

# THE IAS GAZETTE

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India-European  
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**Free Trade  
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#### Other topics

- SC stays UGC New Rules Against Caste Discrimination
- Airport Privatisation in India
- Guidelines on Religious Structures in Wildlife Sanctuaries
- Setback for PSLV
- Opening Monument Conservation to the Private Sector

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# 1. POLITY & GOVERNANCE

## 1.1 SC STAYS UGC NEW RULES AGAINST CASTE DISCRIMINATION

### Context

- The Supreme Court issued an interim stay on the University Grants Commission (Promotion of Equity in Higher Education Institutions) Regulations, 2026.

### Highlights of the UGC Regulations, 2026

- Expanded Protection:** For the first time, the regulations included **Other Backward Classes (OBCs)** alongside SCs and STs in the protection framework.
- Mandatory Bodies:** Every Higher Education Institutions (HEI) is required to establish an **Equal Opportunity Centre (EOC)** and an **Equity Committee** to handle complaints.
- Strict Redressal Timelines:** The regulations mandate a swift grievance redressal process.
  - The Equity Committee must meet within **24 hours** of a complaint.
  - An inquiry report must be submitted within **15 working days**.
  - Action must be initiated by the institution's head within **7 working days** of the report.
- Support Mechanisms:** Institutions must provide a **24/7 Equity Helpline**, online and offline complaint channels, and appoint **Equity Ambassadors** to promote inclusivity.
- Strong Penalties for Non-compliance:** HEIs failing to comply could face withdrawal of UGC grants, debarment from offering new courses, or loss of recognition.

### Why Were New Regulations Introduced?

- Surge in Complaints:** There was a **118.4% increase** in reported cases of caste-based discrimination in universities between 2019 and 2024. (Source: UGC)
- Institutional Failures:** High-profile cases, like the suicide of Dalit scholar **Rohith Vemula** in 2016, highlighted deep-rooted institutional apathy and discrimination.
- Thorat Committee Report (2007):** This key report documented widespread discrimination faced by SC/ST students. Key findings included:
  - 72%** of SC/ST students reported discrimination during teaching.
  - 84%** felt their caste negatively impacted their marks in practical exams and viva-voce.
  - 88%** reported social isolation and segregation in hostels and messes.
  - 69%** felt they did not receive adequate academic support from faculty.

### Core Issues and Criticisms of the Regulations

#### Arguments that Regulations are Excessive or Unfair

- Restrictive Definition of Victimhood:** Critics, including the Supreme Court, questioned the "unidirectional" definition of discrimination, which focuses solely on SC, ST, and OBC members, thereby failing to protect general category students from harassment.
- Lack of Safeguards Against Misuse:** Removal of a provision to penalize false complaints, present in the earlier draft, has raised concern of misuse for settling personal scores.
- Imbalanced Committee Composition:** Rules mandate reserved category representation on Equity Committees but omit general category members, prompting bias concerns.
- Principle of Non-Regression:** Citing the "principle of no-regression" (common in environmental and social justice law), the Supreme Court questioned the 2026

regulations' decreased inclusivity compared to the 2012 version.

### Arguments that Regulations are Insufficient

- **Lack of Specificity:** Activists claim the rules fail to address discrimination in interviews, thesis evaluations, and oral exams.
- **Dilution of Focus:** Consolidating discrimination (gender, religion, disability, etc.) issues under omnibus equity committees risks diluting the necessary focus on deep-rooted caste-based prejudice.

### **Way Forward**

- **Adopt a Universal Definition:** Revise the definition of discrimination to protect all students, irrespective of their background, ensuring constitutional fairness.
- **Introduce Balanced Safeguards:** Reintroduce a carefully worded clause to deter malicious and false complaints, thereby building trust in the system.
- **Ensure Representative Committees:** Mandate a balanced composition for Equity Committees that includes representation from all student categories to ensure impartiality.

- **Implement Thorat Committee Recommendations:** Key suggestions like establishing a dedicated Equal Opportunity Office, providing remedial coaching, and ensuring a fair roster system for faculty recruitment should be implemented.
- **Learning from Global Best Practices:**
  - **United Kingdom:** The Equality Act 2010 protects based on nine "protected characteristics" (e.g., race, religion, sex), using a universal, non-directional definition of discrimination.
  - **United States:** Emphasizes clear, time-bound procedural guidelines for complaints, requiring strict timelines for an efficient grievance system.
  - **South Africa:** Post-apartheid policies prioritize "advancing redress for past inequalities," mandating affirmative action be balanced with social cohesion.

### **Conclusion**

- The UGC's 2026 regulations aim for equity in higher education but require a balance between protecting marginalized communities and upholding constitutional equality and due process, for just and fair implementation.

## 1.2 SHORT ARTICLES

### **Supreme Court Verdict on DTAA**

#### Context

- The Supreme Court ruled that Tiger Global's sale of its Flipkart stake to Walmart (2018) is taxable in India, denying India-Mauritius DTAA benefits and enforcing the General Anti-Avoidance Rule (GAAR).

#### Highlights of the Supreme Court Ruling

- **Substance over Form:** The SC prioritized the economic substance of the transaction over its legal form.
- **TRC Not Sufficient:** A Tax Residency Certificate (TRC) from Mauritius is no longer sufficient on its own to claim DTAA benefits.
- **Control Test:** The court determined that the "head and brain" (actual control and management) of Tiger Global's entities were

outside Mauritius, making them ineligible for treaty benefits.

- **Implication:** This ends automatic DTAA claims and requires foreign investors to prove genuine commercial rationale and economic presence to avoid Indian taxes.

#### Double Taxation Avoidance Agreement (DTAA)

- **Purpose:** A bilateral treaty between countries to prevent income from being taxed twice.
- **Misuse:** Often exploited through "treaty shopping"—routing investments through a low-tax country (like Mauritius) purely to avoid tax, without any real business operations there.
- **India's Countermeasures:** India has amended treaties (e.g., with Mauritius and Singapore) to allow source-based taxation and implemented

GAAR to deny benefits for arrangements designed for tax avoidance.

#### General Anti-Avoidance Rule (GAAR)

- **Objective:** An anti-tax evasion law, effective from **1st April 2017**, empowering authorities to deny tax benefits on transactions made with the sole purpose of avoiding tax.
- **Trigger Condition:** Applies if the main purpose of an arrangement is to obtain a tax benefit and it lacks **commercial substance**.
- **Supremacy over Treaties:** **GAAR overrides tax treaties**. The SC's ruling has now firmly upheld this principle.

## Explosive Device Data Management System

#### Context

- The Union Home Minister launched the National Improvised Explosive Device Data Management System (NIDMS), India's first centralized national digital database of all bomb blasts since 1999.

#### About NIDMS

- **Developed by:** National Security Guard (NSG)
- It is a **two-way, integrated, and online platform** accessible to security agencies,

including the National Investigation Agency (NIA), State Police Forces.

- **Real-time information exchange** facilitates faster, evidence-based investigations and prosecutions.
- **Use AI to integrate data from multiple sources**, creating a stronger, more predictive national security grid.
- Integrated with the **Inter-Operable Criminal Justice System (ICJS-2)**, following the 'One Data-One Entry' principle, the system connects with key databases like CCTNS, e-Prisons, and e-Forensics.

#### About National Security Guard (NSG)

- **Established formally in 1986** after a 1984 Union Cabinet decision, its necessity stemmed from Operation Blue Star (1984) and the assassination of Prime Minister Indira Gandhi.
- The NSG operates on the principle of "**swift strike and immediate withdrawal**."
- It is a task-oriented force **modelled on the lines of the United Kingdom's SAS (Special Air Service)** and Germany's **GSG-9**.
- The NSG has regional hubs in Mumbai, Chennai, Kolkata, Hyderabad, and Ahmedabad for rapid response, with a **new hub planned for Ayodhya**.

## Prevention of Corruption Act

#### Context

- A recent verdict by the Supreme Court bench on the constitutional validity of Section 17A of the Prevention of Corruption (PCA) Act, 1988.

#### About Prevention of Corruption Act (PCA) 1988

- **Origin:** Enacted based on the recommendations of the **Santhanam Committee (1962-64)**.
- **Scope:** It broadly defines a "**public servant**" to include government employees, judges, and any person performing a public duty.
- **Objective:** The Act criminalizes offenses like taking bribes, obtaining undue advantage, and criminal misconduct by public servants in their official capacity.
- **Section 17A:** Introduced through the **2018 amendment** to shield public servants from malicious or frivolous investigations.
  - Investigative agencies must obtain **prior approval** from the relevant government authority before starting any **inquiry or investigation** into a public servant's official actions.
  - The goal is to prevent a 'play-it-safe syndrome' or policy paralysis, which arises from officers fearing decisions due to baseless inquiries.

#### The Supreme Court's Verdict on Section 17A

The two judges on the bench offered conflicting views on the constitutionality of this provision.



Justice	Verdict	Key Rationale
Justice K.V. Viswanathan	<b>Upholds Validity (with a condition)</b>	Believes prior approval is necessary to protect honest officers. However, this approval must be based on a binding opinion from an <b>independent body</b> (Lokpal for the Centre, Lokayuktas for States), not the government itself.
Justice B.V. Nagarathna	<b>Strikes it Down</b>	Declared Section 17A unconstitutional, stating it violates <b>Article 14 (Equality before law)</b> by creating a special protected class. Argued that the protection under Section 19 is already sufficient.

## Amendments to New Drugs And Clinical Trials Rules, 2019

### Context

- The Union Ministry of Health and Family Welfare has amended the New Drugs and Clinical Trials Rules 2019.

### About Amendments to New Drugs and Clinical Trials (NDCT) Rules 2019

- Objective:** To simplify regulatory processes and accelerate pharmaceutical research, aligning with the 'Ease of Doing Business' framework and 'Jan Vishwas' principles.
- Test Licence Waiver:** Need for a test licence from **Central Drugs Standard Control Organization (CDSCO)** for manufacturing small quantities of drugs for R&D (non-commercial) is now replaced by a simple **prior-intimation mechanism**.
  - Waiver does not apply to high-risk drugs such as **cytotoxic drugs, narcotic drugs, and psychotropic substances**, which still require a licence.
- Reduced Timelines:** Reform saves 90 days in the drug development cycle.
- Simplified Clinical Studies:** Prior permission for low-risk **Bioavailability/Bioequivalence (BA/BE)** studies has been removed. These can now commence after a simple online intimation to CDSCO.
- Digital Integration:** New online modules will be launched on the **National Single Window System (NSWS)** and the **SUGAM portal** to facilitate transparent and paperless submissions.

## SC directs States on Police-Media Briefing Policy

### Context

- The Supreme Court has directed all states and Union Territories to formulate a comprehensive police media briefing policy, modeled on the Amicus Curiae Manual, to prevent "trial by media" and balance public information with the rights of the accused and victims.

### Key Guidelines by SC from the Amicus Curiae Manual

Prepared by Gopal Sankaranarayanan, the manual provides a "principled, rights-compatible and investigation-safe framework" for police communication, based on international best practices and Union government views. Core tenets include:

- Purpose of Briefings:** Police communication should be aimed at preventing harm, correcting misinformation, seeking public cooperation, and maintaining law and order.
- Preventing Misinformation:** In the age of social media, police must only release correct, verified, and essential information to curb the spread of fake news that could disrupt public order.
- Protecting Rights:** The policy must safeguard the dignity, privacy, and fair trial rights of victims, witnesses, and suspects. It must uphold the principle of **presumption of innocence**.
- Mandatory Tests for Disclosure:** Every police briefing must satisfy four key tests:
  - Legality:** Disclosure must have a lawful basis.

- **Necessity:** It must be essential for a legitimate public objective.
- **Proportionality:** Only the minimum necessary information should be disclosed.
- **Accountability:** Information must be verified and issued by designated officers.

## MHA's new SOP on Cyber Financial Frauds

### Context

- The Ministry of Home Affairs approved a new Standard Operating Procedure (SOP) to handle online financial frauds reported on the National Cybercrime Reporting Portal (NCRP).

### Core Objectives of the SOP

- **Primary Goal:** To ensure the **quick freezing** of fraudulent transactions and **faster restoration** of money to victims.
- **Victim-Centric Approach:** Shifts the focus to a time-bound and victim-friendly grievance redressal system.
- **Standardization:** Creates a uniform, pan-India framework for all financial intermediaries (banks, NBFCs, e-commerce sites, etc.) to handle fraud complaints.
- **Addressing Gaps:** Aims to tackle issues like delayed refunds and indefinite blocking of funds, thereby boosting trust in the digital payments ecosystem.

### Key Provisions of the SOP

- **Simplified Refunds:** For frauds involving amounts **below Rs. 50,000**, refunds can be processed **without a court order**, simplifying the process for small-value crimes.
- **Time-Bound Account Freeze:** If no court or restoration order is issued, banks must lift the freeze on funds within **90 days**.
- **New Digital Modules on NCRP:**
  - **Grievance Redressal Module:** For tracking and resolving complaints.
  - **Money Restoration Module:** To expedite the refund process.

### About National Cybercrime Reporting Portal (NCRP)

- A single platform for reporting all types of cybercrime in India.

- It is managed by the Indian Cyber Crime Coordination Centre (I4C), which operates under the Ministry of Home Affairs (MHA).
- Integrates the **Citizen Financial Cyber Fraud Reporting and Management System (CFCFRMS)**.
- The national helpline number for reporting financial cyber fraud is **1930**.

## Central Vigilance Commission

### Context

- President Droupadi Murmu appointed Praveen Vashista as the new Vigilance Commissioner in the Central Vigilance Commission (CVC)

### About Central Vigilance Commission

- **Origin:** Established in **1964** through an Executive Resolution, based on the recommendations of the **Santhanam Committee on Prevention of Corruption (1962-64)**.
- **Status:** Initially an executive body, it was granted statutory status by the **CVC Act, 2003**, following a Supreme Court judgment in the Vineet Narain case (1997). This makes the CVC an independent body, only responsible to the Parliament.
- **Structure:** The CVC is a multi-member body, consisting of:
  - One **Central Vigilance Commissioner (Chairperson)**
  - Not more than two **Vigilance Commissioners (Members)**
- **Appointment:** Appointed by the **President of India**.
- **Selection Committee:** The appointment is made on the recommendation of a three-member committee comprising: Prime Minister (Chairperson), Union Minister of Home Affairs, Leader of the Opposition in the Lok Sabha
- **Tenure:** Commissioners serve for a term of **four years or until they attain the age of 65 years**, whichever is earlier. They are not eligible for reappointment.
- **Key Functions:** Inquiries into offenses under the **Prevention of Corruption Act, 1988**.

- It is an advisory body and does not have the power to register criminal cases or prosecute offenders.
- **Financial Independence:** Salaries, allowances, and pensions of the commissioners and staff are **charged on the Consolidated Fund of India** and are not subject to a parliamentary vote.
- **Removal Process:** The President can remove the Central Vigilance Commissioner or a Vigilance Commissioner on grounds of proved misbehaviour or incapacity. However, such cases must be referred to the **Supreme Court** for an inquiry.

## Menstrual Health as a Fundamental Right

### Context

- The Supreme Court, in the case of **Dr. Jaya Thakur vs Union of India**, has declared that the right to menstrual health and hygiene is an integral part of the fundamental right to life and dignity under **Article 21** of the Constitution.

### What is Menstrual Health?

- It is a state of complete physical, mental, and social well-being in relation to the menstrual cycle.
- It is a holistic framework that goes beyond simple hygiene to include education, dignity, and human rights.

### The MHM Challenge in India

- **Educational Impact:** An estimated **23 million** girls drop out of school annually upon reaching puberty due to poor Menstrual

Hygiene Management (MHM) facilities. (Source: Dasra Report)

- **Health Impact:** While **78%** of young women (15-24 years) use a hygienic method, many in rural areas still use unsafe alternatives, increasing the risk of Reproductive Tract Infections. (Source: NFHS-5, 2019-21)
- **Awareness Gap:** **71%** of adolescent girls in India remain uninformed about menstruation before their first period, leading to stigma and poor self-esteem. (Source: Dasra Report)

### Supreme Court Directives for States and UTs

- **Free Sanitary Products:** Provide free, oxo-biodegradable sanitary napkins in all schools.
- **Functional Toilets:** Ensure all schools have clean, functional, and gender-segregated toilets with a continuous water supply.
- **Safe Disposal:** Implement hygienic and regular disposal mechanisms for menstrual waste in schools.
- **Education & Sensitization:** Integrate menstrual health education into the school curriculum to end stigma and promote awareness among all students.

### Constitutional Basis of the Judgment

- **Article 21 (Right to Life and Dignity):** The Court ruled that inadequate MHM facilities violate a woman's right to a dignified life, including bodily autonomy and privacy.
- **Article 14 (Right to Equality):** Lack of MHM facilities acts as a gender-specific barrier, denying girls equal opportunity in education.
- **Article 21A (Right to Education):** The Court interpreted "free education" to mean the removal of all barriers, including those related to menstrual health.

## 1.3 SNIPPETS

Topics	Details
<b>Jamma Bane Lands of Kodagu</b>	<ul style="list-style-type: none"> <li>• Karnataka enacted the Land Revenue (Second Amendment) Act, 2025, to modernize the centuries-old land record system for Jamma Bane holdings in Kodagu (Coorg) district.</li> <li>• <b>Jamma Bane is a hereditary land tenure system</b> exclusive to Kodagu, where lands were originally granted by Coorg kings and later the British (from the 1600s to 1800s) to local communities, chiefly the Kodavas, <b>in exchange for military service</b>. These holdings include fertile wetlands for paddy and forested</li> </ul>

	highlands, <b>many now transformed into coffee estates producing Robusta and Arabica varieties.</b> The 2025 amendment updated entries for current holders via authorized officers, reducing litigation, clarifying succession, and statutorily recognizing joint family claims while preserving cultural heritage.
Indira Gandhi Peace Prize	<ul style="list-style-type: none"> <li>Mozambican rights activist and humanitarian Graça Machel has been selected for the 2025 Indira Gandhi Prize for Peace, Disarmament and Development.</li> <li>The Indira Gandhi Peace Prize, <b>awarded annually since 1986</b> by the Indira Gandhi Memorial Trust, recognizes individuals or organizations for notable contributions to international peace, disarmament, and development. It includes a Rs 1 crore cash prize, a citation, and a trophy.</li> </ul>
Commonwealth Conference of Speakers and Presiding Officers	<ul style="list-style-type: none"> <li>India hosted the 28th CSPOC in New Delhi from 14-16 January 2026, after a 16-year gap since the last hosting in 2010 (previous ones in 1971 and 1986),</li> <li>The Conference of Speakers and Presiding Officers of the Commonwealth (CSPOC) is a <b>biennial forum</b> established in 1969 to promote impartiality and fairness among parliamentary leaders across the Commonwealth. It operates as an independent group, maintaining <b>no formal affiliation with the Commonwealth Parliamentary Association (CPA) or the Commonwealth Secretariat.</b></li> </ul>
NITI Aayog launched 'Sampoornata Abhiyan 2.0'	<ul style="list-style-type: none"> <li>NITI Aayog launched 'Sampoornata Abhiyan 2.0' to achieve saturation in key development indicators across most backward districts and blocks.</li> <li>Sampoornata Abhiyan 2.0 is a <b>three-month campaign focused on achieving 100% coverage of essential government services</b> (health, nutrition, education, sanitation, water, and animal husbandry) <b>for eligible beneficiaries in 112 Aspirational Districts and 513 Aspirational Blocks.</b> The campaign utilizes Block and District-level Key Performance Indicators (KPIs) to improve services such as supplementary nutrition, infrastructure, health measurements, live birth weighing, TB notification, monthly health days, and animal vaccination.</li> </ul>

#### 1.4 ADDITIONAL TOPICS FOR READING FROM IASGYAN WEBSITE

Topic Name	Date
Re-examination of the Right to Information (RTI) Act	31 <sup>st</sup> January 2026
Van (Sanrakshan Evam Samvardhan) Adhiniyam	28 <sup>th</sup> January 2026
Supreme Court Cap On Airfares	22 <sup>nd</sup> January 2026
India Launches Responsible Nations Index	20 <sup>th</sup> January 2026
Domestic Workers in India	19 <sup>th</sup> January 2026
Secularism in Indian Education	14 <sup>th</sup> January 2026
Age of Consent Debate In India	12 <sup>th</sup> January 2026



## 2. INTERNATIONAL RELATIONS

### 2.1 US EXIT FROM INTERNATIONAL SOLAR ALLIANCE (ISA)

#### Context

- The US withdrawal from the International Solar Alliance (ISA) poses challenges for global climate cooperation but enhances opportunities for India's solar energy leadership.

#### About the International Solar Alliance (ISA)

- Origin:** Launched jointly by India and France on the sidelines of the UNFCCC COP21 in Paris in 2015.
- Nature:** Intergovernmental treaty-based organization.
- Headquarters:** It is the first international intergovernmental organisation to be headquartered in India, located in Gurugram, Haryana.
- Governing Body:** The Assembly is the supreme decision-making body, with representation from each member country.

- Membership:** Initially limited to countries between the Tropics of Cancer and Capricorn, it expanded membership to all UN member states in 2020. Over 120 signatory nations and 100+ fully ratified members.

#### Objective and Strategy

- The goal is to make solar power affordable and accessible, especially in developing countries, by easing finance, reducing risks, and encouraging technology.
- The ISA's work is guided by its 'Towards 1000' strategy, which aims to achieve the following by 2030:
  - Mobilize **USD 1,000 billion** in investments for solar energy.
  - Provide energy access to **1,000 million people** through clean solar solutions.
  - Facilitate the installation of **1,000 GW** of solar energy capacity.
  - Mitigate **1,000 million tonnes** of CO<sub>2</sub> emissions annually.

#### Indian Solar Industry

- Global Standing:** India has officially surpassed Japan to become the world's 3rd largest solar energy generator and is projected to overtake the US for 2nd place by the end of 2026.
- Capacity:** Total installed solar capacity reached **135.8 GW** as of December 2025.
- Energy Mix:** Non-fossil fuel sources now make up over **51.5%** of India's total power capacity.
- Manufacturing:** Local solar module manufacturing capacity surged to **144 GW** per year, supported by government PLI schemes.
- Rooftop Solar:** The PM Surya Ghar scheme has seen nearly **24 lakh households** adopt rooftop solar as of late 2025.
- Future Goal:** India is on track to reach **500 GW** of non-fossil fuel capacity by 2030.

#### Potential Impact of US Withdrawal

- The U.S. contributed about **\$2.1 million** over three years, which accounted for only **1% of the ISA's total funding**.
- The exit signals a retreat from multilateral climate cooperation, **weakening investor confidence** in global renewable projects.

- Vulnerable regions like **Africa and Small Island Developing States (SIDS)** may face more cautious lending from international banks, potentially slowing project approvals.
- Loss of US technical expertise and innovation** in critical areas like grid integration, battery storage, and project management.

- Creates an opportunity for Indian companies to become reliable, non-Chinese partners for solar projects in ISA member countries.

### Way Forward for India

- **Diversifying Partners:** India is engaging the EU, Japan, and Nordic countries to replace the symbolic loss of U.S. influence and broaden the ISA's funding base.
- **Grid Integration:** Accelerating the "One Sun One World One Grid" (OSOWOG) initiative to link regional power grids across continents.
- **Geopolitical Neutrality:** Positioning the ISA as a non-aligned platform for clean energy to maintain credibility and prevent a leadership vacuum.
- **Financial Diversification:** Accelerating partnerships with the EU, Japan, ADB, and

AIIB while using the Global Solar Facility to de-risk projects and attract private capital.

- **Tech Leadership:** Deepening R&D ties with France and Germany and leveraging India's National Institute of Solar Energy to replace lost U.S. technical expertise.
- **Export Expansion:** Using ISA forums to showcase Indian manufacturing (targeting 100GW+ capacity) and fast-tracking trade deals to secure new global markets.

### Conclusion

- The US withdrawal from the ISA presents a diplomatic setback but also offers India a strategic opportunity to assert leadership and strengthen the ISA for a just solar energy transition in the Global South.

## 2.2 INDIA-EUROPEAN UNION (EU) FREE TRADE AGREEMENT (FTA)

### Context

- India and the European Union (EU) have concluded negotiations for a comprehensive Free Trade Agreement (FTA), to deepen economic ties.

### Key Provisions of the Agreement

- The FTA is built on reciprocal commitments, balancing market access with the protection of sensitive domestic sectors.

Area of Commitment	European Union's Commitments to India	India's Commitments to the EU
Trade in Goods	<ul style="list-style-type: none"> <li>• Offers duty-free access on <b>97% of its tariff lines</b>, covering <b>99.5% of India's exports</b> by value.</li> <li>• Eliminates tariffs (currently 4-26%) on labour-intensive sectors like textiles, apparel, leather, gems &amp; jewellery, boosting exports worth approximately <b>USD 33 billion</b>.</li> </ul>	<ul style="list-style-type: none"> <li>• Provides market access on <b>92.1% of its tariff lines</b>, covering 97.5% of EU exports.</li> <li>• Sensitive sectors like dairy, poultry, cereals, and certain agricultural products are fully protected.</li> <li>• Automobiles, wines, and spirits will see a gradual and calibrated tariff reduction.</li> </ul>
Trade in Services	<ul style="list-style-type: none"> <li>• Makes binding commitments in <b>144 services sub-sectors</b>, including IT/ITeS, digital services, education, and professional services.</li> </ul>	<ul style="list-style-type: none"> <li>• Opens up <b>102 services sub-sectors</b>, including telecom, financial, maritime, and business services.</li> </ul>

<b>Mobility of Professionals</b>	<ul style="list-style-type: none"> <li>Establishes a clear framework for temporary movement of skilled professionals, intra-corporate trans-ferees, and their dependents. Includes a future framework for Social Security Agreements.</li> </ul>	<ul style="list-style-type: none"> <li>Provides a predictable environment for EU firms and professionals operating in India.</li> </ul>
<b>Intellectual Property (IP)</b>	<ul style="list-style-type: none"> <li>Acknowledges India's <b>Traditional Knowledge Digital Library (TKDL)</b> to prevent misappropriation of traditional knowledge.</li> </ul>	<ul style="list-style-type: none"> <li>Reaffirms commitment to the <b>TRIPS agreement</b>, ensuring protection for India's generic pharmaceutical industry and public health interests.</li> </ul>
<b>Regulatory &amp; Digital Trade</b>	<ul style="list-style-type: none"> <li>Agrees on cooperation to reduce <b>Non-Tariff Barriers (NTBs)</b> like Sanitary and Phytosanitary (SPS) measures.</li> </ul>	<ul style="list-style-type: none"> <li>Balances cross-border data flows with India's need for data localisation and digital sovereignty.</li> </ul>

### Significance of the India-EU FTA

- The FTA helps the EU's "China-plus-one" strategy by making India a trusted manufacturing and services hub, strengthening Geoeconomic Diversification.
- The India-EU partnership (connecting the 4th and 2nd largest economies) provides India with strategic leverage, representing **25% of global GDP** and a third of global trade.
- Meeting EU ('Brussels Effect') manufacturing standards boosts Indian competitiveness globally.
- The agreement aids strategic projects like the India-Middle East-Europe Economic Corridor (IMEC) to build robust supply chains and lower logistics costs.
- The FTA aids "**Viksit Bharat 2047**" by boosting trade and investment, integrating MSMEs and artisans into global value chains for India's developed nation goal.
- geotagging requirements for commodities like coffee and rubber, which small Indian farmers find difficult to meet.
- The **Corporate Sustainability Due Diligence (CSDDD)** regulation mandates that companies audit their supply chains for human rights and environmental risks, raising concerns about potential data privacy implications for Indian suppliers.
- India's tariffs are higher than the EU's. India must make deeper tariff cuts, but its **market access gains are smaller as many of its goods already face low EU tariffs.**
- Competitors such as Bangladesh and Vietnam already have zero-duty access** to the EU market, potentially diminishing India's competitive advantage from the FTA.
- Divergent data sovereignty approaches:** EU favours free cross-border flows (GDPR), while India prioritizes localisation for security.
- EU pressure for stronger Intellectual Property Rights (IPR) protection** challenges India's status as the "pharmacy of the world," known for affordable generic medicines.

### Challenges and Concerns for India

- Non-Tariff Barriers (NTBs):** The EU's stringent regulations could act as a form of "green protectionism."
  - The **Carbon Border Adjustment Mechanism (CBAM)** is a carbon tax levying 20-35% on Indian exports like steel and aluminium from 2026, possibly negating tariff benefits.
  - The **EU Deforestation Regulation (EUDR)** imposes challenging traceability and

### Way Forward

- Address Asymmetries:** India should aggressively leverage its gains in the services sector and professional mobility to balance the concessions made in goods trade.
- Proactive Dialogue:** Establish a 'Rapid Response Forum' to address emerging NTBs

and regulatory hurdles before they escalate into major trade disputes.

- **Secure Equitable Treatment:** Negotiate for fair carve-outs and extended transition periods for complying with regulations like CBAM and EUDR, seeking parity with concessions granted to other nations.
- **Domestic Capacity Building:** Invest in upgrading domestic industries, especially MSMEs, to meet EU standards. This includes modernizing testing labs and creating support desks to help businesses navigate compliance.

- **Deepen Strategic Cooperation:** Move beyond trade by strengthening cooperation through platforms like the India-EU Trade and Technology Council (TTC) and joint initiatives in defence, AI, and green technologies.

### Conclusion

- The India-EU FTA's success depends on India's ability to navigate the EU's regulations, boost domestic industry competitiveness, and ensure a balanced, mutually beneficial partnership beyond simple tariff cuts.

## 2.3 INDIA-PAK COMPREHENSIVE STRATEGIC PARTNERSHIP

### Context

- The President of the United Arab Emirates (UAE) visited India, resulting in bilateral agreements on defence, space cooperation, and LNG amid regional changes.

### Key Highlights of the Recent Presidential Visit

#### Trade & Economy

- Set a new target to double non-petroleum trade to **USD 100 billion** by 2030, building on the success of the **Comprehensive Economic Partnership Agreement (CEPA)**.
- Directed officials to expedite key projects like **Bharat Mart** in Dubai and the Virtual Trade Corridor.
- India invited UAE sovereign wealth funds to invest in its **National Investment & Infrastructure Fund (NIIF)**.

#### Energy Security

- **10-Year LNG Supply:** Agreement was signed for ADNOC Gas to supply 0.5 million tonnes of LNG per year to HPCL for 10 years, starting in 2028.
- **Nuclear Collaboration:** Following India's SHANTI Act 2025, both nations agreed to explore partnerships in advanced nuclear technologies, including Small Modular Reactors (SMRs).

#### Technology & Digital Infrastructure

- Agreed to deepen cooperation in Artificial Intelligence (AI) and explore creating a supercomputing cluster and data centres in India.
- Initiated talks to establish '**Data Embassies**' under mutual sovereignty arrangements.
- Aimed to interlink national payment platforms (like UPI) for seamless cross-border transactions.

### Pillars of India-UAE Bilateral Relations

- **Economic & Commercial Ties:** The UAE is India's **3rd-largest trading partner** and **2nd-largest export destination**. The UAE has also committed **USD 75 billion** for infrastructure investment in India.
- **Energy Security:** The UAE is a critical and reliable source for India's energy needs, being one of its top suppliers of crude oil, LNG, and LPG.
- **Financial Integration:** Integration of payment systems like **RuPay** and **UPI**, along with the **Local Currency Settlement (LCS) System**, is reducing transaction costs and strengthening financial ties.
- **Defence and Security:** Cooperation is a core pillar, involving joint military exercises (e.g., **Exercise Desert Cyclone**), counter-terrorism intelligence sharing, and UAE's interest in Indian defence platforms like the BrahMos missile.



- **People-to-People Links:** Over 3.5 million-strong Indian diaspora in the UAE forms a vital bridge, contributing significantly through remittances. The BAPS Hindu Mandir in Abu Dhabi is a symbol of cultural friendship.
- **Regional Cooperation:** Both nations are key partners in multilateral frameworks like I2U2 (India, Israel, UAE, USA) and the India-Middle East-Europe Economic Corridor (IMEC), working together to promote regional stability and connectivity.

### Challenges and Strategic Considerations

- **Regional Rivalries:** India must navigate complex regional dynamics, including the growing tensions between the UAE and Saudi Arabia, and maintain a balanced relationship with Iran.
- **China's Influence:** China's increasing economic and strategic footprint in the Gulf, including defence deals with the UAE, presents a competitive challenge to Indian interests.
- **UAE's Pakistan Policy:** The UAE's financial assistance to Pakistan remains a concern for India, given Pakistan's record of state-sponsored terrorism.
- **Non-Tariff Barriers (NTBs):** Despite the CEPA, Indian exports face hurdles like mandatory Halal certification and other technical barriers, limiting trade diversification beyond traditional sectors.
- **Diverging Climate Goals:** The UAE's economic reliance on hydrocarbon exports could create

friction with India's push for renewable energy and its net-zero target of 2070 (compared to the UAE's 2050 target).

### Way Forward

- **Establish a Green Energy Corridor:** India and the UAE should collaborate on joint investments in renewable energy, green hydrogen technology, and sustainable development research.
- **Leverage UAE as a Gateway:** India should use the UAE's strategic location and re-export hub status to expand its market access to Africa and the broader Middle East, and push for a wider trade agreement with the Gulf Cooperation Council (GCC).
- **Protect Migrant Rights:** India should continue to advocate for reforms in the Kafala system to ensure the welfare and protection of its large workforce in the UAE.
- **Enhance Strategic Dialogues:** Institutionalize regular high-level reviews to ensure the timely implementation of agreements and maintain the momentum of the strategic partnership.

### Conclusion

- The India-UAE relationship has evolved from a buyer-seller dynamic into a robust, strategic partnership. United by a vision for stability, growth, and tech advancement, this alliance aims to be a defining regional and global force.

## 2.4 SHORT ARTICLES

### ASEAN-India Digital Ministers' Meeting

#### Context

- India and Vietnam virtually co-chaired the 6th ASEAN-India Digital Ministers' Meeting (ADGMIN), centered on "Adaptive ASEAN: From Connectivity to Connected Intelligence."

#### About ASEAN-India Digital Ministers' Meeting (ADGMIN)

- It is an annual forum where telecom and digital ministers from India and the 11 ASEAN

member states meet to strengthen regional digital cooperation.

- The forum was originally known as the ASEAN Telecommunications and Information Technology Ministers Meeting (TELMIN), first session held in 2001.
- TELMIN was renamed ADGMIN in 2019. Malaysia chaired the inaugural meeting under the new name in 2021.

## Major Outcomes & Announcements at 6th ADGMIN

- **New Digital Work Plan:** The ASEAN-India Digital Work Plan for 2026 was approved, focusing on ICT capacity building, an India-ASEAN Regulators' Conference, and deploying telecom/ICT solutions.
- **Joint Statement on Digital Transformation:** The meeting strengthened the ASEAN-India Joint Statement on Advancing Digital Transformation (October 2024), which provides the basis for collaboration in:
  - Digital Public Infrastructure (DPI)
  - Financial Technology (FinTech)
  - Cybersecurity Cooperation
  - Artificial Intelligence (AI)
  - Capacity Building and Knowledge Sharing
- **Dedicated Funding:** The meeting operationalized the 'ASEAN-India Fund for Digital Future', a special fund to support collaborative digital transformation and technology projects between India and ASEAN member states.
- **India's Role and Offerings:** India offered to share its expertise and indigenously developed open-source Digital Public Infrastructure (DPI) solutions with ASEAN countries. This includes successful platforms like:
  - **Aadhaar:** Biometric identity system.
  - **UPI (Unified Payments Interface):** Real-time payment system.
  - **DigiLocker:** Digital document wallet.

## Global Risks Report 2026

### Context

- The 2026 Global Risks Report by the World Economic Forum (WEF) identifies significant threats facing the world, including India.

#### About the World Economic Forum (WEF)

- **Nature:** An international organization for Public-Private Cooperation.
- **Founded:** In 1971 by Klaus Schwab.
- **Headquarters:** Geneva, Switzerland.
- **Major Reports:** Global Competitiveness Report, Global Gender Gap Report, Energy Transition Index, and Global Risks Report.

## Key Findings of the Global Risks Report 2026

### Global Risk Outlook

- **Top Short-Term Risk (2026): Geoeconomic Confrontation,** use of economic tools (sanctions, trade restrictions) for geopolitical goals, has emerged as the most severe global risk, surpassing armed conflict.
  - **Other Major Global Risks:** State-based armed conflict, extreme weather events, societal polarisation, and misinformation/disinformation.
- **Top Long-Term Risk (10 Years):** Dominated by climate-related threats, including extreme weather and biodiversity loss.

### Key Vulnerabilities for India

- **Cyber Insecurity:** Rapid digitalization (e.g., Aadhaar, UPI) has outpaced the development of cyber resilience.
- **Inequality:** The top 1% of Indians captured 22.6% of the national income in 2022, deepening disparities (Source: Oxfam).
- **Weak Public Services:** Public health expenditure remains low at 1.9% of GDP, well below the national target of 2.5%.
- **Geoeconomic Shocks:** High exposure to global trade tensions, currency volatility, and capital flow fluctuations.

### Recommended Actions for India

- **Strengthen Economic Resilience:** Boost domestic manufacturing through schemes like Make in India and PLI (Production-Linked Incentive). Diversify trade via Free Trade Agreements (FTAs) and maintain strong forex reserves.
- **Treat Inequality as a Macro-Risk:** Address disparities through financial inclusion (PM-JDY), healthcare (Ayushman Bharat), and formalisation of the economy.
- **Build Capacity Against Hybrid Threats:** Adopt a whole-of-government approach to counter blended threats of terrorism, cyber-attacks, and disinformation by strengthening institutions like the Multi-Agency Centre and laws like the PMLA, 2002.
- **Protect Information Integrity:** Counter fake news and disinformation through regulatory measures like the IT Rules 2021, institutional

fact-checking, and promoting digital literacy via programs like PM-DISHA.

- **Embed Climate Resilience in Development:** Mainstream climate adaptation through the **National Action Plan on Climate Change (NAPCC)**, promoting sustainable lifestyles via **Mission LiFE**, and building climate-resilient infrastructure under **PM Gati Shakti**.

## Employment and Social Trends 2026 Report

### Context

- The International Labour Organization (ILO) released the Employment and Social Trends 2026 report.

### Highlights of the Employment and Social Trends 2026 Report

#### Key Global Findings

- **Unemployment Rate:** Forecasted at **4.9%** in 2026, with a jobs gap of **408 million** people.
- **Working Poverty:** Progress has stalled. Extreme working poverty (less than USD 3/day) stands at **7.9%** of workers.
- **Informality:** Rising globally, projected to include **2.1 billion** workers by 2026.
- **Gender Gap:** Women's labour force participation is **24.2 percentage points** lower than men's.
- **Youth Unemployment:** The global rate is **12.4%**, with **257 million** youth categorized as NEET (Not in Employment, Education, or Training).
- **Productivity:** Labour productivity growth remains low, and real wage growth is lagging behind it.

#### India-Specific Findings

- **Economic Growth:** Expected to be among the highest in the Asia-Pacific region.
- **Manufacturing Share:** India's global manufacturing share is **3%**, compared to China's **27%** and the USA's **17%**.

#### About the International Labour Organization (ILO)

- **Foundation:** Established in **1919** under the Treaty of Versailles; became the UN's first specialized agency in 1946.

- **Structure:** A unique **tripartite structure** with representatives from governments, employers, and workers from its **187 member states**.
- **Mandate:** To advance social and economic justice by promoting internationally recognized labour rights.

## BBNJ Agreement enters into Force

### Context

- The first global accord protecting international ocean life, the High Seas Treaty, officially entered into force and sets legally-binding rules for sustainable high seas resource management.

### What are the 'High Seas'?

- The 'High Seas' are all parts of the sea starting **200 nautical miles** from a country's coast, beyond its Exclusive Economic Zone (EEZ).
- They cover over **64% of the ocean's surface** and constitute nearly **95% of its volume**.
- Before the BBNJ treaty, governance was fragmented under the **1982 UN Convention on the Law of the Sea (UNCLOS)**, focusing mainly on fishing and shipping.

### About The High Seas Treaty

- Adopted by the United Nations in 2023, formally known as the **Biodiversity Beyond National Jurisdiction (BBNJ) Agreement**.
- It is the **first legally binding international treaty to protect marine life in the high seas**.
- It is the **third implementing agreement under the UN Convention on the Law of the Sea (UNCLOS)**.
- As of mid-January 2026, 83 of 145 signatory nations have ratified the treaty. **Major maritime powers, including the United States, India, China, and Russia, have not ratified it.**

### Core Pillars of the Treaty

- **Marine Protected Areas (MPAs):** Creates a legal mechanism to establish a network of MPAs, aiming to achieve the **"30x30" target** (protecting 30% of Earth's land and sea by 2030).
- **Marine Genetic Resources (MGRs):** Ensures fair and equitable sharing of benefits from genetic materials discovered in deep-sea organisms.

- **Environmental Impact Assessments (EIAs):** Mandates assessments for activities like deep-sea mining that could harm marine ecosystems.
- **Capacity Building & Technology Transfer:** Supports developing countries with technology, skills, and funding for ocean research and governance.

#### Significance

- **Environmental Significance:** Aims to curb biodiversity loss, mitigate climate change by protecting vital ocean ecosystems, and shift governance to an integrated, ecosystem-based approach.
- **Socio-Economic Significance:** Supports a sustainable blue economy, promotes equity for the Global South through benefit-sharing, and enhances global food security.

## Board of Peace for Gaza

#### Context

- The United States has invited India to join the Board of Peace for Gaza.

#### About Board of Peace for Gaza

- It is a **US-led intergovernmental body** established to implement a peace plan for the reconstruction of Gaza.

- It was created under **UNSC Resolution 2803 (2025)**, giving the plan international legitimacy, though it is not under direct UN command.
- **India** has received an invitation to join but has not yet communicated its decision.

#### Mandate and Duration

- **Core Mandate:** To oversee Gaza's demilitarization, reconstruction, economic recovery, and transitional governance.
- **Initial Authorization:** The board's mandate is authorized until **31st December 2027**.

#### Structure

- **Chair:** Proposed to be chaired by **Donald J. Trump**.
- **Local Administration:** A 15-member committee of Palestinian technocrats, the **National Committee for the Administration of Gaza (NCAG)**, will handle day-to-day civil administration.

#### Funding and Membership

- **Non-contributing Membership:** A three-year term which can be renewed.
- **Permanent Membership:** Granted upon a payment of **USD 1 billion**, with the funds allocated for Gaza's reconstruction.

## 2.5 SNIPPETS

Topic Name	Details
Shadow Fleet	<ul style="list-style-type: none"> <li>• The U.S. has intensified its military-led crackdown on the global 'shadow fleet' of oil tankers transporting sanctioned crude oil.</li> <li>• The "shadow fleet" (also known as the "dark fleet") refers to a <b>large network of aging, poorly maintained, and uninsured or underinsured vessels</b>, primarily oil tankers, that employ deceptive shipping practices to bypass international sanctions. These fleets mainly transport oil and other commodities for sanctioned countries like Russia, Iran, and Venezuela, to buyers in China and India.</li> </ul>
International Data Privacy Day	<ul style="list-style-type: none"> <li>• International Data Privacy Day (also known as Data Protection Day) is observed globally on January 28.</li> <li>• <b>Established in 2006 by the Council of Europe</b> to commemorate the 1981 signing of <b>Convention 108, the world's first legally binding international treaty on data protection</b>. It aims to raise awareness about personal data security, inform individuals of their privacy rights, and encourage organizations to adopt "Privacy by Design". For 2026, the theme focused on <b>"Take Control of Your Data"</b>.</li> </ul>



<b>Discombobulator</b>	<ul style="list-style-type: none"> <li>During the January 2026 Operation Absolute Resolve in Venezuela, the US reportedly used a classified weapon, the Discombobulator, to jam enemy defenses and capture Nicolás Maduro.</li> <li>The "Discombobulator" is a <b>non-lethal electronic warfare system for low-casualty extraction</b>. It operates in two main modes: Anti-Personnel, using non-kinetic tools like heat rays and sonic cannons to disorient targets; and Anti-Infrastructure, employing electronic warfare, and cyber warfare to disable enemy equipment and seize control of sensors.</li> </ul>
<b>Advisory Board on Disarmament Matters (ABDM)</b>	<ul style="list-style-type: none"> <li>Senior Indian diplomat DB Venkatesh Varma has been nominated by the UN Secretary-General to chair the Advisory Board on Disarmament Matters (ABDM) for the 2026–27 term.</li> <li>The Advisory Board on Disarmament Matters (ABDM), established in 1978, advises the UN Secretary-General on arms limitation, disarmament, and international security. <b>Comprising 15 global experts selected by the Secretary-General</b>, the Board's chairpersonship rotates annually, with <b>an Indian set to chair for the first time in 2026</b>. Meeting twice yearly, with the Chair reporting privately after each session and an <b>annual report presented to the UN General Assembly</b>.</li> </ul>
<b>Bulgaria 21st Member of the Eurozone</b>	<ul style="list-style-type: none"> <li>Bulgaria officially adopted the euro, becoming the 21st member of the Eurozone, nearly 20 years after joining the European Union.</li> <li>Bulgaria has officially replaced its national currency, the lev, with the euro, a move anticipated to boost the economy through increased trade, market transparency, lower transaction costs, and foreign investment. The <b>Eurozone, established by the 1992 Maastricht Treaty</b>, launched the euro in 1999. The Eurozone comprises European Union Member States that have adopted the euro as their common currency.</li> </ul>
<b>Monroe Doctrine</b>	<ul style="list-style-type: none"> <li>The US military operation "Absolute Resolve" in Venezuela, justified by a "Trump Corollary" to the Monroe Doctrine, led to the capture of President Nicolás Maduro, his wife Cilia Flores, and other high-ranking officials.</li> <li>The Monroe Doctrine, <b>established in 1823, was a US foreign policy aimed at preventing new European colonization and interference in the Western Hemisphere</b>, while pledging US non-involvement in European affairs. The 1904 Roosevelt Corollary later expanded it, claiming the <b>US right to act as an "international police power" in Latin America</b>. Though historically used against Soviet influence, the doctrine is now selectively applied to assert US strategic dominance against external threats.</li> </ul>
<b>Henley Passport Index 2026</b>	<ul style="list-style-type: none"> <li>The Henley Passport Index 2026 highlights "global mobility divide" between the most and least powerful passports.</li> <li>The Henley Passport Index ranks 199 passports worldwide based on the travel freedom they confer, <b>using exclusive data from the International Air Transport Association (IATA)</b>. It measures the number of destinations passport holders can access visa-free or with visa-on-arrival. In the 2026 edition, <b>Singapore retained the top spot with visa-free access to 192 destinations</b>. India has climbed five places to <b>rank 80th with access to 55 destinations</b>. At the bottom, Afghanistan remains last at 104th with just 24 visa-free destinations.</li> </ul>

## 3. ECONOMY

### 3.1 AIRPORT PRIVATISATION IN INDIA

#### Context

- The Union government has initiated the third round of airport privatisation, proposing to lease 11 airports of the Airports Authority of India (AAI) to private operators under the Public-Private Partnership (PPP) model.

#### Background

- Airport privatisation in India aims to improve efficiency, attract private investment, and reduce fiscal pressure on the government.
- Traditionally, AAI has owned and operated most airports, managing both aeronautical services (runways, terminals) and non-aeronautical assets (retail, parking, real estate).
- Early 2000s: Privatisation of Delhi and Mumbai airports.
- Later: Greenfield PPP airports at Bengaluru and Hyderabad.
- 2019: Six airports privatised, shifting from revenue-share to per-passenger fee model.
- Current round: First time bundling of metro and non-metro airports, signalling deeper private participation.

#### Objectives

- Upgrade infrastructure and service quality.
- Mobilise private capital and global best practices.
- Expand non-aeronautical revenues to cross-subsidise passenger costs.
- Support long-term aviation growth—only ~6% of Indians currently travel by air, indicating large untapped demand.
- Strengthen regional connectivity, tourism, and economic integration.

#### Third Round of Privatisation

- Coverage: 11 airports grouped into five bundled packages.

- Profile: Small and mid-sized airports (0.1–1 million passengers annually).
- Aligned with the National Monetisation Pipeline (NMP), which envisages privatising 25 airports to raise ₹20,000+ crore.

#### Revenue Models & Regulation

- Shift to per-passenger fee model, where operators pay AAI a fixed, indexed amount per passenger.
- Ensures predictable revenue for AAI but raises concerns about higher user charges.
- Tariffs regulated by the Airports Economic Regulatory Authority.
- Non-aeronautical revenues are meant to offset costs, but disputes persist over under-reporting.

#### Concerns

- A single corporate group controls many major airports, raising monopoly/duopoly fears.
- Rising user development fees and ancillary charges at some privatised airports.
- Service issues: Congestion, high taxi fares, accessibility gaps, perceived quality decline.
- Regulatory response: Move towards service-linked tariffs, with penalties for failing benchmarks (security wait times, check-in duration, passenger assistance).

#### Way Forward

India's airport capacity is projected to rise from ~550 million to ~850 million passengers per annum in five years. Achieving this requires:

- Transparent bidding and caps on concentration
- Strong, independent regulation
- Accountability on service quality and affordability
- Balancing private investment with public interest

## 3.2 PESTICIDES MANAGEMENT BILL, 2025

### Context

- The Union Government has released a revised draft of the Pesticides Management Bill, 2025 and invited public feedback to modernise India's pesticide regulation regime.
- The Bill seeks to replace the Insecticides Act, 1968, which is widely seen as outdated and inadequate to address present-day health, environmental, and regulatory challenges.

### Pesticide Regulation in India

- India's pesticide governance is currently based on the Insecticides Act, 1968, framed when chemical pest control was prioritised over safety and environmental concerns.
- Over time, major issues have emerged: Spread of spurious and substandard pesticides, Human health risks, especially farmer poisoning, Environmental contamination of soil and water and Weak enforcement and obsolete institutions.
- Earlier attempts at reform (Draft Bills of 2008, 2018, 2020) failed to become law.

### Pesticides Management Bill, 2025

- The Bill aims to regulate the manufacture, import, export, storage, sale, distribution, and use of pesticides.
- Key objectives include:
  - Minimising risks to humans, animals, and the environment
  - Ensuring safe and effective use of pesticides
  - Enhancing transparency, traceability, and accountability
  - Improving service delivery to farmers
- Institutional Architecture Under the Bill
  - Registration Committee:
    - ✓ Constituted by the Union Government with representatives from: Indian Council of Agricultural Research (ICAR), Drugs Controller

General of India, Ministry of Environment, Forest and Climate Change, Department of Chemicals and Petrochemicals, A national toxicology research institution

- ✓ Functions: Registration of pesticides, safety review, and examination of temporary State-level bans.
- Central Pesticides Board: Advises on Inclusion of pesticides under the law, Good manufacturing practices, Recall procedures, Poisoning management protocols and Safe disposal of pesticides and containers.
- States may temporarily prohibit sale, distribution, or use of a pesticide or batch. Such bans can last up to one year and must be reviewed by the Registration Committee.
- States lack powers for permanent bans or independent punitive action, which has drawn criticism.

### Concerns

- Uses the phrase "strive to minimise risk" instead of a binding obligation.
- Absence of clear penalties for manufacturers in cases of poisoning or environmental damage.
- States cannot impose long-term bans on hazardous pesticides.
- Ignores farmer affordability and high pesticide costs.
- No robust compensation or liability mechanism for affected farmers.

### Way Forward

- Stronger enforcement and liability provisions
- Greater State autonomy in banning hazardous pesticides
- Alignment with integrated pest management and bio-pesticide promotion
- Clear compensation and redress mechanisms to protect farmers' livelihoods.

### 3.3 STARTUP INDIA @10

#### Context

- On January 16, 2025 (National Startup Day), the Prime Minister of India addressed the startup ecosystem on the 10th anniversary of the Startup India initiative, launched on January 16, 2016.

#### The Startup India Scheme

- Startup India is a flagship initiative of the Government of India aimed at building a robust innovation and entrepreneurship ecosystem, transforming India from a job-seeking to a job-creating nation.
- It rests on three core pillars:
  1. Simplification & Handholding – self-certification, faster exits, reduced compliance burden.
  2. Funding Support – seed funding, Fund of Funds, tax exemptions.
  3. Incubation & Industry-Academia Partnership – incubation centres, mentorship, and innovation networks.
- Eligible startups benefit from tax exemptions, easier compliance, access to capital, and mentoring, enabling innovation-led economic growth and large-scale employment.

#### Highlights of Startup India's Decade-long Journey

- Explosive Growth of Startup Ecosystem
  - From <500 startups and 4 unicorns (2014) to 2 lakh+ DPIIT-recognised startups and ~125 unicorns (2025).
  - About 44,000 startups added in 2025 alone (record year).
  - India is now the 3rd largest startup ecosystem globally.
  - A virtuous cycle: Startups → Unicorns → IPOs → Jobs & Innovation.
- Cultural Shift Towards Entrepreneurship
  - Entrepreneurship now socially accepted and aspirational.
  - Failure seen as a learning step, not stigma.

- Participation expanded to middle class, youth, women, and smaller towns.
- Driven by India's demographic dividend.
- Government Support & Funding Architecture
  - ₹25,000 crore Fund of Funds for Startups (FFS) deployed.
  - FFS 2.0 (₹10,000 crore, 2025) focused on deep-tech.
  - Priority sectors: Artificial Intelligence, Machine Learning, Quantum, Defence, Aerospace.
  - Stress on patient capital due to long gestation periods.
- Strategic Push for Indigenous Technology & Manufacturing
  - PM's call for indigenous Artificial Intelligence hosted on Indian servers.
  - IndiaAI Mission: 38,000+ GPUs onboarded.
  - Shift from assembly-based production to high-value manufacturing.
  - Strengthens strategic autonomy and technological leadership.
- Inclusivity, Decentralisation & Ease of Doing Business
  - 45%+ startups have at least one woman founder.
  - India ranks 2nd globally in women-led startups.
  - Rapid growth in tier-2, tier-3 cities and rural areas.
  - Jan Vishwas Act decriminalised 180+ provisions.
  - Over 35,000 startups on boarded on GeM, receiving orders worth ₹50,000 crore.

#### Challenges and Way Ahead

- Sustaining funding amid global economic uncertainty; expand risk capital and advanced infrastructure.
- Deep tech talent & R&D gaps: stronger academia-industry collaboration and



- alignment with national missions (AI, defence, space, climate tech).
- Quality scale-up: linking startups with domestic manufacturing and global value chains.

- Cybersecurity & data governance in AI-driven growth.
- Avoiding regional and sectoral concentration by promoting export-oriented, globally competitive startups.

### 3.4 LAND ACQUISITION IN INDIA AND INFRASTRUCTURE DELAYS

#### Context

- Land acquisition has emerged as the single largest cause of delays in major infrastructure projects reviewed under the PRAGATI platform.
- Recent assessments show that land-related issues account for around 35% of unresolved project bottlenecks.
- Land acquisition refers to the process by which the government acquires private land for public purposes such as highways, railways, industrial corridors, urban infrastructure, defence projects, and social infrastructure.

#### Legal Framework

- The current framework is governed by the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (LARR Act), which replaced the colonial 1894 law.
- Its core objectives are fairness, transparency, and participation.
- Key provisions include:
  - Mandatory Social Impact Assessment (SIA)
  - Consent requirements for private and PPP projects
  - Compensation linked to market value with higher rural multipliers
  - Solatium and enhanced payments
  - Detailed Rehabilitation and Resettlement (R&R) obligations
- The Act mandates not just monetary compensation but also livelihood restoration, including: Housing provisions, Employment or annuity options, Basic infrastructure at resettlement sites.

#### Why Delays Persist

- Despite progressive safeguards, land acquisition remains slow and litigation-prone due to:
  - Time-consuming SIAs
  - Difficulty in securing consent amid fragmented landholdings
  - Disputes over valuation and compensation
  - Frequent legal challenges
  - Weak coordination between Centre, States, and district administrations
- Since land is a State subject, variations in administrative capacity and political priorities further complicate implementation.

#### Impact on Infrastructure Projects

- Large projects—highways, railways, power plants, industrial parks, metro systems—are especially vulnerable.
- Often, projects with financial and technical approvals remain stalled due to unresolved land issues, leading to:
  - Cost overruns
  - Time overruns
  - Locked capital and delayed economic benefits

#### Government's Current Approach

- The government has clarified that no amendment or dilution of the LARR Act is under consideration.
- Instead, the emphasis is on:
  - Better administrative coordination
  - Faster dispute escalation and resolution
  - Strengthened Centre–State cooperation
- Through PRAGATI, unresolved issues are reviewed at the highest level, improving accountability and decision-making.

## PRAGATI (Pro-Active Governance and Timely Implementation)

- It is a multi-purpose digital platform for grievance redressal and monitoring major central and state projects.
- Ensures e-transparency, e-accountability and real-time monitoring.
- Launched on 25 March 2015.
- Developed by PMO with National Informatics Centre (NIC).
- Integrates digital data management, video conferencing and geospatial (GIS) technology.
- Provides PM real-time visuals and latest status of projects.
- Promotes cooperative federalism by bringing Union Secretaries and State Chief Secretaries on one platform.
- Three-tier system: PMO – Union Secretaries – State Chief Secretaries.
- Monthly meeting called PRAGATI Day (4th Wednesday, 3:30 PM).
- Role of PRAGATI

- Over 3,300 projects reviewed
- Investments worth ~₹85 lakh crore
- Helped resolve long-pending projects, some stalled since the 1990s
- Enabled faster execution and unlocking of stuck investments

## Way Forward

- The recent reviews underline that:
  - Legal safeguards for landowners are necessary, but not sufficient
  - Efficient implementation, early stakeholder engagement, and cooperative federalism are crucial
- Rather than legislative changes, India's land acquisition reform agenda must focus on execution efficiency, dispute resolution, and institutional coordination—while maintaining the delicate balance between development imperatives and social justice.

## 3.5 SHORT ARTICLES

### Indian Telecom Security Assurance Requirements (ITSAR)

#### Context

- The Union Government is considering legally enforcing Indian Telecom Security Assurance Requirements (ITSAR) for smartphones, mandating 83 security standards covering source code disclosure, permissions, malware scanning, and software controls.
- India is the world's second-largest smartphone market with ~750 million users, making device-level security a national concern.
- Rising cyber frauds, data breaches, and malware attacks have pushed the government to strengthen
- Features of Proposed ITSAR Standards
  - Source Code Disclosure: Mandatory submission of proprietary source code to government-designated labs to detect backdoors.
  - Stricter Permission Controls: No background access to camera,

microphone, or location; continuous status-bar alerts and periodic permission review prompts.

- Security & Compliance Measures:
  - ✓ One-year retention of security logs on devices,
  - ✓ Mandatory periodic malware scanning,
  - ✓ Removal of non-essential pre-installed apps,
  - ✓ Anti-rollback protection and tamper (root/jailbreak) detection.
- Mandatory prior intimation to the National Centre for Communication Security before major software updates.

### Urban Cooperative Banks

#### Context

- The Reserve Bank of India has proposed resuming the issuance of licenses for Urban Cooperative Banks (UCBs) after a gap of

nearly 20 years, signalling renewed confidence in the sector.

- Urban Cooperative Banks are primary cooperative banks operating in urban and semi-urban areas, serving small borrowers, traders, MSMEs and local communities through deposits and credit.
- UCBs are registered under State or Multi-State Cooperative Societies Acts, while their banking functions (licensing, operations, interest rates) are regulated by the RBI under the Banking Regulation Act, 1949.
- UCBs play a crucial role in financial inclusion, providing housing finance, personal loans and MSME credit, and act as grassroots financial institutions in urban India.

## Anna Chakra

### Context

- Department of Food & Public Distribution (DFPD) named **finalist for 2026 Franz Edelman Award** for Anna Chakra.

### What it is

- **Operations research-based decision support system** to optimise **state-wise foodgrain logistics** under the Public Distribution System.

### Developed by

- DFPD + **World Food Program India** + IIT Delhi (Govt-UN-Academia partnership).

### How it works:

- Uses **advanced algorithms** to identify optimal routes and ensure efficient movement across supply-chain nodes.

### Integration:

- Linked with **PM Gati Shakti, FOIS (Railways)** via **ULIP**.
- **Franz Edelman Award**
  - Global recognition for **high-impact applications of advanced analytics**.
  - Known as the “**Nobel Prize of Operations Research & Analytics**”.
  - **Prize:** USD 10,000.

## RBI Nudges India on BRICS Digital Currency Linkage

### Context

- RBI has suggested using India's **BRICS chairmanship (2026)** to promote **CBDC-based cross-border payments** among BRICS members to cut costs, speed settlements, and reduce reliance on the **US dollar**.
- **Proposal:** Common payment framework for founding BRICS (Brazil, Russia, India, China, South Africa) and new members (e.g., UAE, Iran, Egypt, Ethiopia, Indonesia).

### CBDC Basics

- Digital **legal tender** issued by central banks (India's **e-rupee**).
- Stored in **digital wallets**; value transferred directly wallet-to-wallet.
- **Centrally issued, regulated, and sovereign-backed**, unlike private cryptocurrencies.

## District-Led Textiles Transformation Initiative (DLTT)

### Context

- The Ministry of Textiles launched the DLTT initiative at the National Textile Ministers' Conference in Guwahati to drive district-centric textile growth.
- **Aim & Coverage:** To transform 100 high-potential districts into Global Export Champions and upgrade 100 Aspirational Districts into self-reliant textile hubs, promoting inclusive and sustainable development.
- **District Categorisation & Interventions:**
  - **Champion Districts:** Focus on scale and sophistication through Mega Common Facility Centres (CFCs), Industry 4.0 integration, and direct export market linkages.
  - **Aspirational Districts:** Emphasis on foundation-building via basic skilling and certification, raw material banks, and promotion of SHGs, cooperatives, and micro-enterprises.
- **Regional Focus:** Strong Purvodaya convergence, prioritising eastern and north-

eastern India for tribal belt development, improved connectivity, and GI tagging of unique textile and handicraft products.

## Debate over Inter-State Transmission System (ISTS) Connectivity

### Context

- India's renewable energy industry is opposing the Central Electricity Regulatory Commission (CERC) plan to allow ISTS connectivity only for projects with signed Power Purchase Agreements (PPAs) and to allocate connectivity through auctions.
- Inter-State Transmission System (ISTS) is India's national high-voltage power grid that moves electricity between states and is essential for carrying solar and wind power from generation areas to demand centres.
- Why CERC wants change: Around 32 Gigawatt (GW) of renewable energy projects have grid connectivity but no PPAs, which leads to transmission lines remaining unused.
- Why developers oppose: PPA delays are mostly due to problems of Distribution Companies (DISCOMs), not developers; new rules may slow projects, raise electricity prices, and favour big companies.
- Way forward suggested: Give ISTS connectivity based on project readiness (availability of land, financial closure, and equipment) instead of only on PPAs or auctions.

## Catastrophe Bonds (CAT Bonds)

### Context

- The Kerala government has urged the **Union government** to consider **CAT bonds** as a financial instrument to manage **disaster-related fiscal risks** from events like floods and cyclones.

### What they are

- CAT bonds are **insurance-linked securities** that **transfer natural disaster risk** from governments to **capital market investors**,

converting insurance cover into a **tradable debt instrument**.

- Issued by **sovereign governments** (premium-paying sponsors), often via intermediaries like the World Bank or Asian Development Bank, and subscribed by global investors; **coupon rates depend on disaster risk and frequency**.

### Significance

- Reduces the **post-disaster fiscal burden** on governments, enables **quick liquidity after disasters**, and is already used by countries like Mexico and Philippines for disaster risk financing.

## District Mineral Foundations (DMFs)

### Context

- The Allahabad High Court has held that DMFs constitute beneficial legislation and must be interpreted liberally to serve communities adversely affected by mining operations.
- DMFs are statutory, non-profit trusts established by State Governments in mining-affected districts.
- Their legal basis lies in the Mines and Minerals (Development and Regulation) Act, 1957, as amended by the 2015 Amendment Act.
- Mandate: Work for the interest and benefit of people and areas affected by mining-related operations.
- Set up by State Government notification in every mining-affected district.
- Operate under State jurisdiction; composition and functions are state-prescribed.
- Financed through mandatory contributions from mining leaseholders (major and minor minerals).
- Contribution rates are notified by the Central Government.
- Pradhan Mantri Khanij Kshetra Kalyan Yojana was launched in 2015 by the Ministry of Mines to channel DMF funds for welfare of mining-affected regions.

## India's Road Safety Crisis

### Context

- A recent national report has identified India's deadliest districts for road accidents, revealing that most fatalities are caused by infrastructure and systemic failures rather than traffic violations.
- India records the highest number of road accident deaths globally, despite possessing the world's second-largest road network.
- During 2023–24, an estimated 3.5 lakh people lost their lives in road accidents.
- Road deaths in India are highly concentrated, not evenly distributed. 100 districts account for over 25% of total road fatalities over two years.
- Districts like Nashik Rural and Pune Rural top the list, followed by Patna, Ahmednagar, Purba Midnapur, and Belagavi.
- States such as Uttar Pradesh, Maharashtra, Tamil Nadu, Karnataka, and Rajasthan dominate fatality statistics.

## India's Seafood Exports

### Context

- India's seafood exports posted strong growth in FY 2025–26 despite higher U.S. tariffs, signalling a successful pivot to diversified global markets.
- India has one of the world's largest seafood sectors, backed by a 7,500+ km coastline, rich inland waters, and a strong aquaculture base.
- It is the 3rd-largest fish producer globally and 2nd in aquaculture.
- Shrimp (notably Vannamei) dominates exports, alongside frozen fish, cuttlefish, squid, crabs, and value-added products.
- Export orientation has risen with better cold chains and compliance.
- Institutional support: The Marine Products Export Development Authority drives quality, traceability and market access; Pradhan Mantri Matsya Sampada Yojana strengthens infrastructure and sustainability.
- Value: +16% (from \$4.19 bn to \$4.87 bn in FY 2025–26, Apr–Oct).

- Volume: +12% (from 9.62 to 10.73 lakh tonnes).

## Engineering Export Promotion Council of India (EEPC India)

### Context

- EEPC India sought lower income tax for non-corporate manufacturing MSMEs and faster GST refund processing.
- Nature
- India's premier trade & investment promotion body for the engineering sector.
- Sponsored by the Ministry of Commerce & Industry; acts as an advisory body and industry–government interface.

### Key Functions:

- Promote engineering exports and facilitate global sourcing from India.
- Help MSMEs upgrade to international standards and integrate with global value chains.
- Publish reports on global trends and market opportunities.
- Regarded as the Model Export Promotion Council by the Ministry of Commerce & Industry.

## Export Preparedness Index (EPI) 2024

### Context:

- EPI 2024, released by NITI Aayog, assesses the export readiness of India's States and Union Territories, recognising their role in boosting global trade.
- Now in its 4th edition, the index evaluates regions across four pillars: Export Infrastructure, Business Ecosystem, Policy & Governance, and Export Performance.
- States and UTs are categorised as Leaders, Challengers, and Aspirers across different regional groupings.
- Maharashtra, Tamil Nadu, Gujarat, Uttar Pradesh, and Andhra Pradesh emerged as top performers among large states, highlighting stronger export ecosystems.



## India's ACC Battery Manufacturing Push

### Context

- India's ACC-PLI Scheme (2021) has underperformed, with major gaps between targets and actual capacity creation.
- Advanced Chemistry Cells (ACCs) are the new generation advance energy storage technologies that can store electric energy either as electrochemical or as chemical energy and convert it back to electric energy as and when required

### Why ACCs Matter

- Batteries ≈ 40% of EV cost; critical for EV adoption, clean energy storage, import reduction, and energy security.
- ACC-PLI Scheme Snapshot
  - Nodal Ministry: Ministry of Heavy Industries
  - Outlay: ₹18,100 crore | Target: 50 GWh by 2026
  - Incentive: Sales-linked, up to ~₹2,000/kWh
  - Conditions: Min investment ₹1,100 crore; localisation 25% (2 yrs), 60% (5 yrs)
- Performance Gap
  - Only 1.4 GWh commissioned; 8.6 GWh delayed (Oct 2025).
  - Only 30 GWh allotted out of 50 GWh.
  - Zero incentives disbursed; minimal job creation (~1,100 vs 1.03 million).

## How Indian Crypto Exchanges Vet Users

### Context

- Financial Intelligence Unit – India (FIU-IND) updated Anti-Money Laundering and Counter-Financing of Terrorism guidelines for Virtual Digital Asset (VDA) service providers, tightening user verification and transaction monitoring.
- Crypto remains in a regulatory grey zone. Taxed at 30% capital gains + 1% TDS, but no comprehensive investor-protection law.

### Key New/Emphasised Requirements

- Enhanced KYC: Verified ID, contact details, occupation, income range, selfie with liveness detection.
- Location & Bank Verification: Geo-tagging (lat-long, IP, timestamp) + penny-drop bank account validation.
- Risk-Based Due Diligence: High-risk users → KYC update every 6 months; others → annually.
- Registration: All VDA service providers to register with FIU-IND.

## Household Finances in India

### Context

- RBI data shows a structural shift—households saving less and borrowing more, absorbing risks earlier borne by the State.
- Paradox: Macro stability coexists with rising household vulnerability.

### Key Insights

- Household Debt: 41.3% of GDP (Mar 2025) – moderate but steadily rising.
- Uneven Incomes: Weak real income growth outside formal/high-productivity sectors.
- Stable Consumption: Sustained via borrowing, not income or savings.
- Stock vs Flow:
  - Assets (106.6% of GDP) > Liabilities → balance sheets look sound.
  - But net financial savings volatile (3–4% → 7.6%) due to faster liability growth → shock buffer eroding.

## Sukhatme National Award in Statistics – 2026

### Context

- Nominations invited via National Awards Portal.

### Instituted by:

- Ministry of Statistics & Programme Implementation (MoSPI) in memory of P. V. Sukhatme.

### Purpose

- Honour senior Indian statisticians for lifetime contributions and outstanding achievements

in Statistics, especially improving **official statistics systems**.

- **Frequency: Biennial** (alternate years) since 2000.
- **Eligibility:** Eminent Indian statisticians aged 45 years and above.
- **Award Components:** Citation, shawl, and memento.
- **Nomination:** Self-nomination or by institutions.
- **Presentation:** On Statistics Day (29 June).
- **Posthumous Award:** Permitted if nominee passed away within about one year.

## The EV Boom is Accelerating a Copper Crunch

### Context

- Rapid global EV adoption is driving **surging copper demand**, while mining supply remains slow → risk of a **structural copper deficit from ~2026**.
- EVs use **4–5× more copper** than ICE vehicles (batteries, motors, wiring, chargers, grids); **no viable substitute**.
- EV-linked copper demand: **~0.68 Mt (2024)** → ~60% of global EV copper use.
- China controls **>70% of global battery cell production** → strong pricing & contracting power.
- **This leads to Higher EV costs**, slower charging rollout, pressure on **decarbonisation goals**.
- Copper becomes a **strategic critical mineral** for energy transition.

## Small Industries Development Bank of India (SIDBI)

### Context

- Union Cabinet approved **₹5,000 crore equity support** to SIDBI.
- Set up by an **Act of Parliament** as a **wholly owned subsidiary of IDBI Bank**.
- Principal Financial Institution for **promotion, financing and development of MSMEs** and coordination among MSME-support institutions.

- **Ownership/Stakeholders:** Government of India, SBI, LIC, NABARD among major stakeholders.
- **Headquarters:** Lucknow, Uttar Pradesh.

### Key Functions

- Direct lending and **refinance** to banks/NBFCs for MSMEs.
- Promote **entrepreneurship and MSME growth**.
- Provide **venture capital, risk capital, technology and sustainable finance**.
- Administers **Small Industries Development Fund** and **National Equity Fund**.

## Carbon Credits Offer New Income Stream For Rice Farmers

### Context

- In India, over 86% of farmers are small or marginal ( $\leq 2$  hectares), making expensive and risky climate technologies difficult to adopt; therefore, low-cost practices like Alternate Wetting and Drying (AWD) are more suitable.
- In traditional rice cultivation, fields stay flooded at about 4–5 cm water depth for nearly 65 days, creating anaerobic soil that produces methane ( $\text{CH}_4$ ), which has a global warming potential about 28 times higher than  $\text{CO}_2$ .
- AWD method: normal flooding for the first 20 days after transplanting, followed by two drying cycles of around 6 days each, allowing water to fall 10–15 cm below the soil surface before re-flooding.
- This practice breaks anaerobic conditions, reduces methane emissions, and saves water while maintaining crop yield.
- Methane reductions from AWD can be converted into carbon credits (1 credit = 1 tonne of  $\text{CO}_2$ -equivalent), which are bought by emission-intensive sectors like airlines and data centres, providing additional income to farmers.

## EPFO 3.0

### Context

- The Employees' Provident Fund Organisation (EPFO) is rolling out EPFO 3.0 to deepen digital reforms after EPFO 2.0, improve portability of accounts, and prepare for wider coverage under the Labour Codes.
- EPFO Snapshot: A statutory body (1952) under the Ministry of Labour and Employment, EPFO administers the Employees' Provident Fund Act, 1952, Employees' Pension Scheme, 1995, and Employees' Deposit Linked Insurance, 1976; it has ~8 crore active members and a corpus of about ₹28 lakh crore.
- EPFO 3.0 Features: A centralised core-banking-like system enabling services and grievance redressal from any EPFO office, plus a revamped multilingual portal with BHASHINI (AI-based language translation platform) support.
- Earlier EPFO 2.0 Reforms: Withdrawal categories cut from 13 to 3, UPI-based PF withdrawals, self-correction of personal details.

## Rupee Decline

### Context

- The rupee has fallen about 6% since April 2025 despite strong fundamentals—7.4% GDP growth, low inflation (1.33%), and a small current account deficit (0.76% of GDP)—showing the cause is not economic weakness.
- The key driver is capital outflows, not trade deficit; net inflows of \$10 billion (Apr-Dec 2024) turned into \$4 billion net outflows (Apr-Dec 2025), reflecting worsening investor sentiment.
- Investor fears stem mainly from U.S. trade actions (cumulative 50% tariffs on Indian exports and threats linked to geopolitical alignments), indicating that diplomacy, not economics, is now shaping currency movements.
- The Reserve Bank of India (RBI) can only smooth volatility, not fix the rupee's value under the market-determined exchange rate

system; macro tools alone cannot resolve geopolitically driven depreciation.

- Way Forward: Depreciation will not boost exports meaningfully and may raise import costs (especially crude oil); a diplomatic understanding between India and the U.S. is essential to restore confidence, stabilise capital flows, and support rupee stability.

## Electric LCVs

### Context

- Light Commercial Vehicles (LCVs), crucial for last-mile delivery, were long outside fuel economy norms; this changed in July 2025 when the Bureau of Energy Efficiency (BEE) proposed fuel efficiency standards for 2027–2032, marking a major clean-transport step.
- LCVs form 48% of India's goods vehicle fleet (2024) but only 2% are electric; average emissions are 147.5 g CO<sub>2</sub>/km, showing that even small electrification already lowers emissions.
- Automakers sought exemptions citing high costs and price sensitivity, but the government refused, signalling strong commitment to decarbonisation and learning from weak passenger-car standards.
- Research shows EVs become cheaper than ICE optimisation below 116.5 g CO<sub>2</sub>/km; the proposed target (115 g CO<sub>2</sub>/km) barely crosses this threshold, making EVs viable but not strongly attractive.
- High upfront EV costs and lack of national incentives for LCVs slow adoption.
- Super credits and zero-CO<sub>2</sub> treatment for electric LCVs can boost early adoption, but similar benefits for hybrids and ICE technologies may delay full electrification.

## New CPI Series to Slash Food and Beverages Weightage

### Context

- Food and beverages weight in CPI is being reduced from 45.86% to 36.75% under the new 2024-base CPI series, reflecting declining

food shares in household consumption as incomes rise (as seen in 2023–24 HCES).

- This makes inflation measurement more current, stable, and representative of India's evolving consumption patterns.
- Lower food weight will reduce headline CPI volatility and lessen the dominance of supply-driven food price swings.
- This gives the RBI greater operational comfort under the Inflation Targeting

framework, though higher housing weight and improved rent measurement may push measured housing inflation upward.

- The basket CPI expands from 299 to 358 items, categories are reclassified (e.g., education as a standalone group), and housing weight rises sharply from 10.07% to 17.66% —signalling a shift towards capturing services- and housing-led urban consumption more accurately.

### 3.6 SCHEMES IN NEWS

## Reserve Bank – Integrated Ombudsman Scheme, 2026

### Context

- RBI unveiled a revised Integrated Ombudsman Scheme (IOS), 2026 to strengthen customer grievance redressal.

### Effective from

- **1 July 2026**, replacing IOS 2021.

### Nature

- Summary proceedings; not bound by strict rules of evidence.
- RBI to appoint **Ombudsman & Deputy Ombudsman** (generally 3-year term).
- **Centralised Receipt & Processing Centre (CRPC)** for complaint intake and processing.
- **Coverage**
  - Commercial banks, RRBs, State & Central Co-op Banks, Urban Co-op Banks (≥₹50 crore deposits).
  - Deposit-taking NBFCs or NBFCs with assets ≥₹100 crore.
  - Non-bank prepaid payment issuers (wallets) & Credit Information Companies.
  - **Excluded:** Housing Finance Companies, Core Investment Companies.

## Liberalised Remittance Scheme (LRS)

### Context

- Outward remittances under LRS fell to a **two-year low of USD 1.94 billion (Nov 2025)**, mainly due to reduced spending on foreign education.

### Legal Basis

- Operates under **FEMA, 1999**; regulated by RBI.

### Key Features

- **Who can remit:** Only resident individuals (including minors).
- **Annual Limit:** Up to USD 250,000 per financial year per person.
- **Scope:** For any permissible current or capital account transaction or combination.
- **Above limit:** Requires prior RBI approval.
- **Frequency:** No cap on number of transactions, but total must stay within limit.

## PLI Scheme for White Goods (ACs & LED Lights)

### Context

- Five companies selected under the scheme.

### Aim:

- Build a domestic component ecosystem for Air Conditioners and LED Lights and integrate India into global supply chains.

### Objective

- Boost domestic manufacturing and attract large-scale investment across the white goods value chain.

### Incentive

- 4–6% on incremental turnover (over base year 2019–20) of goods sold in India and exported, for 5 years.

### Eligibility

- Indian-incorporated companies meeting incremental sales and investment thresholds;

no double benefit for same products under another PLI.

#### Duration

- FY 2021–22 to FY 2028–29.

#### Nodal Ministry

- DPIIT, Ministry of Commerce & Industry.

## Womaniya Initiative

#### Context

- Recently, the Government e-Marketplace (GeM) marked **seven years of the Womaniya Initiative**.
- **Womaniya Initiative**, launched in **2019**, is a flagship programme aimed at increasing the participation of **women-led Micro and Small Enterprises and Self-Help Groups** in government procurement.
- It addresses long-standing barriers such as **limited market access, intermediaries, and entry constraints** by providing a **direct, transparent, and fully digital interface** between women sellers and government buyers.

## Design Linked Incentive (DLI) Scheme

#### Context

- Centre sanctions 24 chip design projects under Design Linked Incentive (DLI) Scheme

- Launched in 2021, it is a flagship initiative under the Semicon India Programme, implemented by the Ministry of Electronics and Information Technology.
- Focuses on building a strong fabless semiconductor ecosystem in India.
- Nodal agency: Centre for Development of Advanced Computing (C-DAC).
- Supports semiconductor design across the full lifecycle—design, development, and deployment.
- Covers Integrated Circuits, chipsets, System-on-Chips, systems, and IP cores.
- Eligible entities:
  - Start-ups & MSMEs: Design + deployment incentives
  - Other domestic companies: Deployment incentives
- Structure
  - Product Design Linked Incentive
    - ✓ Reimbursement of up to 50% of eligible design expenditure
    - ✓ Cap: ₹15 crore per application
  - Deployment Linked Incentive
    - ✓ 6%–4% of net sales turnover for 5 years
    - ✓ Cap: ₹30 crore per application
    - ✓ Minimum cumulative net sales (Years 1–5): ₹1 crore for Start-ups/MSMEs, ₹5 crore for other domestic companies.



## 4. DEFENSE & SECURITY

### 4.1 SHORT ARTICLES

#### INSV Kaundinya

##### Context

- INSV Kaundinya reached Muscat's Port Sultan Qaboos after completing its maiden voyage from Porbandar (Gujarat).

##### Details

- INSV Kaundinya is **India's first 'stitched ship' built using the ancient Tankai method**, an indigenous technique revived after centuries. Constructed **without metal fasteners**, its **wooden planks are stitched together with coir ropes from coconut fibre**, sealed with dammar resin and animal fat for waterproofing, allowing the hull to flex with waves and resist rust. Built hull-first (unlike Western frame-first approaches), draws **design inspiration from 5th-century Ajanta cave paintings, the 9th-century Sanskrit text Yuktikalpataru by King Bhoja**, and historical accounts. Named after the legendary 1st-century Indian mariner Kaundinya, credited with sailing to the Mekong Delta and co-founding the ancient Kingdom of Funan in Southeast Asia.

#### Made in India C-295 Aircraft

##### Context

- The first 'Made in India' C-295 aircraft is scheduled to roll out before September 2026.

##### Details

- The 'Made in India' C-295 program involves Tata Advanced Systems (TASL) and Airbus Defence and Space manufacturing 40 tactical transport aircraft in Vadodara, Gujarat, with the first unit scheduled for rollout by September 2026. As part of a ₹21,935 crore deal, **16 "fly-away" aircraft are being delivered from Spain**, totaling 56 to replace the IAF's Avro fleet.

#### Bhairav Battalion

##### Context

- The Bhairav Battalions, the Indian Army's newly raised modern warfare force, made their debut in the Army Day Parade in Jaipur.

##### Details

- Bhairav Battalions are new, rapid-response Indian Army offensive units (200–250 personnel) bridging the gap between deep-mission Para Special Forces and localized Ghatak Platoons. Launched in 2025, these compact, **hybrid warfare units offer immediate contingency and short-notice offensive capability, utilizing technology like drones for deep precision strikes**. Recruitment follows the "Sons of the Soil" principle for terrain expertise. **Fifteen battalions have been raised**, with plans for 23–25, positioned in sensitive zones like Rajasthan, Jammu, Ladakh, and the Northeast under corps/division commands.

#### Pralay Missile

##### Context

- The Defence Research & Development Organisation (DRDO) conducted a salvo launch of two indigenously developed Pralay missiles from the off the coast of Odisha.

##### Details

- Pralay is an advanced, indigenous Indian **quasi-ballistic surface-to-surface missile with a range of 150 km to 500 km and a 500 kg to 1000 kg payload capacity**. It is powered by a solid-propellant engine, launched from a mobile canister system. Its key advantage is its quasi-ballistic trajectory, which includes **low-altitude flight and evasive maneuvers that make it highly difficult for enemy air defenses to intercept**.

## 5. ENVIRONMENT & ECOLOGY

### 5.1 GUIDELINES ON RELIGIOUS STRUCTURES IN WILDLIFE SANCTUARIES

#### Context

- An apex wildlife advisory body has prepared draft guidelines to regulate the diversion of forest land inside wildlife sanctuaries for religious structures.
- The issue gained prominence following a proposal related to the **Balaram Ambaji Wildlife Sanctuary in Gujarat**, where diversion of forest land was sought for a religious structure.

#### Protected Areas in India

- India's network of national parks and wildlife sanctuaries is governed primarily by the Wildlife (Protection) Act, 1972, which seeks to conserve wildlife and their habitats by restricting human activities that may cause ecological stress.
- Any non-forest or non-conservation activity within protected areas is strictly regulated.
- The Forest (Conservation) Act, 1980 further reinforces this framework by mandating central government approval for diversion of forest land for non-forest purposes after 1980.

#### Role of the National Board for Wildlife

- The Standing Committee of the National Board for Wildlife (SCNBWL) functions under the Ministry of Environment, Forest and Climate Change. It evaluates proposals related to land-use change, infrastructure, and activities within protected wildlife habitats.
- Its recommendations guide the central government in approving or rejecting proposals based on conservation priorities.

- The framing of guidelines on religious structures falls squarely within its mandate due to the long-term ecological consequences of construction inside sanctuaries.

#### Provisions of the Draft Guidelines

- Post-1980 religious constructions on forest land are to be treated as encroachments as a general rule.
- Regularisation of existing structures may be considered only in exceptional cases, supported by reasoned, documented justification from the State government.
- Expansion of religious structures within wildlife sanctuaries is generally prohibited. Limited expansion may be allowed only for essential public utilities or managing ecological conflicts, not for commercial or large-scale purposes.
- All proposals must undergo case-by-case scrutiny, with final approval resting with the central government after ecological assessment.
- The draft is currently under consultation with State governments before final adoption.

#### Implications for Wildlife Conservation

If implemented effectively, the guidelines can:

- Prevent the gradual erosion of protected areas through piecemeal construction.
- Create uniform national standards for States dealing with sensitive land-diversion requests.
- Strengthen the legal and administrative position of conservation authorities.
- However, political pressure, selective enforcement, or weak monitoring could dilute their impact, making transparency and accountability crucial for long-term success.

## 5.2 SHORT ARTICLES

### National Environmental Standard Laboratory

#### Context

- The CSIR–National Physical Laboratory has established the National Environmental Standard Laboratory (NESL) in New Delhi to strengthen the credibility of environmental monitoring in India.
- It will test, calibrate and recalibrate air pollution monitoring instruments and environmental sensors under Indian conditions, ensuring reliable data for the National Clean Air Programme.
- It enables in-country validation for manufacturers, industries and municipal bodies, and supports industrial emission audits, smart-city monitoring networks, reference gases.

### National Federation of Cooperative Sugar Factories Limited (NFCSF)

#### Context

- Amid falling sugar prices, the National Federation of Cooperative Sugar Factories Limited has sought government intervention to protect the viability of cooperative sugar mills and sugarcane farmers.
- Established in 1960, NFCSF is a multi-state cooperative deemed under the Multi State Cooperative Societies Act, 2002, representing cooperative sugar factories across India.
- It participates in sugar policy formulation at the Centre and states, advocates members' interests, and promotes sustainable growth of the cooperative sugar sector.
- Provides techno-commercial services for setting up and modernising sugar mills in India and abroad, and is governed by an elected Board of Directors representing state sugar federations and cooperative factories.

### Top Court's Green Governance

#### Context

- Over the last decade, the Supreme Court of India has increasingly moved beyond judicial review (checking legality) to issuing detailed, forward-looking environmental directions.
- This expansion was often triggered by regulatory failure—delayed rules, weak enforcement, and poor monitoring by authorities.
- However, instead of correcting the process and stepping back, the Court has often retained a supervisory and quasi-regulatory role, blurring the line between judging and governing.
- How Supreme Court's Environmental Role Has Shifted
  - Broad Rules, Later Diluted:
    - ✓ 2022: Mandatory 1-km Eco-Sensitive Zone (ESZ) around all protected areas.
    - ✓ 2023: Relaxed after States highlighted impracticality and federal concerns.
  - Vehicle Emission Controls:
    - ✓ 2015: Blanket ban on large diesel vehicles in Delhi-NCR.
    - ✓ Later replaced with compensatory charges; 2025 rules narrowed to below BS-IV vehicles.
- Firecracker Regulations:
  - Oscillation between near-total bans and limited permissions (green crackers, festivals).
- Key Pattern: Strong principles announced first, exceptions carved later, creating uncertainty.

### U.S. Climate Exit

#### Context

- U.S. President Donald Trump has signed a memorandum withdrawing the United States from 66 international organisations, including key climate bodies such as the UN Framework Convention on Climate Change

(UNFCCC) and the Intergovernmental Panel on Climate Change (IPCC).

- The decision marks a major retreat from multilateral climate cooperation, raising concerns about global leadership, funding, and coordination.
- Withdrawal by a major historical emitter weakens the principle of shared responsibility.
- Reinforces perceptions that rich nations under-deliver on climate promises, hardening negotiating positions.
- May embolden other countries to delay or dilute commitments.
- Undermines confidence in meeting rising climate finance targets, including the \$300 billion annual goal by 2035.

## EU's Carbon Border Tax & India's Metal Exports

### Context

- The European Union has operationalised the Carbon Border Adjustment Mechanism (CBAM) from January 1, imposing a carbon-linked charge on imports of carbon-intensive goods such as steel, aluminium, cement, fertilisers, chemicals and power-related products.
- India's exports to the EU are heavily steel-, iron- and aluminium-centric, making them highly exposed to CBAM costs.
- From January 1, 2026, Indian metal shipments will attract a direct carbon price, potentially forcing exporters to cut prices by 15–22%.
- MSMEs face the greatest risk due to high compliance, data verification costs and limited access to plant-level emissions data.
- India's steel sector is largely blast-furnace based, while the EU and US (major scrap producers) rely more on Electric Arc Furnaces—creating a competitive asymmetry.
- Limited scrap availability and EU controls on scrap exports worsen India's disadvantage.

## The Gadgil Report and the Western Ghats Backlash

### Context

- Eminent ecologist Madhav Gadgil passed away recently, renewing debate on his most influential contribution—the Gadgil Report on conservation of the Western Ghats.
- The Western Ghats stretch from Gujarat to Kerala and Tamil Nadu, acting as the water tower of peninsular India.
- It is a global biodiversity hotspot with high endemism and fragile ecosystems.
- In 2010, the Western Ghats Ecology Expert Panel (WGEEP) was constituted after deliberations of the *Save Western Ghats Movement*, attended by then Environment Minister Jairam Ramesh.
- Recommendations of the Gadgil Panel (2011):
  - Declared the whole 1,29,037 sq km as ecologically sensitive.
  - Strict controls on development.
  - Proposed a Western Ghats Ecology Authority under the Environment Protection Act with expert and multi-ministry representation.
  - Emphasised Gram Sabha participation and inclusive conservation.
  - The report faced strong opposition from States, especially Kerala and Maharashtra.
- In 2012, a High-Level Working Group led by Kasturirangan was set up. Only 56,825 sq km declared as ESA. Focus on village-level mapping instead of blanket coverage. Considered more administratively feasible and politically acceptable.
- Based on the Kasturirangan report, the Centre has issued six draft ESA notifications, the latest in August 2024.
- Disputes with States continue; a committee headed by former DGF Sanjay Kumar is still finalising boundaries.

## CAQM Report on Delhi's Winter Air Pollution

### Context

- CAQM synthesis report identifies secondary particulate matter (27%) as the largest contributor to Delhi's winter PM<sub>2.5</sub> pollution.
- **Why Important:** Provides a harmonised, evidence-based source apportionment to guide policy.
- **Secondary Particulate Matter:** Formed in atmosphere from SO<sub>2</sub>, NO<sub>x</sub>, and NH<sub>3</sub> → sulphates & nitrates. **Accounts for 25–60% of winter PM<sub>2.5</sub>**; highly harmful due to deep lung penetration.
- **Role of Ammonia (NH<sub>3</sub>):** ~80% from agriculture (fertilisers, livestock). Combines with acids from SO<sub>2</sub>/NO<sub>x</sub> to form ammonium aerosols → strong rural–urban pollution linkage.

## Environmental Protection Fund Rules

### Context

- Union Government notified rules for utilisation of the Environmental (Protection) Fund, created from penalties under key environmental laws.
- **Legal Basis:** Jan Vishwas Act, 2023 (decriminalised minor offences but retained monetary penalties).
- Operationalise the Polluter Pays Principle.
- Penalties under laws related to air pollution, water pollution, and the Environment (Protection) Act, 1986.
- **Nodal authority:** MoEFCC (or designated body).
- Central Pollution Control Board to maintain an online portal for fund management.
- **Centre–State Sharing:** 75% to concerned State's Consolidated Fund. 25% retained by Centre for national initiatives.
- CAG audit mandatory.

## Bio-Bitumen

### Context

- India has entered an era of “Clean, Green Highways” after successful technology transfer of Bio-Bitumen via Pyrolysis, enabling conversion of farm residue into road construction material.
- **What is Bio-Bitumen:** A sustainable alternative to petroleum-based bitumen, produced from renewable biomass (agricultural waste, plant oils), which reduces carbon emissions and import dependence.
- Biomass (e.g., post-harvest rice straw) undergoes pyrolysis to produce bio-oil, which is then refined, modified, and blended with conventional bitumen to enhance performance.
- **Indian Innovation:** Developed by CSIR-Central Road Research Institute and CSIR-Indian Institute of Petroleum; tests show 20–30% replacement of conventional bitumen is feasible without performance loss—supporting waste management, farmer income, and greener infrastructure.

## Solid Waste Management (SWM) Rules, 2026

### Context

- The Union Government has notified the Solid Waste Management (SWM) Rules, 2026, making source-level processing of waste mandatory for bulk waste generators and local bodies from April 1.
- India generates about 1.85 lakh tonnes of solid waste per day, with 30–40% from bulk generators; poor segregation and heavy landfill dumping cause pollution and health risks.
- New rules follow the waste hierarchy — reduce → reuse → recycle → recover → landfill as last resort, and impose higher landfill fees for unsegregated waste.
- **Key Provisions:**
  - Four mandatory streams: wet, dry, sanitary, special-care waste



- Bulk generators ( $\geq 20,000$  sq m buildings /  $\geq 40,000$  L water use /  $\geq 100$  kg waste per day) must process wet waste on-site or obtain Extended Bulk Waste Generator Responsibility (EBWGR) certificate.
- Shifts responsibility from urban local bodies to waste generators, improves recycling and processing, reduces landfill dependence, and supports a circular economy.

## JALAJ Livelihood Centres

### Context

- The Union Minister of Jal Shakti recently inaugurated 25 JALAJ Livelihood Centres across the Ganga basin.

- **What is JALAJ:** A joint initiative of Namami Gange Mission and Wildlife Institute of India (WII) to link river conservation with sustainable livelihoods.
- **Core Idea:** Based on a circular economy model, where local communities are trained in green livelihoods while contributing to clean rivers and biodiversity conservation.
- **Community Focus:** Promotes community ownership, women's participation, and builds symbiotic linkages between people and rivers.
- **Centre Functions:** Act as hubs for conservation education, livelihood training, information on aquatic biodiversity, and sale of locally made products reflecting local culture.

## 5.3 SNIPPETS

## PROTECTED AREAS IN NEWS

Name	Context	Details
Kumbhalgarh Wildlife Sanctuary	Area 0–1 km around the sanctuary notified as Eco-Sensitive Zone (ESZ) by the Centre.	<ul style="list-style-type: none"> <li>• Location: Rajasthan, in the Aravalli Range; includes the historic Kumbhalgarh Fort.</li> <li>• Drainage Divide: <ul style="list-style-type: none"> <li>○ Eastern part gives rise to Banas River → Bay of Bengal basin.</li> <li>○ Western slopes form Sukdi, Sumer, Mithdi, Kot streams → tributaries of Luni River → Arabian Sea.</li> </ul> </li> <li>• Flora: Dominated by herbs; trees like Dhok, Khair, Salar, Churel.</li> <li>• Fauna: Wolf, Leopard, Sloth bear, Hyena, Jackal, Jungle cat, Sambar, Nilgai, Chinkara, Chausingha (four-horned antelope), Hare.</li> </ul>
Pangolakha Wildlife Sanctuary	Forest fire reported inside Pangolakha WLS, Sikkim, near the Indo-China border at ~13,000 ft altitude.	<ul style="list-style-type: none"> <li>• Location &amp; Connectivity: Eastern Sikkim; connected to Bhutan forests and Neora Valley National Park (West Bengal); lies along the Pangolakha Range (below Chola Range).</li> <li>• Vegetation: Subtropical–temperate–alpine continuum.</li> <li>• Hydrology: High-altitude lakes including Lake Tsongmo; source region of Rangpo and Jaldhaka rivers.</li> </ul>
ThanthaiPeriyar Wildlife	The first phase of the All-India Tiger Estimation 2026	<ul style="list-style-type: none"> <li>• Located in the Bargur Hills of Erode district (Tamil Nadu), it lies between Sathyamangalam Tiger</li> </ul>

<b>Sanctuary</b>	(AITE-26) has begun in the Sanctuary.	Reserve and Male Mahadeshwara Wildlife Sanctuary, forming a critical tiger corridor. <ul style="list-style-type: none"> <li>Part of the Eastern Ghats–Western Ghats transition zone near the Nilgiris; also falls within the Nilgiris Elephant Reserve and serves as a catchment of the Palar River, which drains into the Cauvery.</li> </ul>
<b>Aralam Butterfly Sanctuary</b>	The Kerala Government has renamed Aralam Wildlife Sanctuary as Aralam Butterfly Sanctuary, making it the first butterfly sanctuary in Kerala.	<ul style="list-style-type: none"> <li>Shares boundaries with Brahmagiri Wildlife Sanctuary, Kottiyoor Wildlife Sanctuary, and North Wayanad forests; dominated by evergreen and semi-evergreen forests, with the Cheenkanni River flowing through it.</li> <li>Hosts over 80% of Kerala's butterfly species.</li> <li>It supports fauna like elephants, giant squirrels, leopards, birds, and is a special habitat of the Slender Loris.</li> </ul>
<b>Ratapani Tiger Reserve</b>	The Madhya Pradesh government announced that the newly designated Ratapani Tiger Reserve will be named after Vishnu Shridhar Wakankar, noted archaeologist and Padma Shri awardee.	<ul style="list-style-type: none"> <li>Situated in Raisen and Sehore districts, spread across the Vindhya Range, running parallel to the Narmada River; Kolar River forms the western boundary, with Barna Reservoir and Ratapani Dam as key water bodies.</li> <li>Undulating terrain with dry and moist deciduous forests dominated by teak; includes the Bhimbetka Rock Shelters, a UNESCO World Heritage Site, along with Ginnourgarh Fort and other heritage sites.</li> <li>Tiger is the apex predator; also supports Chinkara (endangered).</li> </ul>
<b>Nelapattu Bird Sanctuary</b>	The Flamingo Festival recently drew visitors to Nelapattu Bird Sanctuary.	<ul style="list-style-type: none"> <li>Located in Andhra Pradesh, near Pulicat Lake (India's second-largest salt lake); dominated by Barringtonia swamp forests and southern dry evergreen scrub.</li> <li>Rich floral diversity sustains wetland ecology and migratory bird populations.</li> </ul>
<b>Bannerghatta National Park</b>	The Central Empowered Committee has recommended restoring the Ecologically Sensitive Zone (ESZ) around the park to its original 2016 extent to protect its fragile ecosystem.	<ul style="list-style-type: none"> <li>It is located in the Anekal range near Bengaluru, Karnataka; declared a National Park in 1974 and houses India's first butterfly enclosure (2006).</li> <li>Eco-Sensitive Zones act as protective buffers around protected areas and are notified by the Ministry of Environment, Forests and Climate Change under the Environment (Protection) Act, 1986.</li> </ul>
<b>Asola-Bhatti Wildlife Sanctuary</b>	Recently, it has gained attention as over 6,500 rescued monkeys from Delhi have been relocated here to mitigate human–	<ul style="list-style-type: none"> <li>It is located on the Southern Delhi Ridge of the Aravalli range, spanning parts of Delhi and Haryana, and forms part of the Northern Aravalli Leopard Wildlife Corridor.</li> <li>It is a semi-arid forest ecosystem supporting</li> </ul>

	wildlife conflict in urban areas.	<p>species like Indian leopard, nilgai, jackal, sambar deer, diverse birds, and reptiles.</p> <ul style="list-style-type: none"> <li>The sanctuary also passes near several historical sites such as Tughlakabad, Surajkund, and Anangpur Dam.</li> </ul>
<b>Dnyanganga Wildlife Sanctuary</b>	A rescued tiger cub PKT7CP1, saved three years ago, has been shifted to Dnyanganga Wildlife Sanctuary in Maharashtra for rewilding, marking an important step in wildlife rehabilitation.	<ul style="list-style-type: none"> <li>Location: Buldhana district, near the Dnyanganga River</li> <li>Ecological link: Forms part of the broader Melghat Tiger Reserve landscape</li> <li>Topography &amp; climate: Extreme climate—very hot summers and cold winters</li> <li>Water bodies: Contains two lakes</li> <li>Forest type: Southern tropical dry deciduous forest</li> <li>Dominant species: Teak and Anjan</li> </ul>
<b>Sepahijala Wildlife Sanctuary</b>	Tripura has received ₹57 crore for modernisation and development of Sepahijala Wildlife Sanctuary in Sepahijala district.	<ul style="list-style-type: none"> <li>Contains Abasarika Lake and Amrit Sagar Lake and includes the Clouded Leopard National Park.</li> <li>Vegetation: Dominated by moist deciduous forests.</li> </ul>
<b>Achanakmar Tiger Reserve</b>	A young male tiger recently died due to territorial infighting inside Achanakmar Tiger Reserve in Chhattisgarh.	<ul style="list-style-type: none"> <li>It is part of the Achanakmar–Amarkantak Biosphere Reserve and is one of three tiger reserves in the state.</li> <li>Acts as an important tiger corridor connecting Kanha and Bandhavgarh Tiger Reserves.</li> <li>The Maniyari River flows through the centre; home to Baiga (PVTG), Gond and Yadav communities.</li> <li>Dominated by tropical moist deciduous forests.</li> </ul>
<b>Shettihalli Wildlife Sanctuary</b>	The sanctuary is in news after a proposal to reduce the boundary.	<ul style="list-style-type: none"> <li>Situated in Shivamogga district, Karnataka; includes the Tunga Anicut Dam and the Mandagadde Bird Sanctuary, a well-known bird nesting island in the Tunga River.</li> <li>Dominated by tropical evergreen and semi-evergreen forests, with dry and moist deciduous forests in eastern/central parts and semi-evergreen forests in the west.</li> </ul>
<b>Sunabeda Wildlife Sanctuary</b>	Recently declared Maoist-free, the sanctuary is witnessing ecological recovery and is emerging as a stronghold for leopards.	<ul style="list-style-type: none"> <li>Situated in Nuapada district of Odisha, the sanctuary adjoins Sitanadi and Udanti sanctuaries of Chhattisgarh and features plateaus, canyons, and waterfalls.</li> <li>It also forms the catchment of the Jonk River.</li> <li>Dominated by dry deciduous tropical forests, it provides ideal habitat for barasingha.</li> </ul>

## FAUNA IN NEWS

Name	Context	Details
<b>Gharial</b>	A recent survey recorded 3,037 individuals across the Ganga basin.	<ul style="list-style-type: none"> <li>The gharial is a freshwater, fish-eating crocodile native to the Indian subcontinent, easily identified by its long, narrow snout and the bulbous ghara in adult males.</li> <li>It is one of the largest and most aquatic crocodilians, rarely venturing far from rivers except for basking and nesting on sandbanks.</li> <li>Today, its main populations survive in the Ganga river system, especially the Chambal, Girwa, and Rapti-Narayani rivers.</li> <li>The gharial is listed as Critically Endangered on the IUCN Red List.</li> </ul>
<b>Metadonghorpadei &amp; Metadonremeri</b>	Researchers discovered two new ant-fly species in India.	<ul style="list-style-type: none"> <li>Taxonomy: Belong to Microdontinae subfamily of hoverflies (ant flies).</li> <li>Locations: <ul style="list-style-type: none"> <li><i>Metadonghorpadei</i> – Northern Ridge Forest, Delhi.</li> <li><i>Metadonremeri</i> – Siruvani Hills, Western Ghats.</li> </ul> </li> <li>Larvae live inside ant nests and feed on ant broods (myrmecophily).</li> <li>Microdontinae species are often rare or threatened due to specialised habitats and patchy distribution.</li> </ul>
<b>Darwin's Bark Spider</b>	International study on bark spiders to understand conditions triggering production of ultra-tough silk.	<ul style="list-style-type: none"> <li>Family: Araneidae (orb-weaver spiders).</li> <li>Distribution: Endemic to Madagascar.</li> <li>Habitat: Riverine forests and wetlands.</li> <li>Produces the largest and toughest known spider silk.</li> </ul>
<b>Indian Skimmer</b>	BNHS launched a conservation project under National Mission for Clean Ganga (NMCG) to protect Indian Skimmer in the Ganga Basin.	<ul style="list-style-type: none"> <li>One of three skimmer species (Genus Rynchops, Family Laridae).</li> <li>Feeding Behaviour: Flies low over water and "skims" the surface to catch fish.</li> <li>Habitat &amp; Distribution: Large sandy lowland rivers, lakes, marshes; non-breeding season in estuaries &amp; coasts.</li> <li>Native to South Asia – India, Bangladesh, Pakistan; also Nepal, Myanmar.</li> <li>Key Indian site: Chambal River.</li> <li>Conservation Status: IUCN – Endangered</li> </ul>
<b>Gegeneophisvalmiki</b>	New subterranean amphibian species discovered in the northern	<ul style="list-style-type: none"> <li>Taxonomy: Genus Gegeneophis – blind caecilians.</li> <li>Etymology: Named after Maharshi Valmiki</li> </ul>

	Western Ghats.	<p>Mandir near the discovery site.</p> <ul style="list-style-type: none"> <li>Caecilians: Limbless, worm-like amphibians living mostly underground ("hidden amphibians"). Important soil ecosystem engineers: improve aeration, regulate soil invertebrates, and support food webs.</li> </ul>
Royle's Pika	Scientists warn climate change threatens cold-adapted species like Royle's pika.	<ul style="list-style-type: none"> <li>Also Known As: Himalayan mouse hare / hui shutu.</li> <li>Habitat: Open rocky areas and rhododendron forests.</li> <li>Distribution: Northwestern Pakistan; in India – J&amp;K, Himachal Pradesh, Uttarakhand, Sikkim, Arunachal Pradesh; also Nepal &amp; Tibet.</li> <li>Conservation Status: IUCN – Least Concern.</li> </ul>
Brandt's Hedgehog	First record in India – discovered in Jammu & Kashmir through DNA and morphological analysis.	<ul style="list-style-type: none"> <li>Type: Desert hedgehog species.</li> <li>Native to Middle East &amp; Central Asia – Iran, Afghanistan, Pakistan, parts of Turkmenistan.</li> <li>Habitat: Arid and semi-arid regions: rocky deserts, scrublands, dry mountain slopes.</li> <li>Conservation Status: IUCN – Least Concern.</li> </ul>
Indiaphontebijoyi	New microscopic crustacean species discovered in Kavaratti Lagoon, Lakshadweep; genus named Indiaphonte.	<ul style="list-style-type: none"> <li>Habitat: Lives within sediments of aquatic environments.</li> <li>Laophontidae (Family): Most diverse family under Harpacticoida.</li> <li>Microscopic copepods, abundant in marine and freshwater systems.</li> <li>Bio-indicators: Sensitive to pollution, oil spills, heavy metals, and climate change.</li> <li>Produce omega-3 fatty acids (EPA &amp; DHA) vital for fish growth and human nutrition.</li> </ul>
Indian Bison (Gaur)	Debrigarh Wildlife Sanctuary (Odisha) recorded a rise of 189 gaurs in one year, taking population to 848.	<ul style="list-style-type: none"> <li>Largest wild cattle species; family Bovidae.</li> <li>Distribution: Indigenous to South &amp; Southeast Asia.</li> <li>Habitat: Evergreen, semi-evergreen and moist deciduous forests with grasslands; prefers hilly, undisturbed forests with water.</li> <li>IUCN: Vulnerable</li> <li>CITES: Appendix I</li> <li>Wildlife (Protection) Act, 1972: Schedule I</li> </ul>
Madras Hedgehog (Bare-bellied Hedgehog)	Tamil Nadu Forest Department has initiated the first-ever study on Madras Hedgehog in Theri forests.	<ul style="list-style-type: none"> <li>Small, nocturnal mammal with sharp spines; curls into a ball for defence; adapted to hot, dry environments.</li> <li>Habitat: Dry scrublands, thorn forests, grasslands, and farmland edges.</li> </ul>



		<ul style="list-style-type: none"> <li>• Distribution: Endemic to peninsular India – Tamil Nadu, Kerala, Andhra Pradesh, parts of Karnataka.</li> <li>• Conservation Status: IUCN – Least Concern.</li> <li>• India has three hedgehog species – Indian Long-eared (Collared), Indian Hedgehog, and Madras (Bare-bellied) Hedgehog.</li> </ul>
<b>Asiatic Wild Dog (Dhole)</b>	Dhole sighted for the first time in Ratapani Tiger Reserve, Madhya Pradesh.	<ul style="list-style-type: none"> <li>• Also Called: Indian wild dog, whistling dog, red dog, red wolf, mountain wolf.</li> <li>• Distribution: Central, Eastern &amp; Southeast Asia; in India – Western &amp; Eastern Ghats (stronghold), Central India, Northeast India.</li> <li>• Habitat: Dense forests, scrub forests, grasslands, mountains, pine forests.</li> <li>• Features: Reddish-brown, medium-sized, social pack animal, communicates using whistling calls.</li> <li>• Conservation Status: IUCN – Endangered.</li> </ul>
<b>Red-Eared Slider Turtle</b>	Invasive Red-eared slider turtles, spread via pet trade, posing ecological threat to water bodies in Coimbatore.	<ul style="list-style-type: none"> <li>• One of the most widely introduced freshwater turtles globally; present on all continents except Antarctica.</li> <li>• Habitat: Predominantly aquatic; terrestrial mainly during range expansion.</li> <li>• Identification: Distinct red stripe behind each ear.</li> <li>• Traits: Highly adaptable, tolerates sub-optimal temperatures; aggressive feeder, especially during pregnancy.</li> <li>• IUCN Status: Least Concern (globally), yet invasive in many regions.</li> </ul>
<b>Stingless Bees</b>	Amazonian stingless bees became the first insects in the world to receive legal rights after two municipalities – Satipo and Nauta – in Peru passed a special ordinance recently.	<ul style="list-style-type: none"> <li>• A group of bees that lack functional stingers or have stingers incapable of causing pain.</li> <li>• Common genera: <i>Austroplebeia</i>, <i>Melipona</i>, <i>Tetragonula</i></li> <li>• Defence mechanism: Use mandibles (biting) instead of stinging.</li> <li>• Among the oldest pollinators on Earth, with high species diversity in the Amazon rainforest.</li> <li>• Found mainly in tropical regions worldwide.</li> <li>• India: Reported mainly from Northeast, Eastern and Southern India.</li> </ul>
<b>Sirkeer Malkoha</b>	The Sirkeer Malkoha has been recorded for the first time in Uttarkashi district of Uttarakhand,	<ul style="list-style-type: none"> <li>• Common name: Sirkeer Malkoha / Sirkeer Cuckoo</li> <li>• A non-parasitic cuckoo – unlike many cuckoos, it does not lay eggs in other birds'</li> </ul>

	expanding its known distribution in the Himalayan region.	<p>nests.</p> <ul style="list-style-type: none"> <li>• Range: Sub-Himalayan Indian subcontinent; also found in Bangladesh, Sri Lanka, and patchily in Pakistan and Rajasthan.</li> <li>• Habitat: Scrub forests, thin woodland, and hilly terrain; often seen moving close to the ground.</li> <li>• Possesses zygodactyl feet (two toes forward, two backward), aiding in gripping branches and ground movement.</li> <li>• IUCN Red List: Least Concern</li> </ul>
<b>Eastern Imperial Eagle</b>	Wildlife enthusiasts have confirmed the winter presence of the Eastern Imperial Eagle at Mudumalai Tiger Reserve.	<ul style="list-style-type: none"> <li>• Type: Large bird of prey (family <i>Accipitridae</i>, subfamily <i>Aquilinae</i> with well-feathered legs).</li> <li>• Distribution: Breeds in southeastern Europe and across West &amp; Central Asia; most populations migrate to northeastern Africa, the Middle East, and South &amp; East Asia in winter.</li> <li>• Key feature: Reverse sexual dimorphism—females are larger than males, typical of raptors.</li> <li>• IUCN Red List – Vulnerable.</li> </ul>
<b>Galaxy Frog</b>	A recent study reported that seven Galaxy Frogs vanished—likely dead—after repeated disturbance by photographers.	<ul style="list-style-type: none"> <li>• Among the rarest and most visually striking amphibians in the world.</li> <li>• Named for its warty dorsal skin with bluish-white, star-like spots, resembling a galaxy.</li> <li>• Belongs to the family Microhylidae and sub-family Melanobatrachinae.</li> <li>• Declared the flagship species of Mathikettan Shola National Park.</li> <li>• Endemic to the wet evergreen forests of the southern Western Ghats in Kerala and Tamil Nadu.</li> <li>• Highly dependent on cool, moist, low-light forest microclimates.</li> <li>• No vocal sac → cannot be detected through calls like most frogs.</li> <li>• IUCN Red List: Vulnerable.</li> </ul>
<b>White-Bellied Heron</b>	An expert panel has recommended environmental clearance for the Kalai-II hydroelectric project on the Lohit River, a critical habitat of the White-bellied Heron—raising conservation concerns.	<ul style="list-style-type: none"> <li>• Type: Large heron; second-largest living heron species</li> <li>• Also known as: Imperial heron / Great white-bellied heron</li> <li>• Indicator species: Presence reflects healthy rivers, good water quality, and robust fish populations</li> <li>• Habitat: Wetlands and free-flowing riverine systems in tropical and subtropical forests</li> </ul>

		<ul style="list-style-type: none"> <li>• Distribution: Foothills of the eastern Himalayas, mainly in northeast India and Bhutan</li> <li>• IUCN Red List: Critically Endangered</li> <li>• Wildlife Protection Act, 1972: Schedule I</li> </ul>
<b>Double-Humped Bactrian Camel</b>	Ladakh's double-humped Bactrian camels will make their debut at the 77th Republic Day Parade.	<ul style="list-style-type: none"> <li>• Large even-toed ungulate, often called Ladakh's "silent warriors."</li> <li>• Native to Central Asia—from Afghanistan to China, especially the Mongolian steppes and Gobi Desert.</li> <li>• In India, small populations survive in the Nubra Valley of Ladakh.</li> <li>• Two humps store fat, convertible to energy and water during scarcity.</li> <li>• IUCN Red List: Critically Endangered</li> </ul>
<b><i>Calamaria mizoramensis</i></b>	Researchers have discovered a new species of reed snake in Mizoram, naming it <i>Calamaria mizoramensis</i> after the state where it was found.	<ul style="list-style-type: none"> <li>• A newly identified, non-venomous reed snake species.</li> <li>• Habitat: Humid, forested hill environments.</li> <li>• Behaviour: Nocturnal and semi-fossorial (lives partly underground or under leaf litter).</li> <li>• Reed Snakes <ul style="list-style-type: none"> <li>○ Family: Colubridae</li> <li>○ Nature: Small, slender, non-venomous snakes</li> <li>○ Distribution: Southern and Southeast Asia</li> </ul> </li> </ul>
<b>Indian Giant Squirrel</b>	Recently sighted during the All India Tiger Estimation 2026 survey in Pune forest division.	<ul style="list-style-type: none"> <li>• The Indian Giant Squirrel, also called the Malabar Giant Squirrel (<i>Ratufa indica</i>), is one of the largest tree squirrels in the world and is arboreal.</li> <li>• Found mainly in the Western Ghats, Eastern Ghats, and Satpura Range.</li> <li>• Known for its striking multi-coloured fur, largely solitary behaviour, and nesting in tree hollows; locally called Shekru in Maharashtra.</li> <li>• Listed as Least Concern on the IUCN Red List; it is the state animal of Maharashtra.</li> </ul>
<b>Grey Slender Loris</b>	Kerala and Tamil Nadu have initiated efforts to restore habitats and strengthen monitoring of the Grey Slender Loris.	<ul style="list-style-type: none"> <li>• The Grey Slender Loris is a nocturnal, arboreal prosimian primate of the family Loridae.</li> <li>• Found in southern India (Karnataka, Kerala, Tamil Nadu) and Sri Lanka.</li> <li>• Threatened by illegal pet trade, hunting, and road mortality; listed as Near Threatened (IUCN), CITES Appendix II, and Schedule I</li> </ul>

		under the Wildlife Protection Act.
<b>Pufferfish</b>	India has recently reported its first case of freshwater puffer fish poisoning, raising public health concerns.	<ul style="list-style-type: none"> <li>Pufferfish are found in India's freshwater systems, especially the Western Ghats and major river basins like the Ganga, Brahmaputra, and Mahanadi.</li> <li>They are benthic, omnivorous fishes known for their unique inflation defence mechanism and are often endemic.</li> <li>Some pufferfish carry tetrodotoxin (TTX), an extremely potent neurotoxin that can cause paralysis and respiratory failure; the toxin originates from symbiotic bacteria, not the fish itself.</li> <li>Their conservation status is Vulnerable as per the IUCN.</li> </ul>
<b>Phayre's Leaf Monkey</b>	Phayre's Leaf Monkey is a diurnal, arboreal Old World monkey, recently reported to be altering its behaviour due to rapid habitat destruction.	<ul style="list-style-type: none"> <li>Found in North-East India (Tripura, Assam, Mizoram), eastern Bangladesh, and western Myanmar; inhabits tropical, deciduous, evergreen forests, bamboo groves, and even rubber plantations.</li> <li>Primarily leaf-eating (folivorous), spending over 75% of its time in tree canopies.</li> <li>Endangered (IUCN Red List); listed under CITES Appendix II.</li> </ul>
<b><i>Drosophila melanogaster</i></b>	Researchers studied the ovaries of <i>Drosophila melanogaster</i> to understand how reproductive stem cells maintain their function over time.	<ul style="list-style-type: none"> <li><i>Drosophila melanogaster</i>, commonly known as the fruit fly, is found across tropical and temperate regions worldwide and thrives around rotting plant material.</li> <li>It undergoes complete metamorphosis, shows clear sexual dimorphism, has rapid reproduction and highly sensitive eyes and sensory responses.</li> <li>It is one of the most widely used model organisms in biomedical science due to its fast life cycle, genetic simplicity and relevance to human biological processes.</li> </ul>
<b>Indo-Pacific leopard shark</b>	Thailand has launched its first shark rewilding effort by releasing a young Indo-Pacific leopard shark near Maiton Island.	<ul style="list-style-type: none"> <li>Also Known As: Zebra shark.</li> <li>Distinctive Feature: Body pattern changes with age — juveniles show stripes, while adults develop spots.</li> <li>Habitat: Slow-swimming reef shark found in tropical coastal waters of the Indo-Pacific region.</li> <li>Conservation Status: Listed as Endangered on the IUCN Red list.</li> </ul>
<b>Rusty-spotted Cat</b>	The Rusty-spotted Cat was recently sighted in the	<ul style="list-style-type: none"> <li>It is considered the world's smallest and lightest wild cat species.</li> </ul>

	<p>Shergarh forest of Baran district, Rajasthan, highlighting its wider distribution in India.</p>	<ul style="list-style-type: none"> <li>Found in dry deciduous and semi-deciduous forests of northern and central India, Western Ghats, Kachchh, Rajasthan, and other parts of peninsular India, as well as Nepal and Sri Lanka.</li> <li>Listed as Near Threatened on the IUCN Red List.</li> </ul>
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## FLORA IN NEWS

Name	Context	Details
<b>Parakaempferia alba</b>	A new ginger species discovered in the Siang Valley, Arunachal Pradesh.	<p>About Zingiberaceae (Ginger Family)</p> <ul style="list-style-type: none"> <li>Largest family in the order Zingiberales.</li> <li>Aromatic, perennial herbs with fleshy rhizomes.</li> <li>Mostly tropical-subtropical distribution.</li> <li>Economically important members: <ul style="list-style-type: none"> <li>Ginger (<i>Zingiber officinale</i>)</li> <li>Turmeric (<i>Curcuma longa</i>)</li> <li>Cardamom (<i>Elettaria cardamomum</i>)</li> <li>Ornamentals like Alpinia (shellflower)</li> </ul> </li> </ul>
<b>Strobilanthesriteshii</b>	A new flowering plant species, <i>Strobilanthesriteshii</i> , has been formally recorded from Arunachal Pradesh.	<ul style="list-style-type: none"> <li>Belonging to the Acanthaceae family, it grows on open hill slopes near waterfalls/streams in evergreen forests and is provisionally Data Deficient (IUCN) due to limited field data.</li> </ul>
<b>Nagauri Ashwagandha</b>	The Centre has granted a GI tag to Nagauri Ashwagandha, recognising its unique quality traits linked to the Nagaur region of Rajasthan.	<ul style="list-style-type: none"> <li>Grown mainly in Nagaur district, it has longer, thicker, brittle and starchy roots rich in alkaloids, and dark bright-red berries, considered markers of superior quality.</li> <li>Nagaur's dry climate and sandy soil are ideally suited for Ashwagandha, making Nagauri Ashwagandha the premium variety in arid regions.</li> <li>About Ashwagandha: <i>Withaniasomnifera</i> (Indian ginseng/Indian winter cherry) is a key Ayurvedic medicinal plant, valued as an adaptogen; it grows best in dry sub-tropical regions, sandy loam soils and moderate rainfall.</li> </ul>
<b>Hemileccinum indicum</b>	A new mushroom species named <i>Hemileccinum indicum</i>	<ul style="list-style-type: none"> <li>This is the first recorded occurrence of the genus <i>Hemileccinum</i> in India.</li> </ul>



	has been discovered in the temperate forests of the Indian Himalayas.	<ul style="list-style-type: none"> <li>It is an ectomycorrhizal fungus, forming a symbiotic relationship with tree roots to help nutrient exchange and forest health.</li> </ul>
<b>Hoya nagaensis</b>	A new plant species named Hoya nagaensis has been discovered in Nagaland.	<ul style="list-style-type: none"> <li>A member of the Hoya genus (wax plant family), known for ornamental plants with attractive flowers.</li> <li>Key Features: Has unique leaf shapes, distinctive star-shaped flowers, and releases milky latex, typical of the Apocynaceae (milkweed) family.</li> <li>Known from only one location, making it highly vulnerable.</li> </ul>
<b>Lepidagathiskonkanensis</b>	Researchers have discovered a new wildflower species named Lepidagathiskonkanensis in the Konkan region of Maharashtra.	<ul style="list-style-type: none"> <li>The species name "konkanensis" honours the Konkan region where it was discovered.</li> <li>Conservation Status: Classified as Data Deficient on the IUCN Red List.</li> </ul>

## DISEASES IN NEWS

Name	Context	Details
<b>Cetacean Morbillivirus</b>	Scientists recently used drones to detect the presence of Cetacean morbillivirus (CeMV) among whales in the Arctic.	<ul style="list-style-type: none"> <li>CeMV is a highly infectious viral disease affecting cetaceans—whales, dolphins, and porpoises.</li> <li>It belongs to the Paramyxoviridae family.</li> <li>The virus is an enveloped, negative-sense single-stranded RNA virus.</li> <li>Order Cetacea includes whales, dolphins, and porpoises</li> <li>Fully aquatic, carnivorous mammals</li> <li>Found in all oceans of the world</li> </ul>
<b>Root Wilt Disease</b>	Root Wilt Disease has recently re-emerged as a major threat to coconut cultivation in Kerala, Karnataka, and Tamil Nadu.	<ul style="list-style-type: none"> <li>It is a phytoplasma-induced (bacterial), non-fatal but highly debilitating disease of coconut palms, first identified over 150 years ago in Erattupetta, Kerala, which drastically reduces the production potential of affected palms.</li> <li>The disease spreads through insect vectors, supported by wind and continuous coconut plantations.</li> <li>Breeding resistant and tolerant varieties remains the most effective long-term management strategy.</li> </ul>

## 6. SCIENCE & TECHNOLOGY AND HEALTH

### 6.1 SETBACK FOR PSLV

#### Why in News

- In January 2026, the Indian Space Research Organisation (ISRO) suffered a failure of PSLV-C62, carrying 16 satellites, which failed to reach the intended orbit.
- This followed the PSLV-C61 failure in May 2025, marking two consecutive failures of the Polar Satellite Launch Vehicle, India's most reliable launch vehicle for over three decades.
- In both cases, the anomaly occurred during the third stage, after normal performance of the first two stages.

#### How PSLV Reaches Orbit

- First Stage (Solid fuel): Provides lift-off and vertical ascent up to ~50–60 km, overcoming gravity and atmospheric drag.
- Second Stage (Liquid fuel – Vikas engine): Builds horizontal velocity and takes the vehicle to ~220–250 km altitude.
- Third Stage (Solid fuel): Ensures rapid acceleration to near-orbital speeds (~26,000–28,000 km/h)—the most critical phase.
- Fourth Stage (Liquid fuel): Performs precise orbital insertion of satellites into Low Earth Orbit.

#### Importance of the Third Stage

- The third stage operates on high combustion chamber pressure, where solid propellant burns and produces thrust through a nozzle.
- Higher pressure = higher thrust; any pressure drop leads to insufficient acceleration.
- Failure to reach required velocity causes the vehicle to fall back to Earth due to gravity, as seen in PSLV-C61.

#### What Went Wrong?

- PSLV-C61 (2025): Reportedly caused by a manufacturing defect leading to pressure leakage in the third-stage combustion chamber.
- PSLV-C62 (2026): Exact cause under investigation, but similar pressure-drop symptoms suggest a recurring systemic issue.
- The Failure Analysis Committee (FAC) report of PSLV-C61 was not made public, limiting external technical scrutiny.

#### Fallout of Repeated PSLV Failures

- Reliability concerns: Three failures in ISRO's last six missions indicate an unusually high failure rate.
- Commercial impact: PSLV is a major revenue generator for foreign and private satellite launches; credibility risks may affect future contracts.
- Reputational cost: Back-to-back failures of a "workhorse" launcher raise doubts about quality control and manufacturing oversight.

#### Way Forward

- ISRO's past record shows strong institutional resilience and recovery after failures.
- Addressing third-stage vulnerabilities decisively and improving transparency can help restore PSLV's reliability and global standing.

## 6.2 SHORT ARTICLES

### Vrindavani and Karan Fries Cattle Breeds

#### Context

- India has recently registered Karan Fries and Vrindavani as high-yielding synthetic cattle breeds, marking a major step in strengthening the dairy sector.
- Karan Fries, developed by National Dairy Research Institute, is a cross of indigenous Tharparkar cows and Holstein-Friesian bulls, combining high milk yield with climatic resilience.
- Vrindavani, developed by ICAR-Indian Veterinary Research Institute, blends exotic breeds (Holstein-Friesian, Brown Swiss, Jersey) with indigenous Haryana cattle.

### Gujarat's BSL-4 Facility

#### Context

- Union Home Minister laid the foundation stone for India's first state-funded Bio-Safety Level 4 (BSL-4) containment facility in Gandhinagar.
- A Bio-Safety Level 4 (BSL-4) laboratory represents the highest level of biological containment.
- Designed to handle the most dangerous and highly infectious pathogens, often lacking vaccines or treatments (e.g., Ebola-like viruses).
- Operates under stringent international biosafety standards, with airtight containment, negative pressure systems, specialised waste disposal, and fully trained personnel.
- Enables advanced research on diagnostics, vaccines, therapeutics, and rapid outbreak investigation.

### Intrinsically Disordered Proteins (IDPs)

#### Context

- Researchers at the National Centre for Biological Sciences, under the Tata Institute of

Fundamental Research, Bengaluru, have developed Disobind, a deep-learning tool that predicts how Intrinsically Disordered Proteins (IDPs) bind to their partners.

- Intrinsically Disordered Proteins are proteins (or protein regions) that lack a fixed three-dimensional structure under biological conditions; they are also known as natively unfolded or intrinsically unstructured proteins.
- Disobind is an open-source, AI-based tool that works directly from protein sequences and has shown higher accuracy than AlphaFold-multimer and AlphaFold3.

### Source Code

#### Context

- A report claimed that India was considering asking smartphone manufacturers to share their source code with third-party testing agencies, but the Union government has denied any such proposal.
- Source code is the core, confidential blueprint of software controlling a device's hardware and security; its disclosure is highly unusual worldwide due to serious cybersecurity risks and intellectual property concerns.
- The debate originates from a 2023 ITSAR document by the Department of Telecommunications, but after the Telecommunications Act, 2023, smartphones were removed from MTCTE norms, with oversight shifting to the Ministry of Electronics and Information Technology.

### Industrial Research and Development Promotion Program

#### Context

- The government has announced relaxations for deep-tech startups to avail recognition under the Industrial Research and Development Promotion Program (IRDPP) of the Department of Scientific and Industrial

Research, aimed at strengthening India's innovation and R&D ecosystem.

- IRDPP is a Research & Development promotion programme of DSIR, Government of India.
- Objective: To encourage and strengthen in-house industrial R&D and promote indigenous technology development.
- Funding/Implementing Agency: DSIR, under the Ministry of Science and Technology.
- Eligibility Criteria (Pre-relaxation Framework)
  - Applicant must be a company registered under the Companies Act, 1956 or 2013.
  - Minimum three financial years after incorporation.
  - Regular income for at least the last two years.
  - Company should be engaged in manufacturing or production.
  - Recognised in-house R&D units must be located in non-residential areas.

## National IED Data Management System

### Context

- The Ministry of Home Affairs launched the National IED Data Management System to strengthen counter-IED capabilities and internal security architecture in India

### What it is

- A national-level digital platform developed by the National Security Guard through its National Bomb Data Centre, aimed at systematic collection and analysis of IED-related data.

### How it works

- Acts as a two-way integrated online system accessible to National Investigation Agency, state police, Anti-Terrorism Squads, and Central Armed Police Forces, enabling upload and analysis of data from IED and blast incidents nationwide.
- **Significance:** Builds on NSG's explosion database maintained since 1999 to identify attack patterns, modus operandi, explosive types, and inter-linkages, improving post-blast

investigations, coordination, and preventive intelligence

## Vera C. Rubin Observatory

### Context

- The Vera C. Rubin Observatory is located in the Chilean Andes, benefiting from dark skies and dry air; named after Vera C. Rubin, who first provided observational evidence for dark matter in the 1970s.
- Jointly funded by the U.S. National Science Foundation and the U.S. Department of Energy Office of Science; its core instrument is the Simonyi Survey Telescope, equipped with the world's largest digital camera.
- It is the fastest-slewing telescope globally (~5 seconds between targets) due to its three-mirror compact design and oil-film mount.
- It will continuously scan the southern sky, generating an ultra-high-resolution, time-lapse map of the universe with unprecedented data volume.
- Aims to study dark matter and dark energy, map the Milky Way, track variable/transient objects, and inventory asteroids and comets.

## India's Tobacco Taxation Reforms

### Context

- India has notified a new tobacco taxation regime, effective February 1, following legislative approval by Parliament.
- **Changes Notified**
  - End of GST Compensation Cess on tobacco from February 1, as states' GST revenue shortfalls have largely been addressed.
  - New tax architecture introduced:
    - ✓ Revised central excise duties on tobacco products
    - ✓ A new non-lapsable cess under the Health Security-cum-National Security Act, 2025, especially covering pan masala and related products.
  - Revised GST slabs:
    - ✓ Beedis: shifted from 28% to 18% GST

- ✓ All other tobacco products (cigarettes, chewing tobacco, etc.): moved to a 40% GST slab
- New valuation mechanism:
  - ✓ Smokeless tobacco (gutkha, khaini, jarda, chewing tobacco) will now be taxed based on Retail Sale Price (RSP), curbing under-reporting and evasion.

## Land Stack

### Context

- The Land Stack was launched in pilot locations of Chandigarh and Tamil Nadu, along with the release of the Glossary of Revenue Terms (GoRT) by the Ministry of Rural Development.
- Land Stack is an integrated, GIS-based digital platform that brings together all land records into a single, unified system.
- It is inspired by global best practices from Singapore, the UK, and Finland.
- Implemented under the Digital India Land Record Modernisation Programme (DILRMP).

## AMR Crisis in India

### Context

- India faces a severe antimicrobial resistance (AMR) burden; ~2.67 lakh deaths (2021) linked to AMR, with evidence that a large share of population carries drug-resistant bacteria.
- Core Problem: Widespread misuse and overuse of antibiotics in hospitals and communities + near absence of new antibiotic classes in global R&D pipeline.
- Rising Treatment Failure: Resistance in UTIs, typhoid, pneumonia; increasing resistance to fluoroquinolones, ceftriaxone, azithromycin.
- Stewardship Works: Kerala's antimicrobial stewardship programme (2015) shows gradual, awareness-led regulation is more effective than abrupt bans.
- One Health Insight: Human antibiotic use is the dominant driver; residues in food and environment add risk.
- Data Gaps: Surveillance limited to ~25 tertiary hospitals under ICMR → need wider national network.

- Alternatives: Phage therapy and monoclonal antibodies under exploration, but not substitutes yet.

## Datacentres in Orbit

### Context

- Tech firms and space agencies are exploring orbital datacentres to meet the surging energy needs of AI.
- Why Needed: AI datacentres consume massive power for GPU clusters and internal data exchange, stressing grids and raising sustainability concerns.
- Concept: Place datacentres in low-Earth orbit, powered entirely by continuous solar energy.
- Example: Google Research's Project Suncatcher – satellite clusters with onboard computing.

## ASC ARJUN (Humanoid Robot – Indian Railways)

### Context

- Indian Railways deployed humanoid robot "ASC ARJUN" at Visakhapatnam Railway Station.
- Purpose: Assist Railway Protection Force (RPF) in station management, especially during heavy passenger movement.
- Designed and built in Visakhapatnam using home-grown technology.

## C-DOT's Cell Broadcast Solution (CBS)

### Context

- C-DOT awarded SKOCH Award 2025 for its indigenous Cell Broadcast Solution.
- What it is: Disaster & emergency alert platform enabling near real-time, location-specific dissemination of warnings through cellular networks.
- Developer: Centre for Development of Telematics (C-DOT).

### Key Features

- Automated integration between government alert systems and telecom networks.



- Supports varied geographic and demographic conditions.
- Integrates multiple alerting agencies: IMD, CWC (floods), INCOIS (tsunami/cyclone), FSI (forest fire).
- Links mobile service providers, SDMA's, and NDMA for approval and response.
- Geo-targeted, multi-hazard alerts in 21 Indian languages.

## Steel Slag

### Context

- Union Minister (IC) for Science & Technology urged wider use of steel slag-based roads, especially in hilly and Himalayan regions.
- What it is: Industrial by-product of steel manufacturing (Electric Arc Furnace & Basic Oxygen Furnace processes).
- Composition: Mainly calcium, magnesium, manganese, aluminium silicates and oxides.
- Types: Determined by cooling process, influencing end-use suitability.

## ICE Cloud (Indigenous Cloud for Scientific & Engineering Research)

### Context

- C-DAC has significantly expanded the capabilities of the ICE Cloud platform.
- What it is: An indigenous digital platform integrating Artificial Intelligence (AI) and High-Performance Computing (HPC) for complex scientific research.
- Purpose: Easy, reproducible access to advanced computational resources for R&D.

### Key Features:

- Open-access cloud with supercomputers, AI & quantum tools, simulation software.
- Services: Storage, bioinformatics tools, virtual hosting, pipeline execution, AI visualisation, cloud development environments, collaboration tools.
  - Users: Students, scientists, researchers, start-ups, and industry.
  - Funding: Supported by the Department of Biotechnology (DBT).

## Doomsday Clock

### Context

- The Bulletin of the Atomic Scientists has moved the Doomsday Clock to 85 seconds to midnight, the closest ever to global catastrophe.
- The Doomsday Clock is a symbolic clock showing how close humanity is to self-destruction, with midnight representing doomsday.
- The clock is adjusted based on threats such as nuclear weapons, climate change, and disruptive technologies.
- Created in 1947 by the Bulletin of the Atomic Scientists (BAS).
- About BAS: A non-profit organisation founded in 1945 at the University of Chicago by scientists from the Manhattan Project, including Albert Einstein, J. Robert Oppenheimer, and Eugene Rabinowitch, to warn the public about nuclear dangers.

## Bacillus subtilis

### Context

- Kerala has officially declared Bacillus subtilis as its State Microbe.
- What it is: A probiotic ("good") bacterium naturally found in the human gut, fermented foods, soil and vegetation.
- Key Characteristics: Gram-positive, rod-shaped, motile, spore-forming, facultative aerobe; grows best at 25–35°C and can survive harsh conditions through endospore formation.
- Produces and secretes several antibiotics (e.g., polymyxin, subtilin, difficidin, mycobacillin) and is a model organism for studying endospores.
- Used as a biological fungicide, promotes plant root health, some strains act as biopesticides, and its spores are used to test sterilisation and sporicides.

## Deuterons

### Context

- A study by the ALICE collaboration at CERN's Large Hadron Collider (LHC) explains how deuterons can survive extremely high-energy particle collisions.
- What is a Deuteron: A stable isotope of hydrogen whose nucleus contains one proton and one neutron.
- Symbol: Written as  $^2\text{H}$  or D.
- Occurrence: Found in small amounts in natural water and in the atmospheres of Jupiter and Saturn.
- Uses: Important for making heavy water (nuclear reactor moderator), producing deuterium for fusion reactors, and generating tritium used in nuclear applications.

## Vehicle-to-Vehicle (V2V) communication

### Context

- India has the highest road accident fatalities globally (over 1.77 lakh deaths in 2024), prompting the government to plan introduction of Vehicle-to-Vehicle (V2V) communication under the Ministry of Road Transport and Highways as part of Intelligent Transport Systems.
- What is V2V: A wireless system where vehicles share real-time data (speed, location, braking, direction) with nearby vehicles; a subset of Vehicle-to-Everything technology.
- India's Preparedness: 30 GHz spectrum allocated by the Department of Telecommunications (DoT), joint MoRTH-DoT task force formed, standards under development with manufacturers; on-board units (₹5,000-₹7,000) to be installed in vehicles.
- Safety Benefits: Provides early warnings about sudden braking, collision risk, fog, obstacles, black spots and parked vehicles, helping prevent crashes and pile-ups.

## 6.3 SNIPPETS

### CONCEPTS IN NEWS

Name	Context	Details
<b>Context Window</b>	A context window is the maximum amount of text (measured in tokens) that a Large Language Model (LLM) can process at one time, functioning like the model's short-term or working memory.	<ul style="list-style-type: none"> <li>• It determines how long a conversation the AI can sustain, and the maximum size of documents or code it can analyze without losing earlier details.</li> <li>• Larger context windows enable better understanding of long inputs, improved coherence, and reduced hallucinations, but require higher computational power and cost.</li> <li>• When inputs exceed the context window, information must be truncated or summarized, which can affect accuracy and continuity of responses.</li> </ul>

## MATERIALS IN NEWS

Name	Context	Details
<b>Ethylene Glycol</b>	The Telangana Drug Control Administration issued a stop-use notice after Ethylene Glycol (EG) contamination was detected in a paediatric cough syrup, highlighting recurring drug safety concerns.	<ul style="list-style-type: none"> <li>What it is: Ethylene Glycol is a colourless, odourless, sweet-tasting, water-soluble organic compound, the simplest glycol (diol), produced from ethylene oxide and water.</li> <li>Uses: Widely used as an antifreeze and coolant, and in hydraulic fluids, inks, solvents, and manufacture of polyesters, resins, and synthetic waxes.</li> <li>Health Risk: EG is highly toxic; ingestion (often from automotive antifreeze with ~95% EG) can cause severe poisoning and death, making its presence in medicines a serious public health violation.</li> </ul>
<b>Copper</b>	Copper prices hit a record high (~\$12,000/tonne) in December on the London Metal Exchange, driven by strong global demand.	<ul style="list-style-type: none"> <li>Symbol: Cu</li> <li>Naturally occurring metal; used by humans for 10,000+ years</li> <li>Occurs as free metal and in ores like chalcocite, chalcopyrite, bornite</li> <li>Excellent electrical conductivity, Malleable, corrosion-resistant, 100% recyclable</li> <li>Major Reserves <ul style="list-style-type: none"> <li>India: Khetri-Jhunjhunu (Rajasthan), Malanjkhand (MP - largest open-pit), Singhbhum (Jharkhand)</li> <li>World: Chile, Australia, Peru, Russia</li> </ul> </li> </ul>
<b>Nimesulide</b>	The Government of India has prohibited the manufacture, sale, and distribution of all oral formulations of nimesulide above 100 mg, with immediate effect, citing safety concerns.	<ul style="list-style-type: none"> <li>Nimesulide is a non-steroidal anti-inflammatory drug (NSAID).</li> <li>First introduced in Italy in 1985.</li> <li>Used for pain relief, anti-inflammatory action, and fever reduction</li> </ul>
<b>Forever Chemicals</b>	Scientists found that levels of older PFAS (Forever Chemicals) in human blood samples from 2003–2021 declined sharply after manufacturers phased them out.	<ul style="list-style-type: none"> <li>Forever chemicals (PFAS) are highly persistent, man-made chemicals with strong carbon-fluorine bonds, making them extremely resistant to breakdown.</li> <li>Widely used in non-stick cookware, textiles, cosmetics, food packaging, and firefighting foams for water- and grease-resistant properties.</li> <li>Linked to immune suppression, liver and thyroid disorders, developmental effects, and certain cancers; some PFAS are listed as Persistent Organic Pollutants under the Stockholm</li> </ul>

		Convention.
<b>Borax (Sodium Tetraborate Decahydrate)</b>	Death reported in Tamil Nadu after ingestion of borax for weight loss, highlighting dangers of chemical misuse.	<ul style="list-style-type: none"> <li>What it is: A white crystalline mineral composed of boron, sodium and oxygen.</li> <li>Chemical Formula: <math>\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}</math>.</li> <li>Occurrence: Found in evaporite deposits formed by repeated evaporation of seasonal lakes; also produced synthetically from boron compounds.</li> <li>Uses: Glass and ceramic glazes, Flux in welding &amp; soldering, Metallurgy (solvent for metal oxides), Fertiliser additive, Soaps, disinfectants, mouthwash, water softener</li> </ul>
<b>Phosphorus</b>	Excess phosphorus accumulation in US farmlands is causing serious water pollution, leading to high phosphate runoff and algal blooms.	<ul style="list-style-type: none"> <li>Phosphorus is a reactive non-metal element (Group 15) with symbol P and atomic number 15; main forms are white phosphorus (toxic, flammable) and red phosphorus (non-toxic).</li> <li>Largest use is in fertilisers; also used in matches, flares, steel-making, detergents, special glass and ceramics.</li> <li>Phosphates entering water bodies cause eutrophication and algal growth, reducing oxygen levels and harming aquatic life.</li> <li>Essential for bones and teeth, DNA/RNA, ATP (energy molecule), protein formation, and metabolism of fats and carbohydrates.</li> </ul>

## TECHNOLOGIES IN NEWS

Name	Context	Details
<b>Vehicle-to-Vehicle (V2V) Communication Technology</b>	The Government of India plans to roll out Vehicle-to-Vehicle (V2V) communication technology by end-2026 to enhance road safety and accident prevention.	<ul style="list-style-type: none"> <li>What it is: V2V is a direct, wireless communication system that allows vehicles to exchange data without relying on a central network, improving situational awareness.</li> <li>How it works: Using a SIM-like onboard device, vehicles continuously share speed, location, direction, acceleration, and braking data, enabling 360-degree, real-time alerts about nearby moving or stationary vehicles.</li> <li>Significance: Works alongside Advanced Driver Assistance Systems (ADAS) to provide early warnings—especially valuable in low-visibility conditions like fog, giving drivers extra reaction time and reducing collision risks.</li> </ul>
<b>PathGennie</b>	The Ministry of Science and Technology has developed PathGennie, a new open -source computational	<ul style="list-style-type: none"> <li>A novel computational framework that speeds up simulation of rare molecular events.</li> <li>Designed to accurately track molecular unbinding pathways, crucial for drug development.</li> <li>Addresses a key challenge in molecular</li> </ul>

	software to accelerate drug discovery.	<p>simulations: ligand unbinding (how a drug detaches from its target protein).</p> <ul style="list-style-type: none"> <li>Focuses on estimating drug residence time, often more important than binding strength for therapeutic effectiveness.</li> <li>Mimics natural selection at a microscopic level, instead of forcing molecular motion.</li> </ul>
<b>Voice over WiFi (VoWiFi)</b>	Bharat Sanchar Nigam Limited (BSNL) has announced the nationwide rollout of Voice over WiFi (VoWiFi) services.	<ul style="list-style-type: none"> <li>Voice over WiFi (VoWiFi), also called Wi-Fi Calling, is a technology that allows users to make and receive voice calls and messages over a Wi-Fi network, instead of traditional cellular towers.</li> <li>It is an IP Multimedia Subsystem (IMS)-based service that: <ul style="list-style-type: none"> <li>Uses the same mobile number</li> <li>Works through the default phone dialer</li> <li>Does not require third-party apps (like WhatsApp or Skype)</li> </ul> </li> </ul>
<b>Hydrokinetic Turbine Technology</b>	The Tripura government has identified 10 river sites to generate 185 MW of power using Hydrokinetic Turbine Technology, aiming to expand renewable energy and enable 24x7 electricity supply.	<ul style="list-style-type: none"> <li>Hydrokinetic turbines generate electricity by capturing the kinetic energy of flowing water (river currents) without creating a dam or head.</li> <li>Turbines are placed in-stream, directly within the river channel.</li> <li>No dams, barrages or weirs → uses near-zero head</li> <li>Conventional hydropower relies on potential energy created by elevation differences; hydrokinetic relies on current velocity</li> <li>Smaller civil works and lower ecological disruption</li> </ul>

## SPACE IN NEWS

Name	Context	Details
<b>White Dwarf Star</b>	Astronomers have recently observed a white dwarf star creating a colourful shockwave as it moves rapidly through interstellar space, highlighting stellar remnants interacting with surrounding matter.	<ul style="list-style-type: none"> <li>It is the dense stellar core left behind after a low or medium-mass star exhausts its nuclear fuel and sheds its outer layers as a planetary nebula.</li> <li>White dwarfs no longer undergo nuclear fusion, are extremely hot, have mass comparable to the Sun but size close to Earth, and are supported against gravity by electron degeneracy pressure, making them among the densest objects in the universe.</li> <li>Over billions of years they cool and fade, and their luminosity is used to estimate the age of star formation in galaxies; they are predicted to eventually become black dwarfs, though none exist yet due to the universe's age.</li> </ul>
<b>Dust Experiment</b>	The Indian Space Research Organisation (ISRO)	<ul style="list-style-type: none"> <li><b>What is DEX:</b> India's first indigenous instrument designed to detect high-speed Interplanetary Dust Particles (IDPs); developed by the Physical Research Laboratory.</li> </ul>



	confirmed via Dust Experiment (DEX) that an interplanetary dust particle enters Earth's atmosphere roughly every 1,000 seconds.	<ul style="list-style-type: none"> <li>• <b>Mission &amp; Platform:</b> Flown on the PSLV Orbital Experimental Module (POEM) aboard PSLV-C58 (XPoSat mission); a compact "impact-hearing" detector capturing transient dust strikes.</li> <li>• <b>Significance:</b> Enhances understanding of the near-Earth dust environment, informs spacecraft safety and deep-space missions, and supports planning for Gaganyaan; adaptable for dust studies around bodies with or without atmospheres.</li> </ul>
<b>Molecular Cloud</b>	Recently, astronomers studied the L328 molecular cloud to map magnetic fields, improving understanding of how stars form.	<ul style="list-style-type: none"> <li>• A molecular cloud is a cold, dense interstellar cloud of gas and dust—dominated by molecular hydrogen (H<sub>2</sub>)—that serves as the birthplace of stars and planetary systems.</li> <li>• These clouds have very low temperatures (below 40 K) and sizes ranging from a few to hundreds of light-years, with the largest called giant molecular clouds.</li> <li>• Star formation within them is governed by the interaction of gravity, magnetic fields, and turbulence, while their cores remain hidden by dust.</li> </ul>
<b>Voyager 1</b>	Voyager 1 is now expected to become the first human-made object to reach one light-day distance from Earth, underscoring humanity's farthest reach into space.	<ul style="list-style-type: none"> <li>• Voyager 1 is a NASA space probe launched in 1977 to explore the outer planets and is currently the most distant human-made object from Earth.</li> <li>• It became the first spacecraft to cross the heliosphere and enter interstellar space in 2012, marking a historic milestone in space exploration.</li> <li>• Its mission included landmark flybys of Jupiter and Saturn, discovering new moons and rings and studying their magnetic fields.</li> </ul>
<b>Microlensing</b>	A study recently used microlensing to weigh a rogue planet, i.e. not orbiting a star.	<ul style="list-style-type: none"> <li>• Microlensing is a gravitational lensing phenomenon (predicted by Albert Einstein) where a foreground object's gravity bends and magnifies light from a background star as it crosses the line of sight.</li> <li>• It can detect otherwise invisible or distant objects—including rogue (free-floating) planets, brown dwarfs, neutron stars, and even isolated black holes—by measuring brief, characteristic brightening events.</li> </ul>

## DISEASES IN NEWS

Name	Context	Details
<b>Menkes disease</b>	The U.S. FDA has approved Zyncubo (copper histidinate) as the first treatment for Menkes disease in pediatric patients.	<ul style="list-style-type: none"> <li>• Menkes disease is a rare X-linked genetic disorder caused by mutation of the ATP7A gene, leading to defective copper absorption and transport.</li> <li>• Low copper levels impair copper-dependent enzymes, causing severe brain and nervous system damage, poor growth and kinky (coarse) hair, mainly in male infants.</li> <li>• There is no cure, but early copper replacement</li> </ul>

		therapy can reduce symptoms and prolong life; without treatment, survival is usually below 3 years.
<b>Havana Syndrome</b>	Recently, a covertly acquired device by Pentagon that emits pulsed radio waves is under US testing, reopening questions around Havana Syndrome.	<ul style="list-style-type: none"> <li>It refers to a set of mental health symptoms that are said to be experienced by United States intelligence and embassy officials in various countries.</li> <li>It does not mean a unique medical condition, but rather a set of symptoms that are usually experienced together whose origins may be difficult to confirm.</li> <li>Symptoms: Such as hearing certain sounds without any outside noise, nausea, vertigo and headaches, memory loss and balance issues.</li> </ul>
<b>Huntington's Disease</b>	Recent research has raised new therapeutic hope.	<ul style="list-style-type: none"> <li>Huntington's disease (HD) is a rare hereditary neurodegenerative disorder in which neurons in the basal ganglia and cerebral cortex progressively break down.</li> <li>It is caused by a mutation in the HTT gene, inherited in an autosomal dominant manner, giving a 50% risk to children of an affected parent.</li> <li>HD leads to uncontrolled movements (chorea), cognitive decline, and emotional and behavioral disturbances that worsen over time.</li> <li>There is no cure yet; treatment is mainly symptomatic, though recent research has raised new therapeutic hope.</li> </ul>
<b>Spina Bifida</b>	While many countries run folic acid supplementation programmes to prevent Spina Bifida, India is yet to implement a comprehensive nationwide prevention strategy, despite strong evidence of benefit.	<ul style="list-style-type: none"> <li>Spina bifida is a congenital (birth) defect of the spinal cord that can cause lifelong disability and paralysis.</li> <li>It occurs when the spine and spinal cord do not develop fully during the early embryonic period (first few weeks of pregnancy).</li> <li>Severity ranges from mild to severe.</li> </ul>
<b>Cellulitis</b>	An observational study on cellulitis was recently published in the International Journal of Lower Extremity Wounds, drawing attention to its prevalence and clinical impact, especially in the lower limbs.	<ul style="list-style-type: none"> <li>Cellulitis is a common bacterial skin infection, most often caused by streptococcus and staphylococcus bacteria.</li> <li>It affects the deeper layers of skin and underlying tissues.</li> </ul>
<b>Notifiable Disease</b>	The Delhi Government is set to declare rabies a notifiable disease to	<ul style="list-style-type: none"> <li>A notifiable disease is one that must be reported by law to government health authorities when diagnosed.</li> </ul>

	strengthen disease surveillance, reporting, and prevention.	<ul style="list-style-type: none"> <li>The Epidemic Diseases Act, 1897 provides the legal basis for notifying diseases.</li> <li>State governments decide which diseases are notifiable within their jurisdiction.</li> <li>Lists of notifiable diseases are dynamic and updated as health priorities evolve.</li> <li>A disease may be notified if it: <ul style="list-style-type: none"> <li>Has high severity or mortality potential</li> <li>Is highly communicable or outbreak-prone</li> <li>Shows rising national/state/district incidence</li> <li>Poses a risk of international spread</li> <li>Is covered under national or global control programmes</li> </ul> </li> </ul>
<b>Nipah virus</b>	India has confirmed two Nipah virus cases in West Bengal.	<ul style="list-style-type: none"> <li>Nipah virus (NiV) is a zoonotic virus (spreads from animals to humans) and can also spread via contaminated food or human-to-human contact.</li> <li>Natural Host: Fruit bats (Pteropodidae family) are the natural reservoir of the virus.</li> <li>Infection can range from no symptoms to acute respiratory illness and fatal encephalitis; listed by World Health Organization (WHO) as a priority pathogen due to epidemic/pandemic potential.</li> <li>No approved vaccine or specific antiviral treatment exists; management relies on intensive supportive care for respiratory and neurological complications.</li> </ul>

## SCHEMES/INITIATIVES IN NEWS

Name	Context	Details
<b>Skilling for AI Readiness (SOAR) Programme</b>	The President of India recently graced a special programme under the Skilling for AI Readiness (SOAR) initiative, highlighting India's push to prepare its youth for an AI-driven future.	<ul style="list-style-type: none"> <li>SOAR is an initiative of the Ministry of Skill Development and Entrepreneurship.</li> <li>Aim: To integrate Artificial Intelligence (AI) learning into India's school education and skilling ecosystem.</li> <li>Target group: School students (Classes 6–12) and educators across India.</li> <li>Government allocation of ₹500 crore to establish a Centre of Excellence in AI for Education.</li> </ul>
<b>Chips to Start-up (C2S) Programme</b>	C2S has shown measurable progress in capacity building, infrastructure access, and hands-on chip design enablement.	<ul style="list-style-type: none"> <li>Launched: 2022   Nodal Ministry: MeitY.</li> <li>Nature: Umbrella capacity-building &amp; innovation programme for semiconductors.</li> <li>Objectives: Create industry-ready talent at UG, PG, and PhD levels, Catalyse start-ups, technology transfer, and indigenous chip design.</li> </ul>

## 7. CULTURE AND HISTORY

### 7.1 OPENING MONUMENT CONSERVATION TO THE PRIVATE SECTOR

#### Context

- The Government of India has decided to allow private sector participation in core conservation works of protected monuments, a function traditionally monopolised by the Archaeological Survey of India (ASI).
- The policy aims to overcome capacity constraints, improve efficiency, and mobilise CSR funding, while retaining ASI's regulatory and supervisory control.

#### Developments

- The Ministry of Culture has invited applications through an Request For Proposal process to empanel private conservation architects and agencies.
- Over 20 heritage conservation agencies have applied nationwide.
- Corporate donors contributing through the National Culture Fund (NCF) can directly engage empanelled agencies.
- Conservation work will be executed within ASI-prescribed norms and under its supervision.

#### How the New PPP Model Will Work

- Eligibility of Conservation Architects:
  - Experience with centrally protected monuments (ASI), State Archaeology, CPWD/PWD.
  - Experience in heritage projects of PSUs, municipalities, or private buildings over 100 years old.
- Role of Donors & Agencies:
  - Donors fund projects via CSR contributions to NCF.
  - Donors can choose empanelled conservation agencies.
  - Projects must follow ASI-approved DPRs, timelines, and conservation standards.
  - Execution by private agencies under ASI/government supervision.

#### Why the Shift Was Needed

- Capacity Constraints:
  - ASI is responsible for conserving around 3,700 protected monuments nationwide.
  - Monopoly over DPR preparation and execution led to delays and slow CSR utilisation.
- NCF Performance Issues:
  - Since 1996, NCF has received about ₹140 crore, funding ~100 projects.
  - Corporates faced delays due to weak timelines and procedural bottlenecks.

#### What Is New Compared to Earlier Initiatives

- The earlier 'Adopt a Heritage' scheme restricted private players to tourist amenities (toilets, signage, cafes).
- For the first time, private agencies are allowed into core conservation and restoration work.
- Around 250 monuments have been identified; donors may also propose monuments (subject to approval).

#### Global Best Practices

- United Kingdom: Churches Conservation Trust with private participation.
- United States: Strong role of private foundations in heritage protection.
- Germany & Netherlands: Heritage foundations supported by private funding.
- Common thread: PPP under strong state regulation.

#### Challenges and Way Ahead

- **Risk of Commercialisation:** Ensure transparency through audits, academic and community participation.
- **Uniform Conservation Standards:** Develop clear SOPs and technical guidelines.

- **Conflict of Interest:** Balance donor preferences with archaeological integrity.
- **Monitoring & Authority:** Strengthen ASI as a regulator, not just executor.
- **Skill Gaps:** Capacity-building and certification of conservation professionals.

## 7.2 SHORT ARTICLES

### Samakka–Saralamma Jatara

#### Context

- Telangana preparing for the biennial Samakka–Saralamma Jatara, among the world's largest indigenous tribal gatherings.

#### Nature

- Major tribal festival honouring goddesses Samakka and Saralamma.

#### Location

- Medaram, inside Eturnagaram Wildlife Sanctuary, Mulugu district, part of the Dandakaranya forest belt.

#### Frequency

- Once every two years.
- Commemorates the 12th-century revolt of mother–daughter duo Samakka&Saralamma against tax imposition by Kakatiya rulers during drought.

### Bhadrakali Inscription

#### Context

- The Bhadrakali inscription (1169 CE) is a 12th-century eulogistic record located on the wall of Bhadrakali Temple at Prabhas Patan, providing crucial historical evidence on the continuity and reconstruction narrative of the Somnath Temple.
- It highlights the religious patronage of the Solanki dynasty, especially under Kumarapala, and reflects Shaivite traditions prevalent in western India.
- The inscription praises Param Pashupata Acharya Shriman Bhavabrihaspati, the spiritual preceptor of Kumarapala.
- It symbolically mentions the construction of Somnath in all four yugas.

## 7.3 SNIPPETS

### TEMPLES IN NEWS

Name	Context	Details
<b>Gorakhnath Temple</b>	Recently, ahead of Makar Sankranti, lakhs of devotees gathered at the temple to offer khichdi	<ul style="list-style-type: none"> <li>• Gorakhnath Temple is a major Hindu shrine located in Gorakhpur, Uttar Pradesh, and the spiritual epicentre of the Nath tradition, a Shaiva monastic order.</li> <li>• It is dedicated to Guru Gorakhnath, a prominent disciple of Guru Matsyendranath and a key proponent of Hatha Yoga.</li> </ul>
<b>Sri Govindaraja Swamy Temple</b>	A recent security incident occurred when a man, under the influence of alcohol, climbed the main gopuram.	<ul style="list-style-type: none"> <li>• Located in Tirupati.</li> <li>• Dedicated to Lord Govindaraja Swamy, a form of Vishnu.</li> <li>• Originally built in the 12th century by the Cholas and later expanded by the Vijayanagara kings.</li> <li>• Consecrated in 1130 AD by renowned Vaishnavite philosopher Ramanujacharya.</li> </ul>



		<ul style="list-style-type: none"> <li>One of the most important Vaishnavite temples in South India.</li> </ul>
<b>Umbilo Shree AmbalavaanarAlayam</b>	The 151-year-old temple in Durban faces possible disruption of civic services amid a pending bill and fraud allegations.	<ul style="list-style-type: none"> <li>Established: 1875 by indentured Indian labourers who migrated to South Africa.</li> <li>Considered the oldest Hindu temple on the African continent.</li> <li>Declared a National Heritage Site (1980) by the National Monuments Council.</li> </ul>
<b>Shri Mahakaleshwar Temple</b>	The Supreme Court declined to entertain a petition against the practice of VIP darshan at Shri Mahakaleshwar Temple, stating courts cannot act as gatekeepers for temple entry.	<ul style="list-style-type: none"> <li>Mahakaleshwar Temple is located on the banks of the Shipra River in Ujjain, Madhya Pradesh, and is dedicated to Lord Shiva.</li> <li>It is one of the 12 Jyotirlingas of India and is mentioned in Puranas as well as in the works of Kalidasa.</li> <li>The present structure was built in the 18th century by Maratha ruler Ranoji Shinde, though the temple has been destroyed and rebuilt several times.</li> </ul>

## PERSONALITIES IN NEWS

Name	Context	Details
<b>Rani Velu Nachiyar</b>	The Prime Minister of India paid tributes to Rani Velu Nachiyar on her birth anniversary, recognising her pioneering role in India's early resistance to British colonial rule.	<ul style="list-style-type: none"> <li>Rani Velu Nachiyar (1730–1796) was the queen of Sivaganga in present-day Tamil Nadu.</li> <li>Daughter of Raja Chellamuthu Vijayaragunatha Sethupathy of the Ramnad kingdom.</li> <li>Widely regarded as the first Indian queen to fight the British East India Company.</li> <li>Joined hands with Hyder Ali and Gopala Nayaker to challenge British power.</li> <li>Raised a women's battalion named "Udaiyaal".</li> <li>Her commander Kuyili is remembered as India's first woman martyr and among the earliest recorded suicide attackers in anti-colonial resistance.</li> <li>Granted governing powers to the Marudu brothers in 1780.</li> </ul>
<b>Parbati Giri</b>	PM paid homage on her birth centenary.	<ul style="list-style-type: none"> <li>Eminent freedom fighter from Odisha; called "Mother Teresa of Western Odisha" and 'Banhi-kanya' (daughter of fire).</li> <li>Role in Freedom Struggle: <ul style="list-style-type: none"> <li>Active in Quit India Movement (1942).</li> <li>Led agitation at Bargarh Court urging lawyers to boycott British courts.</li> </ul> </li> <li>Deeply inspired by Gandhian philosophy; associated with Rama Devi.</li> </ul>

		<ul style="list-style-type: none"> <li>Popular Name: Badamaa (Big Mother) among people and Ashram inmates.</li> </ul>
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## ART IN NEWS

Name	Context	Details
<b>Piprahwa Relics</b>	The Prime Minister inaugurated "The Light and The Lotus: Relics of the Awakened One" in New Delhi, marking the repatriation of the sacred Piprahwa relics associated with Gautama Buddha.	<ul style="list-style-type: none"> <li>Discovery (1898): Excavated by William Claxton Peppé from a stupa at Piprahwa, near Nepal.</li> <li>What they include: 349 gemstones (pearls, rubies, sapphires, topaz), gold sheets; bone fragments and ash believed to be of the Buddha; reliquaries, sandstone coffers, soapstone and crystal caskets.</li> <li>Under the Indian Treasure Trove Act, 1878, most relics were claimed by the British Crown; a portion remained privately with the Peppé family for over a century.</li> </ul>
<b>Phulkari (Traditional Embroidery of Punjab–Haryana)</b>	Exhibition showcasing 40+ rare pre-Partition phulkaris highlights its role in women's everyday lives and social traditions.	<ul style="list-style-type: none"> <li>Meaning: <i>Phulkari</i> = "flower work"; term appears in 18th-century Punjabi literature; possibly linked to Iranian gulkari.</li> <li>Integral to a girl's marriage trousseau; embroidered by mothers/grandmothers from childhood; number and quality reflected family status.</li> <li>Counted-thread embroidery with neat geometric and natural motifs.</li> <li>Base fabric: Khaddar (handspun, handwoven cotton).</li> <li>Threads: Colourful silk on traditionally dyed cloth (madder brown, rust red, indigo, green).</li> <li>Motifs: Flowers (marigold, jasmine, lotus), Tree of Life, and modern motifs (trains, cars).</li> </ul>

## MUSIC AND DANCE IN NEWS

Name	Context	Details
<b>Bagurumba Dance</b>	PM witnessed a mass performance of Bagurumba dance by over 10,000 artistes in Assam.	<ul style="list-style-type: none"> <li>Origin: Traditional folk dance of the Bodo community.</li> <li>Inspired by nature; symbolises peace, fertility, joy, and harmony.</li> <li>Associated Festivals: Bwisagu (Bodo New Year), Domasi.</li> <li>Gentle, graceful movements imitating butterflies, birds, leaves, and flowers.</li> <li>Performed in groups, often in circles or lines.</li> <li>Traditionally performed by women; men play musical instruments.</li> </ul>

## INITIATIVES IN NEWS

Name	Context	Details
<b>Kashi–Tamil Sangamam</b>	Somnath Swabhimani Parv (1026–2026) situates the Sangamam within a broader national effort to reconnect with India's historical memory, cultural resilience and civilisational self-confidence.	<ul style="list-style-type: none"> <li>The Kashi–Tamil Sangamam is a flagship cultural initiative inspired by Ek Bharat, Shreshtha Bharat, aimed at strengthening India's civilisational continuity, cultural unity and people-to-people bonds.</li> <li>The Kashi–Rameswaram axis symbolises pan-Indian sacred geography.</li> <li>Saint Kumaraguruparaswami played a crucial role in strengthening institutional and spiritual ties between Kashi and Tamil regions.</li> <li>Mahakavi Subramania Bharati's stay in Kashi nurtured his spiritual growth, intellectual ferment and vision of a culturally united India.</li> <li>First Edition (2022): Brought together scholars, artisans, students, farmers and professionals through cultural journeys to Kashi, Prayagraj and Ayodhya.</li> <li>Second Edition (2023): Leveraged technology to bridge language barriers and deepen engagement through innovative formats.</li> <li>Third Edition: Focused on Indian Knowledge Systems, expanding academic dialogue and cultural exhibitions.</li> <li>Fourth Edition (2025): <ul style="list-style-type: none"> <li>Theme: Tamil Karkalam (Learn Tamil)</li> <li>Tamil teachers from Tamil Nadu taught the language in Kashi, reinforcing linguistic integration and cultural learning.</li> </ul> </li> </ul>

## 8. GEOGRAPHY AND DISASTER MANAGEMENT

### 8.1 SHORT ARTICLES

#### River Delta Subsidence

##### Context

- The study published in Nature titled "Global subsidence of river deltas" warns that over half of India's major river deltas are sinking rapidly.

##### Key Findings of the Study

- Land subsidence in many deltas is outpacing the global mean sea-level rise (approx. 4 mm/year); over half of deltas studied are subsiding faster than 3 mm/year.
- The **Brahmani** and **Mahanadi** deltas are among the fastest-sinking globally, with large areas subsiding at over 5 mm per year.
- Nearly 50% of the world's major deltas, including India's Ganga-Brahmaputra, Brahmani, and Mahanadi, are subsiding across over 90% of their total area.
- Global Hotspots:** Seven major deltas—Ganga-Brahmaputra, Nile, Mekong, Yangtze, Amazon, Irrawaddy, and Mississippi—account for 57% of the total subsiding delta area worldwide.
- Urban Risk:** Major delta cities like Kolkata, Dhaka, Bangkok, and Shanghai are sinking at rates equal to or higher than their surrounding regions, amplifying urban flood risks.

##### Primary Causes of Delta Subsidence

- Groundwater over-extraction**, the main driver in deltas (e.g., Ganga-Brahmaputra, Cauvery), causes irreversible land sinking due to permanent sediment layer compaction.
- Dams and river regulation trap upstream sediment**, blocking the natural replenishment of deltas like the Mahanadi.
- Rapid urbanization and population growth** in delta regions increase stress on land and water resources.

##### Implications and Risks

- Lower deltas face greater coastal and riverine flooding risk due to elevation.

- Sinking land can become permanently inundated by the sea, **destroying agricultural land and habitats**.
- Vulnerable communities, particularly indigenous and rural groups near sea level, are at the highest **risk of displacement**.
- Severe economic losses result from **damage to infrastructure, agriculture, and urban centers**.

#### Japan's Deep-Sea Rare Earth Mining Initiative

##### Context

- Japan has launched the world's first experimental, deep-sea, rare-earth mining project, with the vessel Chikyu.

##### About Japan's Deep Sea Mission

- Japan is seeking to reduce its reliance on China for critical minerals, as China controls nearly two-thirds of global rare-earth mining and over 90% of the refined output.
- Location:** The test mission is located near **Minami Torishima**, a remote Pacific island that falls within Japan's Exclusive Economic Zone (EEZ).
- Critical Elements:** Reserves are sufficient to supply key elements for centuries, including enough dysprosium for 730 years and yttrium for 780 years, both vital for high-tech manufacturing.

##### About Deep-Sea Mining

- Deep-sea mining involves the extraction of mineral deposits from the ocean floor at depths greater than 200 metres, covering approximately two-thirds of the world's seafloor.

##### The primary methods of extraction include:

- Collecting Polymetallic Nodules:** Harvesting potato-sized nodules rich in manganese, nickel, cobalt, and copper from the abyssal plains.

- **Mining Seafloor Massive Sulphides:** Extracting deposits rich in copper, gold, zinc, and silver that form around hydrothermal vents.
- **Stripping Cobalt-Rich Crusts:** Mining the mineral-laden crusts of seamounts (underwater mountains) for cobalt, platinum, and other metals.

#### About Rare Earth Elements (REEs)

- REEs are a group of **17 metallic elements** that, despite their name, are not necessarily rare but are difficult and costly to extract and refine.
- They possess unique magnetic, luminescent, and electrochemical properties, making them indispensable for modern technology.

## Snowfall Deficit in the Western Himalayas

#### Context

- The Western Himalayas (Jammu & Kashmir, Himachal Pradesh, Uttarakhand) are facing a severe winter, with 90-99% precipitation deficits reported in Dec 2025–Jan 2026.

#### Causes for Low Snowfall

- **Weak Western Disturbances (WDs):** The primary source of winter precipitation, WDs have become weak and moisture-deficient, leading to less snowfall.
- **Altered WD Trajectory:** Many WDs are following a more northward path, bypassing large parts of Himachal Pradesh and Uttarakhand.
- **Climate Change:** Rising winter temperatures cause precipitation to fall as **rain instead of snow**, especially at lower altitudes, and prevent snow from persisting.
- **Weakened Jet Stream:** Shifts in the Subtropical Westerly Jet Stream are weakening WDs before they reach India.

#### Major Implications

- **Water Security Threat:** Reduced snowpack endangers the water supply for major rivers like the **Ganga, Yamuna, and Indus**, affecting millions downstream and accelerating glacier retreat.

- **Agricultural Distress:** Lack of snow moisture negatively impacts winter (**Rabi**) crops, particularly wheat and mustard.
- **Increased Forest Fire Risk:** Dry conditions in forests make them highly vulnerable to fires.
- **Socio-economic Impact:** The deficit severely affects livelihoods dependent on **winter tourism** and horticulture (e.g., apple cultivation).

#### Way Forward for India

- **Enhanced Monitoring:** Improve weather and snow monitoring through high-altitude stations and satellite imagery to better forecast WDs.
- **Water Conservation:** Scale up innovative solutions like **artificial glaciers (ice stupas)** to store winter water for use in spring.
- **Climate-Resilient Agriculture:** Promote drought-tolerant crop varieties and expand micro-irrigation.
- **Policy Integration:** Mainstream snowfall variability into **State Action Plans on Climate Change (SAPCCs)** and disaster management strategies.

## Aravalli Range

#### Context

- The ancient Aravalli Range faces a conservation crisis due to the conflict between its environmental significance and economic activities like mining.

#### About Aravalli Range

- **Geological Age:** One of the oldest fold mountain systems in the world.
- **Geographical Extent:** Runs for about **690-800 km** in a northeast to southwest direction.
- **States Covered:** Gujarat, Rajasthan, Haryana, and Delhi.
- **Highest Peak:** **Guru Shikhar** (located on Mount Abu, Rajasthan).

#### Physiographic Divisions & Drainage

The range is broadly divided into two main sections:

- **The Sambhar-Sirohi Range:** This is the southern part of the Aravallis. It is more elevated, wider, and better forested, containing the highest peak, Guru Shikhar.



- **The Sambhar-Khetri Range:** This is the northern section, which is lower, more eroded, and exists as discontinuous ridges. The Aravallis form a major watershed, influencing the drainage patterns of the region:
- **Tributaries of Yamuna:** The Banas and Sahibi rivers originate here and flow eastwards.
- **Inland Drainage:** The Luni river flows westwards from the Aravallis and drains into the Rann of Kutch.

#### Ecological and Climatic Significance

- **Barrier to Desertification:** It acts as a natural barrier, preventing the eastward expansion of the Thar Desert.
- **Watershed Divide:** It forms a key divide between the river systems of the Indus in the west and the Ganga in the east.
- **Climate Regulation:** The range influences local climate patterns and plays a role in the monsoon rainfall distribution in North-West India.
- **Groundwater Recharge:** Its forested slopes and unique geological structure are vital for recharging the region's groundwater aquifers.

## 8.2 SNIPPETS

Topic	Details
<b>Sela Lake</b>	The frozen surface of Sela Lake collapsed, drowning tourists and highlighting the risks at this high-altitude site amid increased tourism. Sela Lake is a high-altitude glacial lake situated <b>near Sela Pass in Tawang district, Arunachal Pradesh</b> . Surrounded by alpine vegetation, it serves as a summer grazing ground for yaks and <b>drains into the Nuranang River, a tributary of the Tawang River</b> . Spiritual significance as one of the sacred lakes in Tibetan Buddhism and among the 101 holy lakes for local <b>Monpa communities</b> .
<b>World's First Repository of Mountain Ice Cores</b>	Scientists have inaugurated the world's first global repository of mountain ice cores at Concordia Research Station on the Antarctic Plateau. The Ice Memory Sanctuary, <b>developed by the Ice Memory Foundation</b> , is a 35-metre-long underground ice vault maintained naturally at $-52^{\circ}\text{C}$ without energy use. It currently <b>stores ice cores from Mont Blanc and Grand Combin</b> , which preserve gases and particles that help reconstruct past climate and environmental changes for future research.
<b>Shaksgam Valley</b>	India rejected China's infrastructure activities in the Shaksgam Valley, termed projects under the China-Pakistan Economic Corridor (CPEC) as illegal and invalid, and asserted that the valley is an inseparable part of India. The Shaksgam Valley (Trans-Karakoram Tract), a high-altitude region in the eastern Karakoram, <b>lies north of the Siachen Glacier in Pakistan-occupied Kashmir (POK) and borders China's Xinjiang</b> . Historically part of Jammu and Kashmir, it was occupied by Pakistan after 1947–48. <b>In 1963, Pakistan illegally ceded the valley to China via the Sino-Pakistan Boundary Agreement, a transfer India rejects</b> . China now administers the area as part of the Xinjiang Uyghur Autonomous Region and has built CPEC roads there, connecting Pakistan's Gwadar Port to Kashgar, Xinjiang, for an alternative energy and trade route, bypassing the Malacca Strait.

## 9. GOVERNMENT SCHEMES

### 9.1 SHORT ARTICLES

#### One District One Product (ODOP)

##### Context

- The One District One Product (ODOP) initiative, recently expanded nationwide, promotes district economic development and local entrepreneurship.

##### About One District One Product (ODOP) Initiative

- Nodal Ministry:** Ministry of Commerce and Industry, implemented by the DPIIT (Department for Promotion of Industry and Internal Trade).
- Objective:** To identify, brand, and promote one unique product from each district to create global brands from local specialties.
- Inspiration:** Based on Japan's "One Village One Product" model.
- Origin:** First launched in Uttar Pradesh in 2018.
- Vision:** Aligns with national goals like Atmanirbhar Bharat and "Vocal for Local".
- Coverage:** The initiative covers 1,102 products across 761 districts, including handicrafts, textiles, and agricultural items (Source: PIB).
- Market Integration:** Products are promoted through platforms like the Government e-Marketplace (GeM) and ODOP Bazaar.
- Supporting Infrastructure:**
  - ODOP Wall:** Curated displays at stores like SARAS Aajeevika to enhance visibility.
  - PM Ekta Malls:** Dedicated retail hubs being set up to showcase ODOP, GI-tagged, and handicraft products from all states.

#### Prime Minister's Internship Scheme

##### Context

- Controller General of Accounts data indicates severe underutilisation of funds for the Prime Minister's Internship Scheme (PMIS).

##### About Prime Minister's Internship Scheme (PMIS)

- It was launched by the Ministry of Corporate Affairs.
- Objective:** To provide one crore internship opportunities over five years in top 500 companies to enhance youth employability.
- Target Group:** Youth aged 21–24 years with a minimum Class 10 qualification, who are not in full-time employment or regular education.
- Benefits:**
  - A minimum stipend of ₹5,000 per month.
  - A one-time grant of ₹6,000.
  - Insurance coverage under PM Jeevan Jyoti Bima Yojana and PM Suraksha Bima Yojana.
- Duration:** The internship lasts for 12 months, focusing on job-based experience.

##### Major Concerns and Challenges

- Severe Underutilisation of Funds:** Only about 4% of the FY26 budget was spent as of November 2025, indicating a major gap between allocation and implementation.
- Low Acceptance & Completion Rates:** Less than one-third of internship offers are accepted, and very few interns complete the programme, highlighting a mismatch between the scheme's offerings and candidates' expectations.
- Inadequate Financial Incentive:** The ₹5,000 monthly stipend is considered insufficient to cover basic living costs, particularly in urban areas, making the scheme unattractive.

##### Recommendations to Strengthen the Scheme

- Revise Stipend:** Link the stipend to regional minimum living costs to make it a more viable financial support for interns.
- Mandate Learning Outcomes:** Internships should have predefined skill outcomes and conclude with a nationally recognised certification aligned with the National Skills Qualifications Framework (NSQF).
- Improve Matching Process:** Use better technology for skill profiling and location

preference to ensure a better fit between candidates and companies, reducing dropout rates.

- **Increase Industry Accountability:** Require companies to report on internship outcomes (completion, skill acquisition, placement) as part of their Corporate Social Responsibility (CSR) disclosures.

## Chips to Start-Up (C2S) Programme

### Context

- The Government released performance outcomes of the Chips to Start-up (C2S) Programme.

### About Chips to Start-up (C2S) Programme

- **Ministry:** Ministry of Electronics and Information Technology (MeitY).
- **Launch Year:** 2022.
- **Objective:** A capacity-building initiative to foster semiconductor talent and innovation in India.
- **Total Outlay:** ₹250 crore over five years.

### Key Targets & Goals

- **Human Resources:** To develop 85,000 industry-ready professionals (UG, PG, and PhD levels).
- **Startup Ecosystem:** To incubate 25 startups in the semiconductor sector.
- **Innovation:** To generate 50 patents and support 2,000 research publications.
- **Training:** To train one lakh students and provide access to SMART lab facilities.

### Implementation & Approach

- **Coordinating Agency:** The ChipIN Centre at C-DAC Bengaluru serves as the central hub for technical support and coordination.
- **Ecosystem:** Involves academic institutions, the ChipIN Centre, and SMART Labs.
- **Fabrication:** Student-designed chips are fabricated using 180 nm technology at the Semi-Conductor Laboratory (SCL), Mohali.
- **Process:** The programme aggregates student designs, verifies them, and fabricates them on shared wafers.

## 9.2 SNIPPETS

Topics	Details
<b>PANKHUDI portal</b>	<ul style="list-style-type: none"> <li>• The Ministry of Women and Child Development has launched the PANKHUDI portal.</li> <li>• PANKHUDI is an <b>integrated digital portal for Corporate Social Responsibility (CSR)</b> and partnership initiatives focused on women and child development. It enhances transparency and trust by connecting government, citizens, and institutions. The platform <b>simplifies voluntary and institutional contributions from various entities</b> (individuals, NRIs, NGOs, corporates, and government agencies) for key areas like Nutrition and Health, Child Welfare, Protection, Rehabilitation, and Women's Safety and Empowerment.</li> </ul>
<b>Tex-RAMPS Scheme</b>	<ul style="list-style-type: none"> <li>• The Ministry of Textiles signed MoUs with 15 states for its new 'Tex-RAMPS' scheme during the National Textile Ministers' Conference in Guwahati.</li> <li>• Tex-RAMPS (Textiles Focused Research, Assessment, Monitoring, Planning And Start-Up) is a Central Sector Scheme <b>by the Ministry of Textiles</b>, running from FY 2025-26 to FY 2030-31. Its goal is to improve the quality and credibility of textile statistics and research across all States and UTs for accurate planning and evidence-based decision-making. The scheme supports integrated development in sub-sectors like handlooms, handicrafts, apparel, and technical textiles. Financial assistance includes an annual grant of Rs 12 lakh per State/UT, plus Rs 1 lakh per district for action plans.</li> </ul>