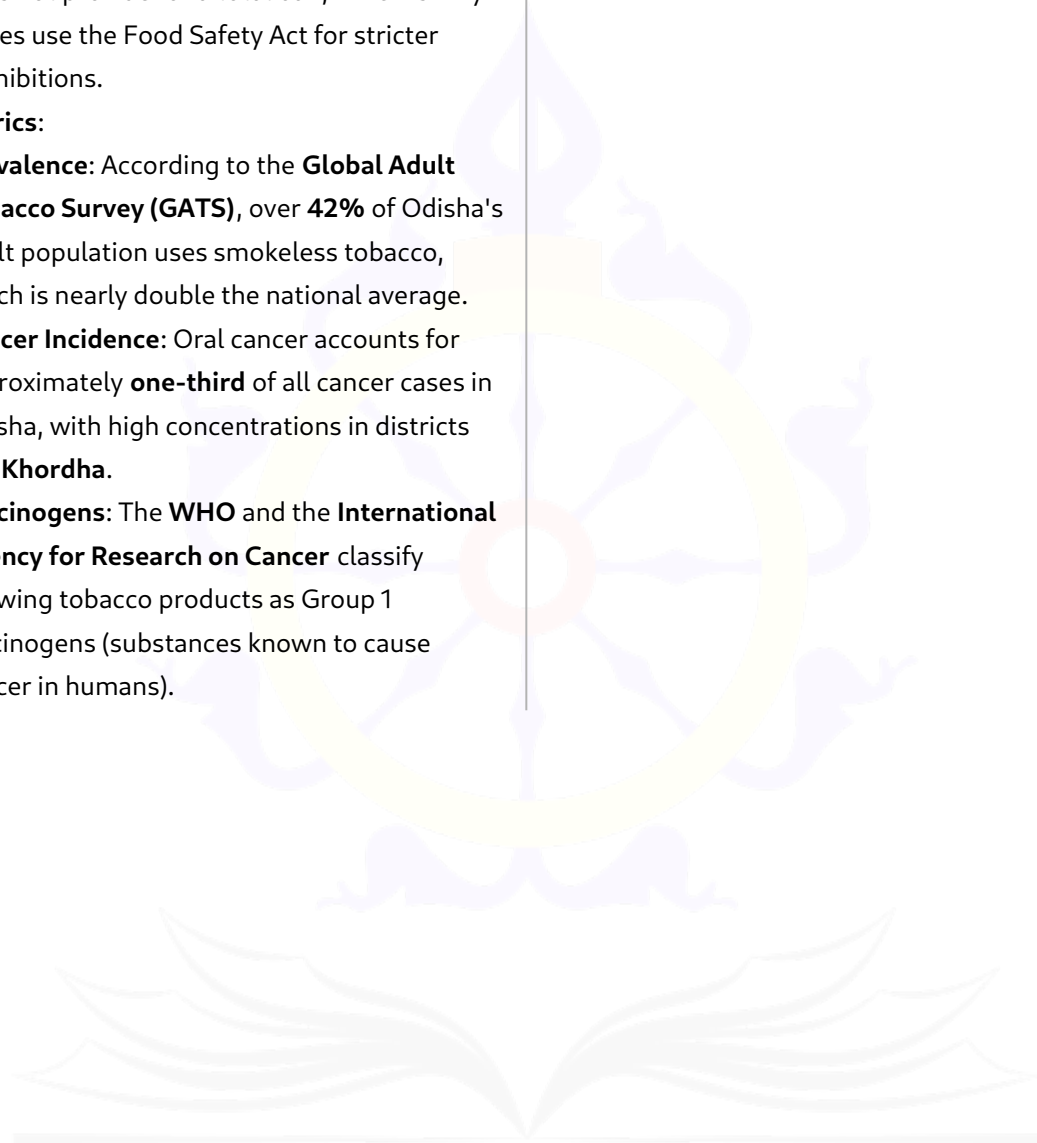
- **Constitutional Basis:**
 - **Article 47:** A **Directive Principle of State Policy (DPSP)** that mandates the State to raise the level of nutrition, standard of living, and improve public health. It specifically urges the State to endeavor to bring about the **prohibition of consumption of intoxicating drinks and drugs** harmful to health.

- **Relevant Legislation:**

- **Food Safety and Standards Act, 2006:**
Consolidates various laws relating to food and establishes **FSSAI** as the regulator. It defines "food" broadly, allowing for the regulation of chewable substances.
- **COTPA, 2003: The Cigarettes and Other Tobacco Products Act** regulates the trade, commerce, and advertisement of tobacco but does not provide for a total ban, which is why states use the Food Safety Act for stricter prohibitions.

- **Health Metrics:**

- **Prevalence:** According to the **Global Adult Tobacco Survey (GATS)**, over **42%** of Odisha's adult population uses smokeless tobacco, which is nearly double the national average.
- **Cancer Incidence:** Oral cancer accounts for approximately **one-third** of all cancer cases in Odisha, with high concentrations in districts like **Khordha**.
- **Carcinogens:** The **WHO** and the **International Agency for Research on Cancer** classify chewing tobacco products as Group 1 carcinogens (substances known to cause cancer in humans).



Education

UGC Notifies 2026 Regulations to Combat Caste Bias in Higher Education

What's the News?

- The **University Grants Commission (UGC)** has notified the **UGC (Promotion of Equity in Higher Education Institutions) Regulations, 2026**, replacing the 2012 framework.
- The regulations mandate all **Higher Education Institutions (HEIs)**—including central, state, and deemed-to-be universities—to establish formal mechanisms like **Equity Committees** and **Equal Opportunity Centres (EOCs)** to address caste-based discrimination.
- Notably, the final version explicitly includes **Other Backward Classes (OBCs)** under the ambit of caste-based discrimination, a major shift from the initial draft.
- The notification follows directives from the **Supreme Court**, issued during hearings of petitions by the mothers of **Rohith Vemula** and **Payal Tadvi**, who died by suicide due to alleged caste harassment.

Key Provisions of the 2026 Regulations

- **Expanded Definition of Caste-Based Discrimination:**
 - Explicitly includes **Scheduled Castes (SCs), Scheduled Tribes (STs), and Other Backward Classes (OBCs)**—addressing criticism of the earlier draft that excluded OBCs.
 - Defines discrimination as “any unfair, differential, or biased treatment” based on caste, tribe, religion, gender, disability, or place of birth, whether explicit or implicit.
- **Institutional Mechanisms:**
 - **Equal Opportunity Centre (EOC):** Mandatory in every HEI; provides academic, social, and financial support to disadvantaged groups and handles complaints.
 - **Equity Committee:** Chaired by the institution head; must include representatives from SCs, STs, OBCs, persons with disabilities, and women; meets at least **twice a year** and resolves complaints within **15 working days**.

- **Equity Helpline:** 24/7 toll-free helpline for reporting distress related to discrimination.
- **Equity Squads & Ambassadors:** Mobile squads for campus surveillance and designated ambassadors in departments/hostels to act as grievance nodal points.

- **Monitoring & Reporting:**

- HEIs must submit **bi-annual and annual reports** on demographic composition, dropout rates, and complaint status.
- UGC will constitute a **national-level oversight committee** with civil society and professional body representatives to review implementation.

Penalties for Non-Compliance

- Institutions violating the regulations may face:
 - **Debarment from UGC schemes**
 - **Ban on offering degree, online, or distance programmes**
 - **Removal from the UGC list under Sections 2(f) and 12B of the UGC Act, 1956.**

Additional Info

- **Expanded Definition:** Discrimination is now defined as any unfair or biased treatment based on **religion, race, caste, gender, place of birth, or disability**.
- **Omission of "False Complaints" Clause:** The UGC dropped a controversial draft proposal that suggested fining students for "false" complaints, to ensure victims are not deterred from speaking out.
- **Constitutional Linkages:**
 - **Article 14:** Right to equality
 - **Article 15:** Prohibition of discrimination on grounds of religion, race, caste, sex, or place of birth
 - **Article 21:** Right to life with dignity

Supreme Court Stays UGC Equity Regulations 2026 Over 'Divisive' Definition

What's the News?

- The **Supreme Court of India** stayed the implementation of the **University Grants Commission (Promotion of Equity in Higher Education Institutions) Regulations, 2026**, directing that the earlier **2012 regulations** shall remain in force until further orders.
- A bench comprising **Chief Justice of India Surya Kant** and **Justice Joymalya Bagchi** held that the 2026 framework was "**capable of misuse**", contained "**complete vagueness**", and risked creating "**sweeping consequences which will divide society**".
- The Court issued notices to the **Union Government** and **UGC** on petitions challenging the constitutional validity of the regulations, specifically contesting **Regulation 3(1)(c)** which defines caste-based discrimination exclusively in relation to **Scheduled Castes (SCs), Scheduled Tribes (STs), and Other Backward Classes (OBCs)**.

Why the Stay?

- **Exclusionary Definition:** Regulation 3(1)(c) limits the definition of "**caste-based discrimination**" to discrimination **only against SC/ST/OBC members**, effectively excluding students from the **general category** from the protective ambit of the grievance mechanism.
- **Hierarchy of Victimhood:** Petitioners argued this creates a constitutionally impermissible "**hierarchy of victimhood**" where the Equity Committees, helplines, and fast-track mechanisms would be accessible only to certain identity groups, regardless of the gravity of discrimination faced by others.
- **Procedural Inequality:** While the Constitution permits **affirmative action** under **Article 15(4)**, the Court observed that **grievance redressal**; unlike reservation must remain universally accessible to prevent violations of **Article 14** (Right to Equality) and **Article 21** (Access to Justice).
- **Practical Misuse:** The bench cautioned that vague provisions could be weaponized for personal

vendettas, potentially criminalizing campus interactions without safeguards against false complaints.

2012 vs 2026 Regulations: Key Differences

Aspect	2012 Regulations	2026 Regulations (Stayed)
Scope	Applied to all students; special focus on SC/ST protection	Explicitly excludes general category from caste-based discrimination definition
Protected Categories	SCs, STs (primary focus), but safeguards for all	Includes OBCs explicitly; excludes general category from caste discrimination purview
Specific Prohibitions	Detailed list: segregation in hostels/mess, labeling as "reserved category", discrimination in evaluation	General prohibition on discrimination; omits specific illustrative list
Infrastructure	Mandatory Equal Opportunity Cells and Anti-Discrimination Officers	Equal Opportunity Centres, Equity Committees (with SC/ST/OBC/Women/PwD representation), Equity Squads , and 24-hour helplines
Timeline	60 days to resolve complaint; 90 days for appeal	Specific 24-hour response requirement; 15 working days for report submission; 30 days for appeal

Punitive Action	Punishment commensurate with nature of act; no institutional penalties specified	De-recognition, debarment from UGC schemes, loss of degree-granting powers for non-compliant institutions
Hostel Segregation	Prohibited segregation in hostels, mess, canteens	Mandates "transparent, fair, and non-discriminatory" allocation but sparked concerns about separate hostels

Constitutional and Policy Concerns

- **Article 14 Challenge:** The petitioners contended that differential access to grievance mechanisms based solely on caste identity violates the **equal protection of laws**.
- **Article 15(4) vs. Article 15(1):** While Article 15(4) permits special provisions for SC/ST/OBCs, the Court questioned whether this extends to **procedural exclusions** in protective legislation.
- **Unity vs. Division:** The bench emphasized that educational institutions must reflect the **"unity of India"** rather than become sites of identity-based segregation. **CJI Kant** questioned: *"After 75 years of working towards a casteless society, are we becoming a regressive society?"*
- **Reverse Discrimination:** Protesters and petitioners alleged the regulations could facilitate **"reverse discrimination"** where general category students facing ragging or harassment from reserved category seniors would lack institutional recourse.

Additional Info

- **Origin of the 2026 Regulations:** The framework was developed following Supreme Court directions in a case filed by **Radhika Vemula** and **Abeda Salim Tadvi** (mothers of **Rohith Vemula** and **Payal Tadvi**), who highlighted systemic failures in addressing caste-based harassment in universities.
- **Timeline of Controversy:**
 - **January 13:** UGC notifies the 2026 regulations.

- **January 27–28:** Widespread protests erupt at **Delhi University, JNU, University of Hyderabad**, and UGC headquarters; **BJP** **functionary** resigns in Raebareli protesting the rules.
- **January 29:** Supreme Court grants interim stay and revives 2012 regulations.
- **Government Response: Union Education Minister Dharmendra Pradhan** defended the regulations as intended to ensure safe, equal environments, stating no discrimination would be permitted against any student, while promising clarifications.
- **Opposition to Stay:** Intervenors including **Senior Advocate Indira Jaising** argued that staying the regulations was akin to **"calling a fully abled person as disabled"**, emphasizing that caste discrimination against marginalized groups remains a pervasive reality in higher education.

Odisha Launches "Aame Padhiba Aama Bhasare" and Child Protection Drive

What's the News?

- The **Odisha government** has launched a new five-year educational initiative titled **"Aame Padhiba Aama Bhasare"** (We will study in our own language) to provide early childhood education in the **mother tongue**.
- Inaugurated by Deputy Chief Minister **Pravati Parida**, the scheme aligns with the **National Education Policy (NEP) 2020** by emphasizing foundational learning in native languages.
- Alongside this, the state launched a **100-day campaign to prevent child marriage** and a pilot project to address **teenage pregnancy** and support adolescent mothers.

"Aame Padhiba Aama Bhasare" Scheme Details

- **Target Group:** The programme specifically benefits children in the age group of **3–6 years** enrolled in Anganwadi centres.
- **Phased Implementation:** In its initial pilot phase, the scheme covers **six tribal languages:** Munda, Kui, Saura, Kuvi, Gondi, and Koya.

- **Geographical Focus:** The first phase is being rolled out in **six tribal-dominated districts**, including Keonjhar, Kandhamal, Gajapati, Rayagada, Nabarangpur, and Malkangiri.
- **Capacity Building:** Anganwadi workers are provided with language-specific training, educational materials, and audio-visual resources to facilitate effective learning.
- **Objective:** The goal is to strengthen early learning outcomes and preserve linguistic identity by removing language barriers at the foundational stage of education.

Child Protection & Awareness Campaigns

- **100-Day Campaign:** Aimed at making Odisha **child marriage-free by 2030**, focusing on community awareness, safety, and the active involvement of youth leaders and **ASHA workers**.
- **Teenage Pregnancy Pilot:** A project launched in **Mayurbhanj district** in collaboration with **UNICEF** to provide integrated health, nutrition, and social protection support to teenage mothers.
- **Infrastructure Updates:** New facilities, including an administrative building for the **State Institute of Women and Children** and residential quarters for field officers, were also inaugurated to bolster institutional support.

Additional Info

- **Legal and Policy Context:**
 - **Article 350A:** The scheme follows the constitutional directive for states to provide instruction in the **mother tongue** at the primary stage for linguistic minority groups.
 - **National Education Policy 2020:** Recommends using the home language as the medium of instruction at least until **Class 5**.
- **Future School Reforms (2026-27):**
 - The state plans to introduce **55 new textbooks** for Classes 1 to 8 in the next academic session, translated and contextualized from **NCERT** materials.
 - New subjects like **Art Education, Physical Education & Well-being**, and **Vocational Education** will be added to promote holistic development.

- Introduction of a **10-day bagless school system** for students in Classes 6 to 10 to increase learning flexibility.

MSDE Partners with Google Cloud and CCSU to Launch India's First AI-Enabled University Pilot

What's the News?

- The **Ministry of Skill Development and Entrepreneurship (MSDE)** has announced a collaboration with **Google Cloud** and **Chaudhary Charan Singh University (CCSU)**, Meerut, to establish **India's first AI-enabled state university pilot**.
- The initiative was launched at the **AI for Learning Forum** in New Delhi, aiming to create a national framework for modernising vocational and higher education through advanced Cloud and AI technologies.
- **CCSU Meerut** will function as a **living laboratory** for AI-led institutional reform and a **Centre of Excellence**, with learnings intended to scale across India's **50,000+ colleges** and **1,200+ universities**.
- The collaboration aligns with the vision of **Viksit Bharat 2047** and supports the objectives of the **National Education Policy (NEP) 2020** by bridging the digital divide between urban and regional institutions.

AI-Enabled University Framework?

- **Personalised Learning:** Students will access **AI tutors** that provide tailored educational paths, skill-gap analysis aligned with workforce requirements, and learning support in **local vernaculars** through Gemini's language capabilities.
- **Faculty Empowerment:** Teachers will transition to **AI-first learning architects**, using tools to design interactive simulations, multilingual teaching aids, and curriculum content adapted to individual student learning speeds.
- **Administrative Efficiency:** Implementation of **intelligent document processing** and **automated workflows** to reduce paperwork burdens and streamline institutional operations.

- **Democratised Access:** Initiative specifically targets students in **Tier-2 and Tier-3 cities**, ensuring youth from non-metro regions gain access to world-class mentorship and technical resources previously limited to premier urban institutes.

Broader Google Education Initiatives?

- **₹85 Crore Grant:** **Google.org** has committed funding to **Wadhvani AI** to integrate AI tools into national platforms including **SWAYAM** and **POSHAN Tracker**, targeting **75 million students** and **1.8 million educators** by 2027.
- **JEE Main Preparation:** Launch of **AI-powered JEE Main practice tests** within **Gemini**, developed with content from **PhysicsWallah** and **Careers360**, offering personalised difficulty levels, detailed feedback, and interactive explanations.
- **AI Mode in Search:** Students can generate structured study guides and interactive quizzes through **Google's Canvas tool**, enabling self-directed learning and revision.
- **Gemini AI Academy:** programme to support educators with AI tools for lesson planning, rubric creation, and quiz design, reducing administrative workload and maximising classroom engagement time.
- **Safety Measures:** Expansion of **SynthID digital watermarking** to help users identify AI-generated or edited content, promoting transparency in educational AI usage.

Implementation & Scale-Up Strategy?

- **Technical Partner:** **Placecom** appointed as dedicated implementation partner to oversee technical deployment and operational integration across CCSU's ecosystem.
- **Pilot to Policy:** MSDE will use insights from the CCSU pilot to develop a **National Best Practice Framework**, enabling institutions nationwide to self-credential as "**AI-enabled Universities**".
- **Scalability:** The framework aims to transform India's higher education ecosystem by providing a replicable model for **AI and Cloud technology integration** that addresses regional disparities in educational quality and access.

Economy & Finance

Government Rolls Out ₹4,531 Crore Market Access Support for Exporters

What's the News?

- The **Ministry of Commerce and Industry** has launched a revamped **Market Access Initiative (MAI)** scheme with a financial outlay of **₹4,531 crore**.
- The scheme is designed to provide sustained financial support to Indian exporters to enhance their presence in international markets and reach a target of **\$2 trillion in exports** by 2030.
- The primary focus is on promoting "Brand India" through marketing activities, standardisation, and addressing technical barriers to trade.

Key Components of the Support Scheme

- **Market Development Activities:**
 - Financial assistance for participating in international trade fairs, exhibitions, and **Buyer-Seller Meets (BSMs)**.
 - Support for conducting market surveys, branding campaigns, and product launches in overseas markets.
- **Capacity Building & Compliance:**
 - Funding for the **statutory compliance** of products, including registration charges for pharmaceuticals, agrochemicals, and cosmetics.
 - Support for the testing of export products to meet international standards and quality certifications.
- **Targeted Sectors:**
 - Special emphasis on **MSMEs**, handlooms, handicrafts, and agricultural exports to help small-scale producers enter global value chains.
 - Assistance for **Export Promotion Councils (EPCs)** and industry bodies to organize "India Pavilions" at major global events.
- **Logistics & Digital Support:**
 - Development of digital marketing portals and e-commerce integration for exporters.

- Reimbursement of airfare for participants from marginalized sectors and startups under specific criteria.

Additional Info

- **Market Access Initiative (MAI) Scheme:**
 - An **Export Promotion Scheme** acting as a catalyst to promote India's exports on a focus product-focus country basis.
 - Administered by the **Directorate General of Foreign Trade (DGFT)** under the Ministry of Commerce.
- **Foreign Trade Policy (FTP) 2023:**
 - Provides the overarching framework for these initiatives, moving from an incentive-based regime to a **remission and entitlement-based** regime.
- **Constitutional Context:**
 - **Trade and Commerce** with foreign countries falls under the **Union List (Entry 41, List I)** of the Seventh Schedule.
 - **Article 282:** Allows the Union to make grants for any public purpose, which includes financial support for economic development and trade.

IT Ministry Approves 22 More Firms Under Electronics Component Manufacturing Scheme

What's the News?

- The **Ministry of Electronics and Information Technology (MeitY)** approved **22 new projects** under the third tranche of the **Electronics Component Manufacturing Scheme (ECMS)**.
- These projects involve a projected investment of **₹41,863 crore** and are expected to generate production worth **₹2.58 lakh crore**.
- The initiative aims to strengthen **domestic supply chains**, reduce import dependence, and create approximately **33,791 direct jobs**.

- Major companies receiving approval include **Tata Electronics, Samsung Display, Foxconn** (Yuzhan Technology), **Dixon**, and **Hindalco**.

Third Tranche Highlights

- Product Categories:** The approvals cover **11 target-segment products** across three main categories:
 - Bare Components (5):** Printed Circuit Boards (PCBs), **Capacitors, Connectors, Enclosures**, and **Lithium-ion cells**.
 - Sub-assemblies (3):** **Camera Modules, Display Modules**, and **Optical Transceivers**.
 - Supply Chain Items (3):** **Aluminium Extrusion, Anode Material**, and **Copper-Clad Laminate**.
- Geographic Distribution:** The approved units will be set up across **eight states:** Andhra Pradesh, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Tamil Nadu, Uttar Pradesh, and Rajasthan.
- Cumulative Progress:** Including previous tranches, total approvals have now reached **46 companies** with a cumulative investment of **₹54,567 crore**.

Electronics Component Manufacturing Scheme (ECMS) Overview

- Outlay & Tenure:** The scheme has a total financial outlay of **₹22,919 crore** and a tenure of **six years**.
- Incentive Types:**
 - Turnover-linked:** Based on incremental sales over a base year (for segments like sub-assemblies and bare components).
 - Capex-linked:** Based on eligible capital investment (for supply chain ecosystem and capital equipment).
 - Hybrid:** A combination of both for specific industry needs.
- Primary Objective:** To develop a robust electronics component ecosystem and integrate Indian companies with **Global Value Chains (GVCs)**.

Additional Info

- Strategic Vision:**
 - The government aims to build a **\$500 billion** domestic electronics manufacturing ecosystem by **2030–31**.

- India has already emerged as the **world's second-largest** mobile phone manufacturer.

- Operational Guidelines:**

- Six Sigma Standards:** The IT Ministry has urged manufacturers to adhere to **Six Sigma** quality standards to ensure global competitiveness.
- Design Focus:** Companies are encouraged to establish in-house **design teams** to build indigenous intellectual property.

- Related Ecosystems:**

- India Semiconductor Mission (ISM):** Complements ECMS by focusing on chip fabrication and assembly.
- Production-Linked Incentive (PLI):** Target large-scale electronics manufacturing (e.g., mobile phones, IT hardware).

New Tax Regime for Tobacco and Pan Masala Effective February 1

What's the News?

- The **Ministry of Finance** has notified a major overhaul of the taxation framework for **tobacco products** and **pan masala**, set to take effect from **February 1, 2026**.
- This new regime replaces the existing **GST compensation cess** with a combination of **Additional Excise Duty** and a new **Health and National Security Cess**.
- The move follows parliamentary approval of the **Central Excise (Amendment) Act, 2025** and the **Health Security and National Security Act, 2025**.
- The restructuring aims to curb **tax evasion**, plug revenue leakages, and maintain high levies on "sin goods" as the compensation cess sunsets.

Revised Tax Structure and Rates

- GST Rate Changes:**
 - Pan masala, cigarettes**, and most **tobacco products** will attract a uniform **40% GST**.
 - Bidis** have been moved to the **18% GST** category.
- Cigarette Taxation (per 1,000 sticks):** The new excise duty is linked to stick length and filter type:

- **Unfiltered (<65 mm):** ₹2,050.
- **Filtered (<65 mm):** Approximately ₹2,100.
- **Filtered (70–75 mm):** ₹5,400.
- **Premium/Other categories:** Up to ₹8,500.
- **Smokeless Tobacco and Pan Masala:**
 - **Pan masala** will be subject to a **Health and National Security Cess** based on production capacity.
 - **Gutkha** will attract an additional excise duty of **91%**.
 - **Chewing tobacco and jarda scented tobacco** will face an excise duty of **82%**.

Additional Info

- **GST Compensation Cess History:**
 - Originally introduced in **2017** for five years to offset state revenue losses.
 - Extended until **March 2026** specifically to repay **₹2.69 lakh crore** in loans taken during the pandemic.
 - The new excise/cess regime ensures the tax incidence does not drop sharply once these loans are repaid by **January 31, 2026**.
- **Public Health Context:**
 - **WHO Benchmark:** The **World Health Organization** recommends a total tax incidence of **75%** on tobacco products.
 - Even with these hikes, India's total tax incidence on cigarettes remains at approximately **53%** of the retail price.
- **Purpose of the New Cess:**
 - Unlike general taxes, the **Health and National Security Cess** creates a non-lapsable resource stream for dedicated health awareness and security programs.

Centre Relaxes DSIR Norms to Boost Deep-Tech Startups

What's the News?

- Union Minister **Dr. Jitendra Singh** announced a major policy relaxation for deep-tech startups during the **42nd Foundation Day** of the **Department of Scientific and Industrial Research (DSIR)**.

- The government has removed the mandatory **three-year existence** condition for deep-tech startups to obtain official recognition and financial assistance.
- This reform is designed to provide "early momentum" to budding innovators and entrepreneurs, allowing them to scale faster before achieving operational maturity.

Relaxed Eligibility Norms

- **Removal of Tenure Barrier:** Previously, startups had to demonstrate sustainability for at least **three years** to qualify for **DSIR recognition**; this requirement is now scrapped for the deep-tech sector.
- **Financial Assistance:** Recognized startups can now avail financial support of up to **₹1 crore** under the **Industrial Research and Development Promotion Programme (IRDPP)** from day zero.
- **Selection Criteria:** While the tenure requirement is removed, startups must still adhere to evaluation standards linked to **technological maturity** to ensure funding for high-potential innovations.
- **Significance:** The move addresses the unique challenges of deep-tech ventures such as **biotechnology, semiconductors, and space tech** which involve long gestation periods and high upfront R&D costs.

Impact on Innovation and Industry

- **Circular of Support:** Early recognition facilitates access to other government R&D programs like **DST, CSIR, and TDB**, which often require DSIR certification for eligibility.
- **Fiscal Incentives:** Recognized units can benefit from **customs duty exemptions** on imported R&D equipment and lower **iGST** rates.
- **Investor Confidence:** Official recognition serves as a "trust signal" for private investors and venture capitalists, potentially crowding in more private capital for early-stage R&D.
- **Talent Retention:** Upfront financial support helps founders offer competitive compensation to high-end researchers and engineers, reducing talent migration.

Additional Info

- **Department of Scientific and Industrial Research (DSIR):**

- A part of the **Ministry of Science and Technology**, it acts as a vital bridge between government, academia, and industry.
- It is responsible for the recognition of **In-House R&D units** in industry and promoting technology transfer.
- **PRISM (Promoting Innovations in Individuals, Startups and MSMEs):**
 - A key scheme supporting "Proof of Concept" and prototype development.
 - New initiatives launched include the **PRISM Network Platform** and **Creative India 2025**.
- **Inclusion and Resilience:**
 - **Women Participation:** Over **10,000 women** are currently beneficiaries of DSIR schemes, including more than **55 women-led Self-Help Groups (SHGs)**.
 - **DSIR Disaster Management Plan:** Launched to reinforce preparedness and resilience within India's scientific infrastructure.

District-Led Textiles Transformation (DLTT) Plan Launched to Create Global Export Hubs

What's the News?

- The **Ministry of Textiles** has unveiled the **District-Led Textiles Transformation (DLTT)** initiative during the **National Textile Ministers Conference** held in **Guwahati**.
- This strategic plan aims to decentralize textile growth by transforming **100 high-potential districts** into "**Global Export Champions**" and elevating **100 "Aspirational Districts"** into self-reliant textile hubs.
- The initiative marks a shift from a broad sectoral approach to a focused, **district-centric model** tailored to local strengths, aiming to boost exports and formalize the workforce.

Key Pillars of the DLTT Plan

Data-Driven District Categorisation

- Districts were assessed and selected based on a rigorous data-driven scoring framework considering three key parameters:

- **Export Performance**
- **MSME Ecosystem Strength**
- **Workforce Presence**

- Based on this, districts are classified into two categories with distinct intervention strategies: **Champion Districts** and **Aspirational Districts**.

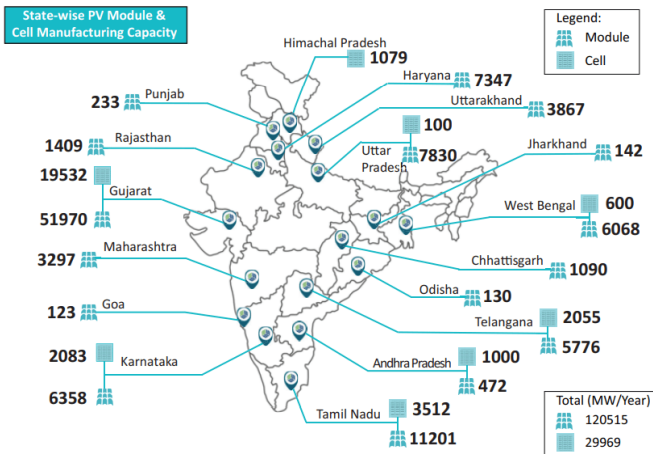
Two-Pronged Strategic Interventions

- **Champion Districts (Focus: Scale & Sophistication):**
 - Targeted to resolve advanced bottlenecks to compete globally.
 - Interventions include upgrading to **Mega Common Facility Centres (CFCs)**, integrating **Industry 4.0 technologies**, and establishing **direct export market linkages**.
- **Aspirational Districts (Focus: Foundation & Formalisation):**
 - Aimed at building the textile ecosystem from the ground up.
 - Focuses on **basic skilling and certification**, setting up **Raw Material Banks**, and promoting micro-enterprises through **Self-Help Groups (SHGs)** and cooperatives.

Purvodaya Convergence

- A special emphasis is placed on the **Eastern and North-Eastern regions** ("Purvodaya" vision).
- Priorities include **tribal belt development**, improving connectivity, and securing **Geographical Indication (GI) tags** for unique cultural handicrafts to position them in premium global markets.

India's PV Manufacturing Landscape: Strategic Inflection Points (TERI Report 2026)



What's the News?

- The Energy and Resources Institute (TERI) released a landmark report titled "India's PV Manufacturing & Its Strategic Inflection Points" during the Bharat Climate Forum (BCF) 2026 in New Delhi.
- The report provides a strategic assessment of India's solar photovoltaic (PV) value chain and identifies interventions needed to transition from a downstream-heavy industry to a globally competitive, self-reliant ecosystem.
- India's solar potential is now reassessed at over **10,800 GW**, emphasizing that the challenge is no longer just deployment but capturing domestic value through manufacturing and technology.

Current Landscape & Projections

- **Capacity Realities:**
 - By late 2025, India's **module manufacturing** capacity reached approximately **144 GW/year**, far exceeding the domestic demand of ~54 GW.
 - However, significant gaps exist upstream: India still imports **98% of its wafers** and **100% of its polysilicon**.
- **Projected Growth (by 2030):**
 - **Module capacity** is expected to exceed **280 GW/year**.
 - **Cell capacity** is projected to rise from ~30 GW to **171 GW/year**.

- **Policy Drivers:** The growth has been largely fueled by the **Production-Linked Incentive (PLI)** scheme, high import tariffs on finished panels, and the **Approved List of Models and Manufacturers (ALMM)**.

Key Challenges & Vulnerabilities

- **Upstream Dependencies:** The near-monopoly of China in upstream segments (~98% for wafers and ~92% for polysilicon) exposes India to geopolitical risks and supply chain disruptions.
- **Equipment Bottlenecks:** Over **90% of vital manufacturing tools** (e.g., ingot furnaces, deposition tools) are imported, creating foreign exchange (FX) risks and technological dependence.
- **Financing Constraints:** High costs of capital and risk perception for large-scale upstream "fabs" (fabrication facilities) hinder investments in capital-intensive stages.
- **Sustainability Gaps:** Lack of structured recycling infrastructure for PV waste and non-compliance with emerging global **ESG** (Environmental, Social, and Governance) standards could impact future exports.

TABLE 1.1 Market share of top PV manufacturing countries³

Country	Module	Cells	Wafers	Polysilicon
China	84.6	91.8	98	92
Vietnam	3.4	1.7	2	0
India	2.7	0.5	0	0
Thailand	2.3	0.6	0	0

India Tightens Crypto KYC Norms

What's the News?

- The **Financial Intelligence Unit-India (FIU-IND)** has introduced stringent new **Know Your Customer (KYC)** and **Anti-Money Laundering (AML)** protocols for cryptocurrency exchanges.
- These updated guidelines, issued in early January, classify crypto exchanges as **Virtual Digital Asset (VDA)** service providers and mandate advanced technology-based identity verification to curb money laundering and terror financing.
- The move marks a shift from simple document uploads to **real-time authentication**, aiming to eliminate the use of deepfakes and static images in the onboarding process.

New Mandatory Onboarding Requirements

- **Live Selfie with Liveness Detection:** Users must now take a "live selfie" using software that tracks physical presence through eye-blinking or head movements.
- **Geo-tagging and IP Logs:** Exchanges are required to capture the exact **latitude and longitude**, date, timestamp, and **IP address** from which a user initiates account creation.
- **"Penny-Drop" Verification:** To confirm bank account ownership, a nominal **₹1 transaction** is processed to ensure the account is active and belongs to the registrant.
- **Enhanced Identification:** In addition to a **Permanent Account Number (PAN)**, users must provide a secondary ID (Aadhaar, Passport, or Voter ID) and complete **OTP verification** for both email and mobile numbers.

Risk-Based Due Diligence and Restrictions

- **Periodic KYC Updates:** Exchanges must refresh KYC data every **six months** for "high-risk" clients and **annually** for all other users.
- **Enhanced Due Diligence (EDD):** Deeper scrutiny is mandatory for individuals linked to **tax havens**, countries on the **FATF grey or black list**, and **Politically Exposed Persons (PEPs)**.
- **Ban on Obfuscation Tools:** The guidelines explicitly prohibit exchanges from facilitating transactions involving **crypto tumblers, mixers**, or anonymity-enhancing tokens designed to hide the origin of funds.
- **Stance on ICOs/ITOs:** The FIU has "strongly discouraged" **Initial Coin Offerings** and **Initial Token Offerings**, citing a lack of economic justification and heightened financial risks.

Additional Info

- **Financial Intelligence Unit-India (FIU-IND):**
 - Operates under the **Union Ministry of Finance**.
 - Acts as the central national agency responsible for receiving, processing, and analyzing information related to suspect financial transactions.
- **Legal Framework:**

- **Prevention of Money Laundering Act (PMLA), 2002:** The primary legislation under which these guidelines are issued. All VDA service providers must register as "reporting entities" under PMLA.

- **Record Retention:** Exchanges are legally bound to preserve client identity and transaction records for a minimum of **five years**.

- **Indian Crypto Landscape:**

- Over **15 million** estimated crypto users in India.
- Top exchanges (WazirX, CoinSwitch, Bitbns) have begun implementing live selfie checks ahead of the February 2026 compliance deadline.

PFRDA Constitutes M.S. Sahoo Committee for Assured NPS Payouts

What's the News?

- The **Pension Fund Regulatory and Development Authority (PFRDA)** has established a high-level **15-member expert committee** chaired by **Dr. M.S. Sahoo** to develop a regulatory framework for **assured pension payouts** under the **National Pension System (NPS)**.
- The committee is tasked with shifting the NPS focus from merely accumulating wealth to providing **guaranteed income certainty** for subscribers post-retirement.
- Simultaneously, PFRDA issued revised guidelines for **NPS Vatsalya**, significantly easing exit norms and partial withdrawal rules to make the minor-focused scheme more attractive.

The M.S. Sahoo Committee on Assured Payouts

- **Composition:** Chaired by **Dr. M.S. Sahoo** (Former Chairperson of IBBI), the panel includes experts from legal, actuarial, finance, insurance, and academic backgrounds.
- **Primary Mandate:** To design a framework for **structured pension payouts** that offer subscribers greater certainty while maintaining the market-linked benefits of NPS.

- **Key Objectives:**
 - Developing transition mechanisms from the **accumulation phase** to the **decumulation (payout) phase**.
 - Evaluating market-based models that provide **legally enforceable guarantees** through novation and settlement structures.
 - Defining operational standards, including **lock-in periods, pricing frameworks, and capital adequacy** for providers.
 - Establishing disclosure norms to prevent **mis-selling** and ensure transparent management of subscriber expectations.

Eased Norms for NPS Vatsalya

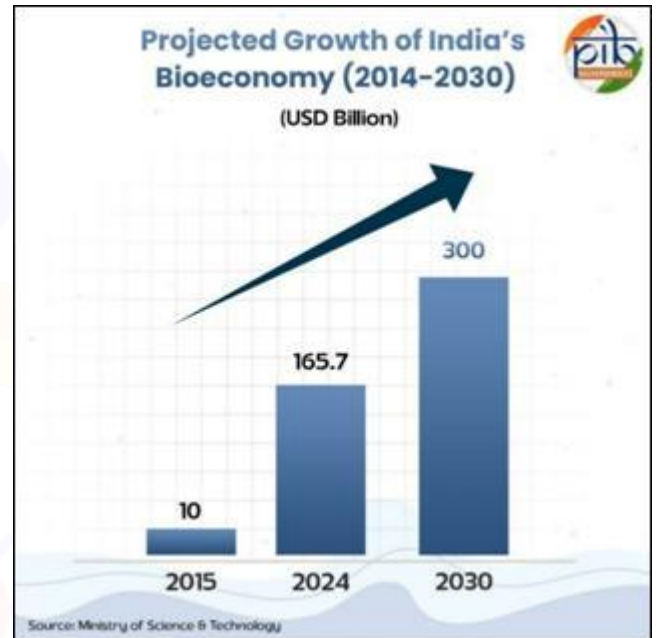
- **Revised Partial Withdrawals:**
 - Permitted after **3 years** of account opening for specific needs like education, medical treatment, or disability.
 - Subscribers can withdraw up to **25% of their own contributions** (excluding returns).
 - Withdrawals are allowed **twice before age 18** and **twice between ages 18–21**.
- **Flexible Exit Options:**
 - Upon reaching **18 years**, the account can be converted into a regular **NPS Tier-I account**.
 - Subscribers can exit with up to **80% of the corpus as a lump sum**, provided at least **20% is used for an annuity**.
 - **Full withdrawal** of the entire corpus is allowed if the total accumulated wealth is **₹8 lakh or less**.

Additional Info

- **About NPS:**
 - Launched in **2004** for government employees; opened to all citizens in **2009**.
 - Regulated by **PFRDA** under the **PFRDA Act, 2013**.
 - Operates on a **defined contribution** basis with investments in equity, corporate bonds, and government securities.
- **Recent Enhancements:**

- **Equity exposure** raised to **75%** for private subscribers
- **Maximum account age** extended to **85 years**
- **Minimum contribution** under NPS Vatsalya: **₹250** (no upper limit)

India's Bioeconomy Surges to \$165.7 Billion; Targets \$300 Billion by 2030



What's the News?

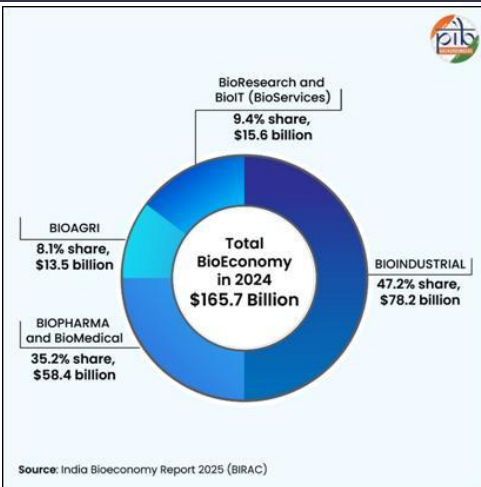
- India's **bioeconomy** has witnessed a remarkable **16-fold rise** over the past decade, growing from **\$10 billion in 2014** to **\$165.7 billion in 2024**.
- The government has set an ambitious target to reach a **\$300 billion valuation by 2030**, aiming to make the sector a cornerstone of India's sustainable economic growth.
- Union Home Minister **Amit Shah** recently highlighted this surge, noting that the sector now contributes **4.25% to the national GDP**.
- The growth is accompanied by a massive expansion in the startup ecosystem, with biotech startups increasing from fewer than **500 in 2014** to over **10,000 in 2025**.

Performance of Sub-sectors (2024)

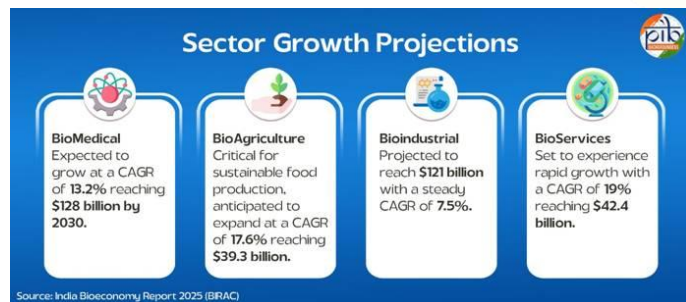
The Indian bioeconomy is driven by four primary segments, each contributing significantly to the overall valuation:

Sub-sector	Market Share	Valuation (\$ Billion)	Key Drivers
BioIndustrial	47%	\$78.2	Biofuels, bioplastics, and enzymatic applications.
BioPharma	35.2%	\$58.4	Global vaccine leadership and medical diagnostics.
BioResearch & IT	9.4%	\$15.6	Bioinformatics and contract research services.
BioAgri	8.1%	\$13.5	GM crops, bio-fertilizers, and precision farming.

- **National Biopharma Mission:**
 - Budget: **\$250 million** (co-funded by World Bank).
 - Supports **100+ projects** across **150+ organizations**, including **30 MSMEs**.
 - Established shared facilities for testing, validation, and manufacturing.
- **Biotech-KISAN:**
 - Operates in **115 Aspirational Districts**.
 - Boosted farmer incomes by **40–50%** in regions like Bastar (Chhattisgarh) through bio-fortified crops.
- **Bioenergy Expansion:**
 - **Ethanol blending** in petrol rose from **1.53% (2014) to 15% (2024)**, targeting **20% by 2025**.
 - Saved **₹99,014 crore** in forex, reduced **CO₂ emissions by 51.9 million metric tons**, and generated **₹1,45,930 crore** for distillers and **₹87,558 crore** for farmers.
 - **Second-generation ethanol refineries** utilize crop residue (e.g., parali) and bamboo, reducing stubble burning.

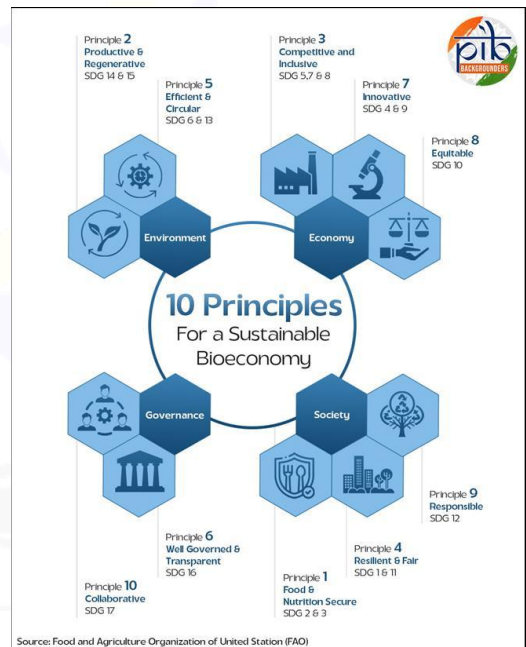


Sector Growth Projections



Government Initiatives Driving Growth

- **BioE3 Policy (Biotechnology for Economy, Environment, and Employment):**
 - Approved by Union Cabinet in August 2024.
 - Promotes **regenerative biomanufacturing, bio-foundry clusters, and bio-AI hubs**.
 - Aligns with India's **net-zero emissions goal** through circular bioeconomy models.

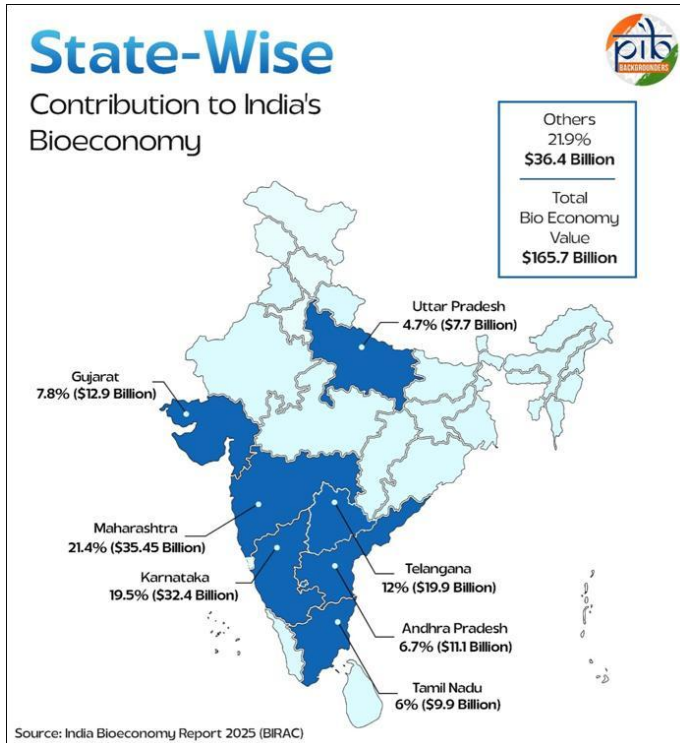


Startup & Innovation Ecosystem

- Biotech startups surged from **50 in 2014 to over 11,000 in 2026**.
- **BIRAC** (Biotechnology Industry Research Assistance Council) supports innovation via:
 - **Biotechnology Ignition Grant (BIG):** Up to **₹50 lakh** for early-stage startups.

- SEED Fund: ₹30 lakh equity for proof-of-concept stage.
- LEAP Fund: ₹100 lakh equity for commercialization-ready innovations.
- 95 bio-incubation centers nationwide foster entrepreneurship.

Contribution of Key States



Additional Info

- **Regional Dominance:** The Southern region leads with a 45.4% share (\$75.2 billion), followed by the West (30.3%), North (18.5%), and East (5.8%).
- **Nafithromycin:** India's first indigenous antibiotic developed to treat respiratory diseases.
- **BIRAC:** The **Biotechnology Industry Research Assistance Council (BIRAC)**, established in 2012, is the primary agency nurturing the biotech startup ecosystem.
- **One Health Mission:** A strategy that addresses diseases spreading from animals to humans, integrating human, animal, and environmental health.
- **BSL-4 Facilities:**
 - High-security labs for handling dangerous pathogens (e.g., Ebola, Nipah).
 - Second such facility launched in Gujarat (after Pune's NIV), enhancing pandemic preparedness and supporting the One Health Mission.

NITI Aayog Releases Export Preparedness Index (EPI) 2024

What's the News?

- NITI Aayog has released the fourth edition of the **Export Preparedness Index (EPI) 2024**, which evaluates the export readiness and performance of Indian States and Union Territories (UTs).
- **Maharashtra** has emerged as the top-performing state in the **Large States** category, overtaking Tamil Nadu, which led the 2022 ranking.
- In the **Small States, North-Eastern States & UTs** category, **Uttarakhand** secured the first position, followed by Jammu and Kashmir.
- The report, released by NITI Aayog CEO **B.V.R. Subrahmanyam**, aligns with India's goal of reaching **\$1 trillion in merchandise exports by 2030** and the broader vision of **Viksit Bharat @2047**.

Structure & Objectives of EPI 2024

- **Four Pillars** (with 13 sub-pillars and 70 indicators):
 - **Export Infrastructure:** Ports, logistics, digital connectivity
 - **Business Ecosystem:** Ease of doing business, MSME support, financial access
 - **Policy & Governance:** State export policies, institutional mechanisms
 - **Export Performance:** Merchandise and services exports, diversification
- **Key Objectives:**
 - Strengthen **subnational export ecosystems**
 - Promote **regional balance** and **employment generation**
 - Support India's goal of **\$1 trillion in merchandise exports by 2030**
 - Align with **Viksit Bharat @2047** vision
- **Classification System:**
 - States/UTs grouped into **Large States, Small States, North Eastern States, and UTs**
 - Within each group, categorized as **Leaders, Challengers, or Aspirers** for peer benchmarking

Key Enhancements in 2024 Edition

- New dimensions added:

- Macroeconomic stability
- Cost competitiveness
- Human capital development
- MSME integration into global value chains
- **District-level focus:** Encourages **place-based export strategies** leveraging local clusters (e.g., agri-processing, handicrafts, electronics)
- Uses **official data** from Central Ministries, State Governments, and public institutions

State Rankings and Categories

States are grouped and classified to ensure a fair comparative assessment based on their geography and economic structure:

Top 5 Performers: Large States

Rank	State	Score
1	Maharashtra	68.01
2	Tamil Nadu	
3	Gujarat	
4	Uttar Pradesh	
5	Andhra Pradesh	

Top 5 Performers: Small States, NE States & UTs

Rank	State/UT	Highlights
1	Uttarakhand	Topped through its Export and Logistics Policy and ODOP initiatives.
2	Jammu & Kashmir	Made a massive leap from 17th (2022) to 2nd position.
3	Nagaland	Showed steady progress beyond traditional hubs.
4	Dadra & Nagar Haveli and Daman & Diu	
5	Goa	

NITI Aayog Report: Achieving Efficiencies in MSME Sector Through Convergence of Schemes

What's the News?

- **NITI Aayog** released a comprehensive report titled "**Achieving Efficiencies in MSME Sector through Convergence of Schemes**" to streamline government support for India's Micro, Small, and Medium Enterprises (MSMEs).
- Launched by **NITI Aayog Member Dr. Arvind Virmani** and **CEO B. V. R. Subrahmanyam**, the report presents a strategic blueprint to enhance the effectiveness of **18 existing schemes** administered by the Ministry of MSME.
- The study identifies that overlapping objectives and fragmented implementation across various ministries often lead to **duplication of efforts**, inefficiencies, and limited outreach to beneficiaries.

Two-Pronged Convergence Strategy

The report advocates for a structured approach to transition from a fragmented support system to a unified ecosystem.

- **Information Convergence:** Focuses on integrating data generated by central and state governments to enable **informed decision-making**, better coordination, and strengthened governance.
- **Process Convergence:** Aims to unify operations by **merging similar schemes**, combining common components, and fostering inter-ministerial collaboration to reduce administrative redundancies.

Recommendations for Streamlining

- **Centralized Digital Portal:** Proposed as an **AI-powered platform** that integrates scheme details, compliance, finance, and market intelligence with real-time support via **AI chatbots**.
- **Cluster Development Integration:** Suggests merging the **Scheme of Fund for Regeneration of Traditional Industries (SFURTI)** with the **Micro and Small Enterprises - Cluster Development Programme (MSE-CDP)** under a unified governance structure.
- **Three-Tier Skilling Structure:** Recommends rationalizing skill initiatives into three specific categories:
 - Entrepreneurship and business management.

- o MSME technical and digital skills.
- o Specialized training for **rural and women artisans**.
- **Marketing Assistance Wing:** Proposes a dedicated wing with **domestic and international components** to facilitate MSME participation in trade fairs and global B2B events.
- **Innovation Consolidation:** Recommends integrating the **ASPIRE** (A Scheme for Promoting Innovation, Rural Industry & Entrepreneurship) scheme into the "**MSME Innovative**" program as a special category for agro-rural enterprises.

Safeguarding Flagship Initiatives

The report emphasizes "cautious convergence" to ensure that large-scale programs and vulnerable groups are not marginalized.

- **Independent Flagships:** Large programs like the **Prime Minister's Employment Generation Programme (PMEGP)** and **PM Vishwakarma** should remain independent due to their strategic economic significance and substantial scale.
- **Targeted Protection:** Schemes for specific groups, such as the **National SC/ST Hub** and programs for the **North Eastern Region (NER)**, must preserve their distinct focus to prevent dilution of impact.

Additional Info

- **Economic Significance of MSMEs:**
 - o Contribute approximately **30% to India's GDP** and **45-46% of total exports**.
 - o Employ over **28.7 crore people**, making it the second-largest employer after agriculture.
- **Administrative Scope:** The Ministry of MSME currently manages **18 schemes** covering credit, skilling, marketing, technology, and infrastructure.
- **Policy Context:** The report was prepared in collaboration with the **Administrative Staff College of India (ASCI)**.
- **MSME Classification (MSMED Act, 2006):**
 - o **Micro:** Investment ≤ ₹1 crore; Turnover ≤ ₹5 crore.
 - o **Small:** Investment ≤ ₹10 crore; Turnover ≤ ₹50 crore.
 - o **Medium:** Investment ≤ ₹50 crore; Turnover ≤ ₹250 crore.

NITI Aayog: Roadmap for Green Transition of MSMEs

What's the News?

- **NITI Aayog** released a comprehensive report titled "**Roadmap for Green Transition of MSMEs,**" outlining a strategic framework for industrial decarbonisation.
- The roadmap serves as a **10-year action plan** to guide India's **69 million Micro, Small, and Medium Enterprises (MSMEs)** toward sustainable, low-carbon growth.
- This initiative is designed to align the MSME sector with India's **Viksit Bharat 2047** vision and the national commitment to achieve **net-zero emissions by 2070**.
- The report was developed in consultation with various ministries, industry stakeholders, and knowledge partners like **WRI India**.

Economic & Environmental Impact of MSMEs

- **Economic Backbone:** MSMEs contribute nearly **30% to India's GDP** and account for approximately **45.7% of total exports**.
- **Employment Engine:** The sector provides livelihoods to over **250 million people**, making it the second-largest employer after agriculture.
- **Emissions Profile:** In 2022, MSMEs emitted approximately **135 million tonnes of CO₂e**, largely due to a heavy reliance on fossil fuels for energy.
- **Energy Consumption:** The sector accounts for more than **25% of the total energy** consumed by India's industrial sector.
- **Sub-sector Intensity:** Five key sub-sectors—**Textiles, Paper, Steel Rerolling, Foundry, and Forging**—account for more than **60%** of total MSME emissions.

Three Decarbonisation Levers

- **Energy Efficiency (EE):**
 - o **Objective:** Target a reduction in specific energy consumption by at least **20%** from current baselines.
 - o **Mechanism:** Scaling up the **Energy Service Company (ESCO)** model and a "**Pay-As-You-Save**" (**PAYS**) payment

structure to eliminate upfront costs for small units.

- o **Funding: ₹6,000 crore** is needed over five years to support technology upgrades.
- **Green Electricity (GE):**
 - o **Objective:** Transition from "brown" (fossil-based) grid power to renewable sources.
 - o **Mechanism:** Adoption of **Behind-the-Meter (BTM)** solar installations, **RESCO** models, and **Green Open Access** rules.
 - o **Specific Scheme:** Recommends a **PM Surya Ghar**-like initiative for individual MSMEs, with an initial allocation of **₹7,000 crore** for Phase I.
- **Alternative Fuels (AF):**
 - o **Objective:** Shift thermal energy requirements away from coal, pet coke, and furnace oil.
 - o **Mechanism:** Utilizing **Natural Gas, Biomass,** and **Compressed Biogas** through expanded **City Gas Distribution (CGD)** networks.

Institutional Mechanism & Implementation

- **National Project Management Agency (NPMA):** A dedicated agency to be established under the **Ministry of MSME** to drive on-ground implementation and demand aggregation.
- **Cluster-Based Framework:** Implementation will focus on industrial clusters to address systemic barriers at scale; the first phase targets **10 high-impact clusters** including Surat, Bhivandi, and Vapi.
- **Climate Sister Impact Fund (CSIF):** A proposed hybrid debt/equity fund (SEBI Category I/II AIF) to provide concessional capital for emerging high-potential low-carbon technologies.
- **MRV Framework:** A digital **Monitoring, Reporting, and Verification** tool to track emissions reductions and achievements, which is critical for risk mitigation and subsidy disbursement.

Additional Info

- **Global Regulatory Pressure:**
 - o **Carbon Border Adjustment Mechanism (CBAM):** The EU's carbon tax (effective 2026) will impose costs on carbon-intensive exports,

making green transition a necessity for MSMEs to remain globally competitive.

- o **Business Responsibility and Sustainability Reporting (BRSR):** SEBI mandates the top 1,000 listed Indian firms to report value chain (Scope 3) emissions, forcing MSME suppliers to disclose and reduce their carbon footprint.
- **Policy Links:**
 - o **ZED Certification:** Promoting **Zero Defect Zero Effect** manufacturing to minimize environmental impact.
 - o **ADEETIE Scheme:** Assistance for the deployment of energy-efficient technologies.
 - o **GIFT & SPICE:** Providing concessional finance for green transformation and circular economy initiatives respectively.

Govt Approves Five Companies in 4th Round of PLI Scheme for White Goods

What's the News?

- The **Ministry of Commerce and Industry** has provisionally selected **five companies** in the fourth round of the **Production Linked Incentive (PLI) Scheme for White Goods** (Air Conditioners and LED Lights).
- These companies—**Kirloskar Pneumatic, Indo-Asia Copper, Godrej & Boyce, Kryon Technology,** and **Pranav Vikas**—focus exclusively on manufacturing **Air Conditioner (AC) components**.
- The selection follows a competitive evaluation of **13 applications** received during the fourth application window, which was extended to November 2025 due to high industry interest.

White Goods PLI Scheme?

- **Objective:** To create a robust domestic component ecosystem and integrate India into global supply chains by reducing import dependence on critical parts.
- **Target Segments:**
 - o **Air Conditioners:** Components like compressors, copper tubes, heat exchangers, and **BLDC motors**.

- **LED Lights:** Components like LED chip packaging, drivers, engines, and light management systems.
- **Incentives:** Offers a financial incentive of **4% to 6%** on incremental sales of goods manufactured in India for a period of five years.
- **Value Addition:** Aims to increase **Domestic Value Addition (DVA)** from the current **20–25%** to **75–80%**.
- **Financial Outlay:** The scheme has a total cabinet-approved outlay of **₹6,238 crore** for implementation until FY 2028–29.

Fourth Round Selections & Impact?

- **Investment Commitment:** The five newly selected firms have committed a total investment of **₹863 crore**.
- **Projected Production:** These projects are expected to achieve a total production value of **₹8,337.24 crore** by FY 2027–28.
- **Employment Generation:** The fourth round is projected to create **1,799 additional direct jobs**.
- **Selected companies & investments:**
 - **Kirloskar Pneumatic Co. Ltd.:** ₹320 crore (compressors, motors, heat exchangers).
 - **Indo Asia Copper Ltd.:** ₹258.97 crore (copper tubes).
 - **Kryon Technology Pvt. Ltd.:** ₹175 crore (control assemblies, motors).
 - **Godrej & Boyce Mfg. Co. Ltd.:** ₹58.69 crore (heat exchangers, plastic moulded parts).
 - **Pranav Vikas (India) Pvt. Ltd.:** ₹50 crore (brass components, cross-flow fans, valves).

Additional Info

- **Cumulative Scheme Progress:**
 - **85 companies** have been selected across four rounds since the scheme's inception in 2021.
 - **Total Investment:** Expected to reach **₹11,198 crore**.
 - **Total Production:** Cumulative output is projected at **₹1,90,050 crore** (approx. ₹1.9 lakh crore).
- **Nodal Department:**
 - Implemented by the **Department for Promotion of Industry and Internal Trade**

(DPIIT) under the **Ministry of Commerce and Industry**.

- **Atmanirbhar Bharat Context:**
 - The scheme is a cornerstone of the **Make in India** initiative, shifting focus from "assembly-only" to "component-level" manufacturing to ensure long-term industrial resilience.
 - Over **50%** of the applicants in the latest round were **MSMEs**, indicating deepening industrial participation.

Wings India 2026: Showcasing India's Aviation Ascent as Global Growth Engine

What's the News?

- **Wings India 2026**, Asia's largest civil aviation exhibition and conference, will be held at **Begumpet Airport, Hyderabad** showcasing India's transformation into the world's **fastest-growing civil aviation market**.
- The biennial event, organized by the **Ministry of Civil Aviation** alongside the **Airports Authority of India (AAI)** and **FICCI**, will feature **150+ exhibitors**, **7,500 business visitors**, and **500+ B2B/B2G meetings** with participation from **20 countries**.
- The platform aims to attract investment, facilitate technology transfer, and highlight India's expanding capabilities across the entire aviation value chain from manufacturing and MRO to sustainable aviation and advanced air mobility.

India's Aviation Landscape: Scale and Growth

- **Market Position:** India is currently the **third-largest domestic civil aviation market** globally in terms of passenger traffic, and the fastest-growing major aviation economy.
- **Fleet Expansion:** Indian airlines now operate **more than 800 aircraft**, reflecting significant capacity addition over the past decade.
- **Infrastructure Growth:** The number of operational airports in India has **doubled** in the last 10 years, with new **greenfield airports** at **Jewar (Noida)** and **Navi Mumbai** set to add substantial capacity to major metropolitan destinations.

- **Future Projections:** The **Maintenance, Repair and Overhaul (MRO)** industry is projected to grow to **\$4 billion by 2030**, positioning India as an emerging regional MRO hub.
- **Investment Climate: 100% Foreign Direct Investment (FDI)** is permitted in the MRO sector through the automatic route, encouraging global players to establish facilities in India.

Event Significance and Focus Areas

- **Comprehensive Platform:** Wings India combines **air displays** (both static and aerobatic), **global aviation conferences**, **Ministerial Plenary**, **Global CEOs Forum**, and an **Aviation Job Fair** with a **Student Innovation Competition**.
- **Technological Showcase:** Heavy focus on **Sustainable Aviation Fuel (SAF)**, **green airport infrastructure**, **digital air navigation systems**, and **Advanced Air Mobility (AAM)** covering electric vertical take-off and landing (eVTOL) and urban air mobility concepts.
- **Policy Dialogue:** Industry roundtables will address **airport transformation**, **aircraft leasing and finance**, **helicopter capabilities expansion**, and **women in aviation** addressing gender parity in the sector.
- **B2B/B2G Engagement:** The event facilitates direct business-to-business and business-to-government meetings, expected to drive partnerships in aerospace manufacturing, cargo logistics, and aviation training.

Additional Info

Historical Evolution:

- **Origins:** The event series began in **2008** as "**India Aviation**", featuring the historic landing of the **Airbus A380** at Begumpet Airport, the first such landing in India.
- **Rebranding:** Subsequently renamed **Wings India**, with Hyderabad designated as the **permanent venue** for the biennial show.
- **Scale Growth:** From a regional exhibition to Asia's largest civil aviation platform, reflecting India's rising geopolitical and economic importance in global aviation.

Constitutional and Policy Framework:

- **Ministry of Civil Aviation (MoCA):** Central ministry overseeing policy formulation and regulation of civil aviation; operates under entries in the **Union List** (airways, aircraft) and **Concurrent List** (economic and social planning).
- **Airports Authority of India (AAI):** Statutory body under the **Airports Authority of India Act, 1994**; responsible for creating, upgrading, maintaining and managing civil aviation infrastructure.
- **UDAN (Ude Desh ka Aam Naagrik):** Flagship regional connectivity scheme launched to enable affordable air travel on unserved and underserved routes; has significantly expanded India's airport network to **tier-2 and tier-3 cities**.

Sectoral Initiatives:

- **National Civil Aviation Policy (NCAP), 2016:** Framework for increasing regional connectivity, promoting ease of doing business, and creating a liberalized charter policy.
- **Make in India (Aviation):** Push for indigenous manufacturing of aircraft components and assembly; **Tata-Airbus** joint venture for military transport aircraft (C-295) highlights manufacturing potential.
- **MRO Policy Reforms:** Reduction of GST on MRO services from 18% to 5%, rationalization of customs duties on imported parts, and land allocation at airports to develop MRO clusters.
- **Green Aviation:** Focus on carbon neutrality for airports, adoption of renewable energy, and development of SAF production capabilities under the **Indian Carbon Reduction Strategy**.

Industry Representation:

- **Participating Global OEMs:** Airbus, Boeing, Rolls-Royce, and major lessors; alongside domestic carriers **Air India** and **IndiGo** both among the world's largest airline customers by order volume.
- **Emerging Segments:** **General Aviation** (business jets, charters), **Helicopter Services** (UDAN-enabled heliports), and **Drone/UA V** integration into civil airspace.

Odisha Inaugurates India's First Flat Rolled Products Aluminium Unit

What's the News?

- **Odisha Chief Minister Mohan Charan Majhi** inaugurated India's first **Flat Rolled Products (FRP) aluminium unit** and a specialised **battery-grade aluminium foil facility** at Hindalco Industries' **Aditya Aluminium plant** in Lapanga, Sambalpur district, western Odisha.
- The projects represent a combined investment of **₹26,996 crore**, including a ₹5,000-crore FRP unit, ₹834-crore battery foil unit, and the foundation stone for a ₹21,162-crore smelter expansion.
- These facilities aim to **reduce India's import dependence** on flat-rolled aluminium (currently ~40%), indigenise critical raw materials for **lithium-ion batteries**, and generate over **5,000 direct and indirect jobs** in the region.

FRP and Battery Foil Facilities?

Manufacturing Capabilities

- **Flat Rolled Products (FRP) Unit:**
 - Capacity of **1.7 lakh tonnes per annum** of high-quality aluminium sheets and coils.
 - Uses advanced rolling technology to produce precision-thickness products meeting international standards for aerospace, automotive, packaging, and construction.
 - Investment of approximately **₹5,000 crore**.
- **Battery-Grade Aluminium Foil Facility:**
 - **India's first** specialised unit for manufacturing aluminium foil used in lithium-ion batteries.
 - Investment of **₹834 crore**.
 - Designed to support up to **100 GWh of lithium-ion cell manufacturing capacity**, critical for electric vehicles (EVs) and energy storage systems.
 - Draws input directly from the FRP complex, creating an integrated production ecosystem.

Strategic Significance

- **Import Substitution:** Hindalco currently accounts for over **50% of India's domestic FRP market**. The new capacity is expected to reduce India's **40% import dependence** on flat-rolled aluminium by nearly half.

- **EV Ecosystem Support:** The battery foil unit addresses a critical gap in India's EV supply chain, supporting domestic manufacturing of energy storage solutions.
- **Downstream Value Addition:** Marks a shift from primary aluminium production to high-value downstream manufacturing, establishing western Odisha as a global hub for advanced aluminium products.

Smelter Expansion and Investment Pipeline

Immediate Projects

- **Aditya Aluminium Smelter Expansion:** Foundation laid for adding **3.6 lakh tonnes per annum** of smelting capacity at an investment of **₹21,162 crore**.
- **Power Sustainability:** The expansion includes plans to meet a portion of power requirements through **round-the-clock renewable energy (RE-RTC)**, integrating energy transition goals with industrial growth.
- **Employment Generation:** The three projects (FRP, battery foil, smelter expansion) together are expected to create **5,012 jobs**.

Long-Term Vision

- **₹37,000-Crore Odisha Plan:** These projects form part of Hindalco's broader growth capital expenditure programme in Odisha, representing a significant chunk of its **₹55,000-crore** all-India growth capex.
- **Total Investment Potential:** Hindalco's Managing Director indicated a long-term investment potential of nearly **₹50,000 crore** in Odisha, which could generate approximately **15,000 jobs**, including **4,500 women** across facilities in Sambalpur, Keonjhar, and Rayagada.
- **Integrated Ecosystem:** The investment covers upstream resources (bauxite mining, alumina refining) through downstream high-value products (FRP, battery foil, white fused alumina), creating a complete aluminium value chain.

Additional Info

Aluminium Industry Context

- **Upstream vs. Downstream:**
 - **Upstream:** Bauxite mining and alumina refining (Odisha has India's largest bauxite reserves).

- **Downstream:** FRP and foil manufacturing (higher employment generation and value addition compared to primary smelting).
- **Hindalco's Presence:** Operating in Odisha for over 15 years with existing investments exceeding ₹25,000 crore, creating employment for more than 28,000 people.

Policy Implications

- **Critical Minerals Strategy:** Aligns with the Centre's push towards **self-reliance (Aatmanirbhar Bharat)** in critical raw materials for emerging sectors like EVs and renewable energy storage.
- **National Aluminium Policy:** Supports the goal of increasing domestic value addition in the aluminium sector and reducing dependence on imports of high-grade aluminium products.
- **Skill Development:** The Chief Minister announced plans for a **World Skill Centre** in Sambalpur (the state's second after Bhubaneswar) to ensure industry-ready local youth can access employment opportunities.

Economic Survey 2025-26: India's Macroeconomic Resilience and Strategic Growth Frontier

What's the News?

The **Economic Survey 2025-26**, prepared by the **Economic Division** of the Department of Economic Affairs under **Chief Economic Adviser V. Anantha Nageswaran** and tabled in Parliament by **Union Finance Minister Nirmala Sitharaman**, presents India's official economic assessment ahead of the Union Budget. The Survey projects **India's real GDP growth at 7.4% for FY26** and **6.8–7.2% for FY27**, reaffirming the country's position as the **fastest-growing major economy for the fourth consecutive year**. It highlights a rare "Goldilocks" combination of high growth alongside **historic low inflation averaging 1.7%**, robust fiscal consolidation, and multi-decade highs in banking sector health, even as global economic fragmentation intensifies.

Macroeconomic Snapshot & Growth Outlook

The Survey positions India as an "oasis of stability" amid global volatility, underpinned by strong domestic demand and structural reforms.

- **GDP Projections:**
 - **FY26:** Real GDP growth estimated at **7.4%** with **Gross Value Added (GVA)** at **7.3%**.
 - **FY27:** Growth projected at **6.8–7.2%**, reflecting sustained medium-term capacity.
 - **Potential GDP:** Revised upward to approximately **7%** (from 6.5% earlier), driven by capital accumulation and productivity gains.
- **Inflation at Historic Lows:**
 - **Headline CPI inflation** averaged **1.7%** during April–December 2025, the lowest since the CPI series began.
 - Food inflation turned negative (**-2.71%** by December 2025), driven by supply-side management and declining vegetable/pulse prices.
 - Core inflation remained steady at **4.62%**.
- **Demand Drivers:**
 - **Private Final Consumption Expenditure (PFCE)** grew **7.0%**, reaching **61.5% of GDP** (highest since 2012).
 - **Gross Fixed Capital Formation** expanded by **7.8%**, maintaining **30% share of GDP**, supported by public capex and renewed private investment.

Fiscal Consolidation & Financial Stability

The Survey emphasizes "credibility through consolidation," with improved tax buoyancy and strengthened financial intermediation.

- **Fiscal Health:**
 - **Fiscal Deficit:** Targeted to reduce to **4.4% of GDP in FY26** (Budget Estimate) from **4.8%** in FY25 and **9.2%** in FY21.
 - **Tax Base Expansion:** Income tax return filings increased from **6.9 crore (FY22)** to **9.2 crore (FY25)**; direct tax share in Gross Tax Revenue rose to **48%** (from pre-pandemic 41%).
 - **GST Collections:** Gross GST collections reached **₹17.4 lakh crore** during April–December 2025, reflecting robust transaction momentum.
- **Banking Sector Strength:**

- **Asset Quality: Gross Non-Performing Assets (GNPA)** hit multi-decade low of **2.2%** (September 2025); **Net NPA** at **0.5%**.
- **Capital Adequacy:** Scheduled Commercial Banks maintain capital adequacy near **17%** with credit growth accelerating to **14.5%** YoY by December 2025.
- **Financial Inclusion: Pradhan Mantri Jan Dhan Yojana (PMJDY)** accounts crossed **55.02 crore**; **Mudra loans** disbursed **₹36.18 lakh crore** across **55.45 crore** loans.
- **Sovereign Upgrades:** India secured **three sovereign credit rating upgrades in 2025**, reflecting improved macroeconomic credibility.

External Sector: Strategic Resilience

India is transitioning from "import substitution" to "**strategic indispensability**", embedding itself deeply into global value chains while building robust external buffers.

- **Trade Performance:**
 - **Total Exports:** Record **\$825.3 billion** in FY25; services exports reached **\$387.6 billion**.
 - **Global Share:** India's share in global merchandise exports rose to **1.8%**; services exports share at **4.3%**.
 - **Greenfield Investment:** India ranked **4th globally** and leads in **digital greenfield projects** (2020–2024), attracting **\$114 billion**.
- **External Buffers:**
 - **Forex Reserves:** Historic high of **\$701.4 billion** (covering ~11 months of imports).
 - **Remittances:** **\$135.4 billion** in FY25, the highest globally.
 - **Current Account Deficit:** Moderated to **0.8% of GDP** in H1 FY26 (from 1.3% in H1 FY25).

Sectoral Performance & Structural Transformation

Agriculture: Diversification Beyond Crops

- **Horticulture Surpasses Foodgrains:** Output reached **362.08 million tonnes** (vs. 357.7 MT for foodgrains), accounting for **33% of agricultural GVA**.
- **Livestock and Fisheries:** Growth rates of **6.1%** and **7.2%** respectively (FY20–FY24), driving rural income diversification.

- **Digital Integration: e-NAM** (National Agriculture Market) expanded coverage to **1.79 crore farmers**, improving price discovery.

Manufacturing & Industry: PLI Impact

- **Manufacturing Momentum:** GVA growth accelerated to **9.13% in Q2 FY26** (from 7.72% in Q1).
- **Production Linked Incentive (PLI) Schemes:**
 - Investment attracted: **₹2 lakh crore** across 14 sectors.
 - Incremental output generated: **₹18.7 lakh crore**.
 - Employment created: **12.6 lakh jobs**.
- **Electronics: 30-fold increase** in mobile manufacturing production value from FY15 to FY25.
- **Semiconductor Mission:** Projects worth **₹1.6 lakh crore** approved under **India Semiconductor Mission**.

Services: The Growth Engine

- **Dominant Share:** Services GVA grew **9.3% in H1 FY26**, accounting for **56.4% of total GVA**.
- **Global Capability Centres (GCCs):** India remains the third-largest technology startup ecosystem and a global hub for GCCs.
- **Innovation Ranking:** India improved to **38th position in Global Innovation Index (2025)**, ranking **4th globally in trademarks** and **6th in patents**.

Employment & Social Infrastructure

The Survey highlights the "social sector paradox"—strong health outcomes alongside uneven education quality—but notes significant formalization and inclusion gains.

- **Labour Market Trends:**
 - **Unemployment Rate:** Declined to **4.8%** (December FY26).
 - **Female Labour Force Participation Rate:** Rose sharply from **23.3% (2017–18)** to **41.7% (2023–24)**.
 - **e-Shram Portal:** Registered **31 crore workers**, with **54% women participation**, indicating growing formalization of the informal sector.
- **Health Outcomes:**
 - **Maternal Mortality Ratio (MMR):** Declined by **86%** since 1990.
 - **Infant Mortality Rate (IMR):** Reduced to **25 (2023)**, down **37%** in the past decade.

- **Ayushman Bharat:** Cards distributed to **42.78 crore beneficiaries**.
- **Education & Skills:**
 - **School Enrolment:** Gross Enrolment Ratio (GER) reached **90.9%** for Grades I–V; **29.5%** for Higher Education.
 - **Labour Codes:** Implementation of **4 Labour Codes** (enacted November 2021) expected to create approximately **77 lakh jobs**.
 - **Student Enrollment:** **24.69 crore students** across **14.71 lakh schools**; higher education institutions increased to **70,018**.

Government Notifies Coking Coal as Critical & Strategic Mineral to Cut Import Dependence

What's the News?

- The **Government of India** has officially notified **Coking Coal** as a **Critical and Strategic Mineral** under the **Mines and Minerals (Development and Regulation) Act, 1957 (MMDR Act)**.
- The move aims to reduce India's **95% import dependence** for coking coal, a key raw material for steel production, and strengthen domestic supply chain resilience.
- The notification follows recommendations from the **High-Level Committee on Implementation of Viksit Bharat Goals** and policy inputs from **NITI Aayog**, recognizing mineral security as foundational to industrial self-reliance.

Why Coking Coal is Strategic?

- **Essential for Steel Production:** Coking coal (also called metallurgical coal) is converted into coke, which acts as both a reducing agent and structural support in blast furnaces. Around **70–75%** of global steel production relies on the blast furnace-basic oxygen furnace (BF-BOF) route.
- **High Import Burden:** Despite having domestic resources, India imports **~95%** of its coking coal requirements, rising from **51.20 million tonnes** (FY21) to **57.58 million tonnes** (FY25), resulting in significant foreign exchange outflow.

- **Domestic Resource Paradox:** India holds estimated coking coal resources of **37.37 billion tonnes**, primarily in **Jharkhand** (lion's share including Jharia, Bokaro), with additional reserves in **West Bengal, Chhattisgarh, and Madhya Pradesh**.
- **Quality Constraints:** Domestic coking coal typically has **high ash content**, requiring advanced **coal washing/beneficiation** technology to be usable for steelmaking.

Key Features of the Reform

- **Legal Status Change:** The Central Government, exercising powers under **Section 11C** of the MMDR Act, amended the **First Schedule**:
 - **Part A:** Term "Coal" now reads as "**Coal, including Coking Coal**".
 - **Part D:** Coking Coal added to the list of **Critical and Strategic Minerals**.
- **Faster Clearances:** Mining of critical minerals is **exempt from public consultation** requirements, streamlining environmental approvals.
- **Land Use Flexibility:** Projects can utilize **degraded forest land** for compensatory afforestation, addressing land availability bottlenecks.
- **Fiscal Protection:** Under **Section 11D(3)**, **royalties, auction premiums, and statutory payments** continue to accrue to **State Governments**, even when the Centre conducts mineral auctions.
- **Investment Incentives:** Expected to attract **private and foreign investment** in exploration, deep-seated deposit mining, and advanced beneficiation technologies.

Additional Info

About Coking Coal

- **Formation:** Formed under higher pressure and heat than thermal coal over millions of years, resulting in higher carbon content.
- **Key Properties:**
 - **Low Ash/Sulphur:** Required to maintain steel structural integrity
 - **Caking Power:** Ability to fuse into solid coke when heated in oxygen-free environment
 - **Reducing Agent:** Strips oxygen from iron ore to produce liquid iron in blast furnaces

- **Distinction:** Unlike **thermal coal** (used for electricity generation), coking coal cannot be substituted in primary steelmaking.

Policy Context & Constitutional Framework

- **National Steel Policy:** Targets **300 million tonnes** steel production capacity by 2030; coking coal security is essential to meet this goal without vulnerability to global price volatility.
- **Viksit Bharat 2047:** The notification aligns with long-term vision of mineral security and self-reliant industrial ecosystems.
- **Aatmanirbhar Bharat:** Addresses structural vulnerability in critical raw materials for the manufacturing sector.

Exploration & Production Challenges

- **Deep-Seated Deposits:** Many viable reserves require advanced exploration technologies and high capital investment.
- **Beneficiation Gap:** Need for improved coal washing infrastructure to process high-ash domestic coal into blast-furnace usable material.
- **Employment Potential:** Reform expected to generate jobs across **mining, logistics, processing, and steel value chains**.

Related Regulatory Framework

- **MMDR Act, 1957:** Primary legislation governing mining sector in India; allows Central Government to designate minerals as critical/strategic based on national security and economic needs.
- **Coal Mines (Special Provisions) Act, 2015:** Complements MMDR Act provisions regarding coal block allocation.

India Revises CPI Base Year to 2024: Food Weight Cut, Services Gain Prominence

CPI All India (Combined) Weights: Old_2012 Series vs New_2024 Series		
Groups	Old Weight	New Weight
Food and beverages	45.86	36.75
Pan, tobacco and intoxicants	2.38	2.99
Clothing and footwear	6.53	6.38
Housing, water, electricity, gas and other fuels	16.91	17.66
Furnishings, household equipment and routine household maintenance	3.80	4.47
Health	5.89	6.10
Transport, Information and Communication	8.59	12.41
Recreation, sport and culture	1.68	4.86
Education services	4.46	3.33
Personal care, social protection and miscellaneous goods and services	3.89	5.04
Total	100.00	100.00

Source: MOSPI, SBI Research

What's the News?

- The **Ministry of Statistics and Programme Implementation (MoSPI)** has finalized a comprehensive revision of the **Consumer Price Index (CPI)** series, shifting the base year from **2012 to 2024** to reflect contemporary consumption patterns.
- The new series significantly reduces the weight of **food and beverages** from **45.86% to 36.75%**, while increasing the share of **housing, transport, and digital services** in the inflation basket.
- The revised index will comprise **358 items** (up from 299), incorporating modern expenditure categories such as **e-commerce prices, airfares, telecom services, and OTT subscriptions** for the first time.
- The first inflation data under the new series is scheduled for release shortly, alongside a back-series linking old and new data from 2013 onwards.

Key Structural Changes

- **Food Weight Reduction:** The combined weight of food and beverages drops by over 9 percentage points to **36.75%**, aligning with **Engel's Law** which states that as household incomes rise, the proportion spent on food decreases. This addresses longstanding concerns about excessive volatility in headline inflation driven by food price swings.
- **Housing Sector Elevation:** Weight increases sharply from **10.07% to 17.66%**, driven by:
 - Expanded coverage to include **water, electricity, gas, and other fuels**
 - First-time inclusion of **rural house rent** (previously only urban rent was captured)

- Revised methodology excluding employer-provided accommodation to capture actual market rents
- **Services and Digital Economy:**
 - **Transport and communication** weight rises to **12.41%** (from 8.59%)
 - **Recreation, sport and culture** more than doubles to **4.86%**
 - New inclusion of **e-commerce platform prices** (12 major online markets in large cities)
 - Tracking of **digital services** including streaming subscriptions and telecom plans
- **Rural-Urban Rebalance:** Rural share increases to **55.4%** (from 53.52%), while urban share decreases to **44.6%**, reflecting updated population and consumption patterns from the **Household Consumption Expenditure Survey (HCES) 2023-24**.

Impact on Inflation Measurement

- **Reduced Volatility:** Lower food weight will dampen the impact of seasonal food price shocks on overall inflation, providing a more stable measure of underlying price pressures.
- **Monetary Policy Implications:**
 - When food inflation is low, headline CPI could read **20-30 basis points higher** than under the old series
 - During high food inflation periods, CPI could be **20-30 basis points lower**
 - This provides operational relief to the **Reserve Bank of India (RBI)**, which has faced challenges targeting inflation when volatile food prices distort the signal
- **Core Inflation Focus:** The weight of items constituting '**core**' inflation (excluding food and fuel) increases to approximately **55-57%** (from 47%), better reflecting structural price trends.

Methodological Enhancements

- **International Classification:** Adoption of **COICOP 2018** (Classification of Individual Consumption According to Purpose) framework up to the sub-class level, improving global comparability.
- **Expanded Market Coverage:** Price collection from **1,465 rural markets** and **1,395 urban**

markets across 434 towns, plus weekly e-commerce price monitoring.

- **Formula Improvement:** Shift to **Jevons short-chain formula** at the elementary level for better quality adjustment and reduced base-price dependency, aligning with **IMF and G20** best practices.
- **Standardized Pricing:** For precious metals, the index will track **standardized jewellery items** (bangles, rings) rather than customized pieces to ensure consistency.
- **Exclusions: Employer-provided accommodation** and **free social transfers** will no longer be included in the index, focusing instead on market-based transactions.

Additional Info

- **Engel's Law:** The observed decline in food expenditure share from 52.9% to 47.04% in rural areas and 42.6% to 39.7% in urban areas between 2011-12 and 2023-24; validates this economic principle and justifies the weight reduction.
- **Monetary Policy Framework:** The RBI currently targets **CPI inflation at 4%** with a tolerance band of **2-6%** under the **Flexible Inflation Targeting (FIT)** framework. The new CPI series will provide more accurate data for this targeting without requiring framework changes.
- **Other Base Year Revisions:** Concurrently, **GDP base year** is being revised to **2022-23** (release scheduled for late February 2026) and **Index of Industrial Production (IIP)** to **2022-23** (release scheduled for May 2026) to ensure consistency across macroeconomic indicators.

BSNL Launches Nationwide Voice over WiFi (VoWiFi) Service

What's the News?

Bharat Sanchar Nigam Limited (BSNL) has launched **Voice over WiFi (VoWiFi)** services nationwide across all telecom circles as of **1 January 2026**. The service allows users to make and receive voice calls and SMS using a Wi-Fi connection, especially beneficial in areas with weak or no mobile signal, such as basements, rural homes, offices, and remote locations.

Key Technical & Operational Features

- **IMS-Based Architecture:**
 - Utilises **IP Multimedia Subsystem (IMS)** for secure, carrier-grade voice delivery.
 - No third-party apps required—uses existing phone dialer and mobile number.
- **Seamless Handover:** Supports automatic switching between Wi-Fi and mobile networks without call drop.
- **Authentication & Security:** Secure login via SIM credentials ensures end-to-end encryption and user identity verification.
- **Accessibility & Compatibility:**
 - Available to **all BSNL 4G customers at no extra cost**.
 - Compatible with most modern smartphones (Android/iOS), with settings typically under "Wi-Fi Calling".

Additional Info

- **Regulatory & Policy Framework:**
 - VoWiFi falls under **Telecom Regulatory Authority of India (TRAI)** guidelines for converged services (2023 consultation paper on IP-based voice).
 - Part of **BSNL's Network Modernisation Programme**, backed by ₹61,000 crore revival package approved in 2022.
- **Implementation Authority:**
 - Launched under direction of **Department of Telecommunications (DoT)**, Ministry of Communications.

- **CMD A. Robert J. Ravi** announced the rollout as part of BSNL's "New Year, New Connect" initiative.
- **Comparison with Alternatives:**
 - Unlike OTT calling (e.g., WhatsApp), VoWiFi retains emergency dialling (112), lawful interception, and interconnection with PSTN, critical for public safety.

Government Proposes "Battery Pack Aadhaar Number" (BPAN) for EV Traceability

What's the News?

- The **Ministry of Road Transport and Highways (MoRTH)** has issued draft guidelines for the implementation of the **Battery Pack Aadhaar Number (BPAN)**.
- This system introduces a unique, **21-character alphanumeric identifier** for every battery pack introduced into the Indian market, functioning as a digital identity for batteries.
- The initiative aims to ensure **end-to-end traceability** of batteries throughout their entire lifecycle—from raw material extraction and manufacturing to usage, second-life application, and final disposal.

Key Features of the BPAN System

- **Three-Layer Architecture:**
 - **Alphanumeric Code:** Physically marked on the battery for basic offline identification.
 - **QR Code:** Stores static technical details like capacity, chemistry, and carbon footprint.
 - **Server-Based Data:** A centralized digital portal for **dynamic data**, including real-time health metrics, ownership history, and recycling status.
- **Mandatory Compliance:** Battery producers and importers are obligated to assign a BPAN to every unit sold or used for self-consumption.
- **Priority Segments:**

- **Electric Vehicle (EV) Batteries:** Given high priority as they account for **80–90%** of India's lithium-ion battery demand.
- **Industrial Batteries:** Includes those with a capacity greater than **2 kWh**.
- **Dynamic Updates:** If a battery is refurbished or recycled, a **new BPAN** must be issued to reflect its updated attributes and status.

Objectives and Significance

- **Circular Economy:** Facilitates organized recycling and the recovery of critical minerals, reducing dependence on virgin raw materials.
- **Safety and Quality:** Helps in identifying faulty batches quickly and discourages the circulation of substandard or counterfeit battery components.
- **Regulatory Oversight:** Strengthens the enforcement of **Extended Producer Responsibility (EPR)** and helps verify domestic value addition under the **PLI scheme for Advanced Chemistry Cells (ACC)**.
- **Second-Life Use:** Enables potential buyers to verify the "state-of-health" of used batteries for applications like stationary grid storage.

Additional Info

- **Implementation Route:** The framework will be developed through the **Automotive Industry Standard (AIS)** route under the **Automotive Industry Standards Committee (AISC)**.
- **Stakeholders:** The committee includes experts from **IITs, ARAI, NITI Aayog**, and representatives from battery manufacturers and recyclers.
- **Exclusions:** The current guidelines exclude **portable batteries** and standard **Starting, Lighting, and Ignition (SLI)** batteries used in internal combustion engine vehicles.

Indian Railways Emerges as a Global Leader in Rail Electrification

What's the News?

- **Indian Railways** has achieved a historic milestone by electrifying **99.2%** of its total **Broad Gauge (BG)** network, positioning it as one of the most extensively electrified rail systems in the world.

- As of late **2025**, the network reached **69,427 route kilometres (RKM)** of electrified tracks, bringing the nation to the threshold of **100% electrification**.
- This transformation marks a massive shift from fossil fuel dependence toward a **sustainable, cost-efficient, and net-zero** future by **2030**.

Electrification Acceleration & Scale

- **Pace of electrification** surged from **1.42 km/day (2004–14)** to **over 15 km/day (2019–25)**, a **10-fold increase**.
- Between **2014 and 2025**, IR electrified **46,900 RKMs**, **more than double** the 21,801 RKMs completed before 2014.
- **25 States/UTs** have achieved full electrification; remaining gaps are in remote or geographically challenging sections.

Renewable Integration & Climate Impact

- **Solar capacity** scaled up from **3.68 MW (2014)** to **898 MW (November 2025)**.
- **2,626 stations** now operate on solar power.
- Additional **812 MW solar and 93 MW wind** capacity has been added for traction; **1,600 MW hybrid power** tied up to support **Net Zero by 2030**.
- Electric traction is **~70% cheaper** than diesel, cutting operating costs and reducing **CO₂ emissions by ~10 million tonnes/year**.

Global and National Comparison

- **Global Standing:** India's **99.2%** electrification level ranks it just behind **Switzerland (100%)**, significantly outpacing major economies like **China (82%)**, **Spain (67%)**, **Japan (64%)**, **Russia (52%)**, and the **United Kingdom (39%)**.
- **Regional Impact:** Several **North Eastern states**, including **Arunachal Pradesh, Meghalaya, Nagaland, Tripura**, and **Mizoram**, have achieved complete electrification of their existing BG networks.

TRAI Annual Report 2024-25: India's Telecom and Broadcasting Sector Growth

What's the News?

- The **Telecom Regulatory Authority of India (TRAI)** released its **Annual Report for 2024-25**,

highlighting a "defining phase" for the sector characterized by rapid **5G expansion** and regulatory reforms.

- India has consolidated its position as the **world's second-largest telecom market**, reaching a total subscriber base of **1,200.80 million** by the end of March 2025.
- The report was officially laid before the **Lok Sabha** on December 17, 2025, and the **Rajya Sabha** on December 18, 2025.

Key Telecom and Internet Metrics

- **Subscriber Base:** Overall subscribers stood at **1,200.80 million**, with a national **tele-density of 85.04%**.
- **Digital Reach:** Internet subscribers reached **969.10 million**, while **broadband users** climbed to **944.12 million**.
- **Data Consumption:** Average monthly data consumption per user surged to **27.5 GB** in 2024, reflecting a five-year compound annual growth rate (CAGR) of **19.5%**.
- **5G Milestone:** India achieved one of the world's fastest rollouts, with 5G services available in **99.6% of districts** by February 2025, serving approximately **25 crore users**.
- **Infrastructure:** The network is supported by over **4.69 lakh 5G Base Transceiver Stations (BTS)**.

Broadcasting and Entertainment Sector

- **Economic Contribution:** India's **Media and Entertainment (M&E)** industry reached **₹2.5 trillion** in 2024, contributing **0.73% to the national GDP**.
- **Television Growth:** The sector is supported by **918 private satellite TV channels**, **845 Multi System Operators (MSOs)**, and **56.92 million** active pay DTH subscribers.
- **Radio Segment:** Remains resilient with **388 private FM stations** operational and a significant expansion in **community radio** to strengthen local content.

Regulatory Reforms and Consumer Protection

- **Telecommunications Act, 2023:** This landmark legislation shaped the sector's evolution, focusing on **simplified licensing** and optimized **spectrum utilization**.

- **Spam Control:** TRAI implemented strict measures in **August 2024** to curb **spam calls** and fraudulent messaging, enhancing trust in digital communication.
- **Indoor Connectivity:** The "**Rating of Properties for Digital Connectivity Regulations, 2024**" was released to improve the quality of digital signals inside buildings.

Additional Info

- **TRAI (Telecom Regulatory Authority of India):**
 - Established in **1997** under the **TRAI Act** to regulate telecom services, including adjudication of disputes and protection of consumer interests.
 - Operates as a statutory body with a focus on ensuring a level playing field and fair competition.
- **5G Fixed Wireless Access (FWA):**
 - A new segment reported by TRAI, reaching a base of **6.77 million connections** by March 2025 to provide high-speed internet without traditional cables.
- **National Broadcasting Policy 2024:**
 - A key policy initiative mentioned in the report aimed at steering the growth of digital radio, FM pricing, and overall media governance.

India Becomes First Nation to Commercially Produce Bio-Bitumen

What's the News?

- **India** has officially become the first country in the world to start the **commercial production of bio-bitumen**, a sustainable alternative to fossil-fuel-based bitumen.
- The production facility, located at the **Panipat Refinery and Petrochemical Complex** in **Haryana**, was developed through collaboration between the **Indian Oil Corporation Limited (IOCL)** and the **Central Road Research Institute (CRRI)**.
- This breakthrough is a significant step toward achieving India's **Net Zero 2070** goals and addresses the dual challenges of **stubble burning** and **import dependency** on petroleum products.

What is Bio-Bitumen?

- **Composition:** Bio-bitumen is a binder made from **non-food biomass** (like rice straw or wheat straw) rather than crude oil.
- **Production Process:** It is produced through a specialized **thermal process (pyrolysis)** where agricultural waste is converted into a bio-oil, which is then refined into bio-bitumen.
- **Performance:** Tests have shown that roads built with bio-bitumen are more **resilient to extreme temperatures** and offer better water resistance compared to traditional bitumen.

Benefits & Impact

- **Environmental gains:**
 - Reduces **stubble burning**, a major source of winter air pollution in North India.
 - Lowers **carbon footprint** of road infrastructure by cutting fossil fuel use.
- **Economic advantages:**
 - Potential to save **₹4,500 crore annually** in foreign exchange with 15% blending.
 - Could offset **₹25,000–30,000 crore** worth of imported bitumen per year at scale.
- **Rural development:**
 - Creates new **income streams for farmers** by monetising agricultural waste.
 - Supports **circular economy** and **green job creation** in rural areas.

Additional Info

- **Traditional Bitumen (Asphalt):**
 - A sticky, black, and highly viscous liquid or semi-solid form of **petroleum**.
 - Primarily used in road construction as a glue or binder mixed with aggregate particles.
- **National Policy on Biofuels:**
 - The project aligns with the **2018 policy** (amended in 2022) which promotes the use of indigenous feedstock for energy and material production.
- **Role of CSIR-CRRI:**
 - The **Central Road Research Institute (CRRI)**, under the **Council of Scientific and Industrial Research (CSIR)**, is responsible for setting the

technical standards and performing durability tests for the new bio-bitumen roads.

- **Future Targets:**
 - The government aims to blend **5% to 10%** bio-bitumen with traditional bitumen in all national highway projects by 2030.

India to Host Global CEOs at "India AI Impact Summit 2026" in New Delhi

What's the News?

- Prime Minister **Narendra Modi** will inaugurate the **India AI Impact Summit 2026**, scheduled to be held from **February 19–20, 2026** at **Bharat Mandapam**, New Delhi.
- The summit will witness the gathering of over **100 global CEOs** and tech leaders, including **Sam Altman** (OpenAI), **Jensen Huang** (Nvidia), and **Satya Nadella** (Microsoft), alongside heads of state from **France, Brazil**, and others.
- Organized by the **IndiaAI Mission** under the Ministry of Electronics and IT (MeitY), the event aims to position India as a leader in **ethical AI governance** and bridge the "Global AI Divide."

Summit Framework: Three Sutras & Seven Chakras

- **Three Guiding Principles ("Sutras"):**
 - **People:** AI must serve human dignity and inclusivity across diverse populations.
 - **Planet:** AI development must align with climate resilience and environmental sustainability.
 - **Progress:** Benefits of AI must be equitably distributed to advance global development.
- **Seven Thematic Pillars ("Chakras"):**
 - Human capital and future of work
 - Inclusion for social empowerment
 - Safe and trusted AI systems
 - AI for scientific advancement
 - Resilience, innovation, and efficiency
 - Democratization of AI resources
 - AI for economic development and social good.

Youth Engagement: YUVAi Initiative

- **YUVAi (Youth for Unwavering AI)** is a flagship programme targeting innovators aged **13–21**.

- Features include:
 - **Global Youth Challenge:** Solve real-world problems in elderly care, mental health, and sustainable agriculture using AI.
 - **10-day virtual bootcamp:** Training in Python, AI modelling, and design thinking.
 - **International Demo Day:** Top 20 finalists present innovations to global leaders and investors.
- **Prizes worth ₹85 lakh:** Includes three top awards of ₹15 lakh each and mentorship for deployment.

ISRO's Dust Experiment (DEX) Confirms Frequent Cosmic Dust Impacts

What's the News?

- The **Indian Space Research Organisation (ISRO)** has confirmed that an **interplanetary dust particle (IDP)** enters the Earth's atmosphere approximately every **16 minutes (or 1,000 seconds)**.
- This discovery is based on data from the **Dust EXperiment (DEX)**, India's first indigenously developed instrument dedicated to detecting and measuring cosmic dust, which was launched aboard the **POEM-3 platform** of the **XPoSat mission**.
- The findings are critical for the safety of future crewed missions, such as **Gaganyaan**, and for protecting satellites from **hypervelocity impacts**.

Dust EXperiment (DEX)

- **Developed by:** Physical Research Laboratory (PRL), Ahmedabad, under ISRO.
- **Mission platform:** Flown on the **PSLV Orbital Experimental Module (POEM)** at 350 km altitude.
- **Instrument specs:**
 - Mass: **3 kg**
 - Power consumption: **4.5 W**
 - Field of view: **140°**
 - Detection principle: **Hypervelocity impact sensing** (measures electrical signals from dust collisions).
- **Operational period:** January 1 – February 9, 2024.

The "DEX" Instrument Findings

- **High Flux Rate:** The experiment measured a dust flux rate of **6.5×10^{-3} particles $m^{-2} s^{-1}$** , indicating a constant bombardment of microscopic particles.
- **Hypervelocity Impacts:** The instrument successfully detected dust particles travelling at speeds greater than **4 km/s** (hypervelocity), which release significant energy upon impact, often melting or vaporizing the particle.
- **Successful Deployment:** The sensor, developed by the **Physical Research Laboratory (PRL)**, Ahmedabad, operated at an altitude of **~350 km** with a **9.5° orbital inclination**.

Additional Info

- **POEM Platform (PSLV Orbital Experimental Module):**
 - ISRO innovatively uses the **spent 4th stage (PS4)** of the PSLV rocket as a stabilized orbital platform to conduct scientific experiments in space for a few months, rather than letting it become space debris immediately.
- **Interplanetary Dust Particles (IDPs):**
 - These are microscopic remnants from **comets, asteroids**, and meteoroids.
 - They form the **Zodiacal Cloud**, a thick cloud of dust in the solar system that scatters sunlight (visible as Zodiacal light).

Vehicle-to-Vehicle (V2V) Communication: India's "Talking Cars" Initiative for Road Safety

What's the News?

- The **Ministry of Road Transport and Highways (MoRTH)** announced the nationwide rollout of **Vehicle-to-Vehicle (V2V)** communication technology, targeted for implementation by the end of **2026**.
- Union Minister **Nitin Gadkari** stated that the technology will be mandated for all new passenger vehicles to enable real-time safety data exchange.
- The initiative aims to significantly reduce road fatalities—currently at approximately **1.8 lakh deaths annually**—by providing drivers with early warnings of potential hazards.

How V2V Technology Works?

- **Network Independence:** Unlike standard connected-car features, **V2V** does not rely on cellular networks or the internet; it uses direct, short-range wireless signals.
- **On-Board Units (OBU):** Vehicles will be equipped with a hardware module, similar in size to a SIM card, that continuously broadcasts and receives data.
- **Data Exchange:** Every equipped vehicle shares real-time parameters, including **location, speed, direction, and braking status** with surrounding automobiles.
- **360-Degree Awareness:** The system provides a "bird's-eye view" of traffic, detecting vehicles in blind spots or those approaching from the rear and sides, even when out of the driver's line of sight.

Significance & Benefits?

- **Fog & Low-Visibility Safety:** In dense winter fog (common in North India), the system alerts drivers to stationary or slow-moving vehicles ahead that are not yet visible, preventing massive pile-ups.
- **Sudden Braking Alerts:** If a vehicle several cars ahead applies sudden brakes, following drivers receive an instant warning, providing crucial extra seconds to react.
- **Integration with ADAS:** For cars with **Advanced Driver Assistance Systems (ADAS)**, the V2V data can trigger automatic emergency braking or speed adjustments to mitigate collisions.
- **Efficiency:** Beyond safety, better coordination between vehicles can lead to smoother traffic flow and improved fuel economy by reducing abrupt stop-and-go movements.

Additional Info

- **Spectrum Allocation:** The **Department of Telecommunications (DoT)** has given in-principle approval for the use of **30 MHz** of spectrum in the **5.875–5.905 GHz** band specifically for V2V purposes.
- **Target 2030:** This technology is a core component of the government's broader goal to reduce road accident fatalities in India by **50% by 2030**.

- **Cost Estimate:** Initial estimates suggest the cost for installing the V2V on-board units will be approximately **₹5,000 to ₹7,000** per vehicle.
- **Zero-Fatality Districts:** The ministry is coordinating this rollout alongside the **Zero-Fatality Districts programme**, targeting the top 100 districts with the highest road mortality rates.
- **Bus Safety Reforms:** Alongside V2V, the government is mandating that **sleeper coach buses** be built only by authorized manufacturers, with existing fleets retrofitted with fire detection and drowsiness indicators.

OrbitAid's AyulSat: India's First In-Orbit Refuelling Mission

What's the News?

- Chennai-based space startup **OrbitAid Aerospace** was set to launch **AyulSat**, a 25-kg dedicated tanker-satellite, to demonstrate **in-orbit refuelling technology**.
- The mission, intended to launch aboard **ISRO's PSLV-C62** on January 12, 2026, aimed to make India the **fourth country** (after the US, Russia, and China) to demonstrate this critical space capability.
- **Mission Status:** Following liftoff, the **PSLV-C62** vehicle experienced a flight path deviation during the **third stage**, resulting in the failure to place the primary payload (**EOS-N1/Anvesha**) and 15 co-passenger satellites, including **AyulSat**, into their intended orbit.

AyulSat & In-Orbit Refuelling Technology

- **In-Orbit Refuelling:** A technology designed to extend the operational life of satellites by replenishing their propellant while they are still in orbit, rather than allowing them to become space debris once fuel is exhausted.
- **AyulSat Mission Objectives:**
 - **Internal Propellant Transfer:** The primary goal was to demonstrate moving fuel between tanks within the satellite itself to study fluid dynamics in **microgravity**.
 - **Standard Interface:** The satellite was equipped with the proprietary **Standard**

Interface for Docking and Refuelling Port (SIDRP), designed for compatibility with both Indian and international spacecraft.

- o **Green Fuel Usage:** The mission utilized **propane**, a non-toxic green fuel safer and more cost-effective than traditional **hydrazine**.
- **Future Roadmap:** OrbitAid had planned a follow-up "chaser satellite" launch in **6 to 8 months** to perform actual docking and satellite-to-satellite refuelling.

Additional Info

- **PSLV-C62 Mission Context:**
 - o **Primary Payload: EOS-N1 (Anvesha)**, a hyperspectral imaging satellite developed by **DRDO** for advanced strategic surveillance.
 - o **Co-passengers:** Included satellites from **Dhruva Space** (India), **AlltoSpace** (Brazil), and a reentry capsule from **RIDE** (Spain).
- **Institutional Support:**
 - o The mission was facilitated through **NewSpace India Limited (NSIL)**, ISRO's commercial arm.
 - o OrbitAid is backed by the **Tamil Nadu government** and received seed funding from **Unicorn India Ventures**.
- **Collaboration:** OrbitAid recently signed an MoU with Japanese company **ispace** to develop docking and refuelling infrastructure for **lunar missions**.

ISRO's PSLV-C62 Mission Failure: Second Consecutive Setback for the Workhorse

What's the News?

- **ISRO's (Indian Space Research Organisation)** first mission of 2026, **PSLV-C62**, failed to reach its intended orbit after suffering a critical technical glitch.
- The failure resulted in the total loss of **16 satellites**, including the primary payload **Anvesha (EOS-N1)**, a strategic Earth-observation satellite for **DRDO**.
- This marks the **second consecutive failure** for the **Polar Satellite Launch Vehicle (PSLV)** in nine months, following a near-identical anomaly during the **PSLV-C61** mission in May 2025.

- The debris from the mission is estimated to have fallen into the **Southern Indian Ocean**.

PSLV Architecture and Failure Point

- **Vehicle Configuration:** PSLV-C62 used the **XL variant**, featuring:
 - o Six **strap-on solid boosters**
 - o Four-stage propulsion: **solid (1st & 3rd)**, **liquid (2nd & 4th)**
- **Anomaly Details:**
 - o The **third stage (HPS3)**—powered by **7 tonnes of HTPB-based solid propellant**—failed to ignite after successful separation of the second stage.
 - o Telemetry confirmed **no thrust generation**, causing the vehicle to lose velocity and altitude; payloads re-entered the atmosphere and were destroyed.

Impact on Payloads and Commercial Space

- **Primary Payload: Anvesha (EOS-N1)** was a highly advanced **hyperspectral imaging** satellite designed by **DRDO** for border surveillance and detecting concealed military assets.
- **Commercial and International Loss:** The mission carried 15 co-passenger satellites for countries including **Brazil, Nepal, Spain, Thailand, and the UK**, as well as payloads from Indian private startups like **Dhruva Space**.
- **Lone Survivor:** A football-sized satellite called **KID (Kestrel Initial Demonstrator)** from a Spanish startup reportedly separated against the odds and transmitted critical data for three minutes before being lost.
- **Strategic Concern:** The consecutive failures of the "workhorse" rocket are expected to lead to a **20-30% hike in insurance premiums** for future Indian launches, potentially affecting its competitive advantage in the global market.

Additional Info

- **Stages of the PSLV:**
 - o **First Stage (PS1):** Solid propellant; provides high thrust for initial lift-off.
 - o **Second Stage (PS2):** Liquid propellant; uses the indigenously developed **Vikas Engine** to build horizontal velocity.

- **Third Stage (PS3):** Solid propellant; crucial for rapid acceleration to orbital speeds (~28,000 km/h).
- **Fourth Stage (PS4):** Liquid propellant; responsible for the final precise injection of satellites into their respective orbits.
- **Historical Context:**
 - The PSLV has been ISRO's mainstay since **1993**, with a historical success rate of over **93%**.
 - Notable successes include **Chandrayaan-1**, the **Mars Orbiter Mission (Mangalyaan)**, and a 2017 world record for launching **104 satellites** in a single mission.

Param Shakti Supercomputing Facility Launched at IIT Madras

What's the News?

- The **Ministry of Electronics and Information Technology (MeitY)** officially launched the '**Param Shakti**' supercomputing facility at the **Indian Institute of Technology (IIT) Madras** on **January 3, 2026**.
- This high-performance computing (HPC) system delivers a peak processing power of **3.1 Petaflops**, capable of performing over 3.1 quadrillion calculations per second.
- Developed by the **Centre for Development of Advanced Computing (C-DAC)**, the facility is the **37th supercomputer** installed across India under the **National Supercomputing Mission (NSM)**.
- The system is entirely **indigenous**, utilizing **Rudra series servers** and an Indian-made software stack, marking a significant step toward **technological self-reliance**.

PARAM Shakti: Technical and Strategic Overview

- **Performance:** Capable of **1.66 petaflops** (1.66 quadrillion operations per second), making it one of India's most powerful academic supercomputers.
- **Indigenous Components:**
 - Built using **Rudra servers**—India's first indigenous server boards developed by **C-DAC**.

- Runs on **open-source software stack** with optimized libraries for AI and HPC workloads.
- **Deployment:** Part of **Phase III of NSM**, which aims to install **70+ supercomputers** across academic and research institutions by 2026.

National Supercomputing Mission (NSM): Key Details

- **Launched:** 2015 by **Ministry of Electronics and Information Technology (MeitY)** and **Department of Science & Technology (DST)**.
- **Implementing Agencies:**
 - **Centre for Development of Advanced Computing (C-DAC)**
 - **Indian Institute of Science (IISc), Bengaluru**
- **Objectives:**
 - Achieve **self-reliance in supercomputing technology**.
 - Build **computational capacity for R&D** in academia, industry, and startups.
 - Train **human resources** in high-performance computing (HPC).
- **Progress:**
 - Over **33 systems installed** as of early 2026.
 - Total investment exceeds **₹6,000 crore** since inception.
- **Phases of NSM:**
 - **Phase 1:** Focused on assembling systems in India with indigenous software.
 - **Phase 2:** Emphasized indigenous manufacturing of components.
 - **Phase 3:** Focuses on the complete design and manufacturing of key hardware within India.

Additional Info

- **Key Terms:**
 - **Petaflop:** A unit of computing speed equal to one thousand trillion (10¹⁵) floating-point operations per second.
 - **Trinetra:** The indigenous high-performance computing network used to interconnect supercomputers in India.
- **Related Installations:**
 - A separate system also named **PARAM Shakti** (1.66 Petaflops) was inaugurated at **IIT**

Kharagpur in March 2022 as part of the earlier NSM rollout.

- o Future planned systems include a **20-Petaflop** national facility at C-DAC Bengaluru.

Chips to Start-up (C2S) Programme: Strengthening India's Semiconductor Ecosystem

What's the News?

- The **Ministry of Electronics and Information Technology (MeitY)** has highlighted the significant progress of the **Chips to Start-up (C2S) Programme**, a flagship initiative aimed at transforming India into a global hub for semiconductor design.
- Recent milestones show the successful fabrication, packaging, and delivery of **56 student-designed chips**, marking a shift towards indigenous "Design in India" capabilities.
- The programme has engaged nearly **400 organizations**, including over **300 academic institutions** and **95 startups**, to bridge the global talent gap in the semiconductor value chain.

Programme Overview & Objectives

- **Financial Outlay:** The initiative operates with a total budget of **₹250 crore** over a five-year implementation period (launched in 2022).
- **Manpower Development:** It aims to train **85,000 industry-ready professionals** (B.Tech, M.Tech, and PhD) in **Very Large-Scale Integration (VLSI)** and **Embedded System Design**.
- **Targeted Outcomes:**
 - o Catalyzing the incubation of **25 semiconductor startups**.
 - o Enabling **10 technology transfers**.
 - o Generating at least **50 patents** and supporting **2,000 research publications**.
 - o Development of **175 ASICs** (Application Specific Integrated Circuits) and **20 Systems on Chips (SoC)**.

Implementation Components

- **Nodal Agency:** The **Centre for Development of Advanced Computing (C-DAC)** serves as the primary implementing organization.
- **ChipIN Centre:** Located at **C-DAC Bengaluru**, it acts as a centralized "one-stop center" providing:
 - o Access to high-end **Electronic Design Automation (EDA)** tools from global partners like Synopsys, Cadence, and Siemens.
 - o Prototyping, packaging, and post-silicon validation support.
- **Fabrication Support:** Student and researcher designs are aggregated every three months and sent to the **Semi-Conductor Laboratory (SCL), Mohali**, for fabrication using **180 nm technology**.
- **SMART Labs:** Specialized facilities, including those at **NIELIT Calicut**, offer hands-on labs and certification for specialized manpower training.

Additional Info

- **Strategic Context:**
 - o **NPE-2019:** The C2S programme is a core component of the **National Policy on Electronics 2019**, focusing on reducing electronic imports.
 - o **Semicon India Programme:** Operates under the broader **₹76,000 crore** incentive package for the semiconductor and display ecosystem.
- **Technical Definitions:**
 - o **ASIC (Application Specific Integrated Circuit):** A chip customized for a specific use (e.g., digital voice recorders) rather than general-purpose computing.
 - o **SoC (System on Chip):** An integrated circuit that integrates all components of a computer (CPU, memory, I/O ports) onto a single substrate.
- **Proposal Categories:** Institutions can apply under three tiers based on expertise:
 - o **Category I:** Design and development of SoCs/ASICs/Reusable IP Cores.
 - o **Category II:** Development of application-oriented working prototypes.
 - o **Category III:** Proof-of-concept oriented R&D.

India Launches First-Ever Tailings Policy for Critical Minerals Recovery

What's the News?

- The **Ministry of Mines** has notified India's first-ever **Tailings Policy**, establishing a structured framework to recover **critical and strategic minerals** from mining waste.
- This policy aims to tap into "secondary sources"—such as **tailings, mine dumps, overburden, slags, and red mud**—that were previously treated as worthless waste.
- The initiative follows a commitment made in the **Union Budget** to strengthen domestic mineral supply chains and reduce heavy reliance on imports, particularly for sectors like **electric vehicles (EVs)** and **clean energy**.

Tailings Policy: Framework & Impact

- **Resource Identification:** Agencies such as the **Indian Bureau of Mines (IBM)**, **Central Mine Planning & Design Institute (CMPDI)**, and **Atomic Minerals Directorate (AMD)** will conduct sample analyses to map tailing ponds and assess mineral content.
- **Focus on Companion Minerals:** The policy recognizes that primary ores (like copper or aluminum) often contain valuable "companion minerals" (e.g., **selenium, tellurium, lithium, cobalt, or nickel**) in their waste streams.
- **Coordinated Governance:** It mandates a coordinated approach across multiple ministries, as critical minerals may be found in materials handled by departments outside the Ministry of Mines.
- **Economic Viability:** The framework sets guidelines to evaluate whether extracting minerals from legacy waste sites is economically feasible compared to opening new mines.
- **Circular Economy Shift:** This marks a transition from a linear "dig-and-dump" model to a **circular economy**, where waste is recycled as feedstock for new mineral production.

Additional Info

- **National Critical Mineral Mission (NCMM):**
 - Approved in **January 2025** with an outlay of **₹16,300 crore** (government) and **₹18,000 crore** (PSU investments).

- Includes a specific provision of **₹100 crore** for pilot projects using novel methods to recover minerals from tailings.
- **Critical Minerals in India:**
 - The **Mines and Minerals (Development and Regulation) Amendment Act, 2023**, classified **24 minerals** as "Critical and Strategic".
 - India currently has a dependency rate exceeding **40%** for six key minerals, including **lithium (82%)** and **bismuth (85.6%)**.
- **Incentives and Trade:**
 - The **Union Budget 2025-26** eliminated customs duties on the waste and scrap of **12 critical minerals** to provide cheaper feedstock for the recycling sector.
 - **₹1,500 crore** has been earmarked under the NCMM to provide incentives for setting up dedicated recycling facilities.
- **Environmental Benefits:**
 - Scientific management of tailings reduces risks such as **land degradation, water contamination**, and the failure of **tailing dams**.

Strongest Solar Radiation Storm in Decades Hits Earth

What's the News?

- Earth was recently impacted by the **strongest solar radiation storm** recorded in over 20 years, triggered by an intense solar flare and a **Coronal Mass Ejection (CME)** from the Sun.
- The event reached a **level S4 (Severe)** classification on the **NOAA Space Weather Scales**, resulting in widespread high-frequency radio blackouts and stunning **auroras** visible at much lower latitudes than usual.
- Space weather agencies monitored the event closely due to its potential to disrupt **satellite operations, transpolar aviation**, and the safety of **astronauts** currently in orbit.

Characteristics of the Solar Event

- **Classification:** S4 on the NOAA **Solar Radiation Storm Scale (S1–S5)**, based on proton flux ≥ 10 MeV measured by GOES satellites.
- **Origin:** Eruption from an active sunspot region, producing the first major **X-class flare** of 2026.
- **Travel Time:** High-energy protons reached Earth in **minutes to hours**, traveling ~ 150 million km at near-light speed.
- **Associated Phenomenon:** A **G4-level (Severe) geomagnetic storm** also occurred, amplifying auroral activity.

Observed Impacts

- **Auroras:**
 - Spectacular displays seen across **Germany, Austria, and northern Europe**
 - Limited visibility in the U.S. due to unfavorable magnetic field orientation of the CME.
- **Technology & Infrastructure:**
 - **Aviation:** GPS disruptions reported on polar routes; airlines alerted by NOAA's Space Weather Prediction Center (SWPC).
 - **Satellites:** Temporary data dropouts and sensor interference due to proton bombardment.
 - **Human Spaceflight:** Astronauts on the **International Space Station (ISS)** moved to shielded modules as a precaution.
- **Ground-Level Safety:**
 - **No risk to public health**—Earth's atmosphere and magnetic field fully absorbed radiation
 - Not classified as a "ground-level event" (no detectable particles at surface).

Additional Info

- **Space Weather Monitoring:**
 - **Aditya-L1:** India's first dedicated solar mission, positioned at the **Lagrange Point 1 (L1)**, provides crucial early warnings and data on solar flares and CMEs.
 - **Solar Flares vs. CMEs:** While solar flares are intense bursts of light/radiation (reaching Earth in ~ 8 minutes), CMEs are massive clouds of plasma and magnetic fields (reaching Earth in 1–3 days).

- **Scientific Significance:**
 - **Geomagnetic Storms:** Often follow radiation storms, causing the **Auroras (Northern/Southern Lights)** as solar particles interact with Earth's magnetic field.
 - **Carrington Event (1859):** The most powerful recorded solar storm in history; a modern equivalent would cause trillion-dollar damages to global power grids and digital infrastructure.
- **Related Terms:**
 - **Van Allen Radiation Belts:** Two layers of energetic charged particles held in place by Earth's magnetic field that expand during such storms.
 - **Ionosphere:** The layer of Earth's atmosphere that becomes highly charged during solar events, impacting long-distance radio communication.

Pixel-led Consortium to Build India's First Private EO Satellite Constellation

What's the News?

- The **Indian National Space Promotion and Authorisation Centre (IN-SPACe)** has signed a landmark agreement with a consortium led by **Pixel** to design, build, and operate India's first privately-led national **Earth Observation (EO)** satellite constellation.
- This marks the official commencement of the **Earth Observation Public-Private Partnership (EO-PPP)** programme, a strategic shift from exclusively government-built systems to private sector-led national space infrastructure.
- The project, valued at over **₹1,200 crore**, involves a consortium of four Indian space-tech startups: **Pixel, Dhruva Space, PierSight, and SatSure**.
- The first set of satellites under this agreement is expected to be launched in **2027**.

Pixxel's EO Constellation?

- **Project Scale:** The consortium will deploy a constellation of **12 state-of-the-art satellites** over the next five years.
- **Multimodal Imaging:** The satellites will be equipped with a diverse suite of sensors to provide comprehensive data:
 - **Hyperspectral Imaging:** Capturing 135+ spectral bands for deep chemical and biological analysis.
 - **Very High-Resolution Optical:** For detailed visual mapping.
 - **Multispectral:** For vegetation and water health monitoring.
 - **Synthetic Aperture Radar (SAR):** For all-weather, day-and-night imaging.
- **Operational Model:** The consortium will **own and operate** the constellation while providing **Analysis Ready Data (ARD)** and **Value-Added Services (VAS)** to the Indian government and global commercial markets.
- **Strategic Impact:** The project aims to reduce India's dependence on foreign satellite data and strengthen **data sovereignty** in critical sectors like national security and disaster management.

Key Objectives & Applications?

- **Agriculture:** Real-time monitoring of crop health, soil moisture, and early detection of pest infestations or nutrient stress.
- **Climate & Environment:** Tracking deforestation, monitoring greenhouse gas emissions, and assessing ocean pollution or water quality.
- **Infrastructure & Energy:** Assisting in urban planning, monitoring large-scale construction projects, and detecting leaks in oil and gas pipelines.
- **Disaster Management:** Providing rapid response data during floods, forest fires, or earthquakes to assist in rescue and recovery efforts.
- **Maritime Surveillance:** Enhancing sea-lane security and monitoring illegal fishing or oil spills through **SAR** and optical data.

Additional Info

- **IN-SPACE (Indian National Space Promotion and Authorisation Centre):**

- An autonomous nodal agency under the **Department of Space (DoS)**.
- Acts as a "single-window" regulator to promote and authorize private sector participation in the Indian space ecosystem.
- **Hyperspectral Imaging vs. Multispectral:**
 - While multispectral imaging captures data in a few broad bands (typically 3–10), **hyperspectral imaging** captures hundreds of narrow, contiguous bands. This allows for the identification of materials and chemical signatures (e.g., specific mineral types or crop diseases) that are invisible to standard sensors.

DoT De-licenses Lower 6 GHz Band to Boost Next-Gen Wi-Fi Services

What's the News?

- The **Department of Telecommunications (DoT)**, Ministry of Communications, has officially de-licensed the **lower 6 GHz band** (5925–6425 MHz) for public use.
- This move, formalized under the **Use of Low Power and Very Low Power Wireless Access System Rules, 2026**, allows for the operation of Wi-Fi equipment without a license or spectrum fees.
- The decision follows a long-standing debate between tech giants (seeking unlicensed use) and telecom operators (seeking spectrum auctions), with the government opting for a balanced approach.
- The de-licensing is a critical milestone for the adoption of **Wi-Fi 6E** and **Wi-Fi 7**, enabling multi-gigabit wireless speeds and ultra-low latency for Indian consumers.

De-licensing Framework?

- **Frequencies:** A contiguous block of **500 MHz** spectrum (5925–6425 MHz) has been made license-exempt.
- **Operating Categories:**
 - **Low Power Indoor (LPI):** Devices like routers are permitted a maximum **EIRP** (Equivalent Isotropic Radiated Power) of **30 dBm**.

- **Very Low Power (VLP) Outdoor:** Short-range outdoor systems are capped at **14 dBm** EIRP to prevent interference with other services.
- **Key Restrictions:**
 - Usage is **prohibited** on land vehicles (cars, trains), boats, oil platforms, and for the control of **drones** (Unmanned Aerial Systems).
 - Indoor use in aircraft is allowed only when flying above **10,000 feet**.
- **Technical Compliance:** Devices must feature **integrated antennas** and employ **contention-based protocols** to share the spectrum fairly on a non-interference basis.

Benefits of the 6 GHz Band?

- **Ultra-Fast Speeds:** Wi-Fi 7 can utilize wide **320 MHz channels** to deliver theoretical speeds up to **9.6 Gbps**, nearly 7x faster than standard Wi-Fi 5.
- **Multi-Link Operation (MLO):** A hallmark of Wi-Fi 7 that allows devices to transmit data across 2.4 GHz, 5 GHz, and 6 GHz bands **simultaneously**, ensuring stable connections even in congested areas.
- **Network Offloading:** By providing a "pressure valve" for indoor traffic, the 6 GHz band helps offload massive data from **5G mobile networks**, improving outdoor cellular performance.
- **Enabling New Tech:** Supports data-intensive applications like **8K streaming**, high-fidelity cloud gaming, **Industry 4.0** (smart factories), and **Augmented/Virtual Reality (AR/VR)**.
- **Market Expansion:** Removal of regulatory hurdles allows for the launch of advanced hardware, such as the **Sony PlayStation 5 Pro**, which requires 6 GHz access to function optimally.

Additional Info

- **Upper 6 GHz Band (6425–7125 MHz):**
 - While the lower half is de-licensed, the upper **700 MHz** remains reserved.
 - Telecom operators (via **COAI**) advocate for this portion to be auctioned for **5G and 6G** mobile services to meet future urban capacity needs.
- **TRAI (Telecom Regulatory Authority of India):**
 - The sector regulator recommended de-licensing the lower band after extensive consultations to align India with global

standards while protecting incumbent satellite and backhaul services.

- **Global Alignment:**
 - **United States & South Korea:** Have de-licensed the entire 1200 MHz (5925–7125 MHz) for Wi-Fi.
 - **China:** Has reserved the entire band for licensed mobile services.
 - **India & Europe:** Have adopted a "split" approach, balancing unlicensed Wi-Fi with future mobile needs.
- **NFAP (National Frequency Allocation Plan):** The 6 GHz de-licensing is reflected in the latest NFAP, which serves as the master blueprint for spectrum usage in India.
- **ITSAR (Indian Telecom Security Assurance Requirements):** New Wi-Fi devices must comply with these security standards to ensure network integrity and reduce the risk of spurious imports.

ARCI Researchers Develop 3.4V

High-Voltage Supercapacitor for Enhanced Energy Storage

What's the News?

- Researchers at the **International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI)**, an autonomous institute under the **Department of Science and Technology (DST)**, have developed a breakthrough **high-voltage supercapacitor** capable of operating at **3.4 volts**.
- The innovation pushes beyond the conventional **2.5–3.0 V** voltage limit of commercial supercapacitors, overcoming electrolyte instability and safety challenges that typically restrict energy storage performance.
- Based on a novel **dual-functional porous graphene carbon nanocomposite (PGCN)** electrode, the technology promises to enhance **electric vehicle (EV) range and acceleration**, strengthen **grid-scale energy storage**, and improve **renewable energy integration**.
- The findings have been published in the **Chemical Engineering Journal** (Elsevier), with research

supported under DST's **Technical Research Centre (TRC)** initiative.

High-Voltage PGCN Supercapacitor?

- **Core Innovation:** The supercapacitor uses **PGCN electrodes** engineered with a dual-functional surface that is both **water-repellent (superhydrophobic)** and **highly compatible with organic electrolytes (superorganophilic)**.
- **Problem Addressed:** Conventional supercapacitors face **electrolyte decomposition, thermal degradation, and flammability risks** at voltages above 3.0 V, limiting their energy density and practical applications.
- **Solution Mechanism:** The PGCN surface suppresses **moisture-induced degradation** while enabling **rapid electrolyte penetration** into the porous carbon framework, accelerating ion transport and improving electrochemical kinetics.
- **Scalable Manufacturing:** Electrodes are produced via an **eco-friendly hydrothermal carbonization process** using **1,2-propanediol** as a precursor, conducted at **300°C** for **25 hours** in a sealed vessel.
 - **Yields exceeding 20%** achieved without harsh chemicals or external gases
 - Process scalable from laboratory to **industrial-scale production**.

Key Performance Metrics?

- **Operating Voltage:** **3.4 V** (surpassing the 3.0 V commercial ceiling).
- **Energy Density:** **33% higher** energy storage than conventional carbon-based devices.
- **Power Density:** Up to **17,000 W/kg**, enabling high-power output for rapid charging/discharging.
- **Durability:** Retains **96% of performance** after **15,000 charge–discharge cycles**.
- **Structural Advantage:** **Micro- and mesoporous architecture** significantly boosts ion diffusion compared to traditional electrodes like commercial **YP-50F**.
- **System Efficiency:** Higher voltage operation reduces the need for **stacking multiple low-voltage cells**, simplifying module design and reducing overall system complexity.

Applications & Strategic Impact?

- **Electric Mobility:** Enables **faster acceleration** and **increased driving range** for EVs while supporting **regenerative braking** energy capture; complements lithium-ion batteries by handling high-power bursts.
- **Renewable Energy:** Facilitates stable energy storage for **solar panels** and improved **grid balancing** capabilities for intermittent renewable sources.
- **Grid Infrastructure:** Supports **grid-scale storage** and **frequency regulation** for power system stability.
- **Consumer Electronics:** Suitable for **portable electronic devices** requiring rapid charging and long cycle life.
- **Strategic Alignment:** Advances **Aatma Nirbhar Bharat** objectives by strengthening indigenous capabilities in **advanced energy storage technologies** and supporting India's **clean energy transition** goals.

Additional Info

About Supercapacitors

- **Definition:** High-capacity energy storage devices that bridge the gap between conventional capacitors and rechargeable batteries.
- **Key Components:** Electrode, electrolyte, separator, and current collector.
- **Advantages:** **High power density, ultrafast charging** (minutes vs hours for batteries), **long durability**, and **excellent cycle life**.
- **Working Principle:** Stores energy by pulling ions from electrolyte onto porous electrode surfaces, acting like a sponge for ions while providing fast electrical pathways.

Organizational Framework

- **ARCI:** Established as an autonomous research centre under DST, specializing in **powder metallurgy** and **new materials development** for industrial applications.
- **DST Technical Research Centre (TRC) Initiative:** Supports cutting-edge research and development in emerging technology areas to foster innovation and self-reliance.

Technical Comparisons

- **Conventional Supercapacitors:** Limited to **2.5–3.0 V** operating windows due to electrolyte breakdown constraints; require multiple cells in series for higher voltage applications.
- **PGCN Advantage:** Single-cell high-voltage operation reduces **battery management system complexity** and improves **volumetric energy density**.
- **Environmental Benefit:** Hydrothermal synthesis eliminates toxic chemical usage, aligning with **green chemistry principles** for sustainable manufacturing.



Agriculture

Farmer Suicides in India: Analyzing Trends in Agrarian Distress

What's the News?

- The **National Crime Records Bureau (NCRB)** reported that **10,786** individuals involved in the farming sector died by suicide in **2023**, highlighting persistent challenges in India's agricultural economy.
- The data reveals that of these total deaths, **4,690** were **farmers/cultivators** and **6,096** were **agricultural labourers**, showing a higher vulnerability among daily-wage farm workers.
- Collectively, suicides in the farming sector accounted for **6.3%** of all suicide victims in India during the year.
- States such as **Maharashtra** and **Karnataka** remain the most affected regions, continuing a decades-long trend of high agrarian distress in the cotton and soybean belts.

Regional Impact and Statistics

- **Top Contributing States:** Five states accounted for the vast majority of cases in the farming sector:
 - **Maharashtra:** Reported the highest number with **4,153** cases (**38.5%** of the national total).
 - **Karnataka:** Followed with **2,431** cases (**22.5%**).
 - **Andhra Pradesh:** **8.6%** share.
 - **Madhya Pradesh:** **7.2%** share.
 - **Tamil Nadu:** **5.9%** share.
- **Zero Reported Cases:** Several states and Union Territories, including **West Bengal, Bihar, Odisha,** and **Delhi**, reported zero suicides in the farming sector.
- **Gender Distribution:** The vast majority of victims were male, with **9,986** men compared to **800** women across both cultivators and labourers.

Factors Driving Agrarian Distress

- **Indebtedness and Credit:** A primary driver is the inability to repay loans, often taken from **non-institutional sources** (money lenders) at exorbitant interest rates reaching up to **60% per annum**.

- **Climate Change and Crop Failure:** Increased frequency of **droughts, unseasonal rains,** and **pest attacks** (e.g., whitefly on cotton) lead to repeated crop losses, particularly in rain-fed regions.
- **Economic Volatility:** Rising **input costs** (seeds, fertilizers, and diesel) coupled with **low realization of Minimum Support Prices (MSP)** and market price crashes for cash crops like cotton and soybean.
- **Socio-Economic Stress:** Factors such as **chronic illness, family disputes,** and the high cost of social obligations (e.g., marriages) exacerbate the financial burden on small and marginal farmers.

Additional Info

- **Constitutional and Legal Context:**
 - **Article 21:** The Supreme Court has often linked the **Right to Life** with the right to a dignified livelihood, including the protection of farmers.
 - **Agriculture (State List):** While agriculture is a state subject under **Entry 14**, the Union government intervenes through central schemes and the **Concurrent List** (Entry 33) for food distribution and price control.
- **Major Government Initiatives:**
 - **PM-KISAN:** Provides **₹6,000 annually** in three installments as direct income support to landholding farmer families.
 - **Pradhan Mantri Fasal Bima Yojana (PMFBY):** A crop insurance scheme providing comprehensive risk cover against non-preventable natural risks at a low premium (1.5% to 5%).
 - **National Suicide Prevention Strategy (2022):** Aims to reduce suicide mortality by **10% by 2030** through inter-sectoral collaboration.
- **Key Recommendations:**
 - **Swaminathan Commission:** Recommended fixing MSP at least **50% more** than the weighted average cost of production (C2+50% formula).
 - **Rythu Bandhu (Telangana)** and **KALIA (Odisha):** These are often cited as successful

state-level models for unconditional direct investment support to farmers.

India Becomes World's Largest Rice Producer, Surpassing China

What's the News?

- India has officially become the **world's largest rice producer**, overtaking **China** for the first time.
- Union Agriculture Minister **Shivraj Singh Chouhan** announced that India's rice production reached a record **149.82 million tonnes (mt)** in the **2024-25** crop year.
- This milestone marks a significant shift in global agricultural dynamics, as **China** had held the top position for decades.
- The achievement is attributed to favorable monsoon conditions, increased area under cultivation, and the adoption of **high-yielding** and **climate-resilient** seed varieties.

Production Trends & Key Drivers

- India's rice output has risen consistently over the past decade:
 - **2020-21**: 129.3 MT
 - **2023-24**: 135.3 MT
 - **2024-25 (est.)**: 136.41 MT
- Key contributors:
 - **Record area coverage**: ~46.6 million hectares
 - **Yield improvement**:
 - **2014-15**: 2.21 MT/ha
 - **2024-25 (est.)**: 2.93 MT/ha
 - Adoption of high-yielding and climate-resilient varieties (e.g., **Swarna Sub1**, **CR Dhan 310**)
 - Expansion of **direct-seeded rice (DSR)** and micro-irrigation in Punjab, Haryana, and eastern states

Export Leadership Continues

- India remains the **top global rice exporter** for the **12th consecutive year** (2013-2025), shipping **22-24 MT annually** on average.
- In **2024-25 (April-Dec)**:
 - Exported **21.78 MT** rice (value: ~\$10.2 billion)
 - Share of **non-basmati rice**: ~90%

- Key markets: **Nepal, Benin, Senegal, Bangladesh, Indonesia**
- Contributed **~40% of global rice trade** in volume terms in 2024.

Additional Info

- **Historical Context**:
 - Historically, **China** was the dominant producer due to its high-intensity farming and early adoption of **hybrid rice** technology.
 - India's transition from a food-deficient nation during the **Green Revolution** to the world's top producer is considered a major socio-economic success.
- **Constitutional & Policy Links**:
 - **Agriculture** is a **State List** subject (Entry 14), but the **Central Government** influences it through **Entry 33 of the Concurrent List** (trade and commerce in foodstuff).
 - **Article 47**: The State shall endeavor to raise the level of nutrition and the standard of living and to improve public health, which includes ensuring **food security**.
- **Related Schemes**:
 - **National Food Security Mission (NFSM)**: Launched to increase production through area expansion and productivity enhancement.
 - **Pradhan Mantri Krishi Sinchai Yojana (PMKSY)**: Focuses on "Har Khet Ko Pani" (Water for every field) to reduce dependence on monsoons.
 - **Rashtriya Krishi Vikas Yojana (RKVY)**: Provides flexibility to states to plan and execute agricultural development programs.
- **Data Context**:
 - While India is now #1 in **total production**, its **average yield per hectare** still lags behind China and the USA, indicating significant scope for further productivity gains.

Digitalizing India's Dairy Sector: Enhancing Productivity and Traceability

What's the News?

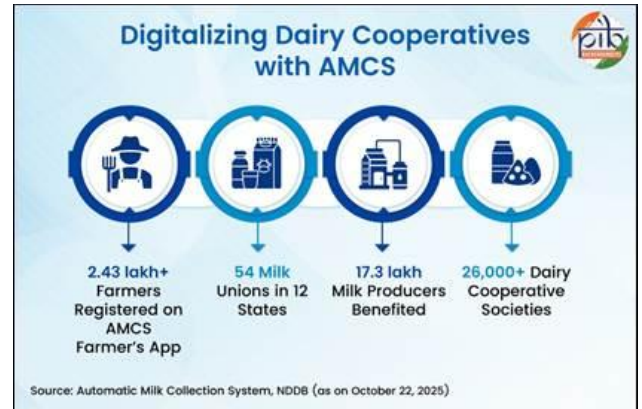
- The **National Dairy Development Board (NDDB)** is leading a comprehensive digital transformation of the Indian dairy sector to boost transparency, efficiency, and farmer inclusion.
- India currently accounts for **25% of global milk production**, making it the world's largest producer.
- The shift, often termed the "**Second White Revolution**," utilizes digital tools like **Pashu Aadhaar** and **Automatic Milk Collection Systems** to create a traceable and data-driven ecosystem.

National Digital Livestock Mission (NDLM)

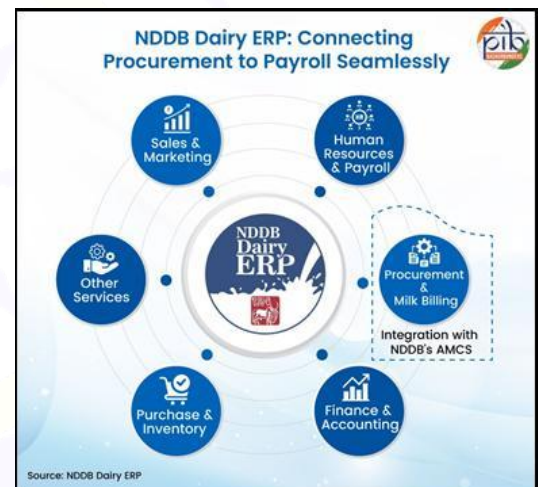
- **Bharat Pashudhan:** A unified digital platform under NDLM that records all livestock-related activities, including breeding, health services, and vaccinations.
- **Pashu Aadhaar:** Every animal is assigned a unique **12-digit barcoded ear tag**. By November 2025, more than **35.68 crore** Pashu Aadhaars were generated.
- **Transaction Logging:** The system has recorded over **84 crore transactions**, allowing veterinarians and farmers to track animal health history in real-time.
- **1962 Helpline:** Farmers can access doorstep veterinary services via **Mobile Veterinary Units** by using the toll-free number **1962** or the corresponding mobile app.

Digital Procurement & Management Tools

- **Automatic Milk Collection System (AMCS):**
 - Operational in **12 states and Union Territories**, benefiting approximately **17.3 lakh milk producers**.
 - Digitally records milk quality, quantity, and fat content at the collection point, ensuring **instant payments** to farmers' bank accounts.
 - Provides real-time **SMS updates** to farmers regarding their daily sales and payment status.



- **NDDB Dairy ERP (NDERP):**
 - An open-source Enterprise Resource Planning system (built on **ERPNext**) designed specifically for the dairy and edible oil industries.
 - It integrates the entire value chain from "cow to consumer," including finance, inventory, and distribution, without recurring licensing fees.



- **Internet-based Dairy Information System (i-DIS):**
 - A national dashboard used by **198 milk unions** and **15 federations** for data-driven decision-making and policy planning.

Breeding & Logistics Innovations

- **Semen Station Management System (SSMS):**
 - Digitizes the production and quality control of **Frozen Semen Doses (FSD)** across **38 graded semen stations**.
 - Ensures adherence to Minimum Standard Protocols (MSP) and provides nationwide traceability of genetic material.
- **GIS Route Optimisation:**

- o Cooperatives use **satellite mapping** to plan the most efficient milk procurement routes, significantly reducing fuel costs and transportation time.



Important Days

World Braille Day 2026: Promoting Inclusion and Literacy Through Touch

What's the News?

- **World Braille Day** was observed globally on **January 4, 2026**, to raise awareness about the importance of **Braille** as a means of communication for the full realization of human rights for blind and partially sighted people.
- The day commemorates the birth anniversary of **Louis Braille**, the French educator who invented the tactile reading and writing system in the 19th century.
- First officially recognized by the **United Nations General Assembly (UNGA)** in 2018, the day has been celebrated annually since **2019**.
- The 2026 observance emphasizes the need for **accessible formats** in education, healthcare, and digital content to ensure that the estimated **2.2 billion people** globally with vision impairment can participate fully in society.

Why January 4?

- **Louis Braille's Legacy:** Born on **January 4, 1809**, in France, Louis Braille lost his sight at age three due to a workshop accident.
- **Military Inspiration:** At age 15, he simplified a complex 12-dot military cryptography system known as "**night writing**" (developed by **Charles Barbier**) into a more efficient six-dot system.
- **The Six-Dot Revolution:** His system allowed users to read a cell with a single fingertip, enabling faster literacy and independent learning for the visually impaired.

What is Braille?

- **Not a Language:** Braille is a **tactile code** rather than a language; it can be used to represent many languages, including English, Hindi, and Chinese, as well as musical and mathematical symbols.
- **Structure:** A standard Braille cell consists of **six dots** arranged in two vertical columns of three dots each.

- **Versatility:** There are **63 possible combinations** of these dots, representing letters, numbers, and punctuation marks.
- **Irreplaceability:** Despite digital advancements like screen readers, Braille remains essential for foundational **literacy**, numeracy, and cognitive development.

Additional Info

- **Constitutional Framework in India:**
 - **Article 41 (DPSP):** Mandates the State to make effective provisions for the right to work, education, and public assistance in cases of **disablement**.
 - **Article 15:** Prohibits discrimination by the State against any citizen, including persons with disabilities.
 - **Article 21:** The **Supreme Court** has interpreted the "Right to Life" to include the right to live with **dignity** and access to reasonable accommodation for persons with disabilities.
- **Legal Framework:**
 - **Rights of Persons with Disabilities (RPwD) Act, 2016:** Replaced the 1995 Act; it increases the types of disabilities from 7 to **21** and mandates a **4% reservation** in government jobs (including 1% specifically for the visually impaired).
 - **Section 31:** Mandates that all educational institutions provide **amanuensis** (scribes) to blind students and those with low vision.
- **Indian Initiatives:**
 - **Sugamya Bharat Abhiyan** (Accessible India Campaign): A nationwide flagship campaign to achieve universal accessibility in the built environment, transport, and ICT.
 - **Sugamya Pustakalaya:** An online library that hosts over **6.7 lakh titles** in accessible formats like Braille and audio.
 - **NIEPVD** (Dehradun): The **National Institute for the Empowerment of Persons with Visual**

Disabilities provides education, training, and Braille production services.

- **Key Statistics:**
 - According to the **2011 Census**, India has approximately **5 million** persons with visual impairment.

International Year of Rangelands and Pastoralists 2026

What's the News?

- The **United Nations** has declared **2026** as the **International Year of Rangelands and Pastoralists (IYRP)** to raise global awareness about the conservation of these ecosystems.
- The initiative highlights the critical role of **grasslands** and **rangelands** in climate regulation, carbon sequestration, and supporting the livelihoods of millions of pastoralists.
- Advocacy groups are increasingly pushing for the formal inclusion of grasslands within national and global climate action frameworks, such as the **UNFCCC**, to ensure they receive the same conservation priority as forests.

Importance of Rangelands and Grasslands

- **Global Coverage:** Rangelands—including grasslands, shrublands, wetlands, and tundras—cover approximately **54% of the Earth's land surface**.
- **Carbon Sequestration:** Grasslands act as vital carbon sinks; unlike forests, they store most of their carbon **underground** in roots and soil, making them more resilient to wildfires.
- **Biodiversity Hubs:** These ecosystems support unique flora and fauna and are essential for the survival of wild herbivores and domestic livestock.
- **Economic Contribution:** They provide the primary resource for **pastoralism**, a livelihood strategy for over **200 million people** globally, contributing significantly to food security and rural economies.

India's Rangeland Challenge

- **Policy Fragmentation:** Grasslands fall under the jurisdiction of **at least 18 ministries**, leading to conflicting mandates e.g., the **Ministry of Environment, Forest & Climate Change**

(**MoEF&CC**) treats grasslands as sites for afforestation, while the **Ministry of Rural Development** classifies them as "wastelands" for conversion.

- **Ecological Neglect:** India's **Nationally Determined Contribution (NDC)** targets carbon sequestration through "additional forest and tree cover" but **excludes grasslands**, despite their proven carbon sink potential.
- **Institutional Gaps:** Though a **Pastoral Cell** was established in 2023 under the **Ministry of Fisheries, Animal Husbandry & Dairying**, there is **no dedicated national policy** for grassland conservation.

Additional Info

- **UNFCCC and Grasslands:**
 - While the **United Nations Framework Convention on Climate Change (UNFCCC)** focuses heavily on forest-based carbon credits (e.g., **REDD+**), there is a growing demand to develop similar mechanisms for grassland conservation.
- **Pastoralists:**
 - Mobile or semi-settled communities that manage livestock on natural pastures.
 - In India, communities like the **Bakarwals (J&K)**, **Dhangars (Maharashtra)**, and **Raika (Rajasthan)** are key examples.
- **Indian Context:**
 - **Wasteland Atlas of India:** Historically, many productive grasslands were categorized as "wastelands," a classification that conservationists are urging the government to revise.
 - **Article 48A:** The Directive Principles of State Policy mandate the State to protect and improve the environment and safeguard the forests and wildlife of the country.
 - **National Grassland and Fodder Policy (Draft):** Aims to regulate the use of common grazing lands and promote sustainable fodder production.
- **Key Global Goals:**

- o **SDG 15 (Life on Land)**: Specifically targets the restoration of degraded land and soil, including rangelands.
- o **UN Decade on Ecosystem Restoration (2021–2030)**: Includes rangelands as a priority biome for recovery.

National Youth Day 2026

What's the News?

- India celebrated **National Youth Day** on January 12 to commemorate the **163rd birth anniversary** of **Swami Vivekananda**.
- The primary focus of the 2026 observance was the **Viksit Bharat Young Leaders Dialogue (VBYLD)**, held at **Bharat Mandapam**, New Delhi, where Prime Minister **Narendra Modi** interacted with nearly **3,000 young leaders**.
- The day marks the beginning of **National Youth Week**, which runs from January 12 to 16, featuring seminars, cultural festivals, and leadership workshops across the country.

Why National Youth Day?

- Since **1984**, the Government of India has designated January 12 as National Youth Day to institutionalize Swami Vivekananda's philosophy that **youth are central to nation-building**.
- The day seeks to:
 - o Instill **moral character, courage, and social commitment** among young Indians.
 - o Encourage youth to become **architects of India's development journey toward 2047**.
 - o Promote **education, rational thinking, and spiritual strength** core tenets of Vivekananda's teachings.

Key Initiatives for Youth Empowerment

- **Mera Yuva Bharat (MY Bharat)**: A technology-driven platform launched in 2023 that has facilitated over **14.5 lakh volunteer opportunities** and reached **2.05 crore registrations** by late 2025.
- **National Service Scheme (NSS)**: Involving **3.9 million volunteers** across 657 universities, the NSS continues to be a cornerstone for nurturing civic leadership.
- **Skill Development**: Programs like **Skill India** and **PM-SETU** focus on training youth in

emerging fields such as **Artificial Intelligence, green technologies, and digital services**.

- **Health and Well-being**: Initiatives like **Fit India**, the **Kashi Declaration**, and **Rashtriya Kishore Swasthya Karyakram (RKSK)** promote mental health and substance-free living.

Additional Info

- **Swami Vivekananda (1863–1902)**:
 - o Born as **Narendranath Datta** in Kolkata; he became the chief disciple of **Ramakrishna Paramhansa**.
 - o Best known for his 1893 speech at the **Parliament of the World's Religions** in Chicago, which introduced **Vedanta** and **Yoga** to the West.
 - o Founded the **Ramakrishna Mission (1897)** and **Belur Math (1899)** to promote service and spiritual upliftment.
- **Core Philosophy**:
 - o **Karma Yoga**: The path of selfless action where "service to man is service to God".
 - o **Man-making Education**: Believed education should focus on character-building rather than mere information gathering.
 - o **Fearlessness**: Encouraged youth to be brave, stating, "Strength is life, weakness is death".

6th Khelo India Winter Games 2026 Kicks Off in Ladakh

What's the News?

- The **6th Edition of the Khelo India Winter Games (KIWG) 2026** was formally inaugurated at the **Nawang Dorjan Stobdan (NDS) Stadium** in Leh, Ladakh.
- Lieutenant Governor of UT Ladakh, **Kavindra Gupta**, officially declared the games open, marking the third consecutive year that the region has hosted this prestigious event.
- The games are scheduled to take place from **January 20 to January 26**, featuring participation from over **1,200 total participants**, including more than **700 athletes** representing **21 States and Union Territories**.

6th Edition: Key Highlights & Venue Details

- **Two-Chapter Format:** The 2026 games are divided into two distinct legs:
 - **Leh (Ladakh):** Focused on **Ice Sports**, including Ice Hockey and Ice Skating.
 - **Gulmarg (Jammu & Kashmir):** Focused on **Snow Sports**, such as Ski Mountaineering, Alpine Skiing, and Snowboarding.
- **New Sporting Addition: Figure Skating**, an Olympic discipline, has been introduced for the first time in this edition.
- **Key Venues in Leh:**
 - **NDS Ice Hockey Stadium:** Features a state-of-the-art **Artificial Ice Rink** built at a cost of **₹53.58 crore**.
 - **Guphuk Frozen Pond:** Selected as the venue for long-track ice skating events.
 - **Ladakh Scouts Regimental Centre (LSRC) Rink:** Used for various ice hockey matches.
- **Mascot & Logo:**
 - **Mascot: 'Sheen-e She' (Shan)**, a snow leopard, symbolizing the resilience and agility of Himalayan winter sports.
 - **Logo:** Features the **Indian Tricolor** with a **Dharmachakra** (Wheel of Dharma) inspired by the **Shanti Stupa** in Leh.

Khelo India Scheme:

- A flagship Central Sector Scheme of the **Ministry of Youth Affairs & Sports** aimed at promoting a sporting culture and identifying talent at the grassroots level.
- The Winter Games were first introduced in **2020**.
- **Khelo India Ecosystem** includes:
 - Khelo India Youth Games
 - Khelo India University Games
 - Khelo India Para Games
 - Khelo India Beach Games
 - **Khelo India Winter Games** (now in its 6th edition)

Parakram Diwas 2026: Commemorating Netaji Subhas Chandra Bose's Legacy

What's the News?

India observed **Parakram Diwas** on January 23, 2026, marking the **129th birth anniversary** of **Netaji Subhas Chandra Bose**, a pivotal figure in India's freedom struggle. The day honours his unwavering courage, revolutionary leadership, and contributions to national independence through events, educational programmes, and tributes across the country.

Why is it Called Parakram Diwas?

- In **2021**, the Government of India officially declared January 23 as **Parakram Diwas (Day of Valour)** to institutionalize Netaji's legacy and inspire citizens—especially youth—with values of **bravery, discipline, and selfless service**.
- The term *Parakram* reflects Netaji's bold, action-oriented approach to achieving complete independence from British rule.

Key Facts About Netaji Subhas Chandra Bose

- **Early Life:** Born on **January 23, 1897**, in **Cuttack, Odisha**, to Janakinath Bose and Prabhavati Devi.
- **Political Career:**
 - Qualified for the **Indian Civil Service (ICS)** in 1920 but resigned in 1921 to join the freedom struggle.
 - Served as the **President of the Indian National Congress** at the **Haripura Session (1938)** and the **Tripuri Session (1939)**.
 - Formed the **All India Forward Bloc** in 1939 after resigning from the Congress presidency.
- **The "Great Escape" & INA:**
 - Escaped from house arrest in **Calcutta in 1941**, traveling through Afghanistan to Germany and later to Japan.
 - Took command of the **Indian National Army (Azad Hind Fauj)** in **Singapore in 1943**.
 - Established the **Provisional Government of Free India** (Azad Hind Government) in **October 1943**.
- **Famous Slogans:** "Jai Hind," "Delhi Chalo," and "Give me blood, and I shall give you freedom".

National Girl Child Day 2026: Empowering Girls for a Brighter Tomorrow

What's the News?

- **National Girl Child Day 2026** was observed across India on **January 24, 2026**, marking the **18th anniversary** of the observance first launched by the **Ministry of Women and Child Development** in 2008.
- The day reinforces the national commitment to addressing **gender inequalities, discrimination, and violence** faced by girls, while promoting their rights to **education, health, nutrition, and safety**.
- The observance aligns with flagship government initiatives like **Beti Bachao Beti Padhao (BBBP)**, which recorded **4.53 crore accounts** under the **Sukanya Samridhi Yojana** (as of completion of 11 years), demonstrating sustained policy focus on girl child welfare.

Historical Significance and Evolution

- **Inception:** First observed in **2008** by the Ministry of Women and Child Development to confront **declining child sex ratios, female foeticide**, and entrenched gender discrimination.
- **Symbolic Date:** **January 24** was chosen to commemorate **Indira Gandhi** assuming office as India's first woman Prime Minister on this date in **1966**, establishing a powerful precedent for women's leadership in governance.
- **Progressive Milestone:** The observance traces its philosophical roots to the **1995 Beijing Declaration and Platform for Action**, the first UN framework to specifically address girls' rights alongside women's empowerment.

Core Objectives

- **Awareness Generation:** Increase public consciousness regarding inequalities faced by girls in education, healthcare, and social participation.
- **Rights Protection:** Promote awareness of legal rights safeguarding girls against **child marriage, gender-based violence, and discriminatory practices**.
- **Education Promotion:** Address barriers causing high dropout rates among adolescent girls, ensuring

transition from primary to secondary and higher education.

- **Health and Nutrition:** Highlight **anemia, malnutrition, and inadequate healthcare access** as critical challenges affecting the girl child.
- **Empowerment:** Build self-confidence, leadership capabilities, and economic potential through skill development and equal opportunity advocacy.

Thematic Focus and Expected Impact

- **2026 Focus:** While the official theme was not formally announced, the observance continued emphasis on **"Empowering Girls for a Bright Future"**; highlighting education, safety, and leadership as foundational pillars.
- **Educational Access:** Focus on **STEM participation**, digital literacy, and vocational training to prepare girls for emerging economic sectors.
- **Safety and Security:** Addressing concerns regarding **violence against girls, trafficking**, and creating safe environments in schools and public spaces.
- **Health Priorities:** Emphasis on **adolescent nutrition, menstrual hygiene management, and mental health support** for holistic development.

Additional Info

Constitutional and Legal Framework:

- **Article 21:** Right to life and personal liberty interpreted by Supreme Court to include right to education and dignity for the girl child.
- **Article 15(3):** Enables special provisions for women and children, legitimizing affirmative action schemes for girls.
- **Article 45 (DPSP):** Early childhood care and education mandate supporting girl child development.
- **Prohibition of Child Marriage Act, 2006:** Legal framework preventing marriage of girls below 18 years.
- **Pre-Conception and Pre-Natal Diagnostic Techniques (PCPNDT) Act, 1994:** Prohibits sex selection and sex determination to prevent female foeticide.
- **Right to Education Act, 2009:** Mandates free and compulsory education until age 14, reducing gender gaps in primary enrollment.

- **Protection of Children from Sexual Offences (POCSO) Act, 2012:** Safeguards girls against sexual abuse and exploitation.

Flagship Government Schemes:

- **Beti Bachao Beti Padhao (BBBP):**
 - **Launch:** January 22, 2015 by the Prime Minister.
 - **Objective:** Address declining **Child Sex Ratio (CSR)** and promote women's empowerment through survival, protection, education, and participation.
 - **Key Interventions:** Guddi-Gudda Boards (public display of gender-wise birth statistics), **Selfie with Daughters** campaign, and district-level convergence with health and education departments.
- **Sukanya Samridhi Yojana (SSY):**
 - **Interest Rate:** **8.40%** per annum (competitive long-term savings instrument).
 - **Tax Benefits:** Triple exemption (**EEE status**) under Section 80C of Income Tax Act, exemption on deposit, interest, and maturity.
 - **Eligibility:** Parents/guardians can open accounts for up to **two daughters** below age 10 (exceptions for twins/triplets).
 - **Deposit Limits:** Minimum ₹250; Maximum annual deposit **₹1.5 lakh**.
 - **Maturity:** **21 years** from opening or upon marriage (whichever earlier), ensuring financial security for higher education or career pursuits.
- **Kanyashree Prakalpa** (West Bengal): Conditional cash transfer scheme preventing child marriage and encouraging education.
- **Ladli Laxmi Yojana** (Madhya Pradesh and other states): Financial incentive schemes for girl education and marriage expenses.

International Data Privacy Day 2026:

Safeguarding Digital Trust

What's the News?

- **International Data Privacy Day** was observed globally on **January 28, 2026**, commemorating the anniversary

of **Convention 108**; the world's first legally binding international treaty on data protection adopted by the Council of Europe in 1981.

- The day aims to raise awareness about protecting personal data, promoting privacy rights, and establishing responsible data-handling practices across governments, organisations, and individuals.
- With India emerging as the **world's third-largest digitalised economy**, the observance highlighted the critical importance of safeguarding personal information across digital platforms from Aadhaar and UPI to e-governance services and healthcare systems.
- The recent notification of the **Digital Personal Data Protection (DPDP) Rules, 2025** has operationalised India's comprehensive data protection framework, making this year's observance particularly significant for the country's evolving digital ecosystem.

Convention 108 and Global Standards?

Historical Foundation

- **Origin:** Convention 108 was adopted by the **Council of Europe in 1981**, establishing the first legally binding international treaty focused on data protection.
- **Purpose:** To safeguard individuals' personal data from misuse by regulating automated processing and cross-border data flows.
- **Global Impact:** The principles of Convention 108 have influenced numerous national privacy laws worldwide, including the European Union's **General Data Protection Regulation (GDPR)** and India's own data protection framework.

Key Principles

- **Purpose Limitation:** Data should only be collected for specified, explicit, and legitimate purposes.
- **Data Minimisation:** Only data necessary for intended purposes should be processed.
- **Individual Rights:** Guarantees rights of access, correction, and deletion of personal data.
- **Cross-Border Protection:** Requires signatory states to ensure equivalent protection when data is transferred internationally.

India's Digital Footprint and Privacy Imperatives

Scale of Digitalisation

- **Aadhaar:** Approximately **143 crore** enrolled users providing foundational identity infrastructure.

- **UPI Transactions:** Value exceeding **₹28 lakh crore**, demonstrating massive financial data flows.
- **DigiLocker:** Over **14 crore** signups for digital document storage.
- **Broadband Subscribers:** Nearly **101 crore** users connected to digital services.
- **Cybersecurity Budget:** **₹782 crore** allocated for 2025–26, reflecting increased focus on digital security.

Emerging Risks

- **Volume of Data Generation:** India generates over **2.5 quintillion bytes of data daily** across e-commerce, social media, and financial platforms.
- **Cyber Threats:** Rising incidents of data breaches, identity theft, and financial fraud targeting personal information.
- **AI and Emerging Technologies:** Growing deployment of artificial intelligence and big data analytics raising new privacy concerns regarding automated decision-making and algorithmic profiling.

India's Data Protection Framework?

Legislative Evolution

- **Information Technology Act, 2000:** Provided initial legal recognition for electronic records and governance, with amendments addressing cybersecurity through **CERT-In**.
- **IT (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021:** Established due diligence requirements for digital platforms and grievance redressal mechanisms.
- **Digital Personal Data Protection Act, 2023:** India's comprehensive legislation following a **SARAL approach** (Simple, Accessible, Rational, and Actionable).

DPDP Act, 2023: Key Provisions

- **Scope:** Governs processing of personal data collected through digital means, including data digitised from offline sources.
- **Consent-Based Processing:** Mandates free, specific, informed, unconditional, and unambiguous consent from individuals (**Data Principals**) for data processing.
- **Data Fiduciaries:** Entities processing personal data must implement safeguards and are accountable for compliance.

- **Exemptions:** Reasonable exemptions for national security, law enforcement, and research purposes, balanced against privacy rights.
- **Data Protection Board:** Establishes an appellate body to adjudicate disputes and enforce penalties for violations.

DPDP Rules, 2025: Operational Framework

The recently notified rules operationalise the Act through specific provisions:

Key Feature	Description
Data Principal Rights	Enables access, correction, and erasure of personal data within defined timelines
Breach Notifications	Mandates timely reporting of personal data breaches to protect users from harm
Special Safeguards	Provides enhanced protection for children and persons with disabilities
Grievance Redressal	Requires establishment of accessible mechanisms for addressing data-related complaints
Response Timeline	Mandates timely response to data principal requests within 90 days

Additional Info

Constitutional and Legal Context

- **Article 21** (Right to Life and Personal Liberty): Supreme Court has interpreted this to include the **right to privacy** (landmark judgment in *Justice K.S. Puttaswamy v. Union of India*, 2017), mandating that any infringement must satisfy the tests of legality, legitimate aim, and proportionality.
- **Article 19(1)(a)** (Freedom of Speech and Expression): Protects individuals' rights to seek and receive information, which includes controlling personal information.
- **Article 51A** (Fundamental Duties): While not directly enforceable, citizens have a duty to safeguard their own data privacy while respecting others' rights.

Key Institutions and Bodies

- **Data Protection Board of India (DPBI):** Proposed statutory body under the DPDP Act to adjudicate grievances and impose penalties.

- **Indian Computer Emergency Response Team (CERT-In):** National agency for cybersecurity incident response and threat management.
- **Unique Identification Authority of India (UIDAI):** Manages Aadhaar ecosystem with specific security protocols for biometric and demographic data.

International Commitments

- **G20 Digital Economy Principles:** India's commitment to cross-border data flow protections while safeguarding national security interests.
- **Bilateral Agreements:** Negotiating data-sharing frameworks with major economies ensuring adequate protection standards.
- **Global Cooperation:** Participation in international forums on AI governance, cybercrime (via **Budapest Convention** considerations), and digital trade.

Martyrs' Day (Shaheed Diwas): Multiple Dates, One Nation's Gratitude

What's the News?

- **Martyrs' Day**, also known as **Shaheed Diwas**, is observed across India on multiple dates to honour freedom fighters and national heroes who sacrificed their lives for the country's independence and integrity.
- The two principal observances are **January 30** (assassination of **Mahatma Gandhi**) and **March 23** (execution of **Bhagat Singh, Shivaram Rajguru, and Sukhdev Thapar**), though several states observe additional dates recognizing regional martyrs.
- On January 30, the nation observes **two minutes of silence at 11:00 AM**, and the **President, Vice President, Prime Minister, and Defence Minister** lay wreaths at **Raj Ghat** (Gandhi's samadhi) in a solemn ceremony marking the loss of the "Father of the Nation."

National Observances

January 30: Gandhi's Martyrdom

- **Also known as:** **Sarvodaya Day**, reflecting Gandhi's vision of upliftment for all sections of society.
- **Historical Context:** Gandhi was assassinated by **Nathuram Vinayak Godse** at Birla House

(now **Gandhi Smriti**) in New Delhi while walking to a prayer meeting.

- **Observance:**
 - National leaders gather at Raj Ghat for interfaith prayers and floral tributes.
 - **Bugles play the Last Post**; armed forces personnel **reverse arms** as a mark of respect.
 - Schools, government offices, and citizens across India observe two-minute silence at 11 AM.
- **Significance:** Beyond honouring Gandhi, the day acknowledges the collective sacrifice of countless freedom fighters who laid down their lives during the independence movement.

March 23: The Revolutionary Trio

- **Also known as:** **Shaheed Diwas** (primarily associated with this date in popular consciousness).
- **Historical Context:** On this day in **1931**, **Bhagat Singh (23), Shivaram Rajguru (22), and Sukhdev Thapar (23)** were executed in Lahore Central Jail for their role in the **Lahore Conspiracy Case** and the assassination of British police officer **J.P. Saunders** (a retaliation for the death of **Lala Lajpat Rai** during the 1928 Simon Commission protests).
- **The Execution:** The trio refused blindfolds, kissed the noose, and chanted "**Inquilab Zindabad**" before being hanged. Their bodies were secretly cremated near the Sutlej River to prevent public unrest.
- **Significance:** Represents the revolutionary stream of the freedom struggle, inspiring youth through their courage and sacrifice. The **Hussainiwala National Martyrs Memorial** in Punjab stands as a tribute to them.

State-Level and Specialized Observances

- **February 15 (Bihar):** Commemorates the **1932 Tarapur incident** where 34 freedom fighters were killed by British police while hosting the Indian national flag in Munger district.
- **May 19 (Assam/Barak Valley):** **Bhasha Shaheed Divas** honours 11 martyrs killed during the **1961 Bengali Language Movement** at Silchar railway station protesting the imposition of Assamese as the sole official language.

- **October 21 (National Police Commemoration Day):**
Observed nationwide to remember police personnel killed in action, tracing back to the **1959 ambush of a CRPF patrol** by Chinese forces at Kongka Pass in Ladakh.
- **November 17 (Odisha):** Martyrdom day of **Lala Lajpat Rai** ("Lion of Punjab"), who died in 1928 from injuries sustained during anti-Simon Commission protests.
- **November 19:** Birth anniversary of **Rani Lakshmibai** of Jhansi, marking her martyrdom during the **1857 Rebellion**.
- **November 24:** Death anniversary of **Guru Tegh Bahadur**, the ninth Sikh Guru executed by Mughal emperor Aurangzeb in 1674 for defending religious freedom.



Goa to Form Third District "Kushavati" with Quepem as Headquarters

What's the News?

- Chief Minister **Pramod Sawant** announced that the **Goa Government** will officially form a **third district** in the state to improve administrative efficiency.
- The new district is set to be named **Kushavati**, after the **Kushavati River**, which holds significant historical and cultural importance in the region.
- **Quepem** has been designated as the headquarters for this new administrative unit.

The New District: Kushavati?

- **Geographic Composition:** The district will be carved out from existing areas, primarily incorporating the talukas of **Quepem, Sanguem, Canacona**, and potentially **Dharbandora**.
- **Headquarters:** **Quepem** was chosen due to its central location and existing administrative infrastructure, making it accessible for the residents of the southern and interior talukas.
- **Etymology:** The name **Kushavati** refers to the river known for the prehistoric **rock carvings (petroglyphs)** at Pansaimol, reflecting the state's ancient heritage.
- **Administrative Goal:** The creation of this district aims to bring government services closer to people living in remote and hilly areas who currently travel long distances to North or South Goa district offices.

Additional Info

- **Constitutional and Legal Basis:**
 - **Article 3:** While Article 3 of the Constitution deals with the formation of new **States**, the power to create **new districts** within a state rests entirely with the **State Government**.
 - This is typically done through an executive order or by passing a law in the State Legislative Assembly.
- **Administrative Structure in India:**

- **District Collector/Magistrate:** The head of the district administration, responsible for law and order, revenue collection, and implementation of government schemes.

- **Taluka/Tehsil:** The sub-division of a district; Goa currently has 12 talukas.

- **Historical Context of Goa's Districts:**

- Goa was a single district Union Territory after its liberation in 1961.
- It was divided into **North Goa** and **South Goa** districts in **1987**, the same year it achieved full statehood.

Telangana Assembly Scraps Two-Child Norm for Local Body Elections

What's the News?

- The **Telangana Legislative Assembly** has unanimously passed the **Telangana Panchayat Raj (Amendment) Bill, 2026**, which officially abolishes the "two-child norm".
- Previously, under a **1994 law**, individuals with more than two children were disqualified from contesting local body elections.
- The new legislation supersedes an **ordinance** promulgated earlier to facilitate the conduct of upcoming local body polls.
- This move makes Telangana the latest state to reverse population control measures in electoral eligibility, citing significant shifts in the state's **demographic profile**.

Why was the Norm Abolished?

- **Declining Fertility Rate:** The state government noted that the **Total Fertility Rate (TFR)** in rural Telangana has fallen to **1.7**, which is well below the national replacement level of **2.1**.
- **Demographic Dividend:** Minister **Danasari Anasuya Seethakka** stated that maintaining such restrictive policies could lead to a steep decline in population growth, eventually hurting the state's **long-term demographic balance** and working-age population.

- **Outdated Context:** The norm was originally enacted in **1994** to tackle population explosion concerns of the 1980s, such as food security and unemployment, which the government believes have now been addressed through other means.
- **Political Representation:** The amendment ensures that a larger pool of citizens can now participate in grassroots democracy without facing disqualification based on family size.

Additional Info

- **Legislative Framework:**
 - The primary law amended is the **Telangana Panchayat Raj Act, 2018**.
 - The Assembly also passed the **Telangana Panchayat Raj (Second Amendment) Bill, 2026**, to rename villages based on local sentiment.
- **Constitutional Linkages:**
 - **Article 243E:** Mandates regular elections to Panchayats every five years.
 - **State List (Schedule VII):** Local government and elections to local bodies fall primarily under the jurisdiction of the **State Legislature**.

Uttarakhand Implements Uniform Civil Code Amendment Ordinance

What's the News?

- The **Uttarakhand Government** implemented the **Uniform Civil Code (Amendment) Ordinance, 2026**, following approval by the **Governor**, marking one year since the State became the first in India to enforce a UCC.
- The Ordinance introduces **procedural, administrative and penal refinements** to the **Uttarakhand Uniform Civil Code Act, 2024**, aiming to streamline implementation and enhance transparency in civil matters governing marriage, divorce, and live-in relationships.
- The State observed **January 27, 2026** as "**UCC Day**" to commemorate the first anniversary of the Code coming into force, with awareness programmes organized across urban and rural areas.

The Amendment Ordinance: Scope and Authority

- **Constitutional Basis:** Promulgated under **Article 213** of the Constitution, which empowers the Governor to issue Ordinances during recess of the State Legislature, subject to subsequent legislative approval.
- **Immediate Effect:** The Ordinance came into force immediately upon gubernatorial assent, bypassing the need for immediate legislative passage while ensuring continuity of governance.
- **Penal Alignment:** The amendments align penal provisions with **India's updated criminal laws** (Bharatiya Nyaya Sanhita, 2023), ensuring consistency across criminal and civil jurisprudence.
- **Appellate Mechanisms:** Strengthens registration powers and appellate procedures, addressing administrative bottlenecks identified during the first year of implementation.

Digital Transformation: Marriage Registration Impact

- **Volume Surge:** Over **4.74 lakh marriages registered** in less than one year since UCC implementation, a massive increase from the previous regime.
- **Process Efficiency:** Average registration time reduced to **five days** for certificate issuance, compared to significantly longer timelines under the earlier offline system.
- **Daily Throughput:** Approximately **1,400 registrations per day** processed under the UCC, versus merely **67 per day** under the previous **Uttarakhand Compulsory Registration of Marriages Act, 2010**.
- **Digitization Milestone:** Nearly **100% of registrations** now conducted online, compared to the previous system requiring **physical presence** of both spouses and two witnesses at Sub-Registrar offices on fixed dates.
- **Remote Compliance:** Couples and witnesses can now complete registration from anywhere by uploading documents and recording **video statements**, eliminating geographical and bureaucratic barriers.

Additional Info

Constitutional Framework:

- **Article 44:** Part of Directive Principles of State Policy (DPSP), mandates that the State shall endeavour to

secure for citizens a **Uniform Civil Code** throughout India; not enforceable by courts but fundamental in governance.

- **Article 213:** Governor's ordinance-making power when Legislative Assembly is not in session; Ordinance valid for six weeks from reassembly unless approved earlier.
- **Entry 5 of Concurrent List:** Marriage and divorce fall under shared jurisdiction of Centre and States, enabling Uttarakhand to legislate on civil matters.

Uttarakhand UCC Act, 2024: Key Features:

- **Applicability:** Covers marriage, divorce, succession, inheritance, live-in relationships, and child custody across all religions (with exceptions for Scheduled Tribes).
- **Live-in Relationship Registration:** Mandatory registration of live-in relationships with criminal penalties for non-compliance (up to three months imprisonment or fine).
- **Marriage Provisions:** Minimum age maintained at 18 (women) and 21 (men); registration compulsory within specified timelines.
- **Succession:** Equal inheritance rights for sons and daughters, removing gender-based discrimination prevalent in personal laws.
- **Ban on Practices:** Prohibits polygamy, polyandry, and child marriage uniformly across communities.

Previous Legal Regime:

- **Uttarakhand Compulsory Registration of Marriages Act, 2010:** Required physical appearance at Sub-Registrar offices, manual documentation, and witness verification in person creating significant logistical hurdles for migrant couples and rural populations.

Governance Impact:

- **Women and Child Focus:** Ordinance explicitly emphasizes **women's empowerment, child rights protection, and equality in civil rights** as core objectives.
- **Transparency:** Digitization has reduced intermediary discretion and potential corruption in registration processes.
- **Model Law Status:** Chief Minister has positioned Uttarakhand's UCC as a template for other States considering similar legal harmonization.

Comparative Context:

- Uttarakhand remains the **only Indian State** to implement a comprehensive UCC covering marriage, succession, and live-in relationships.
- **Goa:** Existing Portuguese Civil Code applies uniformly but predates Independence; not a post-Constitution UCC implementation.
- Other States including **Assam** and **Gujarat** have expressed intent to draft UCC legislation, with Uttarakhand serving as the operational reference point.

Sunabeda Wildlife Sanctuary Declared Maoist-Free; Emerges as Potential Leopard Habitat

What's the News?

- The **Sunabeda Wildlife Sanctuary** in **Odisha's Nuapada district** was officially declared '**Maoist-free**', enabling unhindered wildlife monitoring after years of security constraints
- Recent **camera trap surveys** indicate a thriving **leopard population** (estimated **over 70 individuals**), with nearly **90% of camera stations** capturing leopard images or signs
- The sanctuary, designated as a **proposed Tiger Reserve**, transitions from a conflict-affected zone to a potential **leopard conservation hub**, with improved prey density and reduced human disturbance facilitating carnivore recovery

Sanctuary Profile?

- **Location & Extent:** Situated in western Odisha's **Nuapada district**, spanning approximately **600 sq. km** (proposed reserve area extends to **956 sq. km**); borders **Chhattisgarh's Sitanadi and Udanti Sanctuaries** forming a transboundary conservation landscape
- **Geological Features:** High-altitude **grass-covered plateau** characterized by deep canyons and valleys; primary catchment for the **Jonk River** (Mahanadi tributary); hosts **11 significant waterfalls** with significant eco-tourism potential

- **Vegetation:** Predominantly **Dry Deciduous Tropical Forest** with commercial and ecological species including **Teak, Bija, Sissoo, and Sandalwood**

Conservation Significance?

- **Tiger Recovery Potential:** Designated as a **proposed Tiger Reserve** under **Project Tiger**; historical records indicate **4 tigers in 2016 census** though recent surveys reported **zero sightings** due to security disruptions; ongoing **all-India tiger estimation** expected to reflect ecological recovery post-Maoist withdrawal
- **Leopard Density:** Estimated **70+ leopards** thriving across the sanctuary, supported by robust prey base including **spotted deer, chowsingha (four-horned antelope), wild boar, and bison**; increased **man-leopard conflict incidents** in adjacent villages confirm stable breeding populations
- **Critical Corridor:** Serves as vital migration route for **Wild Water Buffalo** between Odisha and Chhattisgarh populations; supports **Hard-ground Barasingha (Swamp Deer)** and **Nilgai**; **200+ bird species** documented including the **Forest Owlet** and **Banded Bay Cuckoo**

Security-Wildlife Nexus?

- **Maoist Impact:** Nearly **50% of sanctuary area** remained inaccessible to forest personnel since **2009** due to Left-wing extremism; camera traps routinely removed or damaged; infrastructure destruction hampered protection efforts
- **Monitoring Breakthrough:** Post-declaration deployment of camera traps across **all sectors** enabled comprehensive carnivore and herbivore population assessment; **Divisional Forest Officer** attributes improved data quality to enhanced security enabling systematic **scientific monitoring**
- **Transboundary Coordination:** Improved security facilitates collaboration with **Udanti Wildlife Sanctuary** (Chhattisgarh) for landscape-level conservation of wide-ranging species

Additional Info

- **Legal Status & Framework:**
 - **Wildlife (Protection) Act, 1972:** Provides protection under **Section 18** (declaration of sanctuary) and **Section 35** (declaration of

national parks); Sunabeda notified as sanctuary in **1983**

- **Project Tiger:** Centrally Sponsored Scheme for **in-situ conservation** of tigers; Sunabeda pending final notification as **Tiger Reserve** under **Section 38V** of WLPA
- **National Tiger Conservation Authority (NTCA):** Statutory body under **WLPA** addressing administrative, ecological, and conservation concerns of tiger reserves; oversees all-India tiger estimation every **4 years** using **camera trap methodology**
- **Camera Trapping Methodology:**
 - **Non-invasive technique** using motion-activated cameras to photograph animals with unique stripe/pattern markings (tigers, leopards)
 - **Individual identification** through computer-assisted pattern matching enables **population estimation** without physical capture
 - **Standardized protocol** under **Phase IV monitoring** of NTCA requires minimum **25 trap stations per 100 sq. km** operated for **25 days**
- **Conservation Challenges:**
 - **Man-Animal Conflict:** Increasing leopard sightings in agricultural peripheries raising human safety concerns; requires **community-based conflict mitigation** and **compensation mechanisms**
 - **Habitat Fragmentation:** Linear infrastructure projects threatening connectivity with Chhattisgarh forests; need for **wildlife corridors** and **overpasses/underpasses**
 - **Prey Poaching:** Despite security improvements, illegal hunting of ungulates remains threat to carnivore population viability
- **Constitutional Context:**
 - **Article 48A:** Directive Principle mandating State to **protect wildlife** and safeguard forests
 - **Article 51A(g):** Fundamental duty of citizens to **protect and improve natural environment** including wildlife

- o **Seventh Schedule: Concurrent List (Entry 17B)** - Protection of wild animals and birds; **State List (Entry 19)** - Prevention of cruelty to animals



DRDO Conducts Successful Salvo Launch of Indigenous Pralay Missiles

What's the News?

- The **Defence Research and Development Organisation (DRDO)** successfully carried out a **salvo launch** of two indigenous **Pralay** missiles in quick succession from the same mobile launcher.
- The flight tests were conducted off the coast of **Odisha** at the **Integrated Test Range (ITR)** in **Chandipur** as part of user evaluation trials.
- Both missiles followed their intended trajectories and met all mission objectives, establishing the operational reliability and precision of the weapon system.

Technical Capabilities & Design

- **Type and Propulsion:** Pralay is a short-range, surface-to-surface **quasi-ballistic missile** powered by a **solid-propellant** rocket motor.
- **Operational Range:** The missile can strike targets at distances ranging from **150 km to 500 km**.
- **Payload Capacity:** It is designed to carry conventional warheads weighing between **350 kg and 1,000 kg**.
- **Precision Guidance:** It features an advanced navigation system, including **Inertial Navigation Systems (INS)** and **GPS/IRNSS** integration, ensuring a **Circular Error Probable (CEP)** of less than **10 meters**.
- **Maneuverability:** Unlike standard ballistic missiles, it follows a **quasi-ballistic trajectory**, allowing it to perform mid-air maneuvers to evade enemy **ballistic missile defense (BMD)** systems.

Additional Info

- **Quasi-Ballistic Missile:**
 - Unlike a true ballistic missile that follows a high, predictable arc, a quasi-ballistic missile flies at a **lower, flatter trajectory**.
 - It remains within the atmosphere for most of its flight and can change its path mid-course, making it highly unpredictable for enemy interceptors.
- **International Comparisons:**

- **Pralay** is often compared to high-end global systems such as Russia's **9K720 Iskander** and China's **Dongfeng-12 (DF-12)**.
- **Development Partners:**
 - The missile was developed by the **Research Centre Imarat (RCI)** in Hyderabad, in collaboration with other DRDO laboratories.
 - Production and integration involve industry partners like **Bharat Dynamics Limited (BDL)** and **Bharat Electronics Limited (BEL)**.
- **Geographic Information System (GIS):**
 - The system is being integrated with **INDIGIS**, an indigenous GIS developed by the **Centre for Artificial Intelligence and Robotics (CAIR)**, to enable real-time targeting and launcher visualization.

Indian Army Signs ₹293 Crore Deal for 'Suryastra' Long-Range Rocket System

What's the News?

- The **Indian Army** has signed a **₹292.69 crore** contract with the Pune-based private firm **NIBE Limited** for the supply of the **Suryastra** universal multi-calibre rocket launcher system.
- The procurement was fast-tracked under **Emergency Procurement (EP)** powers to enhance deep-strike artillery capabilities.
- This system is developed through a **Technology Collaboration Agreement (TCA)** with Israeli defence major **Elbit Systems**, supporting the **Aatmanirbhar Bharat** initiative.
- The deal includes the manufacturing and supply of ground equipment, accessories, and ammunition, with a scheduled execution timeline of **12 months**.

Suryastra Rocket System?

- **First Indigenous Multi-Calibre System:** It is India's first "Made in India" **universal multi-calibre** rocket launcher, capable of firing different types of rockets from the same platform.

- **Strike Range:** The system is designed for precision surface-to-surface strikes at ranges of **150 km** and **300 km**.
- **High Precision:** It achieved a **Circular Error Probable (CEP)** of **less than 5 metres** during trials, allowing for surgical strikes with minimal collateral damage.
- **Operational Versatility:**
 - Capable of integrating multiple rocket calibres including **122mm, 160mm, and 306mm**.
 - Can also launch **loitering munitions** up to a range of **100 km**, providing enhanced battlefield flexibility.
 - Features **Electronic Sequence Programming (ESP)** for automated and efficient firing sequences.

Additional Info

- **Emergency Procurement (EP) Powers:**
 - Granted to the Vice Chiefs of the three services to procure equipment worth up to **₹300 crore** per case on an urgent basis.
 - Initially introduced after the **May 2020 standoff** with China to plug immediate capability gaps.
 - The **Defence Acquisition Council (DAC)** extended the validity of these powers until **January 15, 2026**
- **Technological Pedigree:**
 - The system is derived from Israel's **PULS (Precise & Universal Launching System)** technology.
 - While critical technology is transferred from **Elbit Systems**, production and future upgrades are anchored in India.
- **Strategic Comparison:**
 - Unlike the indigenous **Pinaka** system, which primarily serves area saturation roles, **Suryastra** focuses on long-range **precision strikes**.
 - It complements the ongoing development of extended-range Pinaka variants (up to 300 km) by the **DRDO**.

DRDO Develops Portable Water Purification System for Soldiers

What's the News?

- The **Defence Research and Development Organisation (DRDO)** has developed a **hand-operated, portable water purification system** designed for soldiers deployed in remote and high-altitude areas.
- This innovative system aims to provide clean drinking water by treating contaminated surface water or brackish water in the field, reducing the logistical burden of transporting bottled water to difficult terrains.
- The technology was developed by the **Defence Laboratory, Jodhpur (DLJ)**, a premier lab under DRDO specializing in water purification and desalination technologies.

Features of SWaDeS

- **Dual-mode operation:**
 - **Manual version:** Lightweight, single-soldier portable; serves **10–12 personnel** in emergency patrols.
 - **Engine-driven version:** Rapid deployment (2–3 minutes); supports **20–25 soldiers** daily.
- **Technical performance:**
 - Treats water with salinity up to **35,000 mg/L total dissolved solids (TDS)**.
 - Reduces TDS to **<500 mg/L**, meeting **Bureau of Indian Standards (BIS)** for potable water.
- **Operational flexibility:**
 - Effective in **seawater (naval/coastal)** and **inland brackish water (e.g., Pangong Tso)**.
 - Functions in extreme climates—from sub-zero Siachen-like conditions to tropical coasts.

Additional Info

- **Part of DRDO's broader water security portfolio:**
 - **CBRN Water Purification System Mk-II:** Treats chemically/biologically contaminated water (2,500–6,000 L/hr).
 - **Backpack purifiers:** Produce 12–15 L/hr; include antifreeze for sub-zero operations.

- **High-altitude RO units:** Over 100 deployed in Ladakh since 2022 for glacial water purification.
- **Civilian potential:** Applicable in disaster-hit coastal zones, island territories (e.g., Andamans), and water-stressed regions.

National Improvised Explosive Device Data Management System (NIDMS)

What's the News?

- Union Home Minister **Amit Shah** launched the **National Improvised Explosive Device Data Management System (NIDMS)** to enhance India's counter-terror capabilities.
- Developed and managed by the **National Security Guard (NSG)**, the platform serves as a centralized database for all **IED-related incidents**, blast data, and forensic signatures across the country.

National IED Data Management System (NIDMS)?

- **Objective:** Create a "One Nation, One IED Data Repository" to standardize, store, and analyze IED incident data nationwide.
- **Coverage:** Archives data on explosive materials, initiation mechanisms, locations, forensic findings, and modus operandi from over two decades.
- **AI & Analytics:**
 - Uses **AI/ML algorithms** to detect patterns, link incidents by device type, circuit design, or explosive used.
 - Enables **predictive threat mapping** and rapid formulation of countermeasures.
- **Interoperability:** Designed to integrate with key national systems including:
 - **CCTNS** (Crime and Criminal Tracking Network & Systems)
 - **ICJS-2** (Interoperable Criminal Justice System)
 - **NAFIS** (National Automated Fingerprint Identification System)
 - **e-Prosecution, e-Prisons**, and forensic databases.

Key Stakeholders & Implementation

- **Lead Agency:** **National Security Guard (NSG)**, through its **National Bomb Data Centre (NBDC)**.

- **Development Partners:**
 - **Rashtriya Raksha University (RRU)** – research, training, and academic inputs
 - **IIT Delhi, MHA, NIA, and Cyber Security Coordination Centre**
- **User Agencies:**
 - State Police Forces
 - Central Armed Police Forces (CAPFs)
 - National Investigation Agency (NIA)
 - Anti-Terrorism Squads (ATS)

Additional Info

- **National Security Guard (NSG):**
 - Established in **1984** following Operation Blue Star as a "Federal Contingency World Class Zero Error Force".
 - Functions under the **Ministry of Home Affairs (MHA)** and is modeled after the SAS (UK) and GSG-9 (Germany).
- **National Bomb Data Centre (NBDC):** The nodal agency within the NSG responsible for the analysis of all bomb-related incidents in India.
- **Constitutional Context:**
 - **Article 355:** It is the duty of the Union to protect states against internal disturbance and external aggression.
 - **Entry 1 of the Union List:** Pertains to the "Defence of India," providing the legal basis for the Centre to manage national security databases.
- **Linkage:** NIDMS is expected to be integrated with the **Crime and Criminal Tracking Network & Systems (CCTNS)** and the **Inter-operable Criminal Justice System (ICJS)** for seamless information flow.

Rising Drone Intrusions Along Line of Control in Jammu & Kashmir

What's the News?

- Multiple **drone (Unmanned Aerial Vehicle)** intrusions from the Pakistani side have been reported along the **Line of Control (LoC)** in Jammu and Kashmir, specifically in the Rajouri and Poonch sectors.
- Security forces, including the **Indian Army**, have intensified surveillance and successfully engaged the

drones with counter-fire following repeated sightings within a short period.

- **Army Chief General Upendra Dwivedi** has formally addressed the rising frequency of these sightings, urging Pakistan to rein in drone activities that threaten regional security and violate border protocols.

Drone Threats: Emerging Security Challenge

- **Pattern of Intrusions:** Multiple drones with **blinking lights** were spotted within a 24-hour window, indicating coordinated reconnaissance attempts.
- **Locations Affected:**
 - **Nowshera sector (Rajouri)**
 - **Khabbar village (Teryath, Rajouri)**
 - **Chak Babral village (Ramgarh, Samba)**
 - **Topa area (Mankote, Poonch)**
- **Countermeasures:** Ground search operations launched post-sighting; increased deployment of **anti-drone systems** and electronic warfare units along vulnerable stretches.

Security Concerns and Modus Operandi

- **Smuggling Operations:** Drones are increasingly being used as tools for **narco-terrorism**, transporting illegal payloads such as high-grade narcotics, sophisticated weapons, and ammunition across the border.
- **Surveillance and Reconnaissance:** Beyond smuggling, these drones are used by hostile elements to monitor troop movements and identify gaps in the **Integrated Border Management System (IBMS)**.
- **Operational Shift:** The shift from human infiltration to drone-based logistics allows terror modules to maintain supply lines with lower risk of immediate detection by ground patrols.

Additional Info

- **Operation Sindoor:**
 - A massive multi-agency search and sanitization operation launched by Indian security forces in the **Jammu region** following a series of terror attacks.
 - It involves the **Indian Army, Central Reserve Police Force (CRPF)**, and the **Jammu and Kashmir Police** to neutralize hidden terror modules and dismantle their support networks.
- **Anti-Drone Technology in India:**

- **DRDO D4 System:** The Drone Detect, Deter and Destroy system (D4) is India's indigenous solution capable of both "soft kill" (jamming) and "hard kill" (physical destruction) of drones.
- **Indrajaal:** India's first indigenous autonomous wide-area drone defense dome, designed to protect large areas from multiple UAV threats simultaneously.

- **Border Management Framework:**

- **Line of Control (LoC):** A de facto border under military control; unlike the International Border (IB), it is governed by the ceasefire agreements and monitored by the **Indian Army**.
- **Comprehensive Integrated Border Management System (CIBMS):** A multi-layered security plan that integrates sensors, cameras, and communication networks to provide seamless coverage of the border.

Exercise Sanjha Shakti: Boosting Civil-Military Coordination

What's the News?

- The **Indian Army** conducted a joint military-civil fusion exercise titled "**Sanjha Shakti**" in **Pune, Maharashtra**.
- The exercise was organized under the aegis of the **Southern Command** to enhance coordination between the military and various **Civil Administration** agencies.
- It focused on addressing complex security challenges through a unified approach, ensuring seamless collaboration during national emergencies and internal security situations.

Key Objectives & Significance

- **Civil-Military Fusion:** The primary aim was to strengthen the synergy between the armed forces and civil authorities for effective **Crisis Management**.
- **Operational Readiness:** The exercise tested the readiness of various stakeholders to respond to multifaceted threats, including conventional warfare and non-traditional security challenges.

- **Stakeholder Participation:** Key participants included the **Indian Army, Maharashtra Police, State Disaster Response Force (SDRF)**, and representatives from the **District Administration**.
- **Resource Optimization:** It aimed at creating a common operating picture to ensure the optimal utilization of both military and civil resources during contingencies.

Key Components of the Exercise

- **Simulated Scenarios:** Participants engaged in realistic drills involving **Counter-Terrorism**, disaster relief, and the protection of **Critical Infrastructure**.
- **Communication Interoperability:** A major focus was placed on establishing robust communication channels between different agencies to prevent information gaps.
- **Logistics Coordination:** The exercise streamlined protocols for the movement of troops and equipment through civilian-populated areas during high-alert phases.

Additional Info

- **Southern Command of the Indian Army:**
 - Headquartered in **Pune**, it is the oldest and geographically the largest command of the Indian Army.
 - It covers nearly **40% of India's landmass**, spanning several states and union territories in Peninsular India.
- **National Security Strategy (NSS):**
 - Exercises like **Sanjha Shakti** align with India's evolving security doctrine that emphasizes **Whole-of-Nation** approach rather than isolated military action.
- **Disaster Management Act, 2005:**
 - Provides the legal framework for the deployment of armed forces in aid of civil power during natural or man-made disasters.
- **Internal Security Doctrine:**
 - Involves the **Ministry of Home Affairs (MHA)** and **Ministry of Defence (MoD)** working in tandem to address threats within the country's borders.

DRDO Successfully Tests Indigenous Man-Portable Anti-Tank Guided Missile (MPATGM)

What's the News?

- The **Defence Research and Development Organisation (DRDO)** successfully conducted a flight test of the indigenously developed **Man-Portable Anti-Tank Guided Missile (MPATGM)** system.
- The trial, conducted at the **KK Ranges** in Maharashtra, specifically validated the missile's **top-attack capability** by accurately striking a moving target.
- This third-generation "**fire-and-forget**" weapon system is designed for infantry use and represents a significant milestone toward its induction into the **Indian Army**.

MPATGM System Capabilities

- **Top-Attack Mode:** Unlike traditional missiles that strike from the side, the MPATGM climbs steeply after launch and descends vertically to hit the top of a tank, which is typically its most vulnerable and least armored area.
- **Fire-and-Forget Technology:** The missile utilizes an advanced **Imaging Infrared (IIR) Homing Seeker**, allowing the operator to fire and immediately seek cover without having to guide the missile to the target.
- **Day and Night Combat:** The IIR seeker provides high-precision targeting and robust operational capability under all weather and visibility conditions.
- **Advanced Warhead:** Equipped with a **tandem High-Explosive Anti-Tank (HEAT)** warhead, it is capable of defeating modern Main Battle Tanks (MBTs) protected by **Explosive Reactive Armour (ERA)**.

Technical Specifications and Production

- **Operational Range:** The system is effective at distances between **200 meters and 4,000 meters**.
- **Weight & Portability:** The missile weighs approximately **14.5 kg**, while the total system (including the **Command Launch Unit**) remains under **30 kg**, allowing it to be carried and operated by a two-member team.
- **Launch Platforms:** It offers tactical flexibility as it can be launched from either a **tripod** or a military vehicle-mounted launcher.

- **Indigenous Development:** Developed by the **Defence Research & Development Laboratory (DRDL)**, Hyderabad, in collaboration with several sister labs for critical components like propulsion, avionics, and sighting systems.
- **Production Partners:** **Bharat Dynamics Limited (BDL)** and **Bharat Electronics Limited (BEL)** serve as the Development-Cum-Production Partners (DcPP).

Additional Info

- **Integrated Guided Missile Development Programme (IGMDP):**
 - While the **Nag** missile was the primary anti-tank project under the original IGMDP, the MPATGM was developed as a lightweight, man-portable derivative to meet specific infantry needs.
- **Comparison with Global Systems:**
 - The MPATGM is often compared to the American **FGM-148 Javelin** and the Israeli **Spike** missile systems due to its portability and top-attack functionality.
- **Indigenous Content:**
 - The system boasts over **90% indigenous content**, reducing long-term dependence on imported anti-tank systems like the legacy **MILAN** and **Konkurs** missiles.

Operation Trashi-I: Counter-Terror Mission in Kishtwar

What's the News?

- The **Indian Army**, in collaboration with the **Jammu and Kashmir Police** and **CRPF**, launched **Operation Trashi-I** to neutralize terrorists hiding in the high-altitude forests of **Kishtwar district**.
- The operation was initiated following specific intelligence regarding the presence of foreign terrorists, believed to be affiliated with the Pakistan-based group **Jaish-e-Mohammad (JeM)**.
- During the mission, a fierce encounter broke out in the **Chatroo forest region**, resulting in injuries to eight soldiers.
- **Havildar Gajendra Singh**, a paratrooper from the **2 PARA Special Forces**, tragically succumbed to his

injuries, marking the first security force fatality in a counter-terrorism operation in the Union Territory in 2026.

Operation Trashi-I

- **Objective:**
 - Neutralize terrorists using dense forest cover as hideouts
 - Dismantle terrorist infrastructure and logistics
 - Disrupt infiltration routes linking Jammu to the Kashmir Valley
- **Participating Agencies:**
 - **Indian Army** (White Knight Corps)
 - **Jammu & Kashmir Police** (including Special Operations Group)
 - **Central Reserve Police Force (CRPF)**
- **Tactical Elements:**
 - Use of **drones, sniffer dogs, and human intelligence**
 - Tight cordon-and-search operations in rugged terrain with steep slopes and limited visibility

The "Kargil-Style" Terror Bunker

- **Strategic Discovery:** Security forces unearthed a well-fortified, **Kargil-style bunker** at an altitude of approximately **12,000 feet** in the upper reaches of Kishtwar.
- **Sustenance Supplies:** The hideout was stocked with extensive logistics intended for a prolonged winter stay, including:
 - **50 packets of Maggi** and **20 kg of fine-quality rice**.
 - Cooking gas cylinders, stoves, dry wood, and various spices.
- **Fortification:** The bunker featured stone-lined walls and multiple entry points, mimicking military-grade fortifications to survive harsh weather and evade detection.
- **Operational Impact:** The discovery confirms the deep infiltration and long-term planning of terror groups like **JeM** in the Jammu division.

India Unveils Military Quantum Mission Policy Framework for Future Warfare

What's the News?

- Chief of Defence Staff (CDS) **General Anil Chauhan** released the **Military Quantum Mission (MQM) Policy Framework** in New Delhi on January 22, 2026.
- The framework serves as a strategic roadmap to integrate **quantum technologies** across the **Tri-Services** (Army, Navy, and Air Force) to prepare for future technology-centric battlefields.
- The launch event was attended by the Chiefs of the Army, Navy, and Air Force, signaling a unified military approach toward achieving **technological supremacy**.

Four Pillars of the Military Quantum Mission

The framework focuses on the systematic adoption of four essential domains of quantum technology:

- **Quantum Communication:** Focused on creating ultra-secure, unhackable communication channels using **Quantum Key Distribution (QKD)** to protect sensitive battlefield data and command-and-control links.
- **Quantum Computing:** Aims to leverage high-speed processing for complex simulations, advanced cryptanalysis (breaking adversary codes), and optimizing large-scale military logistics.
- **Quantum Sensing & Metrology:** Development of high-precision sensors for **Positioning, Navigation, and Timing (PNT)** in GPS-denied environments and advanced threat detection, such as spotting stealth vehicles or submarines.
- **Quantum Materials & Devices:** Focused on indigenous development of specialized hardware, including **superconducting circuits** and topological materials, to support next-generation sensors and electronics.

Objectives and Strategic Importance

- **Battlefield Superiority:** The mission aims to shift the military advantage from traditional platforms to superior **information and decision speed**.
- **National Alignment:** It aligns military requirements with the Cabinet-approved **National Quantum**

Mission (NQM), ensuring the Armed Forces are core stakeholders in India's broader quantum push.

- **Civil-Military Fusion:** The policy proposes dedicated governing bodies and collaboration with academia and the **private deep-tech startup ecosystem** to accelerate the "lab-to-field" transition.
- **Atmanirbharta (Self-Reliance):** By fostering indigenous research, the framework seeks to reduce dependency on foreign **Original Equipment Manufacturers (OEMs)** for critical security infrastructure.

Additional Info

- **National Quantum Mission (NQM):**
 - Launched in 2023 with a total outlay of **₹6,003.65 crore** for the period 2023–24 to 2030–31.
 - Targets include developing intermediate-scale quantum computers with **50–1,000 physical qubits** and establishing satellite-based secure communication over 2,000 km.
- **OODA Loop:** The framework aims to shorten the **Observe-Orient-Decide-Act (OODA)** cycle, giving commanders real-time actionable intelligence through quantum-accelerated data processing.
- **Post-Quantum Cryptography (PQC):** A critical focus area to transition military encryption to algorithms that remain secure even against future attacks by powerful quantum computers.

Indian Army Procures Shield AI's V-BAT Autonomous Drones Under Emergency Acquisition

What's the News?

- The **Indian Army** officially selected **US-based Shield AI** to supply **V-BAT autonomous vertical take-off and landing (VTOL) drones** under emergency procurement provisions
- The deal includes transfer of **Hivemind AI software**, enabling India to develop sovereign autonomous military capabilities and indigenous AI-behaviors tailored to operational requirements

- **JSW Defence** will serve as the Indian strategic partner, establishing a **\$90 million manufacturing hub in Hyderabad** to produce V-BAT systems domestically and position India as a global export hub for these platforms

V-BAT System Capabilities?

- **Platform Classification: Group 3 VTOL Unmanned Aircraft System (UAS)**, capable of operating in high-threat environments where GPS and communications may be jammed or denied
- **Unique Propulsion: Single-engine ducted-fan design** allows vertical launch and landing like a helicopter, transitioning to horizontal wing-borne flight for extended endurance; requires only **12×12 feet clearing** for operations
- **Autonomy Package: Hivemind AI software** provides:
 - **GPS-Denied Navigation:** Autonomous waypoint navigation without satellite dependency
 - **Electronic Warfare Resilience:** Dynamic threat avoidance and path recalculation when targeted by enemy EW systems
 - **Swarming Capabilities:** Coordinated autonomous operations between multiple drones on single missions without human micromanagement
- **Operational Specifications:**
 - **Endurance:** **12+ hours** continuous flight time
 - **Engine:** Heavy-fuel compatible (**JP-8, diesel**) for logistical interoperability with existing military fuel supplies
 - **Payload:** High-definition ISR sensors, electro-optical/infrared cameras, and target designation systems

Strategic Significance?

- **Terrain Versatility:** Ideal for **Line of Actual Control (LAC)** and **Line of Control (LOC)** operations in narrow Himalayan ridges, as well as **Indian Navy** shipboard deployments in the **Indian Ocean Region (IOR)** without requiring runways or recovery nets
- **Technology Transfer:** Unlike standard foreign procurement, the agreement provides **Software Development Kit (SDK)** access for Indian engineers to

develop mission-specific autonomous behaviors and integrate indigenous payloads

- **Atmanirbhar Bharat:** Hyderabad manufacturing facility aligns with **Make in India** and defence indigenization goals, creating capacity to export V-BAT systems to friendly nations and reducing import dependency for critical ISR platforms
- **Lessons from Ukraine:** Shield AI's systems gained combat validation in the **Ukraine conflict** for operations in contested electromagnetic environments, offering the Indian military proven autonomous capabilities for potential high-intensity warfare scenarios

Additional Info

- **Drone Classification Systems:**
 - **Group 1:** Micro/mini drones (<20 lbs), tactical handheld systems (e.g., **Black Hornet**)
 - **Group 2:** Small tactical drones (21-55 lbs), short-range ISR (e.g., **RQ-11 Raven**)
 - **Group 3:** Medium tactical drones (<1320 lbs), persistent ISR with significant payload capacity; **V-BAT** falls in this category alongside systems like **Shadow, RQ-7**
 - **Group 4/5:** Large strategic drones (persistent attack/reconnaissance, e.g., **MQ-9 Reaper, Predator**)
- **Defence Procurement Procedures:**
 - **Emergency Procurement (EP): Financial Powers delegated to Defence Services (FPDS)** allow Services to acquire critical capabilities bypassing standard lengthy procurement cycles during operational necessities or emerging threats; recently enhanced to **₹300 crore per case** for the Army
 - **Buy (Indian-IDD), Buy (Indian), Buy & Make (Indian), Buy (Global-Global), Buy (Global-Manufacture in India):** Categories under **Defence Acquisition Procedure (DAP) 2020**; V-BAT procurement aligns with high-technology acquisition under emergency provisions with subsequent indigenous manufacturing
- **Constitutional & Legal Framework:**

- o **Article 53:** Executive power of the Union vested in the President, exercisable through the **Ministry of Defence** for military acquisitions
- o **Article 246** (Seventh Schedule):
 - **Union List (Entry 1):** Defence of India, including military operations and defence works
 - **Union List (Entry 7):** Defence industries under Union control
- o **Article 343A:** Establishes **Chief of Defence Staff (CDS)** to ensure tri-service synergy in procurement and capability development (through **Department of Military Affairs**)
- **International Export Control Considerations:**
 - o **Missile Technology Control Regime (MTCR):** India is a member since 2018; controls export of systems including certain unmanned aerial vehicles capable of delivering payloads; V-BAT being manufactured in India provides export flexibility to friendly nations within MTCR frameworks
 - o **International Traffic in Arms Regulations (ITAR):** US regulations governing export of defence articles; the Shield AI deal likely includes **ITAR waivers** or licenses for technology transfer and Indian manufacturing



International Relations

GEF Approves \$52.8 Million in Funding for New UNEP-Led Projects

What's the News?

- The **Global Environment Facility (GEF)** announced **\$52.8 million** in new funding for four **United Nations Environment Programme (UNEP)**–led projects during its **70th Council meeting**.
- This announcement follows the seventh session of the **United Nations Environmental Assembly (UNEA-7)**, where over **6,000 delegates** discussed sustainable solutions for the planet.

GEF–UNEP Collaboration: Key Features

- **Funding Allocation:**
 - Total GEF financing: **US\$52.8 million** (grants).
 - Expected co-financing mobilization: **over US\$200 million** from partner agencies and governments.
- **Project Focus Areas:**
 - Strengthening **frontline environmental action** in vulnerable regions.
 - Enhancing **data systems** for biodiversity and emissions.
 - Supporting **transboundary ecosystem management**.
 - Scaling up **circular economy and pollution mitigation** interventions.
- **India's Engagement:**
 - India is an active GEF beneficiary and participant, with projects implemented through ministries in collaboration with **UNEP, UNDP, World Bank**, and other GEF agencies.
 - Recent GEF-supported initiatives in India include protected area expansion, community conservation, and clean energy infrastructure.

Additional Info

- **About GEF:**
 - **Founded:** 1991, on the eve of the Rio Earth Summit.

- **Role:** Serves as the **financial mechanism** for five international conventions:
 - **Convention on Biological Diversity (CBD).**
 - **UN Framework Convention on Climate Change (UNFCCC).**
 - **UN Convention to Combat Desertification (UNCCD).**
 - **Stockholm Convention on POPs.**
 - **Minamata Convention on Mercury.**
- **India's Contributions:**
 - A **GEF donor since 2014**, contributing over **US\$25 million** cumulatively.
 - As of 2025, received over **US\$1.4 billion** in GEF grants, leveraging **US\$8+ billion** in co-financing.
- **Governance Structure:**
 - **GEF Council:** Highest decision-making body, meets twice a year; comprises 32 constituencies (14 for developed, 18 for developing countries)
 - **Scientific and Technical Advisory Panel (STAP):** Provides independent scientific advice; chaired by Dr. Rosina Bierbaum.

India Launches New EB-4 E-Business Visa for Chinese Professionals

What's the News?

- The **Government of India** has introduced a new sub-category of the e-business visa, known as the **EB-4 visa**, specifically for **Chinese nationals**.
- The initiative aims to streamline the entry of skilled Chinese professionals and technicians required for the implementation of projects under the **Production Linked Incentive (PLI)** schemes.

Features of the e-B-4 Visa

- **Purpose:** Permits travel for:
 - Installation and commissioning of machinery/equipment

- o Quality control and essential maintenance
- o Production ramp-up, IT/ERP system implementation
- o Training, plant design, and supply chain development
- o Senior management and executive oversight
- **Duration & Processing:**
 - o Valid for **up to six months** per visit
 - o Processing time: **45–50 days**
- **Application Process:**
 - o Fully **online** via Indian e-Visa portal
 - o Indian companies can also apply on behalf of Chinese professionals through the **National Single Window System (NSWS)** under DPIIT

Additional Info

- **Production Linked Incentive (PLI) Scheme:**
 - o A central government initiative to boost domestic manufacturing and reduce imports.
 - o Provides financial incentives to companies based on incremental sales from products manufactured in domestic units.
 - o Many Indian manufacturers under PLI rely on Chinese-made machinery, necessitating the presence of Chinese technicians for setup and repairs.
- **Diplomatic Context:**
 - o Visa restrictions for Chinese nationals were tightened following the **Galwan Valley** border standoff in 2020.
 - o The introduction of the EB-4 visa reflects an "economic pragmatism" to ensure that India's manufacturing growth is not hampered by a lack of technical support.
- **Security Safeguards:**
 - o Unlike e-visas for other countries, EB-4 applications undergo a **prior reference** check.
 - o The **Ministry of External Affairs (MEA)** and **MHA** collaborate to verify the credentials of the applicant and the host Indian entity.

The Weimar Triangle: India's Strategic Engagement with Europe

What's the News?

- In a significant diplomatic shift, **India** participated in discussions within the **Weimar Triangle** format, marking a deepening of ties with Europe's core powers.
- During the engagement, **Poland**, a key member of the group, expressed strong support for India amidst global trade tensions and tariff threats related to energy imports.

What is the Weimar Triangle?

- **Origin:** Established in **August 1991** in Weimar, Germany, as a consultative forum between **Germany, France, and Poland**.
- **Initial Purpose:** Originally created to assist Poland's transition from communism and facilitate its integration into the **European Union (EU)** and **NATO**.
- **Evolution:** Today, it serves as a high-level platform for the three nations to coordinate European policy, strengthen security cooperation, and act as a "locomotive" for EU initiatives.
- **Strategic Weight:** Together, these three nations represent nearly **40% of the EU's population** and a significant portion of its economic and military power.

Significance of India's Participation

- **Diversified Diplomacy:** India's engagement with this sub-regional group allows it to bypass broader EU-wide bureaucratic hurdles and engage directly with Europe's most influential decision-makers.
- **Poland's Support:** Poland has emerged as a vocal backer of India, specifically regarding India's continued import of **Russian oil**, arguing that India's energy security is vital for global stability.
- **Security & Defence:** The format provides a venue to discuss the **Russia-Ukraine conflict**, maritime security in the **Indo-Pacific**, and collaborative defense manufacturing under the **Make in India** initiative.
- **Countering Tariff Threats:** Amidst threats of universal tariffs from the U.S. administration, India and the Weimar powers are exploring ways to safeguard bilateral trade and supply chain resilience.

Additional Info

- **Key Personalities:** The recent momentum is driven by leaders like Polish Foreign Minister **Radosław Sikorski**, who has advocated for a more "India-centric" European foreign policy.
- **Indo-Pacific Alignment:** The Weimar Triangle members are increasingly aligning their "Indo-Pacific Strategies" with India's vision of a free, open, and inclusive region.
- **Economic Linkages:**
 - **Germany** remains India's largest trading partner in the EU.
 - **France** is a primary strategic and defense partner.
 - **Poland** is becoming a key hub for Indian investments in Central and Eastern Europe.
- **Global Governance:** These nations often find common ground on reforming multilateral institutions like the **UN Security Council**, where France and Germany have historically supported India's permanent membership bid.

16th IRENA Assembly: Accelerating Global Renewable Energy Transition

What's the News?

- The **16th Assembly of the International Renewable Energy Agency (IRENA)** concluded in **Abu Dhabi, UAE**, with a global call to triple renewable energy capacity by 2030.
- The Assembly served as a critical platform to track progress on the **COP28** goal of transitioning away from fossil fuels and achieving net-zero emissions.
- Over **1,500 participants**, including heads of state, ministers, and industry leaders from **168 member nations**, gathered to address the widening gap between climate goals and current implementation.

Key Highlights of the 16th Assembly

- **Tripling Renewables by 2030:** The Assembly emphasized the urgent need to reach **11,000 GW** of renewable capacity by 2030 to keep the **1.5°C** target within reach.
- **Investment Gaps:** Global investment in renewables reached a record **\$1.3 trillion** in 2023, yet the

Assembly noted that annual investments must triple to **\$5 trillion** to meet 2030 targets.

- **Focus on the Global South:** Discussions highlighted that **80% of the world's population** lives in developing nations that receive less than **15% of global renewable energy investment**.
- **Technology & Infrastructure:** The Assembly stressed the importance of **modernizing power grids**, enhancing **energy storage**, and scaling up **green hydrogen** production.

India's Renewable Energy Milestones Highlighted

- **Installed capacity:** India has achieved **260–266 GW** of renewable energy capacity—**five years ahead** of its 2030 target—and now meets **50% of its electricity** from non-fossil sources.
- **PM Surya Ghar Scheme:** Over **2.6 million households** have benefited from rooftop solar subsidies, showcasing a **people-centric energy transition**.
- **Investment call:** India urged mobilization of **\$300 billion annually** in clean energy finance to sustain momentum.

Renewable Energy Employment & Manufacturing

According to IRENA and ILO's *Renewable Energy and Jobs – Annual Review 2025*:

- **Global RE jobs (2024): 16.6 million**, led by **solar PV** and dominated by China.
- **India's RE workforce: 1.3 million jobs** (7.7% of global total), ranking:
 - **2nd** globally in **solar PV** and **hydropower** employment
 - **4th** in **wind** and **liquid biofuels** employment.
- **Solar manufacturing:** India holds **4.8%** of global PV module production, with **Gujarat (42%)** and **Tamil Nadu (11%)** as key hubs.

The Path Toward COP30

- **NDCs 3.0:** Nations were urged to submit more ambitious **Nationally Determined Contributions (NDCs)** ahead of **COP30** in 2025, specifically incorporating quantitative renewable energy targets.
- **Finance Mobilization:** Member states called for the reform of international financial institutions to provide **low-cost financing** for energy transitions in emerging economies.

- **Workforce Development:** A key focus was placed on the "just transition," aiming to create millions of new jobs in the renewable sector while supporting workers transitioning from fossil fuel industries.

Additional Info

- **International Renewable Energy Agency (IRENA):**
 - **Established:** Founded in **2009** in Bonn, Germany; officially headquartered in **Abu Dhabi, UAE**.
 - **Membership:** Comprises **169 members** (168 states and the **European Union**).
 - **Mandate:** To promote the widespread adoption and sustainable use of all forms of renewable energy, including bioenergy, geothermal, hydropower, ocean, solar, and wind energy.
- **India's Role in IRENA:**
 - India is a **founder member** and currently serves on the **IRENA Council**.
 - India has utilized the platform to showcase initiatives like the **International Solar Alliance (ISA)** and the **National Green Hydrogen Mission**.
 - India currently ranks **4th globally** in total installed renewable energy capacity.
- **IRENA Publications:**
 - **World Energy Transitions Outlook (WETO):** The flagship report used to guide global policy and investment.

India and Malaysia Co-Chair 16th ADMM-Plus Counter-Terrorism Meeting in New Delhi

What's the News?

- **India and Malaysia** are co-chairing the **16th Experts' Working Group (EWG) on Counter-Terrorism** under the **ASEAN Defence Ministers' Meeting Plus (ADMM-Plus)** framework.
- The meeting, hosted in **New Delhi**, focuses on strengthening regional cooperation to combat the evolving threat of transnational terrorism.

- This gathering brings together military and security experts to synchronize counter-terrorism strategies and prepare for upcoming joint field training exercises.

Focus of the 16th EWG?

- **Collaborative Strategies:** The meeting aims to develop a common understanding of terrorism threats across the **Indo-Pacific** region.
- **Capacity Building:** Discussions center on sharing best practices in tactical operations, intelligence sharing, and the use of technology in counter-terror efforts.
- **Field Training Exercise (FTX):** A primary goal is to finalize the planning for the **ADMM-Plus Counter-Terrorism FTX**, which aims to improve interoperability among the 18 participating nations.
- **Transnational Threats:** Experts are addressing the rise of cyber-terrorism and the use of drones by non-state actors in modern warfare.

ADMM-Plus Framework & Participation

- **Member Composition:** The group includes the **10 ASEAN member states** and **8 Plus countries: India, Australia, China, Japan, New Zealand, South Korea, Russia, and the United States**.
- **Co-Chairmanship Cycle:** India and Malaysia are serving as co-chairs for the current cycle (2024–2027), leading the counter-terrorism workstream.
- **Frequency:** The EWG meets regularly to ensure consistent dialogue between defense ministries and military experts.

Additional Info

- **About ADMM-Plus:**
 - Established in **2010** in Hanoi, Vietnam, as a platform for **ASEAN** and its eight dialogue partners to strengthen security and defense cooperation.
 - It is the highest defense consultative and cooperative mechanism within the **ASEAN** framework.
- **Seven Areas of Cooperation:**
 - The ADMM-Plus focuses on seven **Experts' Working Groups (EWGs):**
 - Maritime Security
 - Counter-Terrorism
 - Humanitarian Assistance and Disaster Relief (**HADR**)

- Peacekeeping Operations
 - Military Medicine
 - Humanitarian Mine Action
 - Cyber Security.
- **India's Strategic Role:**
 - India has been an active participant since the inception of **ADMM-Plus**, advocating for a "free, open, and inclusive" Indo-Pacific.
 - Co-chairing the EWG aligns with India's '**Act East Policy**' and the '**Security and Growth for All in the Region**' (**SAGAR**) initiative.

BRICS Plus Naval Exercise: India Skips "Will for Peace" Drills

What's the News?

- **South Africa** hosted the "**Will for Peace**" naval exercise, a significant maritime drill involving **BRICS Plus** members, including **China, Russia, and Iran**.
- **India** notably declined to participate in the exercise, with the **Ministry of External Affairs (MEA)** stating that the event is not a regular activity for the country.
- The exercise has drawn international scrutiny due to the participation of **Iran**, leading to a domestic inquiry within **South Africa** regarding the legal and diplomatic protocols followed for its inclusion.

About the "Will for Peace 2026" Exercise

- **Host:** South Africa
- **Location:** Off **Simon's Town**, near Cape Town
- **Participants:**
 - Navies of **China, Russia, Iran, Egypt, Indonesia, Saudi Arabia, UAE**
 - **Not all BRICS members** participated; **India and Brazil abstained**
- **Theme:** Joint maritime operations focusing on:
 - Security of **vital shipping lanes**
 - **Counter-terrorism** and **anti-sea strike drills**
 - **Search and rescue** operations

India's Stance and Rationale

- **Official Position:** The **MEA** clarified that India does not view this specific multilateral drill as a "regular activity" that aligns with its current naval engagement schedule.

- **Strategic Autonomy:** Experts suggest India's absence reflects its delicate balancing act between its **BRICS** commitments and its deepening defense ties with **Western powers** (like the **Quad** members).
- **Priority to IBSAMAR:** India highlighted its commitment to the **IBSAMAR** (India-Brazil-South Africa Maritime) exercise, which it considers a more established and institutionalized platform for trilateral naval cooperation.
- **Sensitivity to Membership:** The inclusion of **Iran** and the heavy presence of **Russia** and **China** in the **South Atlantic**, traditionally a Western-dominated sphere made the exercise politically sensitive for New Delhi.

Controversy Around Iran's Participation

- **South Africa launched an inquiry** after reports emerged that President **Cyril Ramaphosa** had asked Iran to withdraw to avoid straining ties with the **United States**.
- Despite this, **three Iranian naval vessels** were observed daily in **False Bay**, raising questions about transparency and command structure during the drills.

Additional Info

- **BRICS Plus:**
 - Established following the **15th BRICS Summit** in Johannesburg (2023).
 - Current members include **Brazil, Russia, India, China, South Africa, Egypt, Ethiopia, Iran, and the UAE**.
- **IBSAMAR:**
 - A series of naval exercises between **India, Brazil, and South Africa**.
 - Initiated in **2008**, it focuses on "Blue Water" naval capabilities and democratic maritime cooperation.

UN High Seas Treaty: BBNJ Agreement Enters into Force

What's the News?

- The **United Nations Biodiversity Beyond National Jurisdiction (BBNJ) Treaty**, popularly known as the **High Seas Treaty**, has officially **entered into force** after reaching the required **60 ratifications**.

- This landmark international agreement aims to protect the vast areas of the global ocean that lie outside national borders, covering nearly **two-thirds of the Earth's oceans**.
- The treaty is a critical tool for achieving the **"30x30" goal**, which aims to protect **30% of the world's land and oceans by 2030** as part of the **Kunming-Montreal Global Biodiversity Framework**.

About the BBNJ Agreement

- **Formal name:** *Agreement under the United Nations Convention on the Law of the Sea (UNCLOS) on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction*
- **Adopted:** June 2023 by UN member states
- **Entered into force:** January 17, 2026
- **Governing body:** To be overseen by a new **Conference of Parties (COP)** under UNCLOS
- **Alignment:** Supports the **Kunming-Montreal Global Biodiversity Framework** target of protecting **30% of global oceans by 2030**

Provisions

- **Marine Protected Areas (MPAs):**
 - Enables creation of **Area-Based Management Tools (ABMTs)** and **MPAs** in international waters
 - Allows restrictions on activities like **deep-sea mining, industrial fishing, and polluting operations**
- **Environmental Impact Assessments (EIAs):**
 - Mandates **EIAs for all planned activities** with potential adverse effects on marine ecosystems
 - Ensures scientific review before approval of high-impact projects
- **Capacity Building & Technology Transfer:**
 - Focuses on empowering **developing nations** through access to marine research tools, data, and training
 - Facilitates equitable participation in ocean governance
- **Benefit-Sharing from Marine Genetic Resources (MGRs):**

- Requires **fair and equitable sharing** of monetary and non-monetary benefits from commercial use of MGRs (e.g., pharmaceuticals, enzymes from deep-sea organisms)
- Includes mechanisms for **monetary contributions, IP licensing, and joint R&D**

Additional Info

- **Definition of High Seas:** Areas of the ocean beyond **200 nautical miles** from any country's shoreline (outside Exclusive Economic Zones).
- **Kunming-Montreal Global Biodiversity Framework (GBF):**
 - Adopted in **2022** at **COP15**.
 - Contains **23 targets** to be met by 2030.
- **Blue Economy:** Sustainable use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of the ocean ecosystem.

India and UAE Pledge to Double Bilateral Trade to \$200 Billion by 2032

What's the News?

- Prime Minister **Narendra Modi** and UAE President **Sheikh Mohamed bin Zayed Al Nahyan** have set an ambitious target to double bilateral non-oil trade to **\$200 billion by 2032**.
- During the high-level visit, both nations signed multiple **Memorandums of Understanding (MoUs)** spanning critical sectors including **nuclear energy, defence, space exploration, and LNG supply**.

Areas of Cooperation

- **Trade & Investment:**
 - Target: **\$200 billion** in bilateral trade by **2032**, up from **\$100 billion in 2024–25**.
 - Focus on **MSME linkages, Bharat Mart, Virtual Trade Corridor, and Bharat Africa Setu** for market expansion.
- **Energy Security:**
 - **10-year LNG deal:** **ADNOC Gas** to supply **500,000 tonnes per annum** to **HPCL** starting **2028**.
 - UAE now India's **second-largest LNG supplier**.
- **Defence & Security:**

- **Letter of Intent (LoI)** signed for a **Strategic Defence Partnership**, covering co-development, technology transfer, and capability building.
- Joint condemnation of **terrorism in all forms**.
- **Civil Nuclear Cooperation:**
 - Collaboration on **large reactors, small modular reactors (SMRs)**, plant operations, safety, and advanced nuclear technologies under India's **SHANTI Act framework**.
- **Space & Digital Tech:**
 - LoI between **IN-SPACe** and **UAE Space Agency** for commercial space ventures and private-sector participation.
 - **Supercomputing cluster** to be established in India with support from UAE's **G42**.
 - Exploration of **digital/data embassies** for secure cross-border data flows.
- **Infrastructure & Finance:**
 - UAE to invest in **Dholera Special Investment Region (Gujarat)**—including airport, railway, energy, and urban township projects.
 - **First Abu Dhabi Bank (FAB)** and **DP World** to set up operations in **GIFT City**, boosting India's financial and logistics hub ambitions.
- **People-to-People Ties:**
 - Establishment of **"House of India"** in Abu Dhabi to showcase Indian art, heritage, and archaeology.
 - Enhanced youth and cultural exchanges.

Additional Info

- **Comprehensive Economic Partnership Agreement (CEPA):**
 - Signed in **February 2022**, it was India's first bilateral trade agreement with a major Gulf nation.
 - It provides duty-free access to over **90% of Indian exports** to the UAE, particularly in labor-intensive sectors like textiles, gems & jewelry, and agriculture.
- **The IMEC Factor:**
 - The **India-Middle East-Europe Economic Corridor (IMEC)**, announced during the G20 summit, relies heavily on the **UAE-Saudi**

Arabia-Jordan-Israel rail and shipping link to connect India with Europe.

U.S. President Trump Invites India to Join Proposed "Board of Peace" for Gaza

What's the News?

- U.S. President **Donald Trump** has officially invited India to become a founding member of the newly established **Board of Peace**.
- Announced on January 15, 2026, the **Board of Peace (BoP)** is a U.S.-led international organization designed to oversee the stabilization, governance, and reconstruction of **Gaza** following the conflict.
- While initially focused on the Middle East, the organization's draft charter suggests a broader mandate to resolve global conflicts, potentially serving as an alternative to existing **United Nations** frameworks.

Board of Peace

- **Leadership & Structure:**
 - Chaired by **Donald Trump**, who holds exclusive authority to appoint members, set agendas, and dissolve subsidiary entities.
 - Features a high-level **Executive Board** including figures like **Marco Rubio** (U.S. Secretary of State), **Jared Kushner**, and **Ajay Banga** (World Bank President).
 - Includes a **Gaza Executive Board** led by High Representative **Nickolay Mladenov** to coordinate on-the-ground activities.
- **Membership & Funding:**
 - Membership is by invitation only, with approximately **60 countries** invited so far.
 - While standard membership lasts three years, permanent status is granted to countries that contribute at least **\$1 billion** in cash within the first year.
- **Gaza Administration:**
 - Supports the **National Committee for the Administration of Gaza (NCAG)**, a 15-member body of independent Palestinian technocrats responsible for day-to-day civil administration.

Strategic Challenges for India

- **Multilateral Principles:** Joining a body that operates explicitly outside of **United Nations** frameworks may conflict with India's long-standing commitment to **reformed multilateralism** and the primacy of the **UN Security Council**.
- **Regional Friction:** **Pakistan** has also been invited and has officially confirmed its receipt of the invitation, potentially forcing India to share a diplomatic platform with its neighbor on sensitive security issues.
- **Military Involvement:** The U.S. is seeking troops for a temporary **International Stabilization Force (ISF)** in Gaza. India has historically refused to send military personnel to missions not authorized by the UN.
- **Diplomatic Balancing:** Refusing the invitation from a "mercurial" U.S. administration could impact ongoing negotiations regarding high **U.S. tariffs** on Indian exports.

17th Edition of Trilateral Maritime Exercise

'Dosti' Commences in Maldives

What's the News?

- The **Coast Guards** of **India, Sri Lanka**, and the **Maldives** recently conducted the **17th edition** of the trilateral maritime exercise, **Dosti-17**, in **Malé**.
- The exercise focused on strengthening **regional maritime cooperation, interoperability**, and **operational coordination** to address shared security challenges in the **Indian Ocean Region (IOR)**.
- Key leadership involved included Maldivian Defence Minister **Mohamed Ghassan Maumoon**, Indian Coast Guard Director General **Paramesh Sivamani**, and Sri Lankan Coast Guard Director General **Admiral Rohan Joseph**.

Dosti-17?

- **Phased Training:** The exercise was structured into two primary components:
 - **Harbour Phase:** Featured **Visit, Board, Search, and Seizure (VBSS)** drills, **Marine Pollution (MARPOL)** response exercises, and tabletop simulations to enhance mutual understanding.
 - **Sea Phase:** Involved active maritime drills including **Search and Rescue**

(SAR) operations, surveillance, and communication protocols in open waters.

- **Core Objectives:**
 - Enhancing the collective ability to respond to **non-traditional security threats** such as **piracy, smuggling, and illegal fishing**.
 - Building technical compatibility for environmental protection, particularly during **oil spill** emergencies.
 - Fostering camaraderie and professional relationships between the three maritime forces.

Additional Info

- **Historical Context:**
 - **1991:** Initiated as a **bilateral** engagement between the **Indian Coast Guard (ICG)** and the **Maldives National Defence Force (MNDF)**.
 - **2012:** Transitioned into a **trilateral** framework with the inclusion of the **Sri Lanka Coast Guard**.
- **Strategic Alignment:**
 - **SAGAR Vision:** The exercise is a practical manifestation of India's **Security and Growth for All in the Region (SAGAR)** initiative.
 - **Neighbourhood First Policy:** Reflects India's commitment to prioritizing cooperation with immediate maritime neighbors for a stable IOR.
- **Participating Assets:**
 - **Indian Navy/Coast Guard:** Deployed advanced vessels including **ICGS Atulya, ICGS Vajra**, and an **ICG Dornier** aircraft.
 - **Sri Lanka:** Deployed the vessel **SLNS Suranimila**.

Spain Joins Indo-Pacific Oceans Initiative (IPOI) and Elevates Ties with India

What's the News?

- **Spain** has officially joined the **Indo-Pacific Oceans Initiative (IPOI)**, becoming the **10th country** to participate in this Indian-led framework.

- The announcement was made during the state visit of Spanish Prime Minister **Pedro Sánchez** to India, marking the first visit by a Spanish PM in nearly two decades.
- Both nations have formally elevated their bilateral relationship to a **Strategic Partnership**, agreeing to deepen cooperation in defense, maritime security, and sustainable development.

Indo-Pacific Oceans Initiative (IPOI): Framework & Objectives

- **Launched by:** India at the **2019 East Asia Summit** in Bangkok
- **Guiding Principle:** **SAGAR** (Security and Growth for All in the Region)
- **Nature:** Non-treaty, voluntary, and inclusive—**not a military alliance**
- **Core Aim:** Promote a **free, open, rules-based, and inclusive Indo-Pacific** through practical cooperation

Seven Thematic Pillars

- Maritime Security
- Maritime Ecology
- Sustainable Utilisation of Maritime Resources
- Capacity Building & Resource Sharing
- Disaster Risk Reduction & Management
- Science, Technology & Academic Cooperation
- Trade, Connectivity & Maritime Transport

Countries may **voluntarily lead or contribute** to any pillar based on expertise and interest.

Spain's Role in IPOI?

- **Pillar Leadership:** Spain has committed to leading the '**Maritime Resources**' pillar, focusing on the sustainable management and protection of marine biodiversity.
- **Strategic Alignment:** Spain's entry aligns with the **EU's Strategy for Cooperation in the Indo-Pacific**, promoting a rules-based international order and freedom of navigation.
- **Collaborative Focus:** By leading this pillar, Spain will work with India to combat **Illegal, Unreported, and Unregulated (IUU) fishing** and promote the **Blue Economy**.

Global Election Bodies Adopt Delhi

Declaration 2026 at IICDEM

What's the News?

- The **Election Commission of India (ECI)** hosted the inaugural **International Conference on Democracy and Election Management (IICDEM) 2026** at **Bharat Mandapam**, New Delhi.
- The conference concluded with the unanimous adoption of the **Delhi Declaration 2026** by the heads of **42 Election Management Bodies (EMBs)**.
- Led by **Chief Election Commissioner Shri Gyanesh Kumar**, the event focused on strengthening global democratic standards and fostering international cooperation in election management.
- A significant highlight was the launch of **ECINET**, a one-stop digital platform designed to serve as a global hub for election-related information and technological sharing.

Delhi Declaration 2026?

- **The Five Pillars:** Participating EMBs resolved to collaborate on five foundational areas to ensure electoral integrity:
 - **Purity of Electoral Rolls:** Ensuring accurate, clean, and inclusive voter lists, including the issuance of **Photo Identity Cards** to all eligible electors.
 - **Conduct of Elections:** Commitment to free, fair, and participative elections conducted as per constitutional mandates.
 - **Research and Publications:** Developing a shared knowledge base, including a co-curated **Encyclopaedia of Democracies of the World** and a global **Electoral Atlas**.
 - **Use of Technology:** Responsibly leveraging advanced tech to assist voters and combat threats such as **misinformation** and foreign interference.
 - **Training and Capacity Building:** Strengthening institutional professionalism through the **India International Institute of Democracy and Election Management (IIIDEM)**.

- **Significance:** The declaration establishes a framework for **South-South cooperation** and sets "model international electoral standards" for the 21st century.

IICDEM 2026 Overview?

- **Theme:** The conference was anchored in the theme "**Democracy for an inclusive, peaceful, resilient and sustainable world.**"
- **Global Scale:** The event was the largest of its kind, attended by nearly **1,000 participants**, including delegates from **42 EMBs**, ambassadors from **27 countries**, and experts from **70 national institutions**.
- **Institutional Participation:** Academic contributions were provided by **4 IITs**, **6 IIMs**, and **12 National Law Universities (NLUs)** through **36 thematic groups** led by State **Chief Electoral Officers (CEOs)**.
- **Bilateral Engagement:** The ECI conducted over **40 bilateral meetings** to expand mutual cooperation and understand collective priorities.

Additional Info

- **India's International Role:**
 - India assumed the **Chairship of the Council of Member States of International IDEA** for 2026.
 - **IIDEM:** Established in 2011, it is the ECI's training and research arm, now evolving into a global center for electoral capacity building.
- **Constitutional Framework:**
 - **Article 324:** Grants the ECI the power of **superintendence, direction, and control** of all elections to Parliament and State Legislatures.
 - **Article 326:** Guarantees elections based on **adult suffrage**, ensuring every citizen above 18 years has the right to vote.
- **Technological Innovations:**
 - **ECINET:** A digital platform offered by India for co-development with other EMBs to streamline electoral services globally.
 - **cVIGIL:** An app mentioned as a benchmark for citizens to report electoral violations in real-time.

India and the European Union Conclude Historic Free Trade Agreement Negotiations

What's the News?

- **India and the European Union (EU)** have successfully concluded negotiations for a long-awaited **Free Trade Agreement (FTA)**, marking a landmark shift in their strategic partnership.
- The announcement was made during the **16th India-EU Summit** in New Delhi, where **European Commission President Ursula von der Leyen** and **European Council President António Costa** attended as chief guests for India's **77th Republic Day**.
- Described as the "**mother of all deals**," the pact aims to double bilateral trade and integrate India more deeply into global supply chains while reducing economic reliance on single-country markets.

The India-EU Free Trade Agreement (FTA)

- **Market Access and Tariffs:**
 - India has agreed to slash import duties on European cars from existing rates of **70%–110%** down to **40%** immediately, with a path toward **10%** over time.
 - The **EU** will provide duty-free access for nearly **99% of Indian exports**, benefiting sectors like textiles, leather, and gems and jewelry.
 - Sensitive sectors, including certain **dairy and agricultural products**, have been excluded to protect Indian farmers.
- **Investment Protection:**
 - A separate **Investment Protection Agreement (IPA)** was finalized to provide a stable legal framework for investors and institutionalize dispute settlement mechanisms.
- **Geographical Indications (GI):**
 - The deal includes a dedicated agreement to protect local products like **Darjeeling Tea** and **Feta Cheese**, ensuring their names are not misused in either market.

Strategic Pillars: TTC and IMEC

- **Trade and Technology Council (TTC):**

- o Launched to coordinate on **critical and emerging technologies**, India is only the second partner (after the USA) with whom the **EU** has established this high-level forum.
- o Key focus areas include **semiconductor** supply chain resilience, **Artificial Intelligence (AI)** ethics, and the development of **6G** standards.
- **Connectivity and Energy:**
 - o The **India-Middle East-Europe Economic Corridor (IMEC)** serves as a strategic alternative to the Belt and Road Initiative, focusing on a multimodal network of ships, rail, and pipelines.
 - o The corridor is projected to increase Indian export valuation by **5% to 8%**, contributing an estimated **\$21.85 billion** annually.
 - o Cooperation on **Green Hydrogen** aims to link India's renewable energy capacity with Europe's decarbonization goals through subsea pipelines and grids.

Challenges: CBAM and EUDR

- **Carbon Border Adjustment Mechanism (CBAM):**
 - o The **EU** began the full implementation phase of its "carbon tax" in **2026**, targeting imports of steel, aluminum, cement, and fertilizers.
 - o Indian exporters may need to absorb costs or cut prices by **15%–22%** to remain competitive under the new levy.
- **EU Deforestation Regulation (EUDR):**
 - o This non-tariff barrier requires strict "deforestation-free" certification for products like coffee, rubber, and timber, posing compliance hurdles for Indian **MSMEs**.

Additional Info

- **The European Union (EU):**
 - o A unique political and economic union of **27 member states**.
 - o It is India's **second-largest trading partner** (after the USA), with bilateral trade in goods and services reaching approximately **€184 billion**.
- **Historical Context:**

- o India and the **European Economic Community** established diplomatic relations in the early 1960s.
- o The relationship was elevated to a **Strategic Partnership** in 2004, but FTA talks remained stalled for nine years (2013–2022) before being revived.
- **Economic Impact:**
 - o Over **6,000 European companies** currently operate in India, contributing significantly to technology transfer and job creation.
 - o India's GDP, estimated at **\$4.13 trillion** in 2025, is projected to become the world's **fourth largest** in 2026.

SCO National Coordinators Convene in Beijing to Finalise 2026 Agenda

What's the News?

- The first meeting of the **Shanghai Cooperation Organization (SCO) Council of National Coordinators (CNC)** for the current year convened at the **SCO Secretariat in Beijing**, under the chairmanship of the **Kyrgyz Republic**.
- The meeting brought together representatives from all **10 member states**, the SCO Secretariat, and the **Regional Anti-Terrorist Structure (RATS)** to coordinate preparations for upcoming high-level summits and review implementation of previous agreements.
- **SCO Secretary-General Nurlan Yermekbayev** delivered the inaugural address, emphasizing the meeting's role in synchronising multilateral cooperation across political, economic, and cultural domains.
- The gathering aims to finalise the agenda for the **Council of Heads of State (CHS)** and **Council of Heads of Government (CHG)** summits scheduled during Kyrgyzstan's 2026 presidency, while reviewing progress on trade, security, and humanitarian initiatives.

Council of National Coordinators?

Mandate and Functions

The **CNC** serves as the primary coordination mechanism within the SCO, acting as the vital link between the organisation's permanent bodies and member states. Its core functions include:

- **Policy Coordination:** Synchronising multilateral cooperation among member states in accordance with the **SCO Charter** and ensuring alignment with the organisation's strategic priorities.
- **Summit Preparation:** Conducting groundwork and drafting agendas for ministerial and heads of state/government meetings, ensuring procedural and substantive readiness.
- **Implementation Oversight:** Monitoring execution of decisions, treaties, and agreements reached during previous summits, including commitments on counter-terrorism, economic cooperation, and cultural exchanges.
- **Operational Management:** Addressing day-to-day organisational matters, budgetary approvals, and administrative coordination between the Secretariat in Beijing and RATS in Tashkent.

SCO Structure and Significance?

Membership and Geography

The **Shanghai Cooperation Organization** is the world's largest regional body by geographic scope and population coverage:

- **10 Member States:** Belarus (joined 2024), India (joined 2017), Iran (joined 2023), Kazakhstan, China, Kyrgyz Republic, Pakistan (joined 2017), Russia, Tajikistan, and Uzbekistan.
- **Demographic and Economic Weight:** Represents approximately **42% of the world's population** and accounts for over **23% of global nominal GDP**.
- **Expansion:** The organisation has grown from the original **Shanghai Five** (China, Russia, Kazakhstan, Kyrgyzstan, Tajikistan established in 1996) to its current 10-member configuration, with India and Pakistan joining as full members in 2017, followed by Iran (2023) and Belarus (2024).

Core Institutions

- **SCO Secretariat (Beijing):** The main executive body responsible for implementing organisational

decisions, coordinating technical assistance, and managing administrative functions.

- **RATS (Tashkent):** The **Regional Anti-Terrorist Structure** focuses on combating the "**Three Evils**"; terrorism, separatism, and extremism through intelligence sharing, joint training, and coordinated operations.

Guiding Philosophy

The "**Shanghai Spirit**" defines the organisation's foundational principles:

- **Mutual trust and mutual benefit**
- **Equality and consultation**
- **Respect for diversity** of civilizations
- **Pursuit of common development**

India's Engagement?

Strategic Rationale

- **Counter-Terrorism Cooperation:** India utilises the SCO platform, particularly through RATS, to enhance intelligence sharing and coordinate responses to cross-border terrorism affecting South and Central Asia.
- **Regional Connectivity:** New Delhi engages with SCO initiatives on transport corridors, energy security, and digital infrastructure, while balancing these with strategic autonomy and regional partnerships.
- **Alternative Platform:** The SCO provides India access to Central Asian resource markets and strategic partnerships, complementing bilateral relationships with member states.

Key Engagements

- **Council of Heads of Government:** India actively participates in CHG meetings focusing on trade, economy, and cultural cooperation.
- **Counter-Terrorism Frameworks:** Collaboration through RATS on combating financing of terrorism, cyber threats, and transnational extremist networks.

Additional Info

Historical Context

- **Origins:** Evolved from the **Shanghai Five** mechanism established in 1996 to resolve border disputes and enhance mutual security confidence.
- **Formalisation:** Established as a permanent intergovernmental organisation on **June 15, 2001**, in Shanghai.

- **Official Languages: Russian and Chinese**, reflecting the organisation's Eurasian geographic and cultural orientation.

Constitutional and Policy Framework (India)

- **Article 51** (Directive Principles of State Policy): Mandates promotion of international peace and security, guiding India's participation in multilateral forums like the SCO.
- **Article 253** (Parliament's Power): Enables Parliament to legislate for implementing international treaties and agreements, including those negotiated within SCO frameworks on counter-terrorism, narcotics control, and economic cooperation.
- **Foreign Policy Alignment:** India's SCO membership aligns with its "**Act East**" and "**Connect Central Asia**" policies, while maintaining strategic autonomy in regional security architectures.

RATS Operational Mandate

- **Information Sharing:** Maintains databases on terrorist organisations, suspected individuals, and extremist networks.
- **Joint Training:** Conducts regular counter-terrorism exercises (e.g., **SCO Peace Mission**) involving special forces from member states.
- **Legal Coordination:** Assists member states in harmonising domestic legislation on terrorism-related offences and extradition protocols.

Key Summits and Outcomes (Recent)

- **2024 Astana Summit:** Approved **SCO Development Strategy towards 2035**, focusing on economic cooperation, digital transformation, and sustainable development.
- **India's Hosting:** New Delhi hosted the **SCO Council of Heads of Government meeting in 2023**, showcasing commitment to regional economic integration.

International

US Captures Venezuelan President Nicolas Maduro; Revives 19th-Century 'Monroe Doctrine'

What's the News?

- The **United States** launched a massive military operation, codenamed **Operation Absolute Resolve**, to capture Venezuelan President **Nicolás Maduro** and his wife **Cilia Flores**.
- The operation involved over **150 aircraft** and ground-based extraction forces, striking key infrastructure across northern **Venezuela** before transporting Maduro to **New York City** to face criminal charges.
- U.S. President **Donald Trump** justified the intervention by invoking a rebranded version of the 1823 **Monroe Doctrine**, which he termed the "**Don-roe Doctrine**".
- The move has drawn widespread international alarm, with the **United Nations** and various world leaders questioning the legality of capturing a sovereign head of state.

What is the Monroe Doctrine?

- Announced by U.S. President **James Monroe** on **December 2, 1823**, as part of his State of the Union address.
- Core principles include:
 - **No new European colonization** in the Americas
 - **Non-interference warning** to external powers
 - **U.S. non-interference** in European affairs
 - Recognition of **separate spheres of influence**; Americas vs. Europe.
- Designed to position the U.S. as the **protector of the Western Hemisphere**.

What is the Roosevelt Corollary?

- Added by **President Theodore Roosevelt** in **1904**, following a debt crisis and European naval blockade of Venezuela.
- Asserted the U.S. right to **intervene in Latin American countries** to prevent European involvement or internal instability.

- Shifted the doctrine from a **defensive posture** to an **interventionist tool**, justifying U.S. military actions in:
 - **Cuba**
 - **Nicaragua**
 - **Haiti**
 - **Dominican Republic**

Operation Absolute Resolve?

- **Execution:** The joint military and law enforcement mission was carried out by elite units, including the **Delta Force**, targeting Maduro's residence at the **Fuerte Tiuna** military base and the **La Carlota** airfield.
- **Legal Basis:** The U.S. **Department of Justice** is prosecuting Maduro based on a **2020 indictment** for **narco-terrorism**, cocaine-trafficking conspiracy, and drug trafficking.
- **Casualties:** Reports indicate over **80 people** were killed during the strikes, including members of the Venezuelan and Cuban military.
- **U.S. Control:** Following the capture, President Trump stated the U.S. would **"run" Venezuela** temporarily to stabilize the country and rebuild its **oil infrastructure**.

The 'Don-roe Doctrine'?

- **Rebranding:** The term is a neologism combining "Donald" and "Monroe," representing a modern, more assertive interpretation of the 200-year-old **Monroe Doctrine**.
- **Core Objective:** It seeks to restore **American primacy** in the **Western Hemisphere** by actively excluding non-hemispheric rivals such as **China, Russia, and Iran**.
- **The Trump Corollary:** This new policy layer establishes **"international police power"** for the U.S. to protect commerce, resources, and national security in its "front yard" (Latin America) and "backyard" (Arctic/Greenland).
- **Strategic Interests:** Beyond law enforcement, the doctrine explicitly prioritizes securing access to **Venezuela's oil reserves**, the largest in the world, to bolster U.S. energy security.

Bulgaria Joins the Eurozone: A Strategic Shift Away from Russian Influence

What's the News?

- **Bulgaria** has officially become the **21st member** of the **Eurozone**, adopting the Euro as its official currency.
- This transition replaces the **Bulgarian Lev**, which had been pegged to the Euro since the late 1990s.
- The move is seen as a major geopolitical milestone, signaling Bulgaria's deeper integration into the **European Union (EU)** and a decisive shift away from historical dependencies on **Russia**.
- Despite meeting the technical criteria, the adoption faced years of delays due to domestic political instability and high inflation.

Eurozone Accession: Process and Criteria

- **Convergence Assessment:**
 - On **4 June 2025**, the **European Commission** and **European Central Bank (ECB)** jointly confirmed Bulgaria's compliance with all five **Maastricht convergence criteria**:
 - Inflation ≤ 1.5 pp above EU-3 average
 - Government deficit $< 3\%$ of GDP
 - Public debt $\leq 60\%$ of GDP (or declining toward it)
 - Exchange rate stability (via ERM-II membership since 2020)
 - Long-term interest rates ≤ 2 pp above EU-3 average 2223
 - Final approval granted by the **European Council** and **European Parliament** in July 2025.
- **Governance Shift:**
 - Bulgaria's central bank governor now holds a seat on the **ECB Governing Council**, enabling participation in eurozone-wide monetary policy decisions.

Additional Info

- **The Eurozone:**
 - Established in **1999**, it is a geographic and economic region that consists of EU member states that have fully incorporated the Euro.

- **Croatia** was the previous country to join the bloc in **2023**.
- **Economic Context:**
 - Bulgaria is currently the **EU's poorest member** by GDP per capita; however, it maintains one of the lowest debt-to-GDP ratios in the union.
 - The **Lev** was fixed at a rate of **1.95583 BGN to 1 EUR**.

Trump Backs Bill Proposing 500% Tariffs on Nations Buying Russian Oil

What's the News?

- US President **Donald Trump** has given his approval to the **Sanctioning of Russia Act 2025**, a bipartisan bill introduced by Senator **Lindsey Graham**.
- The legislation proposes imposing **tariffs of up to 500%** on goods and services from countries—specifically **India, China, and Brazil**—that continue to purchase **Russian oil** and energy products.
- The move aims to cut off financial lifelines to **Russia** amid the ongoing conflict in Ukraine, effectively pressurizing nations to stop funding "Putin's war machine."

The Sanctioning of Russia Act 2025

- **Overview:** The bill is designed to provide the US President with "tremendous leverage" to incentivize countries to halt Russian energy imports.
- **Key Provisions:**
 - Mandates a **500% duty** on all imports (goods and services) from nations that knowingly engage in the exchange of Russian-origin **petroleum products** or **uranium**.
 - Includes a **waiver clause** allowing the President to suspend these tariffs for **180 days** if deemed in the US national interest.
- **Strategic Timing:** The approval comes as **Ukraine** is reportedly making concessions for peace, while the US administration seeks to tighten economic screws on Russia to force a resolution.

Implications for India

- **Trade and export shock:** Exports worth approximately **\$120 billion**—particularly in **textiles, gems and jewellery, and engineering goods** could face severe disruption; these sectors already endure **50% U.S. tariffs** since mid-2025.
- **Energy security dilemma:** Reducing reliance on Russian oil may increase India's annual import bill by **\$9–11 billion**, prompting refiners like **Reliance Industries** to temporarily halt Russian cargoes.
- **Geopolitical strain:** Perceived **asymmetry in enforcement** with **China**, the largest buyer of Russian oil, facing minimal penalties raises concerns about fairness in the U.S.-led rules-based order.
- **De-dollarisation push:** Legal challenges to the tariff's basis under the **International Emergency Economic Powers Act (IEEPA)** may accelerate adoption of **non-dollar payment mechanisms** with partners like Brazil and Russia.

Additional Info

- **Diplomatic Friction:**
 - Alongside the tariff threat, the US has reportedly withdrawn from the **International Solar Alliance (ISA)**, an initiative co-founded by India.
 - The new US Ambassador to India, **Sergio Gor**, is expected to prioritize halting Indian imports of Russian oil upon taking charge.
- **Global Context:**
 - **Secondary Sanctions:** These are penalties applied to third parties (like India) not directly involved in the conflict but doing business with the sanctioned entity (Russia).
 - **G7 Price Cap:** Previously, the West tried to limit Russia's oil revenue via a **price cap mechanism**, which India navigated by buying oil below the cap or using non-western shipping insurance. The new bill signals a shift to direct punitive measures.

Operation Hawkeye: US Counter-Terrorism Strikes in Syria

What's the News?

- The **United States Central Command (CENTCOM)** launched **Operation Hawkeye**, a series of large-scale airstrikes targeting **ISIS** infrastructure and fighters in **Syria**.
- The operation was initiated in direct response to a deadly ambush near **Palmyra**, which resulted in the deaths of **three American service members** and several partners earlier in the week.
- The strikes targeted multiple locations, including **training camps, command-and-control centers, and weapons storage facilities** across central and eastern Syria.

Operation Hawkeye: Objectives and Execution

- **Trigger:** A lone ISIS gunman ambushed U.S.-Syrian joint forces on **December 13, 2025**, killing:
 - Sgt. Edgar Brian Torres-Tovar (25)
 - Sgt. William Nathaniel Howard (29)
 - Civilian interpreter Ayad Mansoor Sakat
- **Military Response:**
 - Over **90 bombs** dropped on **~35 ISIS targets** across Syria.
 - Targets included **weapons depots, smuggling routes, command nodes, and underground facilities**.
 - Conducted by **U.S. Central Command (CENTCOM)** using warplanes and drones.
- **Strategic Aim:**
 - Degrade ISIS operational capabilities.
 - Prevent regrouping or resurgence of the terror group.
 - Send a clear deterrence message: "If you harm our warfighters, we will find you".

Geopolitical Context

- **Syria's Status:** Emerging from a **13-year civil war (2011–2024)**, Syria is now governed by an **interim administration** led by President **Ahmed al-Sharaa**.
- **Regional Dynamics:**
 - Syria shares borders with **Turkey, Iraq, Jordan, Lebanon, and Israel**, making it a

strategic crossroads for counter-terrorism operations.

- o The **Euphrates River corridor** remains a key zone for ISIS remnants.
- **International Coordination:**
 - o Prior to the January 2026 strikes, the **UK and France** had jointly targeted an ISIS weapons facility in Syria.
 - o The U.S. emphasized that these actions are **not a declaration of war**, but **"a declaration of vengeance"** to protect coalition personnel.

Additional Info

- **CENTCOM (United States Central Command)**
 - o One of the eleven unified combatant commands of the US Department of Defense.
 - o Area of responsibility includes the **Middle East**, Central Asia, and parts of South Asia.
- **Legal Framework:**
 - o The US justifies these strikes under the **2001 Authorization for Use of Military Force (AUMF)** and the right to **self-defense** under international law.

Breakthrough in Nuclear Fusion: China's EAST Reactor Surpasses Greenwald Limit

What's the News?

- Scientists at China's **Experimental Advanced Superconducting Tokamak (EAST)**, widely known as the **"Artificial Sun,"** have achieved a major milestone by sustaining plasma densities significantly higher than the **Greenwald limit**.
- The reactor maintained stable plasma at densities **1.3 to 1.65 times** the theoretical safety ceiling that has constrained fusion research for nearly four decades.
- This breakthrough, published in **Science Advances** in January 2026, confirms a new **"density-free"** operating regime, potentially clearing a major bottleneck for commercial fusion energy.

Greenwald Limit: Why It Matters

- **Definition:** The Greenwald limit defines the **maximum plasma density** a tokamak can sustain before

instability causes **disruption**, potentially damaging reactor walls.

- **Theoretical Ceiling:** Named after physicist **Martin Greenwald**, this empirical rule defines the maximum density of plasma a **Tokamak** can hold before it becomes unstable and collapses.
- **Formula Basis:** It correlates plasma density with **plasma current and device size**; a key constraint in tokamak design since the 1980s.
- **Density-Energy Link:** In nuclear fusion, energy output is roughly proportional to the **square of the plasma density**. Higher density leads to more atomic collisions, increasing the fusion rate.
- **Challenge:** Higher density enables more atomic collisions and greater fusion output, but exceeding the limit historically led to **thermal collapse** due to impurities from wall erosion.

How EAST Broke the Barrier

- **Two Key Techniques:**
 - o **Electron Cyclotron Resonance Heating (ECRH):** Used high-power microwaves during startup to heat electrons efficiently, reducing reliance on high plasma current early on.
 - o **Controlled Fuel Injection:** Started with higher deuterium gas pressure and added hydrogen gradually, cooling the **divertor** (plasma-wall contact zone).
- **Wall Conditioning:** Coated tungsten walls with **lithium**, reducing **tungsten sputtering** and impurity influx. Repeated high-density runs further "conditioned" walls, improving performance over time.
- **Outcome:**
 - o Plasma density reached **5.6×10^{19} particles/m³** (vs. normal 3.4×10^{19}).
 - o Divertor temperature dropped by **~30%**, minimizing impurities and enabling stable operation beyond the Greenwald threshold.

Additional Info

- **Plasma-Wall Self-Organisation (PWSO) Theory:**
 - o Proposed in 2021 by Dominique Escande (Aix-Marseille University), it predicts **two stable plasma states**:
 - **Density-limit regime** (near Greenwald limit)

- **Density-free regime** (beyond the limit, with cool divertor and low impurities)
- EAST results **validated PWSO predictions** using both zero-dimensional and one-dimensional plasma models.
- **Tokamak:**
 - A doughnut-shaped (toroidal) device that uses powerful **magnetic fields** to confine superheated plasma (the fourth state of matter).
- **International Thermonuclear Experimental Reactor (ITER):**
 - A massive global collaboration in France aiming to prove the feasibility of fusion.
 - **India's Role:** As a full member, India provides critical components like the **Cryostat** (the world's largest stainless-steel vacuum vessel) and advanced cooling systems.
- **Advantages of Fusion:**
 - **Fuel Abundance:** Uses **Deuterium** (from seawater) and **Tritium** (bred from Lithium).
 - **Safety & Cleanliness:** No risk of meltdown, produces no greenhouse gases, and generates minimal long-term radioactive waste compared to fission.

Iranian Conundrum: Economic Collapse and Nationwide Protests

What's the News?

- Iran is witnessing its most significant internal crisis since the 1979 Revolution, as nationwide **anti-government protests** spread across all 31 provinces.
- The unrest was triggered by a catastrophic **economic collapse**, marked by the sharp devaluation of the **Iranian rial** and soaring inflation.
- In response, the Iranian government has implemented a **nationwide internet blackout** and a violent security crackdown, leading to thousands of reported deaths and arrests.

The Economic Trigger & Social Break

- **Currency Crisis:** The Iranian rial lost nearly **45% of its value** in 2025, falling to a record low of **1.45 million per dollar**, making essential imports unaffordable.
- **Bazaar Strikes:** In a significant structural break, traders at the **Tehran Grand Bazaar**—traditionally a pillar of regime support—initiated strikes to protest worsening economic conditions.
- **Cost of Living:** Rapid inflation in food prices followed the government's decision to end **subsidized exchange rates** for importers, further fueling public anger.
- **Energy Shortages:** Daily **power outages** and infrastructure stress have added to the "economic exhaustion" experienced by the populace.

State Response and Crackdown

- **Communication Blackout:** A total **internet and telecommunications shutdown** was imposed on **January 8, 2026**, to disrupt protest coordination and prevent the documentation of human rights violations.
- **Security Escalation:** Authorities have categorized protesters as "**terrorists**" and labeled participation in demonstrations after January 8 as an act of "**internal war**".
- **Casualty Reports:** Human rights organizations and international media estimate the death toll between **2,000 and 6,000**, with over **10,000 individuals detained**.
- **Use of Technology:** The state has intensified the search for **Starlink satellite dishes** to cut off the last remaining channels for sharing information with the outside world.

Geopolitical Implications

- **U.S. Stance:** U.S. President **Donald Trump** warned that the United States is "**locked and loaded**" to intervene if the killing of protesters continues, and he has threatened a **25% tariff** on any country trading with Iran.
- **Regional Vulnerability:** The unrest follows a **12-day conflict with Israel** in June 2025, which decimated Iran's air defenses and significantly damaged its nuclear infrastructure.

- **Impact on India:** Political instability in Iran threatens strategic connectivity projects like the **Chabahar Port**, which is vital for India's access to Afghanistan and Central Asia.
- **Sanctions:** New sanctions have been announced by the **U.S., EU, and G7** nations to pressure the Iranian government over its suppression of the protests.

Additional Info

- **Legal & International Framework:**
 - **Article 2(4) of the UN Charter:** Iran has invoked this article to the **UN Security Council**, arguing that U.S. threats of force constitute a violation of international law.
 - **Human Rights Violations:** Amnesty International and the UN High Commissioner for Human Rights have condemned the crackdown as a violation of the **freedom of expression and peaceful assembly**.
- **Historical Context:**
 - **"Woman, Life, Freedom" (2022-23):** The current protests are frequently compared to the 2022 movement triggered by the death of **Mahsa Amini**, though the 2026 unrest is more deeply rooted in economic grievances.
 - **The 1979 Revolution:** Analysts suggest the scale of the 2026 protests represents the most serious challenge to the clerical establishment since its inception.
- **Domestic Governance:**
 - **President Masoud Pezeshkian:** Despite signaling limited social relaxation previously, the administration has been largely paralyzed by the economic crisis and security imperatives.
 - **IRGC and Bonyads:** The dominance of the **Islamic Revolutionary Guard Corps** and quasi-governmental trusts (**Bonyads**) in the economy is cited as a primary cause of private sector stagnation.

Israel Withdraws from Seven International Bodies Following US Exit

What's the News?

- Israel's Foreign Minister **Gideon Sa'ar** has announced the immediate severing of ties with **seven international organisations**, primarily including United Nations (UN) agencies.
- The decision follows a strategic review triggered by the **United States'** recent withdrawal from **66 international organisations** and treaties.
- The move is aimed at bodies that the Israeli government describes as having "persistent bias," "politicisation," and "hostility" toward the state.

The Seven Organisations and Specific Concerns

The withdrawal targets specific bodies cited for administrative inefficiency or perceived political bias:

- **Office of the Special Representative for Children and Armed Conflict:** Severed after the agency included the **Israel Defense Forces (IDF)** in its "blacklist" of violators, alongside groups like ISIS and Boko Haram.
- **UN Entity for Gender Equality and the Empowerment of Women (UN Women):** Withdrawn due to allegations that the body ignored cases of sexual violence committed against Israeli women during recent conflicts.
- **UN Conference on Trade and Development (UNCTAD) & UN Economic and Social Commission for Western Asia (ESCWA):** Cited for issuing what Israel termed "virulent anti-Israel reports" over several years.
- **UN Alliance of Civilizations (UNAOC):** Accused of being used as a platform for attacks against Israel and for excluding Israeli participation in its dialogues.
- **UN Energy:** Labelled a "wasteful organisation" reflecting the "excessive and inefficient bureaucracy" of the UN system.
- **Global Forum on Migration and Development (GFMD):** Withdrawn on the grounds that it erodes the ability of sovereign nations to enforce their own immigration laws.

Additional Info

- **UNRWA Legislation:**

- This withdrawal occurs alongside domestic legislation in Israel that bans the **UN Relief and Works Agency (UNRWA)** from operating within its territory.
- The **Knesset** (Israel's Parliament) recently passed amendments to cut off water, electricity, and communications from UNRWA facilities.
- **International Law Context:**
 - **Article 105 of the UN Charter:** Governs the privileges and immunities of the UN and its officials, which has been a point of contention regarding the legal status of agencies within host countries.
 - **Standard of Conduct for the International Civil Service:** UN staff are mandated to maintain neutrality and not express public convictions on controversial matters, a standard Israel claims has been violated.

World Economic Forum Releases Global Risks Report 2026

What's the News?

- The **World Economic Forum (WEF)** has released the **21st edition** of its **Global Risks Report 2026**, highlighting a world balancing on a "precipice".
- Drawing on the **Global Risks Perception Survey (GRPS)** of over **1,300 experts**, the report identifies **Geoeconomic confrontation** as the top global risk for 2026, overtaking state-based armed conflict.
- The findings characterize the current era as an "**Age of Competition**," where trade, finance, and technology are increasingly wielded as weapons of geopolitical influence.

Global Risk Rankings (2026–2036)

Short-Term Risks (2-Year Horizon)

- **Geoeconomic Confrontation:** Ranked 1st; involves the strategic use of tariffs, sanctions, and investment controls.
- **Misinformation and Disinformation:** Ranked 2nd; accelerated by **AI-generated deepfakes** influencing political processes.

- **Societal Polarization:** Ranked 3rd; reflects deepening internal divisions that weaken national social contracts.
- **Extreme Weather Events:** Ranked 4th; although a top concern, it has temporarily dropped in priority relative to economic and military risks.
- **State-Based Armed Conflict:** Remains a severe immediate threat but ranks lower in the two-year outlook compared to economic weapons.

Long-Term Risks (10-Year Horizon)

- **Environmental Crisis:** Environmental risks dominate the decade-long outlook, with **Extreme weather events, Biodiversity loss, and Critical change to Earth systems** occupying the top three spots.
- **AI Transformation:** The risk of **Adverse outcomes of AI technologies** shows the most significant jump, rising from 30th place in the short-term to **5th place** by 2036.

Implications for India

- **Cybersecurity:** Ranked as the **primary risk for India**, as the rapid growth of digital systems like the **Unified Payments Interface (UPI)** increases vulnerability to cyber insecurity.
- **Resource Tension:** The **Indus River Basin** is identified as a potential regional flashpoint, specifically regarding water-sharing between India and Pakistan.
- **Socio-Economic Vulnerability:** High **wealth inequality** and a lack of robust **social safety nets** are cited as internal stability risks.
- **Supply Chain Disruptions:** India's manufacturing and export sectors face risks from "weaponized" trade policies, emphasizing the need for domestic resilience under initiatives like the **PLI schemes**.

Additional Info

- **World Economic Forum (WEF):**
 - An international organization for public-private cooperation based in **Cologny, Switzerland**, known for its annual meeting in **Davos**.
- **Four Structural Forces:** The report identifies four drivers shaping global risks: **Technological acceleration, Geostrategic shifts, Climate change, and Demographic bifurcation**.

- **Methodology:** The GRPS gathers perceptions on risk **severity** and **likelihood** across three timeframes: 2026, 2028 (short-term), and 2036 (long-term).

Henley Passport Index 2026: Indian Passport Strengthens to 80th Rank

What's the News?

- The **Indian passport** has significantly improved its global standing, jumping to the **80th spot** in the **Henley Passport Index 2026**.
- This marks a rise of five places from the **85th rank** held in the previous year, reflecting India's growing diplomatic influence and expanding travel agreements.
- Indian citizens can now enjoy **visa-free or visa-on-arrival access to 55 destinations** worldwide.
- Global rankings continue to be led by **Singapore**, which has secured the top position for another year, offering its citizens access to **195 destinations**.

Performance Metrics

India's Progress

- **Current Rank:** 80th (Up from 85th in 2025).
- **Mobility Score:** Indian passport holders can access **55 countries** without a prior visa.
- **Neighboring Comparison:** India continues to rank higher than several of its neighbors, including **Pakistan, Sri Lanka, and Bangladesh**.

Global Top Performers

- **Rank 1: Singapore** (195 destinations).
- **Rank 2:** A group of European nations including **France, Germany, Italy, and Spain**, along with **Japan** (192 destinations).
- **Rank 3: South Korea, Sweden, Finland, Austria, Ireland, Luxembourg, and Netherlands** (191 destinations).

Bottom Ranks

- **Afghanistan** remains at the bottom with access to only **24 destinations**
- **Pakistan** improved slightly to **98th rank** but still offers access to just **31 countries**

Additional Info

- **About Henley Passport Index:**
 - It is the original, authoritative ranking of all the world's passports according to the number of

destinations their holders can access without a prior visa.

- The index is based on exclusive data from the **International Air Transport Association (IATA)**.
- It includes **199 different passports** and **227 different travel destinations**.
- **Visa-Free vs. Visa-on-Arrival:**
 - **Visa-Free:** Entry is permitted without any visa formalities before or upon arrival.
 - **Visa-on-Arrival:** A visa is granted at the port of entry, often requiring a simple application or fee.

World Economic Forum (WEF) Annual Meeting 2026: "A Spirit of Dialogue"

What's the News?

- The **56th Annual Meeting** of the **World Economic Forum (WEF)** is being held from **January 19–23, 2026**, in **Davos-Klosters, Switzerland**.
- Under the theme **"A Spirit of Dialogue"**, the summit brings together nearly **3,000 global leaders** from over 130 countries to address geopolitical tensions and economic fragmentation.
- A major highlight is the participation of U.S. President **Donald Trump**, who is set to deliver a special address focusing on his administration's "business-minded" approach to global politics and trade.

Key Agenda and Themes

The 2026 programme is structured around several critical global challenges:

- **Geopolitics and Security:** Renewing cooperation amid contested norms and regional conflicts, specifically addressing the situations in **Ukraine** and **Gaza**.
- **Economic Stability and Growth:** Navigating economic uncertainty, trade volatility, and the impact of new **tariff policies** on global integration.
- **Technological Transformation:** Focusing on the responsible deployment of **Generative AI**, quantum computing, and their impact on the future of work and workforce skills.

- **Planetary Boundaries:** Rebuilding prosperity while ensuring secure energy, nature, and water systems through a just and inclusive **energy transition**.

India's High-Level Delegation

India has sent a "power-packed" delegation to showcase its economic growth and investment potential at a dedicated **India Pavilion**.

- **Union Ministers:**
 - **Ashwini Vaishnaw** (Railways, I&B, and Electronics & IT).
 - **Shivraj Singh Chouhan** (Agriculture & Farmers' Welfare and Rural Development).
 - **Pralhad Joshi** (Renewable Energy).
 - **K. Rammohan Naidu** (Civil Aviation).
- **State Leadership:** Chief Ministers including **N. Chandrababu Naidu** (Andhra Pradesh), **Revanth Reddy** (Telangana), **Himanta Biswa Sarma** (Assam), and **Hemant Soren** (Jharkhand) are participating to attract state-level global investments.
- **Corporate Participation:** Over **100 Indian CEOs** are attending, including **Mukesh Ambani** (Reliance Industries), **N. Chandrasekaran** (Tata Group), **Sunil Bharti Mittal** (Bharti Group), and **Nandan Nilekani** (Infosys).

Guatemala Declares 30-Day State of Emergency Following Prison Riots and Police Killings

What's the News?

- **Guatemalan President Bernardo Arévalo** has declared a nationwide **30-day state of emergency** (State of Siege) following a wave of coordinated gang violence that left **police officers dead**.
- The violence erupted as a **retaliatory response** by criminal gangs after security forces retook control of three maximum-security prisons where inmates had held dozens of guards hostage.
- The government has officially designated the perpetrators—primarily members of the **Barrio 18** and **Mara Salvatrucha (MS-13)** gangs as **terrorists**, emphasizing that the state will not negotiate with criminal networks.

Prison Uprisings and Security Crackdown

- **Prison Uprising:** Inmates at **three maximum-security prisons** seized control and took **46 guards hostage** to protest the government's recent move to strip privileges from incarcerated gang leaders.
- **Security Response:** Anti-riot forces stormed the facilities, freeing all hostages within 24 hours—**9 from Renovación prison** in Escuintla, **6 from another**, and **28 from a third**.
- **Retaliatory Attacks:** Gangs linked to **Barrio 18** and **Mara Salvatrucha (MS-13)** ordered attacks outside prisons, resulting in:
 - **7 police officers killed**
 - **10 injured**
 - **1 gang member killed**
- **Arrests & Seizures:** Authorities arrested **7 suspects**, confiscated **2 rifles**, and seized **2 vehicles** during counter-operations.

Additional Info

- **Constitutional Context:**
 - Under the **Guatemalan Constitution**, a "State of Siege" can be declared when ordinary civilian authorities are overwhelmed by severe violence or organized crime.
 - While the measure takes **immediate effect**, it requires subsequent approval by the **unicameral Congress**, which was granted with overwhelming support (149 in favor) shortly after the declaration.
- **Gang Designations:**
 - In **October 2025**, the Guatemalan Congress reformed laws to classify members of **Barrio 18** and **MS-13** as **terrorists**, significantly lengthening prison sentences for associated crimes.
 - The **United States** also designated these groups as **foreign terrorist organizations** in late 2025.
- **Socio-Economic Situation:**
 - Guatemala's homicide rate in **2025** was reported at **16.1 per 100,000 inhabitants**, more than double the global average.

- o Following the attacks, **nationwide school closures** were implemented to prioritize the safety of students and staff.

NASA Astronaut Sunita Williams Retires After Record-Breaking Career

What's the News?

- **Sunita Williams**, the iconic Indian-origin **NASA** astronaut, has officially retired from the space agency at the age of **60**.
- Her retirement marks the end of a career spanning over three decades, during which she became one of the most decorated and experienced astronauts in history.
- Williams concluded her final mission as the commander of the **International Space Station (ISS)** before returning to Earth to transition into an advisory role.

A Legacy of Space Exploration

- **Record-Breaking Spacewalks:** At the time of her retirement, she held the record for the most total spacewalk time by a woman, with **50 hours and 40 minutes** spread across seven spacewalks.
- **Extended Missions:** She completed two long-duration stays aboard the **ISS**, spending a cumulative total of **322 days** in space.
- **Starliner Commander:** Her final flight was the historic **Boeing Starliner Crew Flight Test**, where she served as the mission pilot and later as the commander of **Expedition 72**.
- **Global Icon:** Known for her pride in her Indian heritage, she famously carried a copy of the **Bhagavad Gita** and a small statue of **Lord Ganesha** to the space station.

Career Timeline & Milestones

- **1998:** Selected as an astronaut candidate by **NASA** after a distinguished career as a test pilot in the **U.S. Navy**.
- **2006 (Expedition 14/15):** Served her first long-duration mission, setting a then-world record for females with four spacewalks in one mission.

- **2012 (Expedition 32/33):** Commanded the **ISS**, becoming only the second woman to lead the orbital laboratory.
- **2024-2025:** Commanded the **ISS** during a critical period, overseeing numerous scientific experiments and station maintenance.

Additional Info

- **Early Life & Education:**
 - o Born in **Euclid, Ohio**, to Dr. Deepak Pandya and Bonnie Pandya.
 - o Earned a Bachelor of Science from the **U.S. Naval Academy** and a Master of Science in Engineering Management from the **Florida Institute of Technology**.
- **Awards & Recognition:**
 - o Recipient of the **Padma Bhushan** (2008), India's third-highest civilian award, for her contributions to space science.
 - o Awarded the **NASA Distinguished Service Medal** and the **Navy Commendation Medal**.

UN Declares Era of "Global Water Bankruptcy" in Landmark Report

What's the News?

- The **United Nations University Institute for Water, Environment and Health (UNU-INWEH)** has released a flagship report titled **"Global Water Bankruptcy: Living Beyond Our Hydrological Means in the Post-Crisis Era"**.
- The report formally declares that the world has moved past a temporary "water crisis" and entered a persistent state of **global water bankruptcy**.
- It highlights that human demand for water has fundamentally outpaced renewable supply, leading to the **irreversible depletion** of natural "water savings" like aquifers and glaciers.

What is "Global Water Bankruptcy"?

- **Definition:** A persistent post-crisis condition where long-term water use and pollution exceed renewable inflows and safe depletion limits.
- **Irreversibility:** Unlike "water stress" (reversible pressure) or "water crisis" (temporary shock), bankruptcy implies damage to **natural capital**—rivers,

lakes, and wetlands—that cannot realistically be restored to previous levels.

- **Structural Insolvency:** Many regions are now drawing on water "savings" (groundwater) to fund daily "expenditure," a model the UN describes as hydrologically unsustainable.

Data and Indicators

- **75% of the global population** lives in countries classified as **water-insecure or critically water-insecure** (as of 2026).
- **70% of global freshwater** is used in **agriculture**, with **170 million hectares** of irrigated cropland under **high or very high water stress**.
- **70% of major aquifers** show long-term decline; some areas experience land subsidence up to **25 cm/year**.
- **410 million hectares** of natural wetlands lost since the 1970s—equivalent to the size of the **European Union**.

Major Drivers of Water Bankruptcy

- **Slow-onset depletion:** e.g., severe groundwater over-extraction in the **Indo-Gangetic Plain**.
- **Infrastructure-driven overshoot:** e.g., inter-basin transfers failing to prevent "Day Zero" scenarios in cities like **Chennai**.
- **Ecological liquidation:** e.g., degradation of urban wetlands in **Bengaluru**, reducing recharge and increasing flood risk.
- **Climate-amplified overshoot:** e.g., retreating **Himalayan glaciers** threatening dry-season flows in the **Indus** and **Ganges** basins.
- **Institutional inertia:** e.g., resistance to shifting crop patterns in water-scarce regions like **Punjab** and **Haryana**.

Relevance for India

- **Groundwater Depletion:** The **Indo-Gangetic plain** exhibits some of the highest rates of groundwater depletion globally due to intensive irrigation.
- **Urban "Day Zero":** Major Indian cities, including **Chennai**, **Bengaluru**, and parts of the **National Capital Region (NCR)**, face recurring emergencies where municipal systems struggle to provide piped water.
- **Himalayan Risk:** Retreating **Himalayan glaciers** threaten the long-term reliability of the Indus

and Brahmaputra-Ganges basins, which are critical for India's "breadbasket" states.

- **NITI Aayog Context:** Previous national assessments indicated that **600 million Indians** face high to extreme water stress, with demand expected to outstrip supply by twofold by 2030.

UN Convention against Cybercrime Exposes Global Governance Fractures

What's the News?

- The **United Nations General Assembly** adopted the **Convention against Cybercrime** (also known as the **Hanoi Convention**), the first legally binding global treaty to combat cybercrime through international cooperation.
- **India, the U.S., Japan, and Canada** declined to sign the treaty, exposing deep fractures in global cyber governance and a growing "**principles-practice gap**" between universal norms and national implementation.
- The Convention, which requires **40 ratifications** to enter into force, criminalizes offences like **ransomware**, **child sexual abuse material**, and **financial fraud**, while establishing mechanisms for cross-border evidence sharing.

The UN Convention: Scope and Significance

- **Universal Criminalization:** Establishes the first global framework to criminalize cyber offences including ransomware, non-consensual sharing of intimate images, and online scams going beyond regional instruments like the **Budapest Convention (2001)**.
- **Electronic Evidence Sharing:** Facilitates cross-border requests for digital evidence through a **24/7 global cooperation network**, crucial for investigating transnational crimes that bypass traditional jurisdictional boundaries.
- **Child Protection:** First treaty to specifically target sexual violence against children committed through information technologies.
- **Human Rights Safeguards:** Includes provisions to protect privacy and dignity, though critics argue these remain tethered to domestic frameworks rather than uniform international standards.

Why the Global Governance Crisis?

- **Polycentricism:** The world is moving toward **overlapping, often conflicting regional and bilateral rules** rather than universal standards. While nations agree on broad goals like "safe AI," they diverge sharply on implementation.
- **Sovereignty vs. Cooperation:** Major powers resist surrendering institutional control over citizen data to international bodies. India specifically refused the Convention due to concerns about retaining **autonomy over cross-border data sharing** and domestic lawmaking.
- **Legitimacy Deficit:** Non-participation by major democracies (India, U.S., Japan, Canada) signals that the treaty lacks broad-based legitimacy despite securing **72 votes** in the General Assembly.
- **Human Rights Risks:** Civil society warns that **broad definitions of "serious crimes"** could enable authoritarian regimes to target journalists, activists, and political opponents using international legal frameworks.

India's Cyber Threat Landscape

- **Incident Surge:** India recorded a sharp rise in cyber incidents from **10.29 lakh in 2022** to **22.68 lakh in 2024**, more than doubling in two years.
- **Financial Impact:** Average losses reached **₹1,000 crore per month** in the first half of 2025, with annual projections potentially hitting **0.7% of GDP**.
- **AI-Powered Threats:** Artificial Intelligence is acting as a **"force multiplier"** for sophisticated phishing, deepfake-based fraud, and automated malware attacks.
- **Identity-Centric Attacks:** Deepfakes and credential abuse have made **identity security** the primary battleground, bypassing traditional biometric and perimeter defences.
- **Supply Chain Vulnerabilities:** **Third-party breaches** account for **18%** of top threats that Indian organizations are least prepared to address.

Additional Info

Constitutional & Legal Framework:

- **Information Technology Act, 2000:** Primary legislation governing cybercrime in India; currently

undergoing amendments to address AI and IoT threats.

- **Digital Personal Data Protection Act, 2023:** Establishes framework for cross-border data transfers, directly impacting India's stance on international data sharing agreements.
- **Article 21:** Right to privacy (as interpreted by Supreme Court in *Puttaswamy* judgment, 2017) influences India's reluctance to surrender data sovereignty.

Key Institutions:

- **Indian Computer Emergency Response Team (CERT-In):** National nodal agency for cybersecurity incident response; operates under Ministry of Electronics and Information Technology.
- **National Critical Information Infrastructure Protection Centre (NCIIPC):** Protects critical infrastructure across sectors like energy, banking, and telecom.

Alternative Global Frameworks:

- **Budapest Convention on Cybercrime (2001):** Council of Europe treaty with **76 parties**; criticized for being non-inclusive toward India, Russia, and China.
- **Hiroshima Process (G7):** Focused on safety standards for generative AI development.
- **UN Global Digital Compact:** High-level initiative for human-centric digital future.
- **Cyber Initiative Tokyo 2025:** Forum exploring data security and integrated deterrence for critical infrastructure.

Critical Gaps in India:

- **Ghost SIM Cards:** Issuance by PoS agents remains a primary enabler for **UPI and financial frauds**.
- **District-Level Capacity:** Lack of localized cybersecurity units to manage threats closer to citizens.
- **Legacy Infrastructure:** Organizations remain dependent on VPNs rather than **Zero Trust Network Access (ZTNA)**, increasing vulnerability to credential compromise.

France Moves to Ban Social Media for Children Under 15

What's the News?

- The **French National Assembly** passed a landmark bill banning children under **15 years of age** from accessing

social media platforms, making France the second country after **Australia** (which banned under-16s) to impose such comprehensive restrictions.

- The legislation, adopted by a vote of **130 to 21**, requires social media platforms to implement **mandatory age verification systems** and deactivate existing accounts held by under-15s within specified timelines.
- The bill also extends France's existing ban on smartphones in schools; currently applicable to primary and middle schools to **high schools** (lycées), creating one of the strictest digital environments for minors in Europe.
- Supported by **73% of the French public** according to opinion polls, the measure aims to combat cyberbullying, screen addiction, and mental health deterioration among adolescents, with implementation targeted for the **2026 academic year**.

Key Provisions of the French Legislation?

Scope and Coverage

- **Age Threshold:** Prohibits access to "addictive" social networking services for users below 15 years, targeting platforms like **TikTok, Instagram, and Snapchat**.
- **Exemptions:** Online encyclopedias (**Wikipedia**), educational or scientific directories, and platforms for developing and sharing open-source software remain accessible.
- **Embedded Functionalities:** The ban extends to "social networking functionalities" embedded within broader platforms, not just standalone apps.
- **Smartphones in Schools:** Extends the 2018 prohibition on mobile phones in primary and middle schools (**collèges**) to high schools (**lycées**).

Implementation Timeline

- **New Accounts:** Restrictions apply from **September 2026** (start of academic year).
- **Existing Accounts:** Platforms must deactivate non-compliant accounts by **December 31, 2026** (or January 1, 2027, per different formulations).
- **Age Verification Mechanisms:** Platforms must deploy effective verification systems compliant with **EU Digital Services Act (DSA)** requirements; the European Commission has indicated France may establish a "digital age of majority" at 15.

Enforcement and Penalties

- **Financial Penalties:** Up to **6% of platforms' annual revenue** for non-compliance, significantly exceeding standard administrative sanctions.
- **Platform Liability:** Places obligation on social media companies to verify age and restrict access, not on children or parents to self-regulate.

Global Context and Comparisons?

Australia's Precedent

- **Benchmark:** Australia became the first country globally to ban social media for **under-16s** in December 2024/2025, with enforcement commencing December 2025.
- **Impact:** Platforms removed approximately **4.7 million accounts** belonging to minors within weeks of implementation.
- **Criticism:** Teens reportedly circumvented bans using VPNs and borrowed credentials; Reddit challenged the law in Australia's High Court citing free speech violations.

Other National Approaches

- **United Kingdom:** Government announced plans to consider Australia-style bans; **Ofcom** (communications regulator) strengthening online safety requirements.
- **Denmark:** Proposed ban for under-15s with parental consent exemptions from age 13.
- **United States:**
 - **Florida:** Banned children under 14 from certain platforms (challenged but allowed to proceed during litigation).
 - **State-Level Variations:** Utah, Texas, Arkansas require parental consent for minors; California and New York target "addictive feeds" and strengthen privacy settings.
 - **Federal Legislation:** Proposed **Kids Off Social Media Act (KOSMA)** would prohibit under-13s from creating accounts and ban algorithmic recommendations for under-17s.

European Union Framework

- The **European Parliament** has called for an EU-wide minimum age of **16** for social media access, though enforcement remains with member states.
- **Digital Services Act (DSA):** Requires major platforms to assess and mitigate risks to minors, with provisions

for algorithmic transparency and content moderation standards.

Implementation Challenges and Criticisms?

Technical and Privacy Concerns

- **Circumvention:** Evidence from Australia indicates teenagers use **VPNs**, fake birthdates, and borrowed parental credentials to bypass restrictions.
- **Surveillance Risks:** Mandatory age verification requires collection of sensitive personal data (government IDs, biometrics), raising **data breach** and **misuse concerns**.
- **Digital Divide:** Users lacking formal identification or stable connectivity face exclusion, potentially discriminating based on socioeconomic status.

Developmental and Rights-Based Objections

- **Digital Literacy:** Critics argue bans delay development of online navigation skills; teenagers will eventually access platforms without guided experience.
- **Freedom of Expression:** Civil liberties groups (e.g., **France Unbowed/LFI**) term the measures "digital paternalism" and argue they infringe on minors' rights to information and expression.
- **Platform Migration:** Rather than reducing screen time, bans may push minors toward less-regulated platforms with weaker safety standards.
- **Effectiveness:** Studies indicate restricting specific platforms often redirects usage to television, gaming, or unmoderated online spaces rather than encouraging offline activities.
- **LGBTQ+ Youth Concerns:** Social media often provides vital peer support and health information for marginalized communities; blanket bans may isolate vulnerable populations.

Alternative Approaches

- **Platform Design Regulation:** Some experts advocate addressing root causes through **algorithmic accountability**, limiting addictive design features (endless scrolling, push notifications), and mandating **chronological feeds** rather than engagement-based recommendations.
- **Parental Tools:** Empowering parents with granular controls rather than state-imposed prohibitions.

- **Digital Literacy Education:** Integrating online safety and critical thinking skills into school curricula from early ages.

Implications for India?

Current Indian Framework

- **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021:** Requires platforms to verify users and provide parental consent mechanisms for minors, but does not mandate age-gating for access.
- **Digital Personal Data Protection (DPDP) Act, 2023:** Defines "**child**" as any user below 18 years; mandates **verifiable parental consent** before processing personal data of children, with enhanced obligations for "**Data Fiduciaries**" handling children's information.
- **Recent Developments:** Ministry of Electronics and Information Technology (**MeitY**) and Ministry of Women and Child Development have issued advisories on cyberbullying and online child safety, but no legislative ban on social media access has been proposed.

Considerations for Indian Policymakers

- **Scale of Youth Digital Access:** With over **600 million internet users** and significant youth demographic, any restriction would require robust technical infrastructure for age verification.
- **Alternative Models:** India might consider **platform accountability measures** under the DPDP Act combined with **digital literacy programmes** (e.g., **Digital India** initiatives), rather than outright prohibitions.
- **Cyberbullying Statistics:** India's **National Crime Records Bureau** reports increasing cybercrimes against children, indicating need for intervention, but methodologically sound approaches are essential.

Additional Info

Constitutional and Legal Context (Comparative)

- **Right to Privacy vs. State Protection:** The French and Australian measures involve balancing **child welfare** (state's **parens patriae** duty) against **digital privacy rights** and **freedom of expression**.
- **UN Convention on the Rights of the Child (CRC):** Emphasises protection from harm but also upholds

children's rights to freedom of expression and information; blanket bans must demonstrate **proportionality** and **necessity**.

- **European Convention on Human Rights:** Article 8 (privacy) and Article 10 (expression) require that interventions meet "pressing social need" criteria.

Key Concepts and Definitions

- **Age Verification vs. Age Assurance:**
 - **Verification:** Requires documentary proof of age (IDs, biometrics).
 - **Assurance:** Estimates age through behaviour analysis or AI (less intrusive but less accurate).
- **Algorithmic Recommendation Systems:** Machine learning mechanisms that personalise content feeds to maximise engagement, identified as primary drivers of addictive platform use.
- **Digital Services Act (DSA):** EU regulation mandating transparency, content moderation accountability, and risk assessments for large online platforms.

Organisations and Bodies

- **ANSES (France):** National Agency for Food, Environmental and Occupational Health Safety, which published reports linking social media to adolescent mental health deterioration.
- **eSafety Commissioner (Australia):** Regulatory body overseeing the under-16 ban and internet safety standards.
- **UNICEF:** Advocates for "safer-by-design" platform architectures rather than age-based exclusion, emphasising children's participation in digital policy debates.
- **5Rights Foundation:** Child-rights focused organisation campaigning for ethical design standards in digital products.

Miscellaneous

Know Your Survey: A User Guide to ASUSE

What's the News?

- The **Ministry of Statistics and Programme Implementation (MoSPI)** has released a comprehensive user guide for the **Annual Survey of Unincorporated Sector Enterprises (ASUSE)**.
- This guide aims to help researchers, policymakers, and the general public navigate the complex data collected regarding India's vast informal or **unincorporated sector**.
- **ASUSE** replaces previous periodic surveys to provide an **annual** and more frequent data series, filling a critical gap in understanding the economic contribution of non-agricultural informal enterprises.

Key Features of ASUSE

- **Scope:** Covers unincorporated non-agricultural enterprises in **manufacturing, trade, and other services** sectors.
- **Exclusions:** It excludes enterprises involved in **agriculture** (though some post-harvest activities may be included), government/public sector units, and cooperatives.
- **Data Points:** Collects detailed information on:
 - **Operational Characteristics:** Nature of activity, location, and type of ownership.
 - **Employment:** Number of workers (including family members), emoluments, and gender breakdown.
 - **Economic Metrics:** Gross Value Added (**GVA**), output, intermediate consumption, and fixed assets.
- **Frequency:** Unlike the quinquennial (five-yearly) surveys of the past, ASUSE is conducted **annually** to track high-frequency economic shifts.

Significance of the Survey

- **Economic Contribution:** The unincorporated sector accounts for a massive portion of India's **GDP** and employment, yet it remains largely "invisible" in formal data.

- **Policy Formulation:** Provides the necessary data for the **National Accounts Statistics (NAS)** to estimate the contribution of the informal sector to the national income.
- **MSME Tracking:** Helps in monitoring the health of **Micro, Small, and Medium Enterprises (MSMEs)** that do not fall under the Factories Act.

Additional Info

- **Institutional Framework:**
 - Conducted by the **National Sample Survey Office (NSSO)** under **MoSPI**.
- **Key Concepts:**
 - **Unincorporated Sector:** Refers to enterprises that are not "incorporated" as separate legal entities, often including sole proprietorships and partnerships.
 - **Gross Value Added (GVA):** Calculated as the value of output minus the value of intermediate consumption; it reflects the actual contribution of an enterprise to the economy.
- **Evolution:**
 - Previously, this data was captured through the **NSS 73rd Round (2015-16)** and similar periodic rounds.
 - The shift to ASUSE represents a modernization of India's statistical system to provide **real-time insights** for evidence-based governance.

Padma Awards 2026: 131 Changemakers

Honoured

What's the News?

- The **President of India** approved the conferment of **131 Padma Awards** for the year 2026, comprising **5 Padma Vibhushan, 13 Padma Bhushan, and 113 Padma Shri** awards.
- The announcement, made on the eve of the **77th Republic Day**, continues the government's focus on

the "**People's Padma**" by recognizing "unsung heroes" from remote and underserved regions.

- The 2026 list includes **19 women, 16 posthumous awardees**, and **6 individuals** from the category of **Foreigners/NRI/PIO/OCI**.
- Notable recipients include legendary actor **Dharmendra Singh Deol** (Posthumous), cricketers **Rohit Sharma** and **Harmanpreet Kaur**, and several grassroots changemakers.

The 2026 Awardee Profile

- **Padma Vibhushan (5 Awardees):**
 - Awarded for **exceptional and distinguished service**.
 - Recipients include **Dharmendra Singh Deol** (Art), **K T Thomas** (Public Affairs), **N Rajam** (Art), **P Narayanan** (Literature and Education), and **V S Achuthanandhan** (Public Affairs).
- **Padma Bhushan (13 Awardees):**
 - Awarded for **distinguished service of high order**.
 - Key figures include singer **Alka Yagnik**, actor **Mammootty**, industrialist **Uday Kotak**, former Jharkhand CM **Shibu Soren** (Posthumous), and tennis icon **Vijay Amritraj**.
- **Padma Shri (113 Awardees):**
 - Awarded for **distinguished service in any field**.
 - Recognition was given to sports stars **Rohit Sharma**, **Harmanpreet Kaur**, and **Savita Punia**, along with actor **R. Madhavan** and former IPS officer **K Vijay Kumar**.

"Unsung Heroes" and Diversity

- **Grassroots Impact:** The 2026 awards recognized individuals from **84 districts** across **30 States and UTs**, with **10 districts** featuring on the list for the first time since Independence.
- **Key Unsung Heroes:**
 - **Anke Gowda M. (Karnataka):** A former bus conductor who established "**Pustak Mane**," a free-access library housing over **2 million books**.

- **Taga Ram Bheel (Rajasthan):** Honoured for reviving the **Algoza**, a rare traditional folk instrument.
- **Armida Fernandez (Maharashtra):** A neonatologist who established **Asia's first human milk bank**.
- **Hally War (Meghalaya):** Recognized for long-standing contributions to environmental conservation.
- **Marginalized Communities:** The list significantly features individuals from **tribal areas, primitive tribes**, and **Dalit communities** who have dedicated their lives to healthcare, sanitation, and sustainable livelihoods.

Additional Info

- **Padma Awards Hierarchy:**
 - Established in 1954, these are among India's highest civilian honours, announced annually (except for brief interruptions in 1978, 1979, and 1993–1997).
 - **Bharat Ratna:** The highest civilian award (not awarded in 2026).
 - **Padma Vibhushan:** Second highest.
 - **Padma Bhushan:** Third highest.
 - **Padma Shri:** Fourth highest.
- **Constitutional Aspect:**
 - Under **Article 18** of the Constitution, these awards are **titles of merit** and cannot be used as a prefix or suffix to the recipient's name.
- **Selection Process:**
 - Nominations are open to the public through the **Padma Portal**.
 - Recommendations are screened by the **Padma Awards Committee**, constituted by the Prime Minister every year and headed by the **Cabinet Secretary**.

President Approves Jeevan Raksha Padak Series of Awards 2025 for 30 Individuals

What's the News?

- The **President of India** has approved the conferment of the **Jeevan Raksha Padak Series of Awards — 2025** on **30 individuals** for their exceptional acts of courage in saving human lives.

- The awards, announced on the eve of the **77th Republic Day**, recognize meritorious acts performed in various life-threatening situations such as drowning, fire incidents, and natural calamities.
- The 2025 list includes **6 Sarvottam Jeevan Raksha Padak**, **6 Uttam Jeevan Raksha Padak**, and **18 Jeevan Raksha Padak** recipients.
- Among the awardees, **six** were honored **posthumously** for their selfless sacrifice.

The Jeevan Raksha Padak Series

- **Classification of Awards:** The series is divided into three distinct categories based on the level of risk and courage displayed:
 - **Sarvottam Jeevan Raksha Padak:** Awarded for **conspicuous courage** in saving a life under circumstances of **very great danger** to the life of the rescuer.
 - **Uttam Jeevan Raksha Padak:** Conferred for courage and promptitude in saving a life under circumstances of **great danger**.
 - **Jeevan Raksha Padak:** Conferred for courage and promptitude displayed under circumstances of **grave bodily injury** to the rescuer.
- **Key Recipients (2025):**
 - **Sarvottam Category:** Includes **Shri Manohar Singh Chouhan** (Posthumous), **Shri Rajendra Prasad Mishra**, and defense personnel such as **Naik Ashutosh Biswas** (Posthumous) and **Naib Subedar Manjeet** (Posthumous).
 - **Uttam Category:** Awardees include **Shri Sumit Yadav** (Delhi), **Shri Wasim Ahmad Ganie** (J&K), and **Sepoy Shwensinlo Semp** (Posthumous).
 - **Jeevan Raksha Category:** Recognizes individuals from diverse backgrounds, including minors like **Master Akash K P** and **Master Harshik Mohan** from Kerala.

Monetary and Recognition Details

- **Financial Allowance:** Each awardee receives a one-time lump sum monetary allowance:
 - **Sarvottam:** ₹2,00,000

- **Uttam:** ₹1,50,000
- **Jeevan Raksha:** ₹1,00,000

- **The Decoration:** The award consists of a **Medal** and a **Certificate** signed by the **Union Home Minister**.
- **Presentation:** The decoration is typically presented to the awardee by the respective State Government or Union Ministry to which the person belongs.

Additional Info

- **Historical Context:**
 - Instituted in **1961**, these awards were originally an offshoot of the **Ashoka Chakra** series of gallantry awards.
 - The scheme was renamed and reorganized into the current three-tier series in **1967**.
- **Eligibility and Process:**
 - **Universal Eligibility:** Open to persons of either sex from **all walks of life**.
 - **Uniformed Personnel:** Members of the **Armed Forces, Police Forces, and Fire Services** are eligible only if the life-saving act is performed **outside the course of their duty**.
 - **Timeframe:** Recommendations are considered by the **JRP Awards Committee** within a period of **two calendar years** from the date of the act.
 - **Rashtriya Puraskar Portal:** Nominations must be submitted online through this dedicated portal managed by the **Ministry of Home Affairs**.