

[Newsbits] January 2026

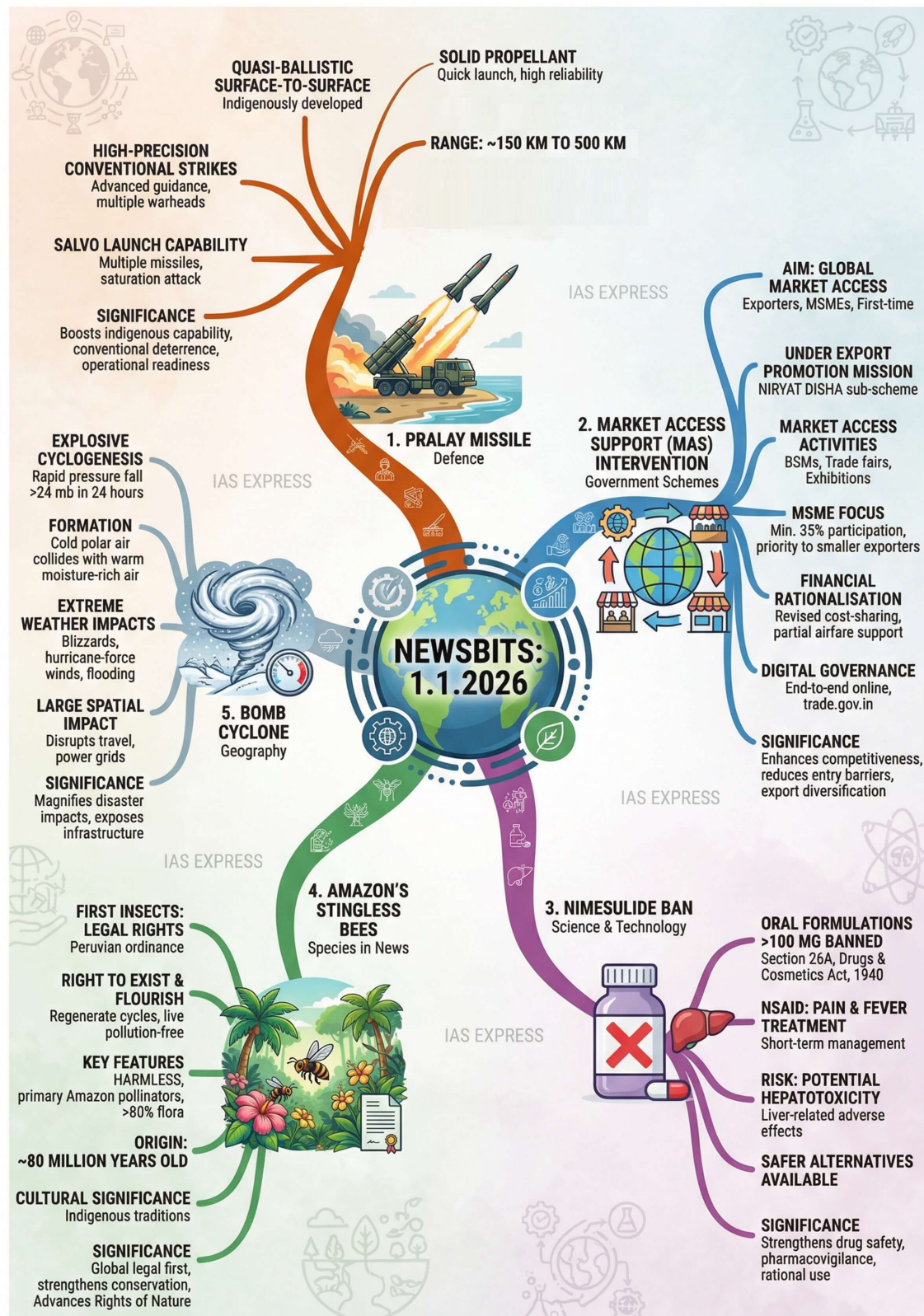
High-yield Current Affairs Mindmaps & Notes



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Pralay Missile

Defence

- **Type:** Indigenously developed **Surface-to-Surface, Quasi-Ballistic** missile.
- **Key Feature: Salvo Launch Capability** (firing multiple missiles quickly from one launcher) to overwhelm enemy air defense (saturation attack).
- **Propulsion: Solid Propellant** (ensures quick reaction time).
- **Range: 150 km – 500 km.**
- **Significance:** Tactical, conventional (non-nuclear) deterrent for the Army/Air Force.

Market Access Support (MAS) Intervention

Government Schemes

- **Parent Scheme: NIRYAT DISHA** sub-scheme under the **Export Promotion Mission (EPM)**.
- **Target: MSMEs and First-time exporters.**
- **Mandate:** Minimum **35% participation reserved for MSMEs** in supported trade events.
- **Benefit:** Partial airfare support (for turnover < ₹75 Lakh) and participation in international fairs/BSMs.
- **Platform:** Implemented online via **trade.gov.in**.

Nimesulide Ban

Science & Technology

- **The Ban:** Manufacture/sale of **oral formulations > 100 mg.**
- **Legal Basis: Section 26A** of the **Drugs and Cosmetics Act, 1940.**
- **Reason:** High risk of **Hepatotoxicity** (liver damage).
- **Drug Class: NSAID** (Non-Steroidal Anti-Inflammatory Drug) used for acute pain/fever.

Amazon's Stingless Bees

Species in News

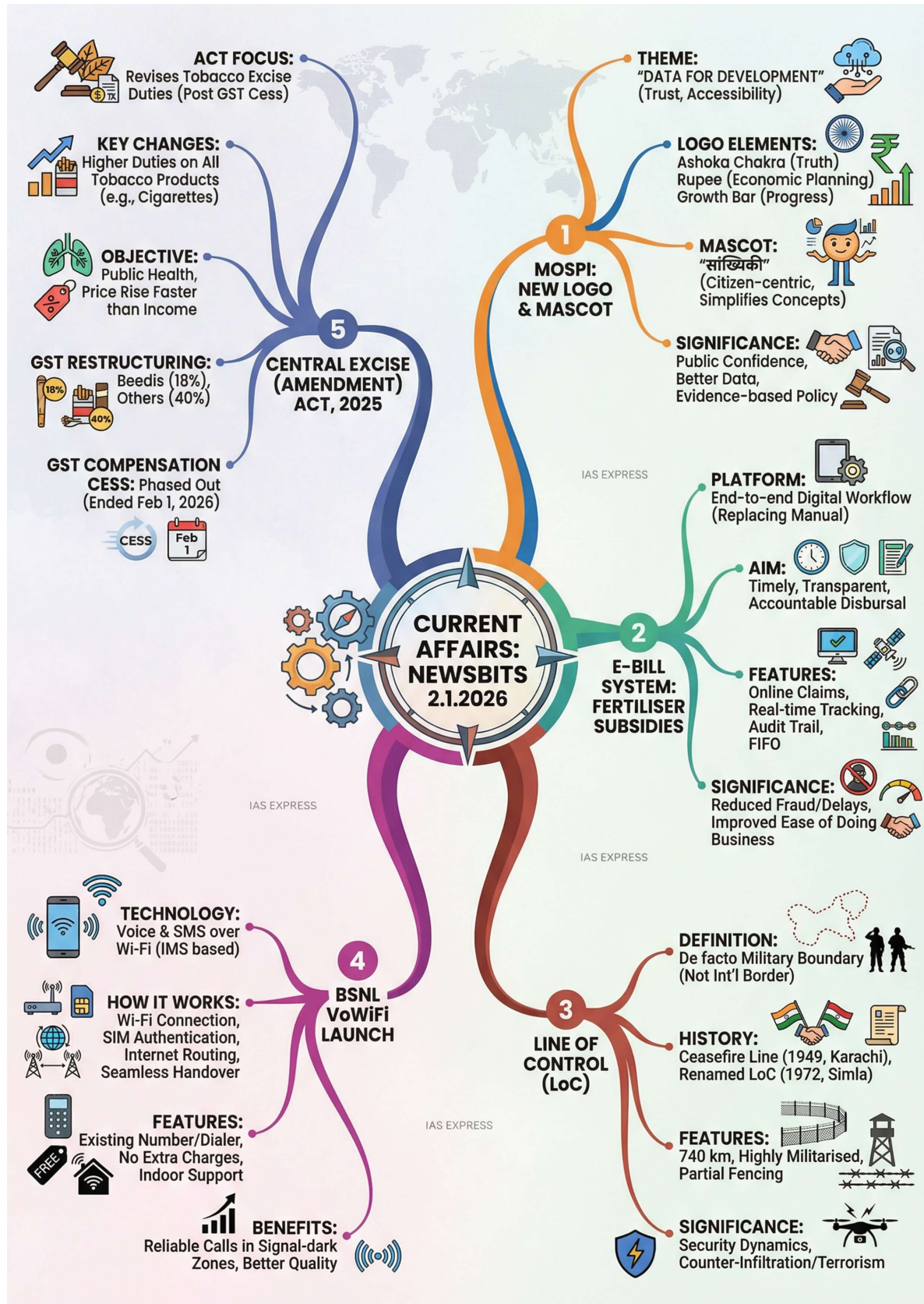
- **Milestone: First insects globally** to be granted **legal rights** (Right to exist, flourish).
- **Location:** Municipalities in **Peru.**
- **Ecological Role:** Pollinate **> 80%** of Amazonian flora; harmless (no functional stinger).
- **Concept:** Marks a legal shift to **"Ecosystem-centred justice."**

Bomb Cyclone

Geography

- - **Definition:** A mid-latitude storm undergoing **Explosive Cyclogenesis**.
 - **Technical Criteria:** Central pressure drop of **≥ 24 millibars in 24 hours**.
Formation: Rapid collision of **cold polar air** and **warm moist ocean air** (releases latent heat).**Recent Event:** Winter Storm Ezra (USA).
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1. MoSPI: New Logo & Mascot

Context: Ministry of Statistics and Programme Implementation (MoSPI) unveiled a new identity to modernize its image and support the theme "Data for Development."

Key Elements:

Logo Symbolism:

- **Ashoka Chakra:** Truth, transparency, governance.
- **Rupee Sign:** Statistics in economic planning.
- **Mascot:** **Chutha Bhaiji** (चूठा भाईजी) is a citizen-centric character aimed at simplifying official data.
- **Colors:** Saffron, White, Green, Deep Blue.
- **Objective:** To improve public trust in official data and increase participation in surveys.

2. E-Bill System for Fertiliser Subsidies

Context: Union Government launched a digital platform to process ₹2 lakh crore worth of fertiliser subsidies.

- **Nodal Ministry:** Ministry of Chemicals and Fertilizers.
- **Mechanism:** Replaces manual paper-based workflows with an end-to-end digital system.
- **Key Features:**
 - **FIFO Processing:** Ensures "First-In-First-Out" bill clearance (predictable).
 - **Real-time Tracking:** Companies can track claims instantly.
 - **Audit Trail:** Tamper-proof logs for accountability.
- **Significance:** Reduces fraud and administrative delays; improves Ease of Doing Business.

3. Line of Control (LoC)

Context: Suspicious drone activity and IED recovery in Poonch district brought focus back to the LoC.

- **Definition:** The **de facto** military boundary between India and Pakistan in J&K (Not an internationally recognized border).
- **Evolution:**
 - **1949:** Established as "**Ceasefire Line**" via the **Karachi Agreement** (UN mediation).
 - **1972:** Renamed "**Line of Control**" via the **Simla Agreement** (Bilateral resolution).
- **Geography:** ~740 km long, running from Jammu to Siachen Glacier.
- **Status:** Highly militarized with partial fencing (~550 km) to check infiltration.

4. BSNL VoWiFi (Voice over WiFi)

Context: BSNL launched nationwide Voice over WiFi services.

- **Technology:** Uses **IMS (IP Multimedia Subsystem)** to route calls via the internet.

- **How it Works:**
 - Uses **SIM authentication** (secure) but transmits voice data over a Wi-Fi network.
 - Does **not** require third-party apps (uses the phone's native dialer).
 - **Seamless Handover:** Switches to VoLTE (mobile network) if Wi-Fi drops.
- **Primary Benefit:** Connectivity in "signal-dark" zones (basements, remote areas) without extra cost.

5. Central Excise (Amendment) Act, 2025

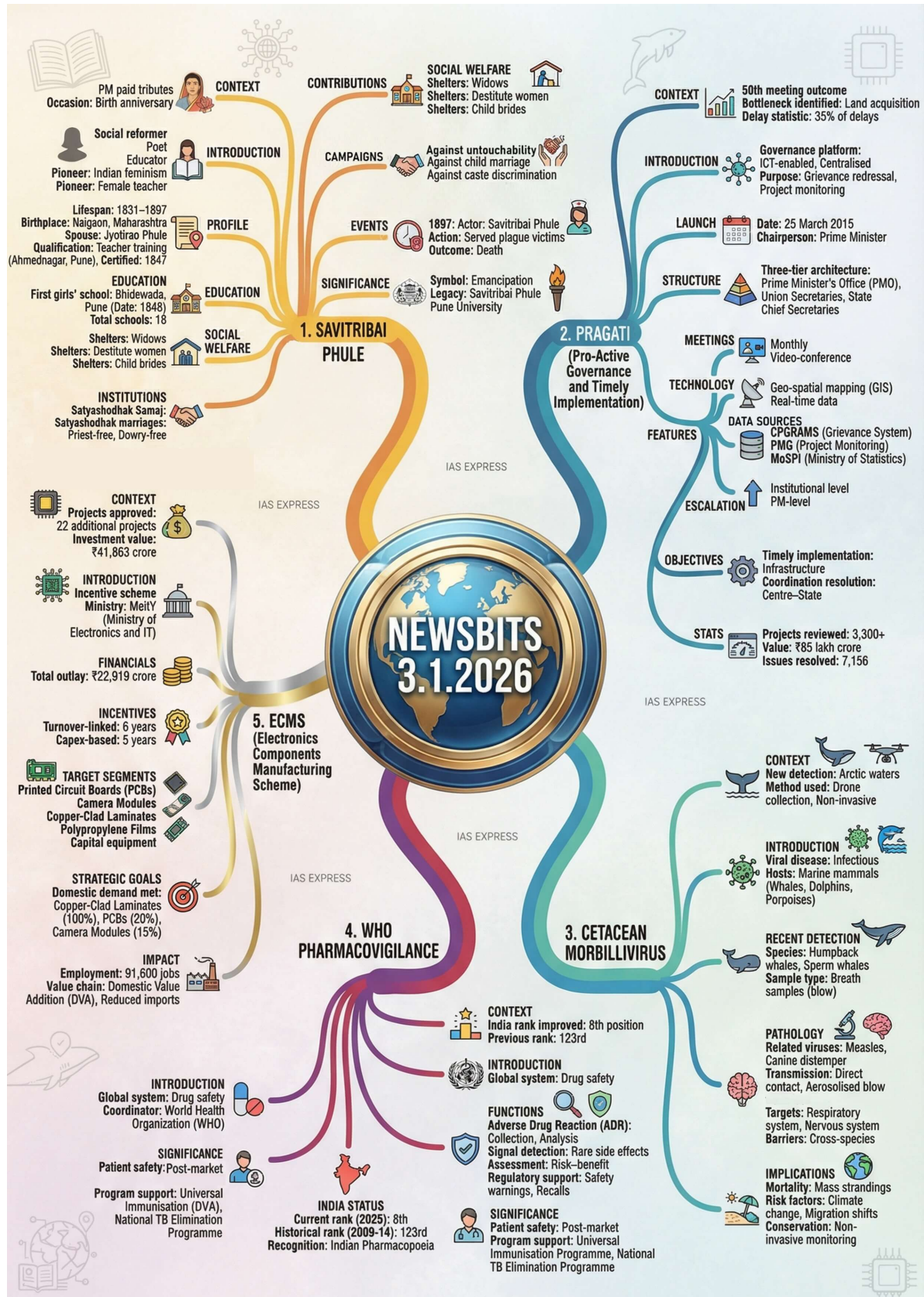
Context: Notified to revise tobacco taxation post the abolition of the GST Compensation Cess.

- **Timeline:** Changes effective from **February 1, 2026**.
- **The Shift:**
 - **GST Compensation Cess:** Ended. (Was introduced in July 2017 to compensate states for revenue loss).
 - **New Tax Structure:**
 - **Beedis:** 18% GST.
 - **Other Tobacco:** 40% GST.
 - **Excise Duty:** Hiked significantly (e.g., Cigarette duties raised to ₹2,700–₹11,000 per thousand sticks).
- **Objective:** Public health (price rise > income growth) and fiscal stability.

High-Yield Prelims Snippets

- **Mascot Name:** Sankhyiki (Ministry of Statistics).
 - **LoC vs LAC:** LoC is with Pakistan (1972 Simla Agreement); LAC is with China.
 - **Fertiliser Bill Processing:** Uses **FIFO** (First-In-First-Out) logic.
 - **VoWiFi Tech:** Requires **IMS** support; uses native dialer (no app needed).
 - **Tobacco Tax 2026:** GST Compensation Cess removed; replaced by higher Basic Excise Duty + restructured GST rates (18% Beedis, 40% Others).
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1. Savitribai Phule (Modern History & Culture)

- **Context:** Prime Minister paid tributes on her **birth anniversary**.
- **Significance:** First female teacher of modern India; Pioneer of Indian feminism.
- **Key Institutions & Events:**
 - **First Girls' School:** Established in **1848** at **Bhidewada, Pune** (along with Jyotirao Phule).
 - **Satyashodhak Samaj:** Played a pivotal role; promoted "**Satyashodhak Marriages**" (priest-free, dowry-free).
 - **Social Welfare:** Opened shelters for widows/destitute women (1854); campaigned against child marriage and untouchability.
- **Key Event:** Died in **1897** while serving **plague victims** (a distinct act of service).
- **Literary/Cultural:** Known for her poetry and educational philosophy (symbol of emancipation).

2. PRAGATI (Polity & Governance)

- **Context:** After the **50th meeting**, the Cabinet Secretary identified **Land Acquisition** as the single largest bottleneck (accounting for **35%** of project delays).
- **Full Form: Pro-Active Governance and Timely Implementation.**
- **Nature:** ICT-based, multi-modal platform for **Pro-Active Governance** (Launched: 2015).
- **Unique 3-Tier Structure:**
 1. Prime Minister's Office (PMO)
 2. Union Secretaries
 3. Chief Secretaries of States
 - *(Note: This brings the highest executive of the Centre and States on one platform).*
- **Technology:** Combines **Video Conferencing**, **Digital data management**, and **Geo-spatial technology** (GIS).
- **Data Sources:** Integrates data from **CPGRAMS**, **Project Monitoring Group (PMG)**, and **MoSPI**.

3. Cetacean Morbillivirus (Environment & Science)

- **Context:** Scientists detected this virus in **Arctic waters** for the first time using **non-invasive drone** collection.
- **What is it?** An infectious **viral disease** affecting marine mammals (Whales, Dolphins, Porpoises).
- **Family:** Closely related to **Measles** (humans) and **Canine Distemper** (dogs).
- **Target Organs:** Respiratory, Immune, and Nervous systems.
- **Detection Method:** Drone collection of "whale blow" (breath samples).
- **Threat:** Causes mass strandings; spread is amplified by climate change and shifting migration routes.

4. WHO Pharmacovigilance (Science & Public Health)

- **Context:** India has risen to the **8th position** globally in contributions to the WHO pharmacovigilance database (up from 123rd a decade ago).
- **Definition:** The science and activities relating to the detection, assessment, understanding, and prevention of **adverse effects (ADR)** of medicines/vaccines.

- **India's Achievement:**
 - **Recognition: Indian Pharmacopoeia** standards are now recognized in 19 Global South countries.
- **Function:** Crucial for **Post-market surveillance** (monitoring safety after a drug is sold to the public).
- **Integration:** Supports national programs like Universal Immunisation, TB Elimination, and Anaemia Mukh Bharat.

5. Electronics Components Manufacturing Scheme – ECMS (Economy)

- **Context:** MeitY approved **22 additional projects** involving ₹41,863 crore investment to boost component manufacturing.
- **Nodal Ministry: MeitY** (Ministry of Electronics and IT).
- **Objective:** To boost domestic manufacturing of **electronic components** (filling the gap between raw materials and finished assembly).
- **Incentive Structure:**
 - **Turnover-linked:** Available for **6 years**.
 - **Capex-based:** Available for **5 years**.
- **Focus Sectors (High Priority):**
 - **Copper-Clad Laminates:** Target 100% domestic demand met.
 - **PCBs (Printed Circuit Boards):** Target 20%.
 - **Camera Modules:** Target 15%.

High-yield Prelims Snippets

1. **Satyashodhak Marriage:** A unique marriage practice promoted by the Phules that explicitly rejected **priests** and **dowry**.
2. **PRAGATI's Tier System:** It is a **3-tier** system involving the **PM, Union Secretaries, and Chief Secretaries** (District Collectors are NOT part of the primary tier).
3. **Virus Relation: Cetacean Morbillivirus** is biologically related to the **Measles** virus.
4. **Whale Blow:** Scientists now use **drones** to collect whale breath (blow) to detect viruses without touching the animal (Non-invasive).
5. **ECMS vs PLI:** While PLI often focuses on final assembly/sales, **ECMS** specifically targets the **component ecosystem** (PCBs, laminates) to deepen value addition.
6. **Infrastructure Bottleneck:** As per the 50th PRAGATI meeting, **Land Acquisition** causes the highest percentage (35%) of project delays in India.

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1. Monroe Doctrine (International Relations)

- **Context:** U.S. President Donald Trump justified action against Venezuela (capturing President Maduro) by invoking this 19th-century policy.
- **Definition:** A U.S. foreign policy principle asserting that the **Western Hemisphere** (North & South America) is the exclusive sphere of influence of the United States.
- **Origin:** Proclaimed on **December 2, 1823** by U.S. President **James Monroe**.
- **Core Principles:**
 - **No New Colonization:** European powers warned against establishing new colonies in the Americas.
 - **Non-Interference:** Any European intervention viewed as a hostile act against the U.S.
 - **Separate Spheres:** Europe and the Americas to have distinct political systems.
- **Evolution (Roosevelt Corollary, 1904):**
 - Added by President **Theodore Roosevelt**.
 - Shifted the doctrine from *defensive* to **active interventionist**.
 - Claimed U.S. right to intervene in Latin American nations to prevent “instability” or European involvement.
- **Current Criticism:** Viewed by critics as **neo-imperialism** (historically used in Cuba, Nicaragua, Haiti).

2. Suryastra Rocket System (Defence)

- **Context:** Indian Army signed a ₹293-crore emergency procurement contract with **NIBE Ltd.** to induct this system.
- **Type:** India’s first **indigenous universal multi-calibre long-range rocket launcher**.
- **Key Partners:**
 - **Manufacturer:** NIBE Ltd. (India).
 - **Technology Partner:** **Elbit Systems** (Israel).
 - **Tech Base:** Israeli **PULS** (Precise & Universal Launching System).
- **Capabilities:**
 - **Range:** Two variants—**150 km** and **300 km**.
 - **Universal Launcher:** Can fire multiple calibres (122mm, 160mm, 306mm) from the same platform.
 - **Precision:** High accuracy with CEP (Circular Error Probable) < **5 metres**.
- **Significance:**
 - Surpasses existing **Pinaka** systems in range and precision.
 - Enhances conventional deterrence against China and Pakistan.

3. India: World's Largest Rice Producer

(Economy/Agriculture)

- **Context:** Union Agriculture Minister stated India has overtaken China to become the world's largest rice producer.
- **Data (2024-25 Estimates):**
 - **India: 150.18 Million Tonnes (MT)** (Rank 1).
 - **China:** 145.28 MT (Rank 2).
- **Top Rice Producing States (2023-24):**
 1. **Telangana** (Highest share: ~12.17%)
 2. Uttar Pradesh
 3. West Bengal
- **Geographical Conditions:**
 - **Climate:** Hot and humid (tropical/sub-tropical).
 - **Regions:** River deltas (Krishna-Godavari-Cauvery), Floodplains (Ganga-Brahmaputra), and terraced hills.
 - **Water:** Heavy dependence on irrigation (canals/tube-wells) in lower rainfall zones (Punjab/Haryana).

4. Olive Ridley Sea Turtles (Environment/Species)

- **Context:** Nesting season has begun; hatcheries set up along the Chennai coast.
- **Status:**
 - **IUCN: Vulnerable.**
 - **WPA, 1972: Schedule I** (Highest protection).
- **Key Features:**
 - **Appearance:** Smallest sea turtle; olive-green, heart-shaped shell.
 - **Arribada:** Unique **mass nesting** phenomenon where thousands of females nest synchronously.
 - **Sex Determination: Temperature-dependent** (warmer sand = more females).
- **Major Nesting Sites in India:**
 - **Odisha (World's largest rookeries):** Gahirmatha, Rushikulya, Devi River mouth.
 - Also found in Tamil Nadu, Andhra Pradesh, and Andaman & Nicobar.

5. Ramjet-Powered Artillery Shells (Defence Tech)

- **Context:** Indian Army to be the **first in the world** to operationally deploy these shells for 155mm guns.
- **Technology:**
 - **Ramjet:** An air-breathing jet engine with **no moving parts**. It uses atmospheric oxygen (unlike rockets which carry oxidizers).
 - **Mechanism:** Shell launched at supersonic speed (~Mach 2) → Air compressed by forward motion (ram effect) → Fuel ignites → Continuous thrust.
- **Benefits:**

- **Range:** Increases range by **30–50%** (reaching deep targets).
- **Compatibility:** Can be retrofitted to standard 155mm shells (e.g., M777 Howitzer).
- **Developer:** IIT Madras with Army Technology Board.

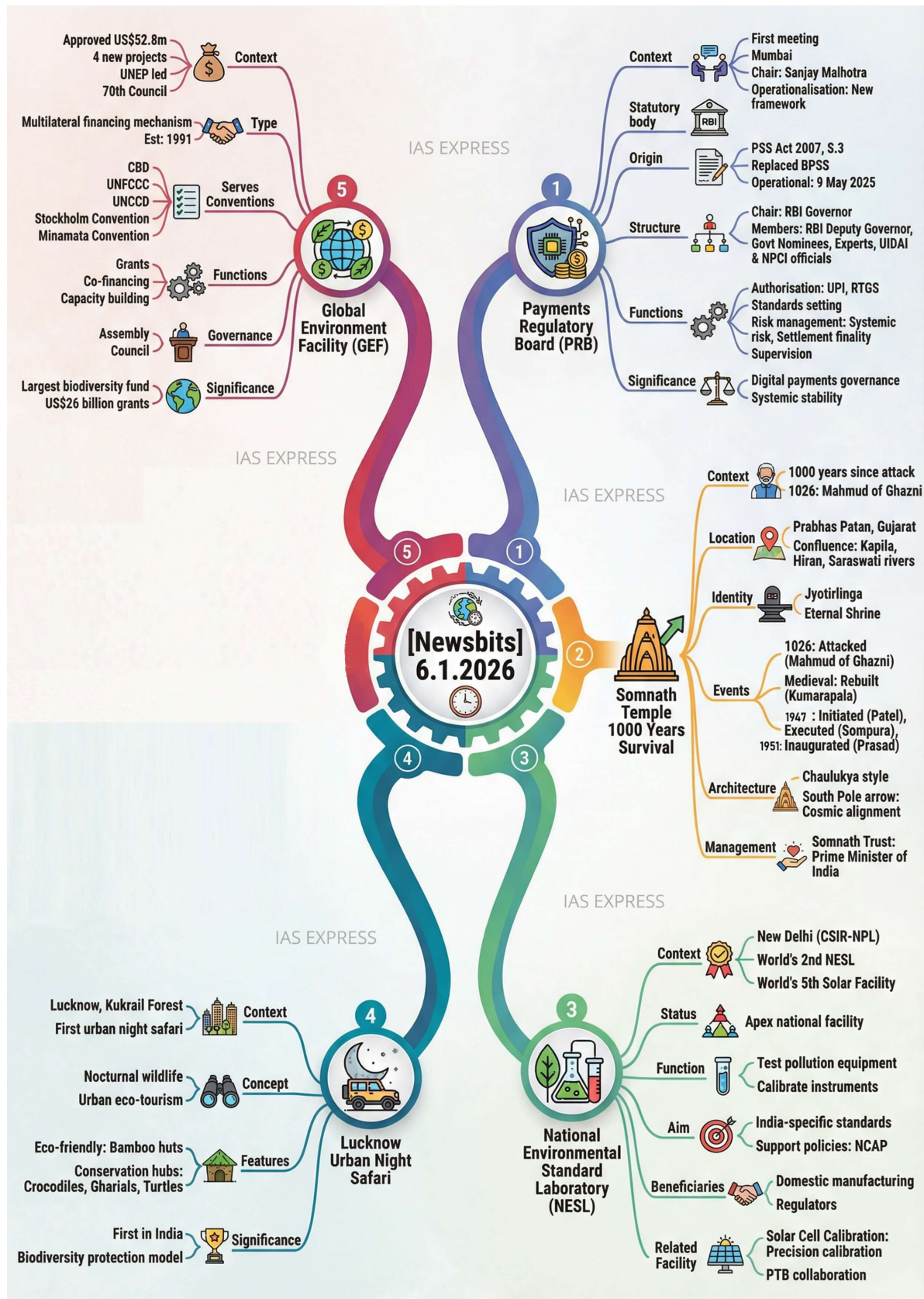
6. Battery Pack Aadhaar Number – BPAN (Science/Governance)

- **Context:** Proposed by Ministry of Road Transport & Highways (MoRTH) for EV battery tracking.
- **What is it?** A **21-character unique identification number** for battery packs.
- **Purpose:**
 - Functions as a “digital identity” for batteries.
 - Ensures traceability from raw material to recycling (**Circular Economy**).
- **Implementation:**
 - Mandatory for producers/importers.
 - Administered under **Automotive Industry Standards (AIS)**.
 - Crucial for enforcing **Extended Producer Responsibility (EPR)**.

High-Yield Prelims Snippets

Topic	Key Fact / Keyword
Monroe Doctrine	Western Hemisphere exclusive zone; Roosevelt Corollary (1904) added interventionist angle.
Suryastra System	Indigenous rocket launcher; Tech partner Elbit (Israel) ; Range 300 km .
Rice Production	India #1 , China #2 (2024-25); Top State: Telangana (2023-24).
Olive Ridley	Vulnerable (IUCN); Schedule I (WPA); Arribada (Mass nesting); Odisha coast.
Ramjet Shells	Air-breathing engine (uses atmospheric oxygen); No moving parts ; Developed by IIT Madras .
BPAN	21-character ID for batteries; Proposed by MoRTH ; Focus on EPR & Recycling.

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1. Payments Regulatory Board (PRB)

- **Context:** The first meeting was held in Mumbai (Chaired by Sanjay Malhotra), marking the operationalisation of the new payments governance framework.
- **Nature:** A **statutory body** enabling the RBI to exercise regulatory and supervisory powers over payment/settlement systems.
- **Legal Basis:**
 - Established under **Section 3 of the Payment and Settlement Systems Act, 2007**.
 - **Replaces:** The earlier **Board for Regulation and Supervision of Payment and Settlement Systems (BPSS)**.
 - **Effect:** Operational from **9 May 2025**.
- **Composition (Multi-stakeholder):**
 - **Chairperson:** RBI Governor.
 - **Members:** RBI Deputy Governor (Payments), Central Govt nominees, Experts (Fintech/Cybersecurity), and officials from digital infrastructure bodies (**UIDAI, NPCI**).
- **Key Mandate:**
 - **Authorisation:** Regulates systems like UPI, RTGS, Cards, Wallets.
 - **Standards:** Sets technical and security standards.
 - **Risk:** Manages systemic risks and **settlement finality**.
 - **Significance:** Provides legal certainty for netting/settlement and consumer protection.

2. Somnath Temple (1000 Years Survival)

- **Context:** PM marked 1,000 years since the **1026 CE attack by Mahmud of Ghazni**.
- **Identity:**
 - One of the **12 Jyotirlingas** of Lord Shiva.
 - Known as the **"Eternal Shrine"** due to its history of repeated destruction and reconstruction (6 times).
- **Location:**
 - **Prabhas Patan**, Veraval (Saurashtra, Gujarat).
 - **Geography:** Situated on the Arabian Sea coast at the **Triveni Sangam** (confluence) of three rivers: **Kapila, Hiran, and Saraswati**.
- **History:**
 - **Attack:** Plundered by Mahmud of Ghazni in 1026 CE.
 - **Medieval Rebuilders:** **Kumarapala** (12th Century), **Chudasama kings**.
 - **Modern Reconstruction (1947–51):**
 - Initiated by **Sardar Vallabhbhai Patel**.
 - Architect: **Prabhashankar Sompura** (Traditional methods).
 - Inaugurated by: **Dr. Rajendra Prasad** (11 May 1951).
- **Architecture:**

- **Style:** Chaulukya (Solanki) style.
- **Key Feature:** The *Baan-Stambh* (Arrow Pillar) inscription states there is **no landmass from that point to the South Pole**.
- **Administration:** Managed by the Somnath Trust (Current Chair: **Prime Minister of India**).

3. National Environmental Standard Laboratory (NESL)

- **Context:** India inaugurated the **World's 2nd NESL** and **World's 5th Solar Cell Calibration Facility** at **CSIR-NPL, New Delhi**.
- **About NESL:**
 - **Role:** Apex facility for testing and certification of **air pollution monitoring equipment**.
 - **Uniqueness:** Tests equipment under **Indian climatic conditions** (dust load, humidity, temperature) to ensure accuracy.
 - **Global Status:** Only the **UK and India** possess such a national-level facility.
 - **Objective:** Supports the **National Clean Air Programme (NCAP)** and domestic manufacturing (MSMEs).
- **Solar Cell Calibration Facility:**
 - **Role:** High-precision calibration of solar cells (PV measurements).
 - **Tech:** Uses **Laser-based Differential Spectral Responsivity (L-DSR)** system.
 - **Status:** Part of an elite group (5th in the world).
 - **Collaboration:** Developed with **Physikalisch-Technische Bundesanstalt (PTB), Germany**.

4. Lucknow Urban Night Safari

- **Context:** India's **first urban night safari** is set to be introduced in Lucknow.
- **Location:** **Kukrail Forest Area**, Lucknow (Uttar Pradesh).
- **Geography:** Located along the **Kukrail River**.
- **Concept:**
 - Controlled nocturnal wildlife viewing within city limits.
 - Focus on education and **low-impact tourism** (not entertainment).
- **Key Features:**
 - Conservation hubs for **Crocodiles, Gharials, and Turtles**.
 - Eco-friendly infrastructure (Bamboo huts, low-impact lighting).
- **Significance:** A model for integrating biodiversity protection with urban leisure.

5. Global Environment Facility (GEF)

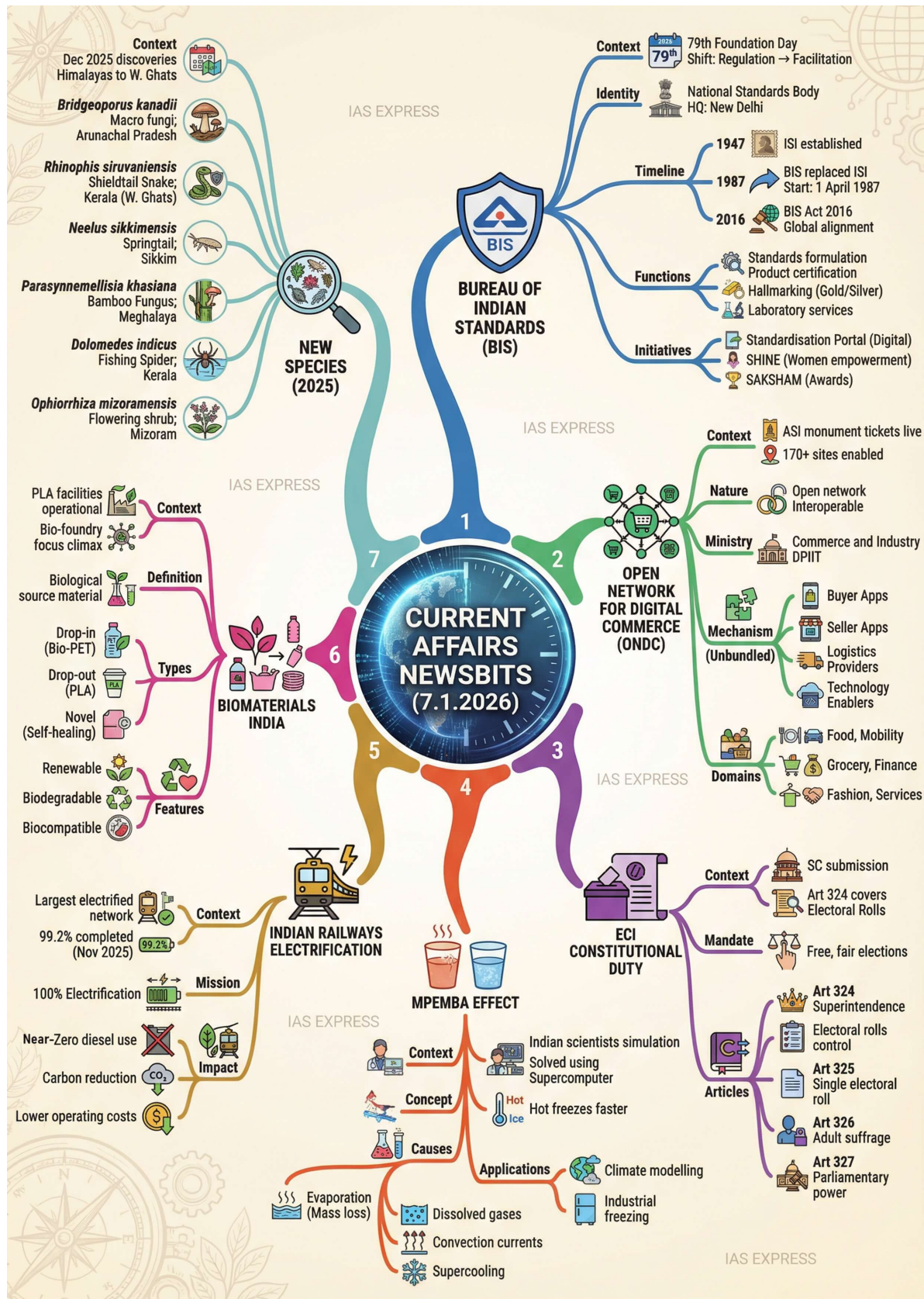
- **Context:** GEF approved US\$52.8 million for UNEP-led projects.
- **About:** A multilateral financial mechanism established in **1991** (ahead of the 1992 Rio Earth Summit).
- **Mandate:** Provides grants/blended finance for global environmental benefits.

- **Serves as Financial Mechanism for:**
 1. Convention on Biological Diversity (**CBD**)
 2. UN Framework Convention on Climate Change (**UNFCCC**)
 3. UN Convention to Combat Desertification (**UNCCD**)
 4. **Stockholm Convention** (Persistent Organic Pollutants)
 5. **Minamata Convention** (Mercury)
 6. **BBNJ Agreement** (Biodiversity Beyond National Jurisdiction)
 - *Note: Also supports the Montreal Protocol.*
 - **Impact:** Largest source of multilateral biodiversity funding globally.
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High-yield Prelims Snippets

- **PRB Authority:** The Payments Regulatory Board is a **statutory body** under the **PSS Act, 2007** (replaces BPSS). The **RBI Governor** is the Chairperson.
 - **Somnath Rivers:** Located at the **Triveni Sangam** of **Kapila, Hiran, and Saraswati** rivers.
 - **Somnath Architecture:** Built in the **Chaulukya (Solanki)** style.
 - **South Pole Connection:** The Somnath temple arrow pillar inscription claims an unobstructed path to the **South Pole**.
 - **Global Ranks (Science):**
 - **NESL (Delhi): 2nd in the World** (after UK).
 - **Solar Calibration Facility (Delhi): 5th in the World** (Collaboration with **Germany**).
 - **Kukrail Forest:** Site of **India's First Urban Night Safari** (Lucknow); famous for **Gharial** conservation.
 - **GEF Timeline:** Established in **1991** (Before Rio Summit 1992). It funds **6 Major International Conventions** (including the new BBNJ).
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Bureau of Indian Standards (BIS): 79th Foundation Day

Context: The 79th Foundation Day was celebrated, marking a strategic shift from a **regulatory** to a **facilitative** approach to promote “ease of doing business” and a “quality culture”.

- **About BIS:** India’s National Standards Body for standardization, certification, hallmarking, and quality assurance.
- **Timeline & History:**
 - **1947:** Indian Standards Institution (ISI) established (origin in 1946 memo).
 - **1952–56:** Launched **ISI Certification Marks Scheme** (ISI mark).
 - **1987:** ISI transformed into BIS (effective 1 April 1987) with wider powers.
 - **2016: BIS Act, 2016** strengthened mandate, consumer participation, and global alignment.
- **Core Functions:**
 - **Standards Formulation:** 23,300+ standards across traditional/emerging sectors.
 - **Certification:** Product certification (including fast-track), Compulsory Registration Scheme, and Foreign Manufacturers Certification Scheme.
 - **Hallmarking:** For precious metals (Gold/Silver).
 - **Others:** Lab services, consumer awareness, and sale of standards.
- **New Initiatives:**
 - **Standardisation Portal (Beta):** End-to-end digital lifecycle (proposal → publication) with dashboards and role-based access.
 - **SHINE:** Women-centric capacity building via SHGs/NGOs to make women “quality ambassadors”.
 - **BIS–SAKSHAM:** Annual excellence recognition scheme for knowledge and high-impact merit.

Open Network for Digital Commerce (ONDC)

Context: ASI enabled online ticket booking for **170+** centrally protected monuments on ONDC.

- **What is it?** An open, interoperable digital network (not a central marketplace/app) using open protocols to break platform monopolies.
- **Launch:** April 2022 by **DPIIT** (Ministry of Commerce and Industry).
- **Aim:** Democratize commerce, level the playing field for MSMEs, and promote innovation/cost-efficiency.
- **Mechanism (Unbundled):**
 - Connects independent platforms via standardized APIs.
 - **Buyer Apps:** Customer interface for search/ordering.
 - **Seller Apps:** Manage catalogs, inventory, pricing.
 - **Logistics Providers:** Handle pickup/delivery.

- **Technology Enablers:** Supply digital infrastructure.
- **Domains:** Food, Mobility, Grocery, Finance, Fashion, Home, Electronics, Agriculture, and **ONEST** (Education).

Constitutional Duty of ECI

Context: ECI told the Supreme Court that **Article 324** gives it control over electoral rolls, including **Special Intensive Revision (SIR)**.

- **Mandate:** Maintain “purity” of the electoral process; ensure only eligible citizens are enrolled.
- **Constitutional Articles:**
 - **Article 324:** Vests “superintendence, direction, and control” of elections (Parliament, State Legislatures, President, VP) in ECI. Basis for exercises like SIR.
 - **Article 325:** Mandates one general electoral roll per constituency; prohibits discrimination (religion, race, caste, sex).
 - **Article 326:** Adult suffrage (**18+ years**); makes citizenship a foundational requirement.
 - **Article 327:** Parliament can make election laws, but **subject to Article 324** (preserving ECI control).
 - **Article 328:** State Legislatures can make laws where Parliament hasn’t, within the constitutional framework.
- **Significance:** Balances ECI autonomy with legislative oversight; prevents executive overreach.

Mpemba Effect

Context: Indian scientists used supercomputer simulations to capture the Mpemba effect, resolving the paradox.

- **Definition:** Counterintuitive phenomenon where **hot water freezes faster than cold**.
- **History:** Named after **Erasto Mpemba** (1969); noted earlier by Aristotle, Bacon, Descartes.
- **Causes (Multifactorial):**
 - **Evaporation:** Mass loss in hot water = less water to freeze.
 - **Dissolved Gases:** Heating drives out gases, changing freezing traits.
 - **Convection:** Gradients create circulation, enhancing heat loss.
 - **Supercooling:** Hot water may freeze at a higher temperature.
 - **Environmental:** Hot containers alter surroundings to improve cooling.
- **Applications:** Non-equilibrium physics, climate/cryosphere modelling, industrial freezing.

Indian Railways: World’s Largest Electrified Network

Context: 99.2% of broad-gauge network electrified by **Nov 2025**.

- **Mission: 100% Railway Electrification** (started 1925, accelerated post-2014).

- **Aim:** Eliminate diesel, reduce carbon/imports, improve speed/efficiency.
- **Key Stats:**
 - ~70,000 route km (99.2%) complete; ~0.8% pending.
 - Pace: **1.42 km/day** (2004–14) → **15+ km/day** (2019–25).
 - **25 States/UTs** fully electrified.
 - Renewables: Solar capacity **3.68 MW** (2014) → **898 MW** (2025).
- **Significance:** Electric traction is **~70% cheaper** than diesel.

Biomaterials India

Context: Focus on Biomanufacturing peaked in early 2026 with massive **PLA** facilities.

- **Definition:** Substances from biological sources (sugarcane, maize, waste like temple flowers/shells) or engineered via fermentation.
- **Production:** Microbes (e.g., *Xanthomonas*) convert sugars to lactic acid → polymerized.
- **Categories:**
 1. **Drop-in:** Chemically identical to petroleum plastics (e.g., **Bio-PET**). “Plug-and-play” (no machinery upgrades needed).
 2. **Drop-out:** Chemically unique (e.g., **PLA**). Needs separate end-of-life systems (industrial composting).
 3. **Novel:** New properties (e.g., self-healing composites, bioactive scaffolds).
- **Characteristics:** Renewable (current carbon cycle), Biocompatible (“immune-silent”), Tunable, Biodegradable.
- **Applications:** Seaweed wrappers, mulch films, dissolvable sutures, vegan leather (mushroom mycelium).

New Species Discovered (2025)

Context: Discoveries from Himalayas to W. Ghats announced in Dec 2025.

1. **Bridgeoporus kanadii (Arunachal Pradesh):** “Colossal” macro fungi on fir trees; strong enough to sit on.
2. **Rhinophis siruvaniensis (Kerala):** Siruvani Shieldtail Snake; non-venomous, burrowing, specialized tail shield.
3. **Neelus sikkimensis (Sikkim):** High-altitude springtail (wingless arthropod); first record of genus *Neelus* in India; uses “furcula” to jump.
4. **Parasynnemellisia khasiana (Meghalaya):** New fungus genus in Khasi Hills bamboo forests.
5. **Dolomedes indicus (Kerala):** First “**Fishing Spider**” in India (Wayanad); semi-aquatic, skates on water.
6. **Ophiorrhiza mizoramensis (Mizoram):** Critically Endangered flowering shrub (Coffee family); <200 individuals.

High-Yield Prelims Snippets

- **BIS Identity:** ISI was the original 1947 body; BIS replaced it in 1987. "ISI mark" remains the name for the certification scheme.
 - **ONDC Myth-Buster:** It is **not** a central platform or app. It is a network protocol. It does **not** own inventory or control sellers.
 - **Article 324 vs 327:** Parliament's power to make election laws (Art 327) is **subject to** the ECI's superintendence (Art 324).
 - **Mpemba Nuance:** Hot water freezing faster is due to *multiple* factors (evaporation + gases + convection), not one single cause.
 - **Biomaterial Types:**
 - **Drop-in:** Same chemistry, existing machines (Bio-PET).
 - **Drop-out:** Different chemistry, new recycling needed (PLA).
-

[Newsbits] 8.1.2026



Directorate General of Mines Safety (DGMS)

- **About:** Statutory regulatory authority responsible for occupational safety, health, and welfare in mines.
- **Ministry:** Ministry of Labour & Employment.
- **Jurisdiction:** Coal, metalliferous, and oil mines.
- **History:**
 - Established in **1902** (one of India's oldest labour safety institutions).
 - Celebrated **125th Foundation Day** in 2026.
- **Headquarters:** Dhanbad, Jharkhand.
- **Mandate:**
 - Enforces **Mines Act, 1952** and allied legislation (e.g., Indian Electricity Act).
 - Constitutional backing: **Entry 55 of the Union List** (Article 246).
- **Key Functions:**
 - **Regulation:** Inspections, audits, and approvals for uniform safety standards.
 - **Investigation:** Accident inquiries and hazard identification.
 - **Health:** Monitoring occupational diseases and exposure risks.
 - **Capacity Building:** Promoting safety culture and "First Safety" vision.
- **Status:** Recognized as a Science & Technology (S&T) Institution since 1987.

Census of India 2027

- **Status:** **16th Census** overall; **8th** after Independence.
- **Authority:** Office of the Registrar General & Census Commissioner of India (under **Ministry of Home Affairs**).
- **Legislation:** Conducted under **Census Act, 1948** and Census Rules, 1990.
- **Timeline:**
 - **Phase 1 (Houselisting & Housing):** April–September 2026.
 - **Phase 2 (Population Enumeration):** February 2027.
 - *Note:* Special schedules apply for Ladakh and snow-bound regions.
- **New Features:**
 - **Digital First:** Data collection via Android/iOS mobile apps (first fully digital Census).
 - **Self-Enumeration:** Citizens can fill details online 15 days before field visits.
 - **Caste Enumeration:** Electronic collection of caste data (first time since **1931**).
 - **Technology:**
 - **CMMS:** Census Management & Monitoring System for real-time tracking.
 - **GIS-HLB:** Web-map application for geo-referencing census blocks.
 - **CaaS:** Census-as-a-Service for machine-readable datasets.
- **Significance:** Backbone for delimitation, welfare schemes, and fiscal transfers; unmatched granular data (village/ward level).

Bio-bitumen Commercial Production

- **Milestone:** India becomes the **first country** globally to commercially produce bio-bitumen.
- **Definition:** Bio-based binder for road construction derived from agricultural residues (biomass).
- **Developing Agencies:**
 - CSIR-Central Road Research Institute (New Delhi).
 - CSIR-Indian Institute of Petroleum (Dehradun).
- **Source:** Primarily **rice straw** (addresses stubble burning).
- **Process (Pyrolysis):**
 - Biomass pellets heated in oxygen-absence → Bio-oil extracted → Blended with petroleum bitumen.
- **Key Specs:**
 - **Blending Ratio:** Can replace **20–30%** of conventional fossil-fuel bitumen.
 - **Performance:** Validated on **NH-40 (Jorabat–Shillong Expressway)**.
- **Benefits:**
 - Reduces import dependence (potential savings of ₹25k-30k crore).
 - Lowers lifecycle carbon footprint.
 - Cost-efficient with longer service life.

Earth Observation Satellite EOS-N1 (Anvesha)

- **Mission:** Launched aboard **PSLV-C62** (January 2026).
- **Type:** Advanced **Hyperspectral** Earth Observation Satellite.
- **Codename:** Anvesha.
- **Primary Focus:** Strategic surveillance and reconnaissance (aligned with **DRDO** requirements).
- **Dual-Use Capabilities:**
 - **Defence:** Border monitoring, threat detection, terrain analysis.
 - **Civilian:** Crop health (agriculture), urban planning, pollution tracking.
- **Technology:** Hyperspectral imaging captures data across hundreds of spectral bands for precise material identification.
- **Significance:** Demonstrates niche capability possessed by very few nations; high-priority asset for national security.

India–Bangladesh Ganga Water Sharing Treaty (1996)

- **Context:** Treaty set to expire in **December 2026**; renewal talks initiated.
- **River:** Ganga (Ganges) at **Farakka Barrage** (West Bengal).
- **Term:** 30 years (signed 12 Dec 1996).
- **Key Mechanism:**
 - **Schedule:** Applies during the dry season (**January–May**) based on 10-day periods.

- **Formula:** Based on historical average flows (1949–1988).
- **Emergency Clause:** Immediate consultations if flows drop below **50,000 cusecs**.
- **Guarantees:** Protects India's downstream releases (Kolkata Port) and Bangladesh's fair share.
- **Monitoring:** Joint Committee monitors flows at Farakka (India) and **Hardinge Bridge** (Bangladesh).
- **Significance:** Solved decades of dispute; establishes principles of "no harm" and equity; vital for navigation (NW-1) and salinity control.

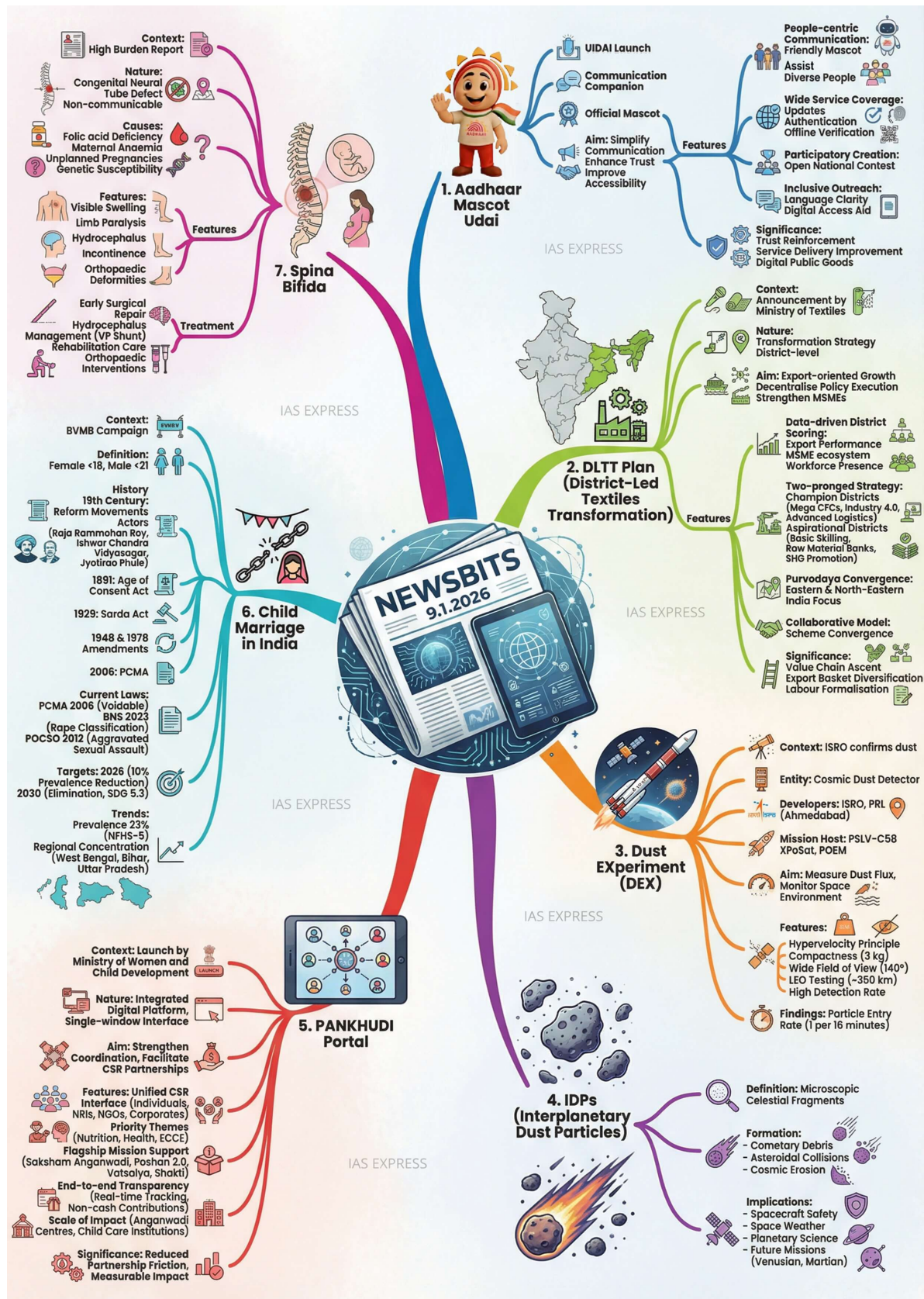
White Dwarf System (EX Hydrae)

- **Discovery:** **NASA's IXPE** (Imaging X-ray Polarization Explorer) probed internal structures of a white dwarf for the first time.
- **Target:** **EX Hydrae** (a binary system ~200 light-years away).
- **What is a White Dwarf?**
 - Dense core remnant of a Sun-like star after it sheds outer layers (Planetary Nebula).
 - Mass ~ Sun; Size ~ Earth.
 - Supported by **Electron Degeneracy Pressure** (Pauli Exclusion Principle).
- **Key Findings:**
 - Classified as an **Intermediate Polar**: Moderate magnetic field channels gas onto the surface.
 - IXPE measured X-ray polarization to map gas columns and surface reflections.
- **Chandrasekhar Limit:** The maximum mass of a stable white dwarf is **1.4 solar masses**.

High-yield Prelims Snippets

- **DGMS:** Established in **1902**; HQ in **Dhanbad**; enforces **Mines Act, 1952**; falls under **Entry 55** (Union List).
- **Census 2027: 16th** Census; **Caste data** collected for first time since **1931**; conducted under **Census Act, 1948**.
- **Bio-bitumen:** Made from **rice straw** via **pyrolysis**; replaces **20-30%** fossil bitumen; developed by **CSIR**.
- **EOS-N1 (Anvesha): Hyperspectral** imaging satellite; launched by **PSLV-C62**; primarily for **strategic surveillance** (DRDO).
- **Ganga Treaty:** Signed **1996**; valid for **30 years** (expires 2026); monitors flow at **Farakka & Hardinge Bridge**.
- **White Dwarf:** Supported by **Electron Degeneracy Pressure**; limit is **1.4 Solar Masses** (Chandrasekhar Limit); **EX Hydrae** is the system studied by **IXPE**.

[Newsbits] 9.1.2026



1. UIDAI Launches Aadhaar Mascot 'Udai'

Context: The Unique Identification Authority of India (UIDAI) has unveiled a new mascot named '**Udai**' (उदय). This initiative aims to bridge the gap between the technical aspects of Aadhaar and the general public, making the service more accessible and user-friendly.

About Mascot 'Udai'

- **Nature:** A resident-facing communication companion (official mascot).
- **Origin:** Selected through a multi-tier **open national contest** (875 entries), emphasizing public participation in Digital Public Infrastructure (DPI).
- **Objective:** To simplify, humanize, and standardize communication regarding Aadhaar services for over a billion residents.

Key Strategic Functions

- **Simplification:** 'Udai' will break down complex processes like **biometric updates**, **offline verification**, and **authentication** into simple, relatable language.
- **Privacy & Trust:** It will educate users on **selective data sharing** and responsible usage, thereby reinforcing trust in the Aadhaar ecosystem.
- **Inclusivity:** The mascot is designed to be effective across various literacy levels and languages, ensuring the "last mile" user is reached.

Significance

- **Trust Building:** Reaffirms the principle that citizen participation is central to the acceptance of digital governance tools.
- **Service Delivery:** Mitigates **information asymmetry**, reducing errors in how residents interact with the Aadhaar system.

2. District-Led Textiles Transformation (DLTT) Plan

Context: Moving towards decentralized economic planning, the **Ministry of Textiles** has launched the DLTT plan. It targets specific districts to drive India's textile exports and manufacturing capabilities.

Core Framework

- **Approach:** A sector-specific, district-level strategy that categorizes districts based on **data-driven scoring** (Export Performance, MSME strength, and Workforce presence).
- **Goal:** To create "Global Export Champions" and self-reliant textile hubs by leveraging local potential.

Two-Pronged District Strategy

Category	Target	Key Interventions
Champion Districts	100 High-potential districts	• Focus: Scale & Sophistication. • Actions: Establishing Mega Common Facility Centres (CFCs), adopting Industry 4.0, and creating direct export market linkages.
Aspirational Districts	100 Foundation-stage districts	• Focus: Foundation & Formalisation. • Actions: Basic skilling, creating Raw Material Banks, and promoting SHGs/Cooperatives.

Convergence Areas

- **Purvodaya Focus:** Special emphasis on Eastern & North-Eastern India to develop the tribal belt.*
- **GI Tagging:** Promoting Geographical Indication (GI) tags for unique handicrafts to boost niche exports.
- **Collaborative Model:** Integrating government schemes with industry and academia to replicate successful cluster models.

3. Dust EXperiment (DEX) & Interplanetary Dust Particles

Context: ISRO has released findings from its first indigenous cosmic dust detector, **DEX (Dust EXperiment)**. It has confirmed that an **Interplanetary Dust Particle (IDP)** strikes Earth's atmosphere approximately every **16 minutes**.

About Dust EXperiment (DEX)

- **Developer:** Physical Research Laboratory (PRL), Ahmedabad (under ISRO).
- **Platform:** Flown on the **PSLV Orbital Experimental Module (POEM)** of the **PSLV-C58 XPoSat mission**.
- **Orbit:** Low-Earth Orbit (~350 km altitude; 9.5° inclination).
- **Mechanism:** Uses the **Hypervelocity Principle** to detect dust impacts traveling at speeds **>4 km/s** (causing instantaneous melting/disintegration).

Key Findings & Significance

- **Flux Measurement:** Measured dust flux of $\sim 6.5 \times 10^{-3}$ particles $\text{m}^{-2} \text{s}^{-1}$.
- **Detection Rate:** ~1 particle impact every 1,000 seconds.
- **Applications:**

- **Space Safety:** Critical data for designing shielding for satellites and future **crewed missions (Gaganyaan)**.
- **Model Validation:** Validates global models of cosmic dust flux.

Concept: Interplanetary Dust Particles (IDPs)

- **What are they?** Microscopic fragments from **comets** (released during solar heating), **asteroids** (collisions), and **meteoroids**.
- **Meteor Layer:** Constant rain of IDPs creates the "meteor layer" in the atmosphere, occasionally visible as shooting stars.
- **Future Scope:** DEX technology can be used to study dust in the atmospheres of **Venus and Mars**, crucial for future interplanetary exploration.

4. PANKHUDI Portal

Context: The **Ministry of Women and Child Development** has launched 'PANKHUDI', a digital interface to streamline voluntary and corporate contributions to social welfare.

About the Portal

- **Type:** A unified, single-window digital platform for **CSR (Corporate Social Responsibility)** and voluntary partnerships.
- **Stakeholders:** Connects Government with Corporates, NRIs, NGOs, and individuals.
- **Transparency Protocol:** Accepts **non-cash contributions only** to ensure traceability and prevent financial mismanagement.

Key Objectives

- **Mission Integration:** Supports flagship schemes like:
 - **Mission Saksham Anganwadi & Poshan 2.0** (Nutrition & ECCE)
 - **Mission Vatsalya** (Child Protection)
 - **Mission Shakti** (Women's Safety)
- **Infrastructure:** Targets upgrades for 14+ lakh Anganwadis and ~5,000 Child Care Institutions.
- **Ease of Doing Good:** Provides end-to-end tracking of proposals, approvals, and outcomes, reducing friction in Public-Private Partnerships (PPP).

5. Child Marriage Prevention in India

Context: The Government has intensified the **Bal Vivah Mukht Bharat (BVMB)** campaign, aiming to eliminate child marriage by **2030**.

Targets

- **Near-term:** Reduce prevalence by **10% by 2026**.
- **Long-term:** Make India “Child Marriage Free” by **2030** (aligned with **SDG 5.3**).

Legislative Landscape

- **Definition:** Marriage below 18 years (female) or 21 years (male).
- **Key Laws:**
 - **Prohibition of Child Marriage Act (PCMA), 2006:** Makes child marriage **voidable** (can be annulled by the minor) and **void** in specific cases (trafficking/force).
 - **Bharatiya Nyaya Sanhita (BNS), 2023:** Criminalizes sexual relations with a wife below 18 years as **rape**.
 - **POCSO Act, 2012:** Classifies sexual assault within child marriage as **aggravated penetrative sexual assault**.

Historical Context

- **Evolution:**
 - *Age of Consent Act, 1891.*
 - *Sarda Act (1929):* Restraint focused.
 - *PCMA (2006):* Prohibition focused.

Current Status

- **Data (NFHS-5):** ~23% of women (20–24 years) were married before age 18.
- **Hotspots:** High prevalence in West Bengal, Bihar, and UP.

6. Spina Bifida and Neural Tube Defects

Context: India faces a high burden of Spina Bifida, a condition largely preventable via **folic acid** supplementation.

Medical Overview

- **What is it?** A **Neural Tube Defect (NTD)** where the spinal cord fails to develop/close properly.
- **Critical Window:** Occurs within the **first 28 days** of conception (often before pregnancy is confirmed).
- **Primary Cause:** Maternal **Folic Acid (Vitamin B9)** deficiency.

Key Clinical Features

- **Physical:** Visible sac-like swelling on the back (Open Spina Bifida).
- **Neurological:** Paralysis/weakness of lower limbs; Urinary/Bowel incontinence.
- **Complications:**

- **Hydrocephalus:** Fluid accumulation in the brain (treated with VP shunts).
- **Club Foot:** Orthopaedic deformity due to nerve damage.

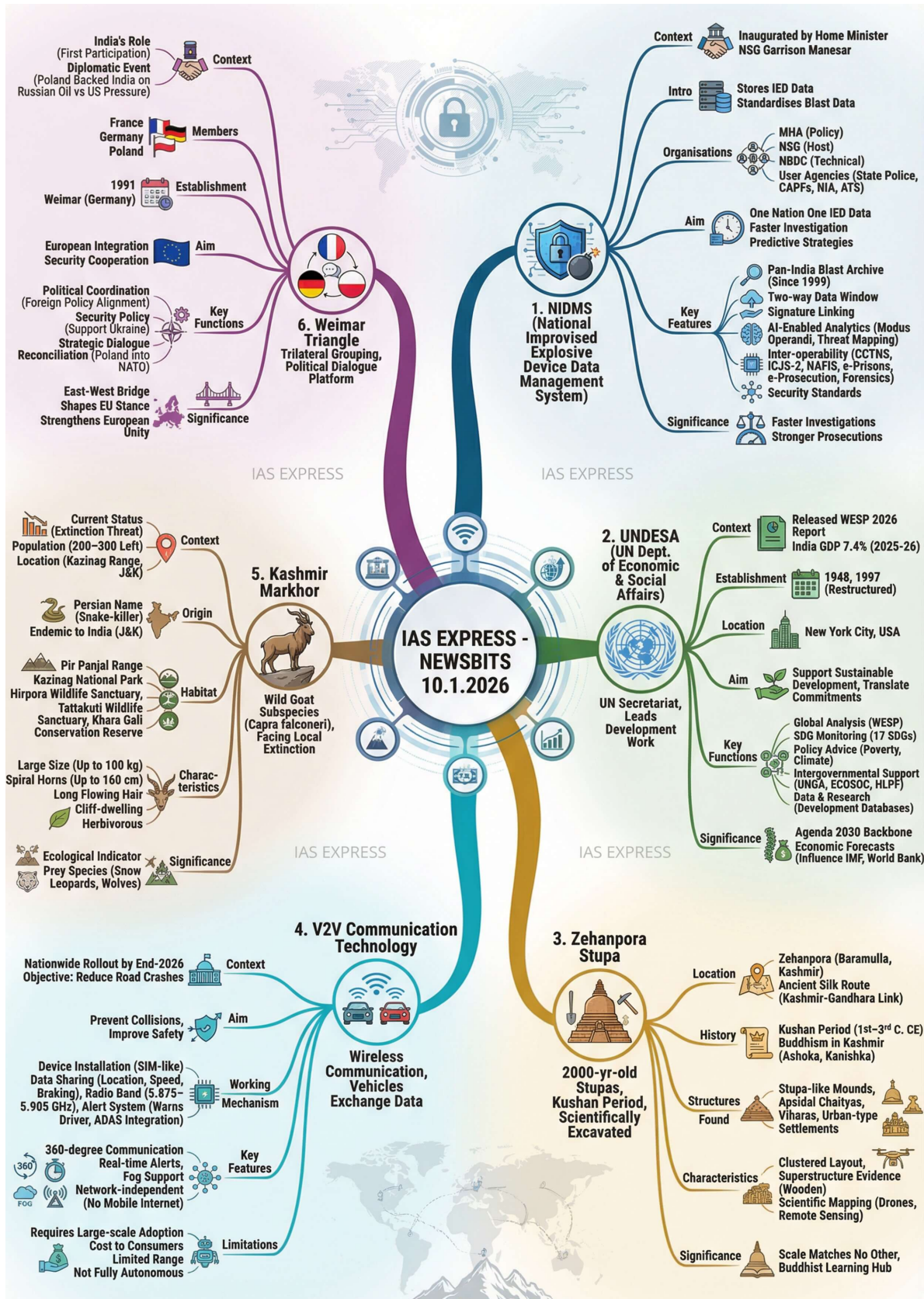
Management & Prevention

- **Prevention:** Pre-conception Folic Acid intake prevents >70% of cases.
 - **Treatment:** Early surgical closure, hydrocephalus management, and lifelong rehabilitation.
-

High-yield Prelims Snippets

1. **Mascot 'Udai':** Launched by **UIDAI**; selected via **open national contest**; focuses on **biometric updates** and **offline verification** awareness.
 2. **DLTT Plan:** Ministry of **Textiles**; divides districts into **Champion** (Export focus) vs **Aspirational** (Formalisation focus); focuses on **Purvodaya** (Eastern India).
 3. **DEX (Dust EXperiment):** Developed by **PRL (ISRO)**; flown on **POEM (PSLV-C58)**; measures **hypervelocity** dust impacts (>4 km/s); critical for **Gaganyaan** safety.
 4. **PANKHUDI Portal:** Ministry of **WCD**; single window for **CSR/Voluntary** support; accepts **non-cash contributions only**.
 5. **Child Marriage Law:** Under **PCMA 2006**, marriages are generally **voidable** (not automatically void); **BNS 2023** treats sex with wife <18 as rape; Campaign target is **Zero by 2030**.
 6. **Spina Bifida: Neural Tube Defect;** caused by **Folate deficiency** in first **28 days** of pregnancy; linked to **Hydrocephalus** and Club Foot.
-

[Newsbits] 10.1.2026



1. National Improvised Explosive Device Data Management System (NIDMS)

Context

The Union Home Minister inaugurated the **National Improvised Explosive Device Data Management System (NIDMS)** at the NSG garrison in Manesar. It is envisaged as a “next-generation shield” against terror threats involving explosives.

Key Aspects of NIDMS

- **Definition:** A secure, centralized national digital platform aimed at “One Nation, One IED Data Repository.”
- **Scope:** Archives, standardizes, and analyzes data on all IED and bomb blasts in India since **1999**.
- **Operational Structure:**
 - **Policy Oversight:** Ministry of Home Affairs (MHA).
 - **Host & Custodian:** National Security Guard (NSG).
 - **Technical Backbone:** National Bomb Data Centre (NBDC).
- **User Agencies:** National Investigation Agency (NIA), Central Armed Police Forces (CAPFs), State Police, and Anti-Terrorism Squads (ATS).

Functional Features

- **Data Integration:**
 - **Archive:** Comprehensive record of blasts since 1999.
 - **Two-Way Flow:** Agencies can upload new data and access historical case files in real-time.
 - **Inter-operability:** Integrated with CCTNS (Crime and Criminal Tracking Network & Systems), ICJS-2, NAFIS (fingerprints), and e-Forensics databases.
- **Advanced Analytics:**
 - **Signature Linking:** Correlates incidents based on device composition (circuit, timer, explosives) and location.
 - **AI Integration:** Utilized for predictive threat mapping and identifying *modus operandi* trends.

Significance

- **Investigation Efficiency:** Eliminates fragmented data silos, allowing single-click access to nationwide evidence.
- **Judicial Strength:** Scientific evidence tagging and pattern recognition bolster court-ready prosecution cases against terror networks.

2. United Nations Department of Economic and Social Affairs (UNDESA)

Context

In its *World Economic Situation and Prospects 2026* report, UNDESA projected India's GDP growth at **7.4%** for the fiscal year 2025–26.

About UNDESA

- **Role:** The core UN Secretariat department responsible for the economic, social, and environmental pillars of development. It serves as the “institutional backbone” for the **2030 Agenda for Sustainable Development**.
- **History:** Established in **1948**; restructured to its current form in 1997.
- **Headquarters:** New York City, USA.

Mandate & Functions

1. **SDG Coordination:** Monitors progress on the 17 Sustainable Development Goals (SDGs).
2. **Global Analysis:** Publishes flagship reports like the *World Economic Situation and Prospects (WESP)* which influence IMF and World Bank forecasts.
3. **Secretariat Support:** Provides administrative and technical support to the UN General Assembly, ECOSOC, and the High-Level Political Forum (HLPF).
4. **Statistical Data:** Maintains global development databases used for policy formulation on poverty, inequality, and climate action.

3. Zehanpora Stupa Excavation

Context

Excavations at **Zehanpora** (Baramulla, Kashmir) have revealed a 2,000-year-old Buddhist complex dating back to the **Kushan Period**.

Historical Significance

- **Timeline:** 1st–3rd Century CE (Kushan Era).
- **Cultural Link:**
 - Kashmir was a pivot of Buddhist learning under rulers like **Kanishka** and **Huvishka**.
 - The site was likely part of the **Gandhara Network**, facilitating the exchange of monks and ideas along the Silk Route between Kashmir and Afghanistan/Pakistan.

- **Buddhism in Kashmir:** Introduced under Ashoka (3rd Century BCE); later evolved into a Mahayana stronghold spreading to Central Asia and China.

Architectural Findings

- **Complex Layout:** Not an isolated shrine but a clustered urban-type settlement comprising stupas, *apsidal chaityas* (prayer halls), and *viharas* (monasteries).
- **Structural Features:**
 - Raised man-made mounds resembling stupa bases.
 - Evidence of wooden superstructures (layered construction).
- **Methodology:** Excavation utilized drones, remote sensing, and aerial photography to map structures beneath the surface.

4. Vehicle-to-Vehicle (V2V) Communication Technology

Context

The Government of India announced a nationwide rollout of V2V technology by the end of 2026 to mitigate road accidents.

Technology Overview

- **Mechanism:** A wireless communication system enabling vehicles to exchange data (speed, location, braking status) directly with one another.
- **Frequency:** Operates on a dedicated radio frequency band (**5.875–5.905 GHz**), independent of mobile networks (works without internet).
- **Range:** Effective within a few hundred meters (short-range).

Key Utilities

- **360-Degree Safety:** Detects threats from blind spots, rear, and sides.
- **Collision Avoidance:** Provides real-time alerts for sudden braking or pile-ups.
- **Visibility Support:** Critical for preventing accidents during **dense fog** or dust storms where visual lines of sight are compromised.
- **ADAS Integration:** Can work with Advanced Driver Assistance Systems for automated braking.

Limitations

- **Network Effect:** Efficacy depends on mass adoption (high density of V2V-enabled cars needed).
- **Cost:** Hardware costs will likely be passed to consumers.

5. Kashmir Markhor (*Capra falconeri*)

Context

The Kashmir Markhor is facing local extinction, with a population dwindled to 200–300 individuals.

Species Profile

- **Identity:** Largest wild goat; subspecies of the Markhor.
- **Status:** **Endemic** to Jammu & Kashmir in India.
- **Etymology:** Persian for “Snake-killer” (*Mar-khor*).
- **Physical Features:**
 - Massive spiral horns (up to 160 cm in males).
 - Thick, flowing coat for Himalayan winters.
 - Agile climber of vertical cliffs (predator evasion strategy).

Habitat & Conservation

- **Primary Range:** Pir Panjal range.
- **Last Stronghold:** **Kazinag National Park.**
- **Other Habitats:** Hirpora WLS, Tattakuti WLS.
- **Ecological Role:** Indicator species for mountain ecosystem health; prey for snow leopards.

6. Weimar Triangle

Context

India participated in the Weimar Triangle format for the first time, receiving diplomatic backing from Poland regarding Russian oil imports.

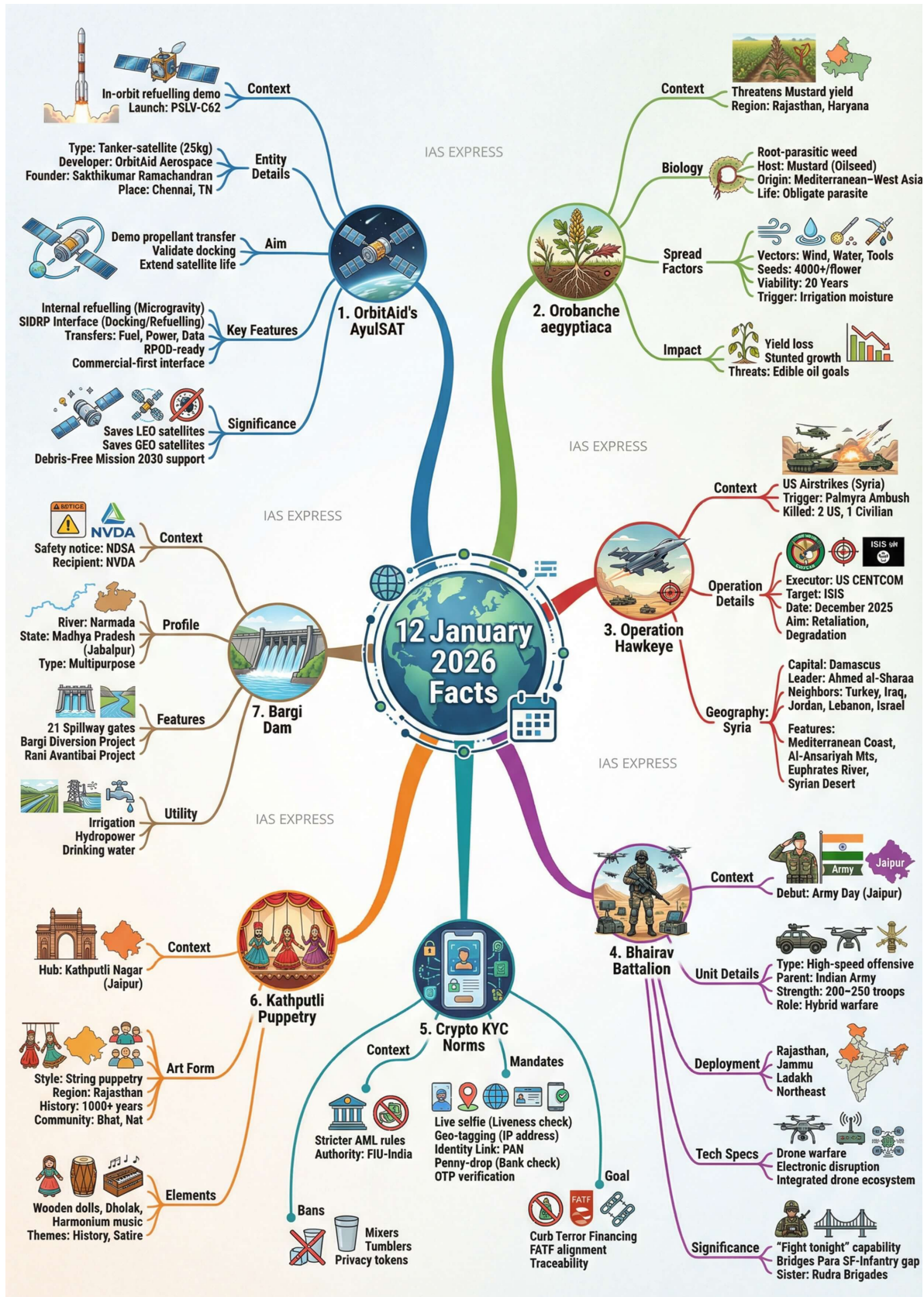
About Weimar Triangle

- **Nature:** Trilateral diplomatic grouping of **France, Germany, and Poland.**
- **Origin:** Created in **1991** in Weimar, Germany.
- **Objective:**
 - Originally to aid Poland’s transition from communism and integration into NATO/EU.
 - Currently focuses on coordinating EU foreign policy, defense, and security, particularly regarding **Russia and Ukraine.**
- **Significance:** Serves as a strategic bridge between Western Europe (France/Germany) and Central/Eastern Europe (Poland).

High-Yield Prelims Snippets

Topic	Key Fact	Crucial Detail
NIDMS	One Nation, One IED Repository	Hosted by NSG ; Data from 1999; Interoperable with CCTNS.
UNDESA	WESP Report	HQ in New York ; Institutional backbone for 2030 Agenda (SDGs) .
History	Zehanpora (Kashmir)	Kushan Period (1st-3rd Century CE); Linked to Gandhara Art ; Apsidal Chaityas found.
Tech	V2V Comm	5.9 GHz Band ; Does NOT need mobile internet/SIM; Radio-frequency based.
Species	Kashmir Markhor	Endemic to J&K ; Kazinag NP (Main stronghold); Spiral horns; Pir Panjal range.
Mapping	Weimar Triangle	Members: France, Germany, Poland ; Est. 1991; Focus on European Security/Russia.

[Newsbits] 12.1.2026



Revolutionizing Space Tech with OrbitAid's AyulSAT

India is making history in the space sector with the launch of **OrbitAid's AyulSAT**, a pioneering mission focused on in-orbit servicing. This mission marks a significant leap from merely launching satellites to actively maintaining them in space.

- **AyulSAT** is a 25-kg spacecraft acting as a "tanker" and "target" to demonstrate that satellites can be refuelled in orbit.
- It was developed by **OrbitAid Aerospace**, a Chennai-based startup founded by **Sakthikumar Ramachandran**, and launched via **ISRO's PSLV-C62**.
- The primary aim is to test **propellant transfer** (refuelling), power transfer, and data transfer using a standardized interface known as **SIDRP** (Standard Interface for Docking and Refuelling Port).
- **Internal Refuelling:** The satellite will first transfer fuel between its own tanks to study how fluids behave in zero gravity (microgravity).
- **Future Operations:** By late 2026, a "chaser" satellite will dock with AyulSAT to perform actual refuelling, making this India's first commercial step toward reducing **space debris** and extending the life of expensive satellites.

The Threat of Orobanche Aegyptiaca to Indian Agriculture

A silent crisis is unfolding in India's mustard fields, particularly in Rajasthan and Haryana, where a parasitic weed is decimating yields. **Orobanche aegyptiaca**, locally known as Margoja, is posing a severe threat to the country's edible oil goals.

- **Root Parasite:** Unlike common weeds, Orobanche is an **obligate parasite**, meaning it cannot survive without a host. It attaches to mustard roots underground, sucking out water and nutrients.
- **Hidden Danger:** The attack begins underground, so by the time farmers see the weed above ground, the damage to the crop (yellowing, stunted growth) is already done.
- **Rapid Spread:** A single plant produces thousands of microscopic seeds that remain alive in the soil for up to **20 years**, making eradication extremely difficult.
- **Irrigation Trigger:** Ironically, the water farmers provide to their crops triggers these seeds to germinate.
- **Economic Impact:** This weed discourages farmers from growing mustard, which is critical for India's goal to reduce reliance on imported edible oils.

Operation Hawkeye and Conflict in Syria

In the realm of international relations, tensions have escalated in the Middle East with the United States launching **Operation Hawkeye**. This military campaign targets ISIS networks in Syria following a

deadly ambush.

- **Context:** The operation was launched in December 2025 by **US Central Command (CENTCOM)** under President Donald Trump after an ambush in **Palmyra** killed American soldiers.
- **Objective:** The airstrikes aim to destroy ISIS capabilities, prevent them from regrouping, and retaliate for attacks on US personnel.
- **Strategic Location:** Syria serves as a crucial land bridge in West Asia. It has emerged from a long civil war and is currently under an interim government led by President **Ahmed al-Sharaa**.
- **Geography:** Syria's diverse terrain includes the Mediterranean coast, the **Al-Ansariyah Mountains**, and the vast **Syrian Desert**, all of which play a role in military logistics.

Strengthening Defense with Bhairav Battalions

The Indian Army is modernizing its force structure to handle **hybrid warfare** with the raising of the **Bhairav Battalions**. These units bridge the gap between regular infantry and elite Special Forces.

- **Role:** These are high-speed offensive units designed for **"fight tonight"** scenarios—meaning they can deploy immediately without long preparation.
- **Capabilities:** The battalions are compact (200-250 soldiers) but highly potent, specializing in **drone warfare**, electronic disruption, and rapid raids.
- **Deployment:** They are positioned along sensitive borders in **Rajasthan, Jammu, Ladakh, and the Northeast** for quick tactical responses.
- **Significance:** By integrating with the Army's massive drone ecosystem, Bhairav Battalions enhance India's ability to tackle "grey-zone" threats (actions falling below the threshold of open war) effectively.

Tightening Crypto Regulations for Financial Security

To combat financial crimes, the Government of India has introduced stricter **Know Your Customer (KYC)** norms for cryptocurrency users. These measures aim to bring transparency to the often anonymous world of digital assets.

- **Mandate:** The **Financial Intelligence Unit (FIU-India)** now requires crypto exchanges to verify users' physical presence and identity rigorously.
- **Live Selfie:** Users must upload a live selfie with "liveness detection" to ensure they are real people and not using deepfakes.
- **Geo-tagging:** The system records the user's exact location (IP address and coordinates) during onboarding to trace cross-border suspicious activities.
- **Penny-drop Verification:** A small amount (Re 1) is transferred to the user's bank account to confirm it is active and valid.
- **No Mixers:** The rules ban "mixers" and "tumblers"—tools used to hide the trail of crypto transactions—aligning India with global **FATF (Financial Action Task Force)** standards.

Preserving the Legacy of Kathputli Puppetry

Amidst modernization, India continues to celebrate its roots. **Kathputli**, the traditional string puppetry of Rajasthan, remains a vibrant part of the country's intangible cultural heritage.

- **Origins:** Originating over 1,000 years ago, this art form is centered in districts like Jaipur and Nagaur. **Kathputli Nagar** in Jaipur is a major hub for these artists.
- **The Art:** The puppets are carved from wood ("Kath") and are manipulated by strings ("Putli"). They are known for their bold eyes and colorful Rajasthani attire.
- **Storytelling:** The performances, led by the Bhat community, narrate tales of valor (like Rajput history), folklore, and social satire, accompanied by the **dholak** and **harmonium**.
- **Cultural Mapping:** It is vital to note that other states have their own forms, such as *Bommalatam* in Tamil Nadu and *Togalu Gombeyata* in Karnataka.

Safety Concerns at Bargi Dam

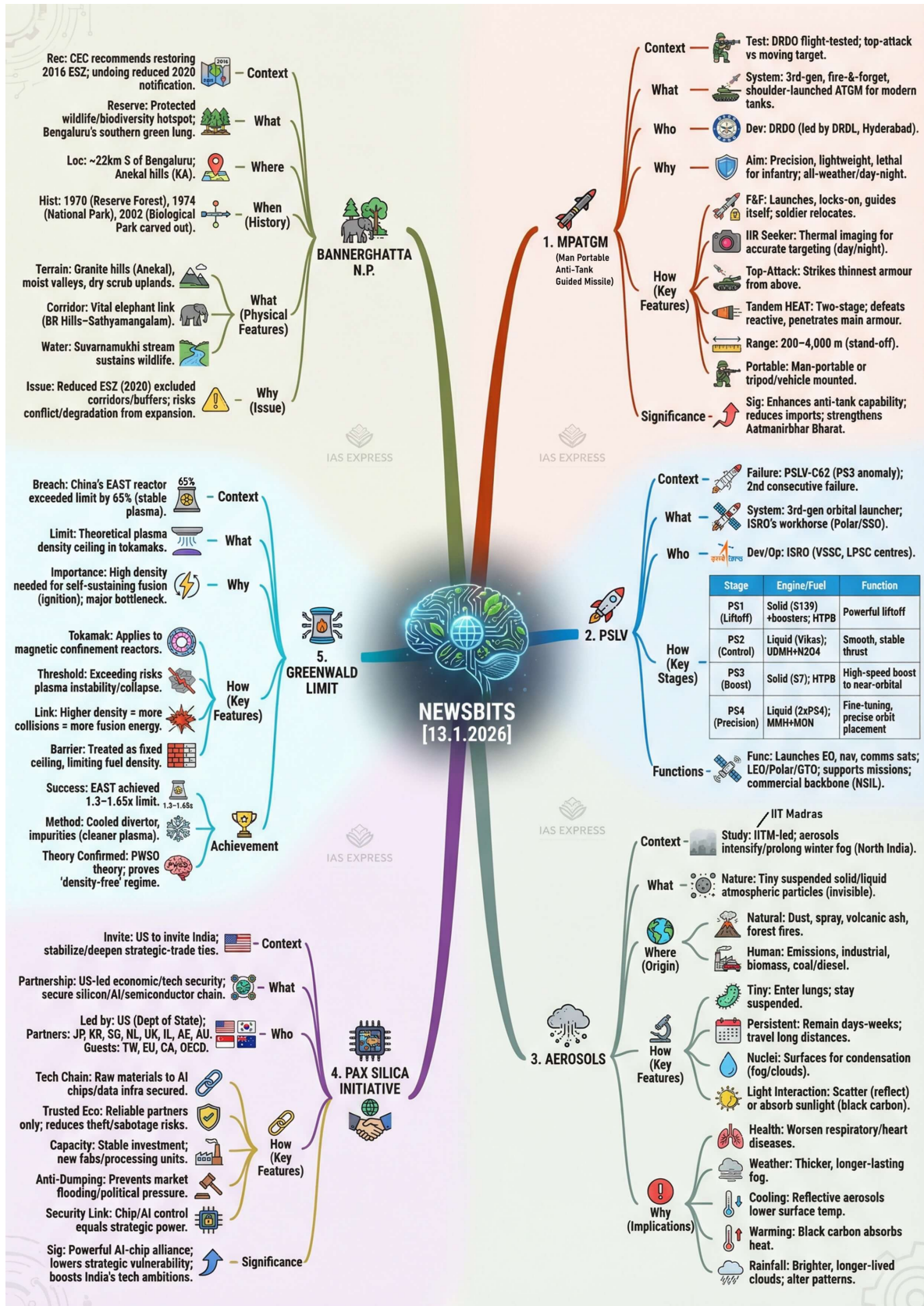
Mapping and infrastructure safety are also in focus with the **Bargi Dam** in Madhya Pradesh facing scrutiny. The **National Dam Safety Authority (NDSA)** has issued a notice regarding safety lapses.

- **Location:** The dam is built on the **Narmada River** in the Jabalpur district of Madhya Pradesh.
- **Importance:** It was the first completed dam in the Narmada Valley Development Project and is crucial for irrigation, drinking water, and hydropower.
- **Features:** The dam has 21 spillway gates to manage floodwaters and supports major projects like the **Rani Avantibai Lodhi Sagar Project**.
- **Current Issue:** The show-cause notice highlights the need for urgent maintenance to prevent disasters, emphasizing the importance of dam safety protocols in India's aging infrastructure.

High-yield Prelims Snippets

- **AyulSAT:** First Indian private satellite for in-orbit refuelling; developed by OrbitAid; launched on PSLV-C62.
- **Orobanche aegyptiaca:** Root parasite weed attacking mustard crops in Rajasthan/Haryana; seeds viable for 20 years.
- **Operation Hawkeye:** US military retaliation against ISIS in Syria (Dec 2025 – Jan 2026).
- **Bhairav Battalion:** New Indian Army unit for hybrid warfare; "fight tonight" capability; drone-integrated.
- **Crypto KYC:** Mandatory live selfie, geo-tagging, and penny-drop verification enforced by FIU-India.
- **Kathputli:** Traditional string puppetry of Rajasthan; practiced by Bhat community.
- **Bargi Dam:** Located on Narmada River, Madhya Pradesh; multipurpose project (irrigation/hydro).

[Newsbits] 13.1.2026



1. Man Portable Anti-Tank Guided Missile (MPATGM)

- **Context:** The **DRDO** recently conducted a successful flight test of the **Third-Generation** MPATGM. The test demonstrated the missile's ability to hit a moving target using **top-attack capability**, marking a major success for indigenous defence manufacturing.
- **What:** The MPATGM is a **shoulder-launched, fire-and-forget** anti-tank guided missile system. It is specifically designed to destroy modern **main battle tanks** and heavy armoured vehicles that are used by enemy forces.
- **Who:** It was developed indigenously by the **Defence Research and Development Organisation (DRDO)**. The project was led by the **Defence Research & Development Laboratory (DRDL)** based in Hyderabad.
- **Why:** The primary aim is to equip the **Indian infantry** with a lethal, **lightweight**, and high-precision weapon. It ensures that soldiers can neutralise enemy armour effectively in **day, night**, and all-weather conditions without relying on foreign support.
- **How:**
 - **IIR Seeker:** It uses an **Imaging Infrared (IIR)** seeker to detect the heat of enemy tanks, allowing for accurate targeting even in low visibility.
 - **Top-Attack:** The missile climbs and strikes the tank from **above**, where the armour is thinnest, ensuring maximum damage.
 - **Tandem HEAT Warhead:** A **two-stage explosive** system first blasts through protective reactive armour and then penetrates the main hull.
- **Pros:**
 - **Fire & Forget:** Once fired, the missile guides itself. This allows the soldier to immediately **take cover** or move to a new spot, increasing their safety.
 - **Range:** It has a safe engagement distance of **200 to 4,000 meters**.
 - **Portability:** It is light enough to be carried by soldiers but can also be mounted on **tripods** or vehicles.
- **Way Forward:** The successful testing clears the path for mass production and induction into the army. This will significantly reduce India's dependence on imported missiles like the **Spike** and **Javelin**, boosting **Aatmanirbhar Bharat** (Self-Reliant India).

2. Polar Satellite Launch Vehicle (PSLV)

- **Context:** The **PSLV-C62** mission by ISRO faced a failure due to an **anomaly** in its **third stage (PS3)**. This is notable because it marks the second consecutive failure for the rocket, following the PSLV-C61 mission in May 2025.
- **What:** PSLV is India's **third-generation** orbital launch vehicle. It is globally recognized as ISRO's **workhorse**, primarily used to place satellites into **Polar** and **Sun-Synchronous Orbits**.
- **Who:** The vehicle is developed and operated by **ISRO**, with contributions from key centres like the **Vikram Sarabhai Space Centre** and the **Liquid Propulsion Systems Centre**.

- **How:** The rocket operates in four specific stages:
 - **PS1 (Liftoff):** Uses a large **solid rocket motor (S139)** and strap-on boosters to lift the heavy rocket off the ground.
 - **PS2 (Control):** Powered by the **Vikas liquid engine**, this stage provides smooth, controlled thrust for stability.
 - **PS3 (Speed):** Uses a **solid motor (S7)** to provide the high-speed boost needed to reach orbital velocity. This is the stage where the recent anomaly occurred.
 - **PS4 (Precision):** Uses **liquid engines** to fine-tune the trajectory and place satellites into their exact orbits.
- **Why:** It is essential for launching **Earth observation**, navigation, and communication satellites. It supports India's strategic, scientific, and **commercial missions** handled by **NSIL**.
- **Pros:** It is versatile and capable of launching satellites into various orbits like **LEO** and **GTO**. It has historically been reliable and cost-effective.
- **Cons:** The recent failures in the **third stage** raise concerns about quality control and technical consistency in the manufacturing process.
- **Way Forward:** ISRO will likely conduct a detailed **failure analysis** to rectify the third-stage anomaly. Restoring the reliability of the PSLV is critical for maintaining India's position in the global commercial launch market.

3. Aerosols

- **Context:** A new study by **IIT Madras** has revealed that **aerosols** from air pollution are intensifying and prolonging **winter fog** events across northern India.
- **What:** Aerosols are tiny **solid or liquid particles** suspended in the air. They are often invisible to the naked eye but have a massive impact on air quality and climate.
- **Where:** They are found in the atmosphere globally, but high concentrations are causing specific issues in **North India**.
- **Who:** The study highlighting their impact on fog was conducted by researchers at **IIT Madras**.
- **How:**
 - **Condensation Nuclei:** Aerosols provide a surface for water vapour to condense, which speeds up the formation of **fog** and cloud droplets.
 - **Scattering/Absorption:** Some aerosols scatter sunlight (cooling effect), while others like **black carbon** absorb heat (warming effect).
- **Why:** They originate from **natural sources** like dust and sea spray, as well as **human activities** such as vehicle emissions, industrial pollution, and **biomass burning**.
- **Pros:** In nature, some aerosols help reflect sunlight into space, which can temporarily **cool** the planet's surface.
- **Cons:**
 - **Health:** They penetrate deep into the lungs, worsening **asthma** and respiratory diseases.
 - **Weather:** They cause thicker, longer-lasting fog, reducing visibility.
 - **Climate:** Black carbon contributes to **global warming** and alters rainfall patterns.

- **Way Forward:** Strict regulations on industrial emissions and **crop burning**, along with the promotion of cleaner fuels, are necessary to reduce the human-made load of aerosols in the atmosphere.

4. Pax Silica Initiative

- **Context:** The **United States** has announced that India will be invited to join the **Pax Silica** initiative next month. This move is part of a broader effort to deepen strategic and trade ties between the two nations.
- **What:** Pax Silica is a **US-led** economic and technology partnership. It aims to create a secure, resilient global supply chain for **silicon, semiconductors, artificial intelligence (AI)**, and critical minerals.
- **Who:** Led by the **US Department of State**, the initiative includes core partners like **Japan, South Korea, Netherlands**, and the **UK**, with India now joining.
- **Why:** The primary goal is to secure **supply chains** against geopolitical disruptions and prevent any single country from creating bottlenecks in the production of critical technology.
- **How:**
 - **Chain Coverage:** It monitors the entire process from raw material mining to finished **AI chips**.
 - **Trusted Partners:** It limits cooperation to reliable countries to prevent **data theft** and espionage.
 - **Capacity Building:** It encourages investment in new manufacturing units (**fabs**) across member nations.
- **Pros:**
 - **Security:** Reduces reliance on hostile or unstable suppliers.
 - **Access:** Gives India access to high-end **chip technology** and global investors.
 - **Alliance:** Creates a powerful bloc that controls the world's advanced **semiconductor ecosystem**.
- **Way Forward:** For India, joining this initiative serves as a catalyst for its own **digital** and defence ambitions, helping it integrate firmly into the global high-tech economy.

5. Greenwald Limit

- **Context:** China's **EAST fusion reactor** has achieved a major breakthrough by operating at stable plasma densities **65% higher** than the Greenwald limit.
- **What:** The Greenwald limit is a theoretical **density ceiling** for plasma in a **tokamak** (fusion reactor). It represents the maximum density plasma can reach before it becomes unstable and crashes.
- **Why:** Nuclear fusion requires extremely high **plasma density**, temperature, and confinement time. This limit has historically been a barrier preventing reactors from creating enough energy for **self-sustaining fusion (ignition)**.

- **How:** The Chinese team achieved this by improving the cooling of the **divertor** (waste removal section) and reducing **tungsten impurities**, allowing for a cleaner and denser plasma.
- **Pros:**
 - **Higher Energy:** Exceeding this limit means more fuel can be packed into the reactor, leading to higher energy output.
 - **New Regime:** It confirms the **Plasma–Wall Self-Organisation (PWSO)** theory, proving reactors can operate in a new “density-free” state.
- **Way Forward:** This achievement provides a practical pathway for future reactors to overcome stability issues, bringing the world closer to unlimited, clean **commercial fusion energy**.

6. Bannerghatta National Park

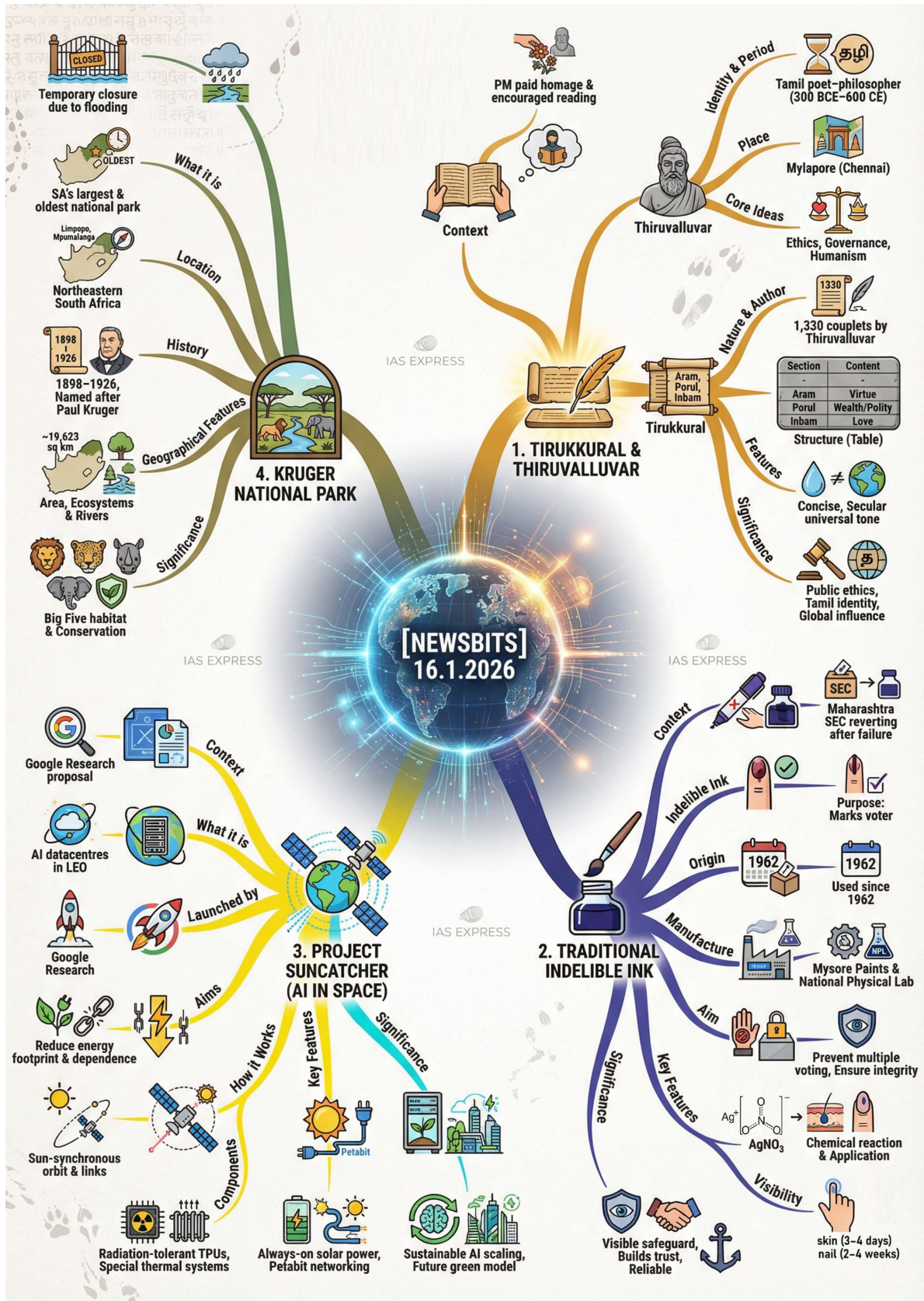
- **Context:** The **Central Empowered Committee (CEC)** has recommended restoring the original **2016 Ecologically Sensitive Zone (ESZ)** around Bannerghatta National Park, overturning a reduced notification from 2020.
- **What:** Bannerghatta National Park is a critical **wildlife reserve** and biodiversity hotspot that acts as the “green lung” for the city of Bengaluru.
- **Where:** It is located about 22 km south of **Bengaluru**, Karnataka, in the **Anekal hill range**.
- **Why:** The park was under threat because the 2020 notification reduced the buffer zone from **268.9 sq km** to **168.64 sq km**, leaving vital forest areas unprotected.
- **How:** The reduction in the zone had allowed **real estate** and **quarrying** industries to expand closer to the forest, blocking **elephant corridors** and increasing human-animal conflict.
- **Pros:** Restoring the 2016 limits will protect the **Suvarnamukhi stream**, preserve the elephant corridor connecting to **Sathyamangalam forests**, and stop further degradation of the habitat.
- **Way Forward:** Implementing the CEC’s recommendation is crucial to ensure that Bengaluru’s urban expansion does not destroy the ecological balance of this vital sanctuary.

High-yield Prelims Snippets

1. **MPATGM: Third-generation, fire-and-forget** missile by **DRDO**; uses **IIR seeker** and **Top-attack mode**; range **200–4,000m**.
2. **PSLV: Four-stage** rocket (Solid-Liquid-Solid-Liquid); **Stage 3 (PS3)** uses **solid fuel** and faced recent anomaly; **Stage 2** uses **Vikas engine**.
3. **Aerosols:** Tiny suspended particles; **IIT Madras** study links them to intense **winter fog**; act as **condensation nuclei**.
4. **Pax Silica:** **US-led** partnership for **semiconductor** and **AI** supply chains; India to join; focuses on **economic security**.
5. **Greenwald Limit:** Theoretical **plasma density** ceiling in **tokamak** reactors; China’s **EAST** reactor exceeded it by **65%**.

6. **Bannerghatta National Park:** Near **Bengaluru**; part of **Anekal Hills**; vital **elephant corridor** to **Sathyamangalam**; **Suvarnamukhi stream** flows through it.
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[Newsbits] 16.1.2026



1. Tirukkural and Thiruvalluvar

Context

- The Prime Minister of India paid homage to Thiruvalluvar on **Thiruvalluvar Day**, urging citizens to read the *Tirukkural* and highlighting its timeless ethical and social values.

Who

- **Thiruvalluvar**: A celebrated Tamil poet-philosopher, traditionally linked to the **Sangam or post-Sangam** intellectual period.
- **History**: Exact dates are debated (roughly **300 BCE – 600 CE**). In popular memory, he is strongly associated with **Mylapore (Chennai)**.

What

- **The Text**: The *Tirukkural* is a classical Tamil text consisting of **1,330 couplets (kuralas)**.
- **Structure (Muppai)**: It is divided into three books:
 1. **Aram**: Virtue and Ethics.
 2. **Porul**: Wealth, Polity, and Society.
 3. **Inbam**: Love and Desire.
- **Style**: Concise aphorisms designed to be easy to remember yet rich in meaning.

Why (Significance)

- **“Tamil Veda”**: It is often regarded as a secular Veda due to its universal tone and applicability beyond sectarian boundaries.
- **Governance**: It serves as a foundational source for ideals on justice, duty, integrity, and welfare-oriented administration.
- **Global Influence**: It is one of the most translated Tamil works, frequently cited for universal moral reasoning.

How

- **Philosophy**: It presents practical morality for everyday life (individuals, rulers, and society) rather than abstract metaphysics. It advocates values like truth, compassion, self-control, and non-violence.

2. Traditional Indelible Ink

Context

- The Maharashtra State Election Commission has decided to revert to using traditional indelible ink for zilla parishad and panchayat samiti elections.

- **Reason:** Complaints arose that the marker-pen ink used in municipal polls could be wiped off, compromising election integrity.

What

- **Definition:** A permanent marking ink applied to a voter's finger to indicate they have exercised their franchise.
- **Composition:** It is a **Silver Nitrate (\$AgNO_3\$)** based formulation.

Who

- **Developer:** The formula was developed by the **National Physical Laboratory (NPL)** of India.
- **Manufacturer:** It is manufactured *exclusively* by **Mysore Paints and Varnish Limited**, a Karnataka government undertaking.

When

- **Origin:** First used in India during the **Third General Election in 1962**.

How (Mechanism)

- **Reaction:** The silver nitrate reacts with **keratin** (a protein found in skin and nails) and exposure to ultraviolet light (sunlight).
- **Result:** This creates a deep chemical stain rather than a surface coating.
- **Application:** Standardized application is on the **left index finger**, covering the nail and cuticle.

Why

- **Aim:** To prevent impersonation and **multiple voting**.
- **Durability:** The skin mark fades in 3–4 days as cells regenerate, but the nail stain lasts 2–4 weeks (until the nail grows out). It cannot be removed by soap, water, or common chemicals.

Pros

- **Integrity:** Acts as a universally understood safeguard for free and fair elections.
- **Reliability:** Proven effectiveness over six decades of Indian elections.
- **Visibility:** The dark stain provides immediate visual verification.

3. Project Suncatcher

Context

- **Google Research** has unveiled "Project Suncatcher," a concept to explore AI datacentres situated in space.

What

- **Concept:** A research programme to place AI datacentres in **Low-Earth Orbit (LEO)**.
- **Energy Source:** These centres would operate continuously on solar power.

Why

- **Energy Crisis:** To tackle the surging electricity demand of Artificial Intelligence.
- **Resource Decoupling:** To decouple AI compute growth from terrestrial limitations, such as power grids, land usage, and water-intensive cooling systems.

How

- **Orbit:** Satellites are deployed in **sun-synchronous orbits** to ensure they receive constant sunlight (no night cycles).
- **Architecture:** Uses densely clustered satellites with **Petabit-scale inter-satellite links** to distribute workloads.
- **Communication:** Earth downlinks handle only inputs and outputs to minimize bandwidth usage.
- **Hardware:** Utilizes radiation-tolerant **TPUs (Tensor Processing Units)** and specialized thermal designs for vacuum operations.

Pros

- **Sustainability:** Powers AI workloads with uninterrupted green energy.
- **Scalability:** Allows for a constellation architecture where satellites can be replaced as units age out.
- **Efficiency:** Removes the need for massive water consumption for cooling, which is a major issue for terrestrial datacentres.

4. Kruger National Park

Context

- The park was temporarily shut to day visitors following severe flooding caused by prolonged heavy rainfall, which led to multiple rivers overflowing.

Where

- **Location:** Northeastern **South Africa**, spanning the provinces of **Limpopo** and **Mpumalanga**.
- **Borders:** It borders **Mozambique** to the east and **Zimbabwe** to the north.

What

- **Identity:** South Africa's largest and oldest national park.
- **Geography:** Covers ~19,623 sq km; characterized by savannah grasslands, riverine forests, and bushveld ecosystems.
- **Key Rivers:** Limpopo, Letaba, Olifants, Sabie, and Crocodile.

When

- **History:** Originally proclaimed as the Sabi Game Reserve in **1898**; declared a national park in **1926**.

Why (Significance)

- **Biodiversity:** Home to the “**Big Five**” (lion, leopard, elephant, rhino, buffalo) and hundreds of other species.
 - **Conservation:** A key pillar of African conservation science, anti-poaching efforts, and part of the UNESCO-recognized **Kruger-to-Canyons Biosphere Reserve**.
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High-yield Prelims Snippets

1. **Tirukkural Structure:** 3 Books — *Aram* (Virtue), *Porul* (Polity), *Inbam* (Love). Known as the “Tamil Veda”.
 2. **Indelible Ink Formula:** Active ingredient is **Silver Nitrate (\$AgNO_3\$)**. Reacts with **Keratin** and UV light.
 3. **Indelible Ink Rights:** Formula by **NPL**; Sole Manufacturer is **Mysore Paints and Varnish Ltd.**
 4. **Project Suncatcher:** **Google** initiative; AI datacentres in **LEO** (Sun-synchronous orbit) to use 24/7 solar energy.
 5. **Kruger National Park:** Located in **South Africa**; Borders **Mozambique & Zimbabwe**; Home to the **Big Five**.
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[Newsbits] 17.1.2026



1. Lokpal of India

- **Context:** The **Lokpal of India** observed its **Foundation Day on 16 January 2026**, marking the date the institution legally came into force in 2014.
- **What:** It is a statutory, independent **anti-corruption ombudsman** at the Union level. It is a unique (*sui generis*) body designed to inquire into allegations of corruption against public officials.
- **When:** Created under the **Lokpal and Lokayuktas Act, 2013**, it officially came into force on **16 January 2014**.
- **Who:**
 - **Composition:** Consists of a **Chairperson** and up to **eight Members**. There is a mandatory requirement for **50% Judicial Members** and **50% representation** from SC/ST/OBC/Minorities/Women.
 - **Appointing Authority:** Appointed by the **President of India** based on the recommendation of a Selection Committee (PM, Speaker, Leader of Opposition, CJI, and an Eminent Jurist).
 - **Tenure:** Members serve for **five years** or until the age of **70**, whichever is earlier.
- **Where:** It operates at the Union (Central) level in India, while States are mandated to have Lokayuktas.
- **How (Powers & Functions):**
 - Receives complaints under the **Prevention of Corruption Act, 1988**.
 - Has the power of a **civil court** (summoning, examining on oath).
 - Can order **preliminary inquiries** and direct agencies like the **CBI** to investigate.
 - Holds **superintendence** over the CBI for cases referred to it.
 - Can authorize **search, seizure**, and attachment of assets.
 - Has the exclusive power to grant **sanction for prosecution**.
- **Pros:**
 - Ensures accountability at the highest levels, covering even the **Prime Minister** (with exceptions).
 - Reduces procedural delays by having its own prosecution wing powers.
 - Independent from the executive.
- **Cons:**
 - Long delays in appointments and operationalization in the past.
 - Jurisdiction over the judiciary is excluded.

2. Central Vigilance Commission (CVC)

- **Context:** **Shri Praveen Vashista** (IPS) took oath as a Vigilance Commissioner on 16 January 2026.

- **What:** The **apex integrity and vigilance institution** of India, mandated to prevent corruption and promote transparency in public administration.
- **When:** Originally established in **1964** via executive resolution; granted **statutory status** in **2003** under the CVC Act.
- **Why:** To address corruption in government departments, originating from the recommendations of the **Santhanam Committee (1962–64)**.
- **Who:**
 - **Structure:** Multi-member body with a **Central Vigilance Commissioner (Chairperson)** and not more than **two Vigilance Commissioners**.
 - **Appointment:** By the **President** on recommendations of a committee (PM, Home Minister, Leader of Opposition).
 - **Tenure:** **Four years** or up to **65 years** of age.
- **How:**
 - Supervises vigilance administration across Central Government organizations.
 - Exercises **superintendence over CBI** for corruption offenses.
 - Acts as the designated agency for **Whistleblower** complaints (PIDPI Resolution).
 - Tenders advice to ministries (disagreements must be recorded in annual reports).
- **Where:** Jurisdiction covers **Group A officers** of the Central Government, senior officials of **PSUs, Public Sector Banks**, RBI, NABARD, and LIC.
- **Way Forward:** Strengthening the CVC's investigative infrastructure and ensuring timely filling of vacancies to maintain robust oversight.

3. 10 Years of StartUp India

- **Context:** On **National StartUp Day (16 January 2026)**, the Prime Minister marked **10 years** of the StartUp India initiative.
- **What:** A flagship scheme to build a strong ecosystem for **innovation and entrepreneurship**.
- **When:** Launched on **16 January 2016**.
- **Who:** Implemented by the **StartUp India Team** under **DPIIT** (Department for Promotion of Industry and Internal Trade).
- **Why:** To shift India from a job-seeking to a **job-creator economy** and foster self-reliance (**Aatmanirbhar Bharat**).
- **How (Key Features):**
 - **Simplification:** 19-Point Action Plan to improve **Ease of Doing Business** and reduce compliance burden.
 - **Funding:** Establishment of a **Fund of Funds for Startups (FFS)** with a **₹10,000 crore** corpus managed by **SIDBI**.
 - **Support:** **IPR facilitation** (faster patents), tax exemptions, and mentorship portals like **MAARG**.
 - **Digital:** A dedicated portal for networking and resources.
- **Pros:**

- Over **2 lakh recognized startups** (Dec 2025).
- Decentralized growth with ~50% of startups coming from **Tier-II/Tier-III cities**.
- Growth in deep-tech sectors like space and defense.
- **Way Forward:** Continued focus on deep-tech innovation and ensuring funding access for startups in remote areas.

4. Coconut Root Wilt Disease

- **Context:** The disease is spreading rapidly across **Kerala, Tamil Nadu, and Karnataka**, affecting lakhs of coconut palms.
- **What:** A debilitating, **non-fatal** disease caused by a **Phytoplasma** (phloem-limited pathogen). It causes chronic decline in health and **major yield loss**.
- **Who/Vectors:** Transmitted by sap-sucking insects like the **Lace Bug** (*Stephanitis typica*) and **Plant Hopper** (*Proutista moesta*).
- **Why:** Spread is accelerated by continuous coconut belts, wind, **abiotic stress** (high temperatures), and new pests.
- **Symptoms:**
 - **Flaccidity:** Leaflets lose stiffness and droop (ribbing).
 - **Yellowing:** Leaves turn yellow from the tip inward.
 - **Curling:** Leaves cup inward; eventual necrosis (drying).
- **How (Management):**
 - **Removal:** Cut down severely infected, low-yielding trees.
 - **Nutrition:** Use **organic manure** and **neem cake** to boost plant immunity and root health.
 - **Genetics:** Identify and multiply **tolerant palms** found in local farms.

5. Dugongs (Sea Cow)

- **Context:** The MoEFCC has asked Tamil Nadu to revise the design for the **International Dugong Conservation Centre** at Manora.
- **What:** A large, slow-moving marine mammal, also known as the **Sea Cow**. It is a **Keystone Species** for seagrass ecosystems.
- **Scientific Name:** *Dugong dugon*.
- **Where:** Found in warm coastal waters of the **Indian** and **Western Pacific Oceans**. In India: Gulf of Mannar, Palk Bay, Gulf of Kutch, and Andaman & Nicobar.
- **How (Lifestyle):**
 - Strictly **marine** (unlike Manatees which enter freshwater).
 - **Herbivorous grazer** feeding exclusively on **seagrass**.
- **Status:** **Vulnerable** (IUCN).
- **Pros:** They act as “ecosystem engineers” by maintaining healthy seagrass meadows, which are vital for carbon sequestration.
- **Cons (Threats):** Habitat loss (seagrass destruction), gillnet entanglement, and hunting.

6. Sammakka–Saralamma Jatara

- **Context:** Telangana is preparing for this biennial festival starting **28 January 2026**.
- **What:** A tribal spiritual festival honoring goddesses **Sammakka** and **Saralamma**. It is **Asia's largest tribal festival**.
- **Where:** **Medaram** village, Mulugu district, Telangana (inside **Eturnagaram Wildlife Sanctuary**).
- **Why:** Commemorates the fight of a mother and daughter against **Kakatiya rulers** over unjust taxation.
- **Who:** Primarily celebrated by the **Koya Adivasi** community.
- **How (Rituals):**
 - **No Idols:** Deities are represented by **bamboo sticks**, earthen pots, and turmeric.
 - **Bangaram:** Devotees offer **Jaggery** (referred to as Gold/Bangaram) equal to their body weight.
 - **Priests:** Rituals are performed exclusively by Koya tribal priests.
- **Significance:** Symbolizes tribal resistance, identity, and kinship-based worship.

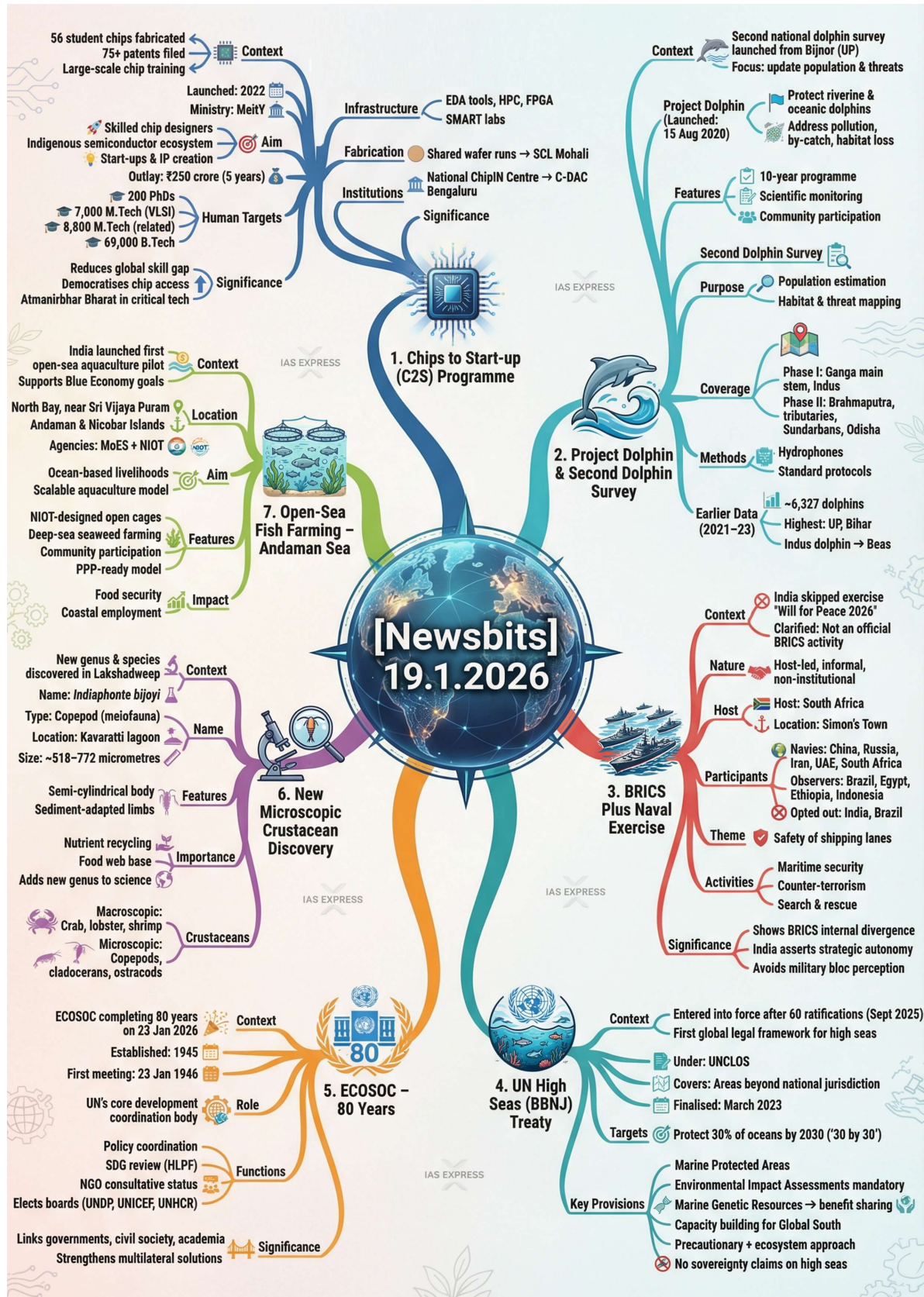
7. Mount Elbrus

- **Context:** A controlled avalanche was triggered on **Mount Elbrus** to manage snow accumulation.
 - **What:** The **highest mountain in Europe** (5,642 meters).
 - **Where:** Located in the **Caucasus Mountains** in **Southern Russia**, between the Black Sea and the Caspian Sea.
 - **Geography:**
 - An **extinct twin-coned stratovolcano**.
 - Covered by **22 glaciers** feeding rivers like the **Kuban**.
 - **Significance:** One of the "Seven Summits" and a major hub for mountaineering and climate research.
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High-yield Prelims Snippets

1. **Lokpal Jurisdiction:** Includes the **Prime Minister** (with specific safeguards/exceptions) and officials of bodies receiving foreign donations (FCRA) above a certain limit.
2. **CVC Tenure: 4 years** (Unique tenure, unlike the usual 5 years for many constitutional bodies).
3. **StartUp Day:** Officially observed on **16 January**.
4. **Dugong Habitat:** Strictly **marine**; they do not enter freshwater rivers or lakes.
5. **Jaggery Offering:** In Sammakka-Saralamma Jatara, jaggery is ritually called "**Bangaram**" (**Gold**).
6. **Mt Elbrus:** Located in **Russia** (Europe), not in the Alps. It is a volcanic peak.

[Newsbits] 19.1.2026



Chips to Start-up (C2S) Programme

- The **Chips to Start-up (C2S)** Programme is a critical initiative aimed at building a strong **national capacity** in the semiconductor sector, specifically focusing on creating industry-ready talent and a supportive ecosystem for chip design.
- Launched in **2022** by the Ministry of Electronics and Information Technology (**MeitY**), the programme has a substantial outlay of **₹250 crore** over five years to foster technological self-reliance.
- The primary aim is to generate a massive pipeline of skilled professionals, including **85,000 engineers** at various levels (B.Tech, M.Tech, and PhDs), addressing the global **skill gap** in the semiconductor industry.
- A major achievement of the programme is the fabrication of **56 student-designed chips** and the filing of over **75 patents**, proving that India is moving from theoretical knowledge to practical execution.
- To support this, the government has provided access to state-of-the-art infrastructure like **Shared EDA tools, HPC, and FPGA boards** through the **National ChipIN Centre** operated by **C-DAC** in Bengaluru.
- Hands-on training is a key pillar, with shared **wafer runs** facilitated by the **Semi-Conductor Laboratory (SCL)** in Mohali, allowing students to test their designs in real-world conditions.
- The initiative effectively democratises access to expensive tools, enabling students from across the country to participate in **high-end innovation** and start-up incubation, contributing to the vision of **Atmanirbhar Bharat**.

Second Range-wide Dolphin Survey

- The **Second range-wide Dolphin Survey** is a massive scientific exercise launched under **Project Dolphin** to assess the population and habitat status of both riverine and estuarine dolphins across India.
- This initiative serves as a follow-up to the **2021–23 survey**, which recorded approximately **6,327 riverine dolphins**, aiming to update data on their distribution and the threats they face.
- The survey is divided into two phases; Phase I covers the main stem of the **Ganga River** (from Bijnor to Ganga Sagar) and the **Indus River**, while Phase II covers the **Brahmaputra**, Ganga tributaries, **Sundarbans**, and **Odisha**.
- It employs advanced scientific methods, including **standardised protocols** and **hydrophones** for acoustic monitoring, ensuring accurate data collection on these elusive aquatic mammals.
- The project is coordinated by the **Wildlife Institute of India** in collaboration with State Forest Departments, highlighting a unified national effort for conservation.
- A key goal is to understand the impact of **habitat degradation, pollution, and flow alteration** on dolphin populations, which are critical indicators of river ecosystem health.

- The survey also focuses on the small, isolated population of **Indus River Dolphins** found in the **Beas system**, ensuring that even vulnerable sub-groups are monitored.

BRICS Plus Naval Exercise

- The **BRICS Plus naval exercise**, titled “**Will for Peace 2026**”, has garnered attention due to India’s decision to skip the drill, signalling a strategic choice to separate **economic cooperation** from military alignment.
- This maritime drill is hosted by **South Africa** and conducted near **Simon’s Town**, involving navies from **China, Russia, Iran**, and the **UAE**, with observers from nations like **Brazil** and **Egypt**.
- Clarified as a **non-institutionalised** activity, the exercise is not a formal mandate of the BRICS group but rather a host-led initiative involving select members and partners.
- The stated aim of the exercise is to ensure the safety of **key shipping lanes** and maritime economic activities, focusing on operations like **counter-terrorism** and **search and rescue**.
- India’s non-participation reflects its emphasis on **strategic autonomy**, avoiding military blocs that may be perceived as **anti-Western**, while maintaining its own security engagement through other forums.
- The event highlights a divergence within BRICS, where some members push for **security signalling**, while others, like India, prefer to keep the platform focused on **development** and economic issues.

UN Biodiversity Beyond National Jurisdiction (BBNJ) Treaty

- The **UN BBNJ Treaty**, also known as the **High Seas Treaty**, has officially entered into force after securing the necessary **60 ratifications**, establishing the first legally binding framework for international waters.
- Negotiated under **UNCLOS**, the treaty aims to protect marine life in the **High Seas**, which constitute two-thirds of the ocean and lie beyond the control of any single nation.
- A central target of the agreement is the global “**30 by 30**” **goal**, which seeks to protect **30% of the ocean** by the year 2030 through effective conservation measures.
- The treaty enables the creation of **Marine Protected Areas (MPAs)** in international waters, allowing for the preservation of fragile ecosystems that were previously unregulated and vulnerable to exploitation.
- It mandates **Environmental Impact Assessments (EIAs)** for any activities in the high seas that could harm marine biodiversity, ensuring that commercial interests do not override ecological safety.
- The agreement also establishes a fair mechanism for sharing benefits from **Marine Genetic Resources (MGRs)** used in pharmaceuticals and biotechnology, supporting **developing countries** through technology transfer.

80 Years of UN ECOSOC

- The **United Nations Economic and Social Council (ECOSOC)** celebrates its **80th anniversary** on January 23, 2026, marking eight decades of leadership in global development policy.
- Established in **1945** as one of the six principal organs of the UN, ECOSOC serves as the central forum for coordinating economic, social, and environmental efforts.
- Its primary function is to advance **sustainable development** by integrating policies that foster economic growth while ensuring social inclusion and environmental protection.
- ECOSOC plays a vital role in reviewing progress on the **Sustainable Development Goals (SDGs)** through mechanisms like the **High-Level Political Forum (HLPF)**.
- The body is unique in its **inclusive engagement**, granting consultative status to over **6,500 NGOs**, which allows civil society to have a direct voice in global decision-making.
- It also oversees various functional and regional commissions and elects board members for key UN agencies like **UNICEF** and **UNDP**, ensuring cohesive governance across the UN system.

Discovery of Microscopic Crustacean

- Researchers have discovered a new genus and species of microscopic crustacean, named ***Indiaphonte bijoyi***, in the **Kavaratti lagoon** of the Lakshadweep islands.
- This tiny organism belongs to the family **Laophontidae** and is classified as **meiofauna**, which are minute invertebrates measuring less than **1 mm** that live in aquatic sediments.
- The name pays tribute to the country, with “Indiaphonte” honouring **India**, and the species name “bijoyi” recognising the contributions of renowned marine scientist **S. Bijoy Nandan**.
- The species is distinguished by a semi-cylindrical body, **antennae-like appendages**, and specialised limbs adapted for life in the sediment, traits that required the establishment of a new genus.
- Despite their small size, such copepods are ecologically significant as they **recycle nutrients** and form the base of the **aquatic food web**, supporting larger marine life.
- The discovery underscores the rich and relatively unexplored **marine biodiversity** of India’s coral lagoons and highlights the country’s growing role in global **taxonomy**.

First Open-sea Marine Fish Farming Project

- India has launched its first **open-sea marine fish farming project** in the **Andaman Sea**, a pioneering initiative to boost the **Blue Economy** through sustainable resource utilisation.
- Located in **North Bay** near Sri Vijaya Puram, the project is implemented by the **Ministry of Earth Sciences (MoES)** and the **National Institute of Ocean Technology (NIOT)**.
- The project utilizes indigenously developed **open-sea cages** designed to withstand the rough conditions of the ocean, moving aquaculture away from the coast and into deeper waters.

- It focuses on cultivating high-value **marine finfish** and **seaweed**, aiming to create a scalable model that can generate sustainable livelihoods for local fishing communities.
 - By proving the technical feasibility of open-sea farming, the initiative seeks to enhance **marine food security** and reduce pressure on wild fish stocks while promoting **technological self-reliance**.
 - The project leverages the strategic location of the Andaman Sea, which features deep submarine valleys and a unique ecosystem influenced by the **Indian Ocean** and **tectonic activity**.
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[Newsbits] 20.1.2026



Gaza Peace Board

The **Gaza Peace Board**, also known as the Board of Peace, is a newly proposed international body initiated by the United States to manage the aftermath of the Israel-Hamas conflict. It represents a significant shift in how post-conflict zones might be managed globally.

- **Purpose:** The primary aim is to stabilise the **Gaza Strip**, oversee its **reconstruction**, and manage post-war governance. It acts as a high-level decision-making body for security transitions and investment mobilisation.
- **Leadership:** The board is proposed and chaired by **Donald Trump**, who holds inaugural chairmanship with **veto powers** independent of his US presidential tenure.
- **Membership:** Invitations have been extended to approximately **60 nations**, including **India**, Egypt, Jordan, Türkiye, Canada, and Argentina.
- **Key Functions:**
 - Supervising a technocratic **Palestinian administration** (NCAG) to ensure stable governance.
 - Coordinating **capital mobilisation** and investments for economic revival and public service delivery.
 - Monitoring compliance with **ceasefire** agreements and ensuring the transition away from Hamas rule.
- **Significance:** It establishes a parallel **global governance mechanism** outside traditional institutions like the **UN**. However, it also raises concerns regarding the **concentration of power** and the conditional nature of membership for participating nations.

Environmental Protection Fund

The Union Government has notified detailed rules to operationalise the **Environmental (Protection) Fund**, a statutory body created to utilise penalties for environmental restoration. This ensures that money collected from fines is directly used to heal the environment.

- **Statutory Basis:** The fund is established under the **Environment (Protection) Act, 1986** and was strengthened by the **Jan Vishwas Act, 2023**, which decriminalised certain offences in favour of monetary penalties.
- **Nodal Authority:** It is administered by the **Ministry of Environment, Forest and Climate Change (MoEFCC)** or a notified central body.
- **Source of Funds:** The fund accumulates revenue from penalties imposed under the **Air Act, 1981** and the **Environment (Protection) Act, 1986**, along with interest from investments.
- **Utilisation:** Funds are restricted to **11 specific activities**, including:
 - **Pollution prevention** and mitigation.
 - Remediation of **contaminated sites**.
 - Research into **clean technology** and environmental monitoring.

- Capacity building of regulatory bodies and laboratory infrastructure.
- **Revenue Sharing:** A key feature is the **75:25 ratio**, where **75%** of penalty proceeds go to the State/UT Consolidated Fund and **25%** is retained by the Centre.
- **Oversight:** Transparency is ensured through audits by the **Comptroller and Auditor General of India (CAG)** and a centralised online portal managed by the **Central Pollution Control Board (CPCB)**.

Indian Skimmer

The **Bombay Natural History Society (BNHS)** and **National Mission for Clean Ganga (NMCG)** have launched a conservation project for the **Indian Skimmer**, an endangered bird species in the **Ganga Basin**. This project highlights the link between river health and biodiversity.

- **Species Profile:** The Indian Skimmer (*Rynchops albicollis*) is a riverine bird famous for its unique feeding method of skimming water with a longer **lower mandible** to catch fish.
- **Habitat:** It inhabits large, **slow-flowing rivers** with sandbars, primarily breeding along the **Ganga, Chambal, and Yamuna**. It migrates to coastal areas in the non-breeding season.
- **Conservation Status:** It is listed as **Endangered (EN)** on the **IUCN Red List**. India hosts nearly **90%** of the global population, which is estimated at only 3,700–4,400 individuals.
- **Threats:** The species acts as an **indicator of river health**. Its sharp decline is attributed to **sand mining**, dams altering water flows, and human disturbance of nesting sandbars.
- **Project Aim:** The initiative focuses on protecting breeding habitats and sandbars to ensure the survival of this flagship species.

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

The government has notified the second round of targets under the **GEI Target (Amendment) Rules, 2025**, making industrial emission reductions legally binding under the **Environment (Protection) Act, 1986**. This moves India towards a regulated carbon market.

- **Mechanism:** These rules operationalise India's **Carbon Credit Trading Scheme (CCTS)**. Targets are set as **tCO₂e per unit of output**, covering all greenhouse gases based on **global warming potential**.
- **Coverage:**
 - **New Sectors:** Petroleum refineries, Petrochemical units, **Textile sector**, and Secondary aluminium.
 - **Entities:** Includes major PSUs like **Indian Oil, ONGC**, and private giants like **Reliance Industries**.
 - **Previous Round:** Aluminium, cement, chlor-alkali, and pulp & paper were covered in October 2025.

- **Compliance:**
 - **Baseline Year:** 2023–24.
 - **Target Years:** Compliance is required for 2025–26 and 2026–27.
 - **Incentives:** Entities beating targets earn **carbon credit certificates** which can be traded or banked.
 - **Penalties:** Non-compliance attracts an **environmental compensation** equal to twice the average carbon credit price, enforced by the **CPCB**.
- **Significance:** This marks a transition from voluntary measures to **mandatory climate compliance**, strengthening the **Indian Carbon Market (ICM)** and supporting India's NDC goal to reduce GDP emission intensity by 45% by 2030.

India Launches Responsible Nations Index (RNI)

India has introduced the **Responsible Nations Index (RNI) 2026** to benchmark countries on ethical governance rather than just economic or military power. This index proposes a new way to measure a country's standing on the world stage.

- **Objective:** The index aims to redefine national success by assessing **ethical governance**, social well-being, **sustainability**, and global cooperation.
- **Launch:** Initiated under the **World Intellectual Foundation (WIF)**.
- **Ranking Criteria:** Nations are evaluated on four pillars: Ethical governance, Social well-being, Environmental responsibility, and Global cooperative conduct.
- **2026 Rankings:**
 - **Top 5: Singapore** (1st), Switzerland, Denmark, Cyprus, Sweden.
 - **India's Rank: 16th** globally, making it the top-ranked **Asian nation**. It ranks ahead of South Korea (21) and Thailand (24).
 - **Lowest Rank:** Central African Republic.
- **Impact:** The RNI promotes a normative shift towards **responsibility-centric** governance, complementing global goals like the **SDGs**.

Export Promotion Mission (EPM)

The **Reserve Bank of India (RBI)** has issued guidelines to bring exporters under the **Export Promotion Mission (EPM)**, a unified framework to boost export competitiveness. This mission mode approach integrates various support systems.

- **Structure:** The mission runs from **FY 2025–26 to FY 2030–31** and consolidates fragmented schemes into a single digital framework implemented by the **DGFT**.
- **Components:**
 - **Niryat Protsahan:** Focuses on **financial enablers** like interest subvention on export credit, factoring, and collateral support.

- **Niryat Disha:** Focuses on **non-financial enablers** like quality certification, branding, and logistics support.
- **Financial Support:** Includes a **₹20,000 crore Credit Guarantee Scheme** for Exporters (CGSE) offering collateral-free credit.
- **Focus Areas:** Priority is given to **MSMEs**, labour-intensive sectors (textiles, leather), and first-time exporters.
- **Digital Governance:** The mission emphasises a transparent, paperless processing system aligned with customs and trade data.

Parbati Giri

The Prime Minister paid tribute to **Parbati Giri** on her birth centenary, celebrating her legacy as a freedom fighter and social reformer. Her life story is a testament to the role of women in India's independence and nation-building.

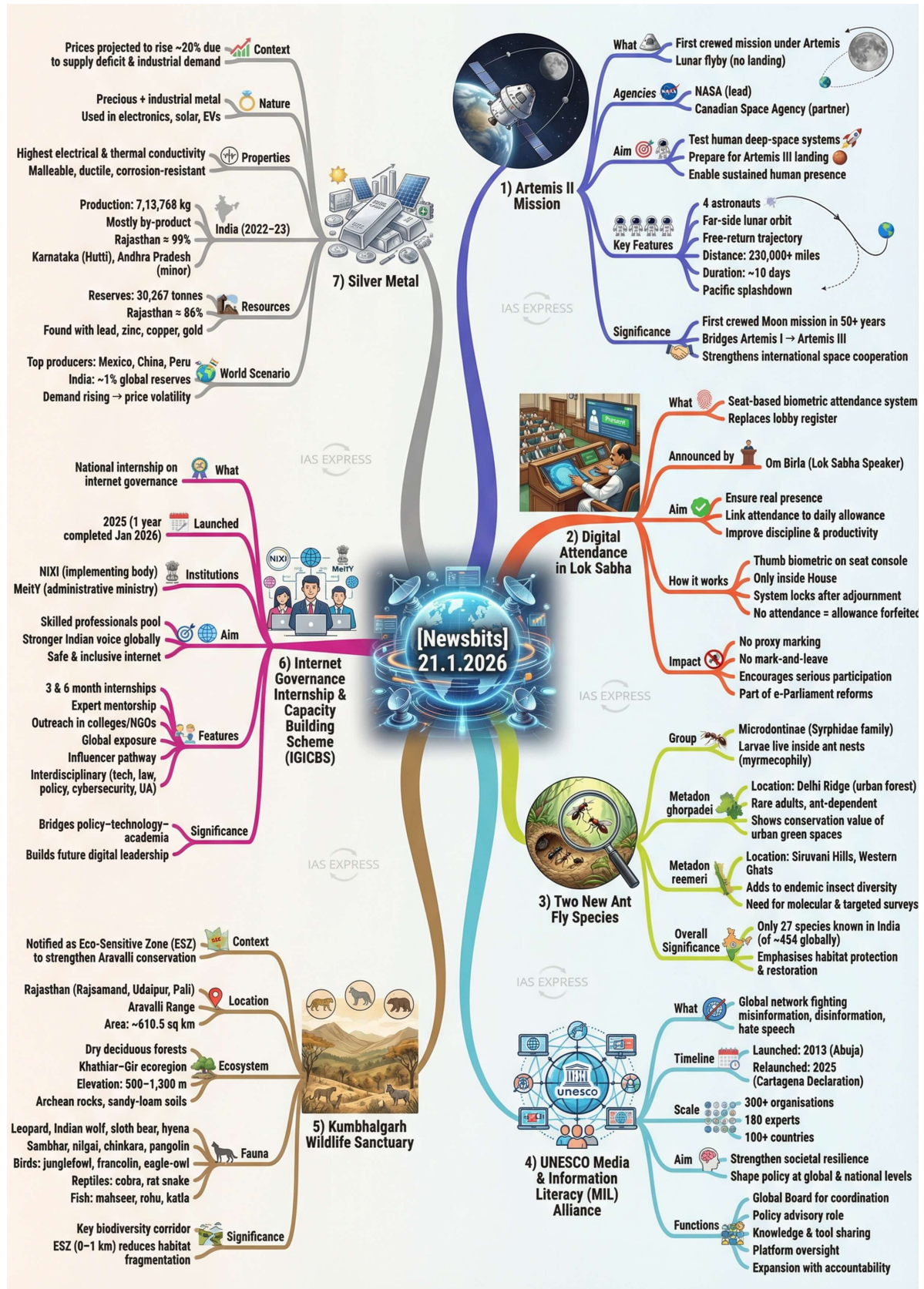
- **Identity:** Known as the "**Mother Teresa of Western Odisha**," she was a prominent humanitarian dedicated to the poor and tribal communities.
- **Freedom Struggle:**
 - She joined the **Quit India Movement (1942)** at age 16, leading rallies and defying British authority.
 - She was imprisoned for two years for her anti-British activities and earned the title "**Banhi Kanya**" (Daughter of Fire).
- **Social Service:** Post-independence, she focused on relief work during the **1951 Odisha famine**, leprosy eradication, and prison reforms, rather than seeking political office.
- **Legacy:** Her life symbolises service-driven nationalism and the empowerment of marginalised sections in Odisha.

Hooghly River

West Bengal's State Mission for Clean Ganga has begun using drones to map pollution in the **Hooghly River**, a vital waterway for the region. This technological intervention aims to save the river from further degradation.

- **Geography:** The Hooghly (or Hugli) is a major **tributary** of the **Ganga River**. It splits from the Ganga at Nabadwip (formed by the junction of Bhagirathi and Jalangi rivers) and flows south into the **Bay of Bengal**.
- **Significance:** It is the lifeline of **Kolkata** and supports major ports and industries. It is a **tidal river** prone to **tidal bores**, which aid navigation but cause siltation.
- **Pollution:** The river faces severe stress from industrial effluents and urban runoff. The new drone mapping project covers a 120 km stretch to identify and mitigate these pollution sources.
- **Tributaries:** Its main tributaries include the **Damodar**, **Ajay**, and **Rupnarayan** rivers.

[Newsbits] 21.1.2026



Artemis II Mission

NASA is targeting **February 6** for the launch of **Artemis II**, a major mission to send humans back to the Moon's vicinity.

- **What it is:** This is the first **crewed mission** of the Artemis program. It will do a **lunar flyby**, meaning it will go around the Moon but not land.
- **Involved Agencies:** Led by **NASA** with help from the **Canadian Space Agency (CSA)**.
- **Aim:** The mission wants to test if the **deep-space systems** are safe for humans. It is a practice run for **Artemis III**, which will land on the Moon, and for future trips to **Mars**.
- **Key Features:**
 - **Crewed Flyby:** Four astronauts will fly around the dark side of the Moon.
 - **Trajectory:** They will use the gravity of the Earth and Moon to loop back safely without using too much fuel (**free-return trajectory**).
 - **Testing:** The crew will test life support, steering, and **radiation protection**.
 - **Distance:** They will travel over **230,000 miles** from Earth, which is farther than any human has gone before.
- **Significance:** It revives human exploration of the Moon after **50 years** (since Apollo 17 in 1972) and boosts **international collaboration** in space.

Lok Sabha to Launch Digital Attendance System

The **Lok Sabha** is set to modernize its daily operations starting from the **Budget Session 2026**. A new **digital attendance system** will replace the old method to ensure that Members of Parliament (MPs) are truly present during sessions.

- **What it is:** This is a **seat-based biometric attendance** tool. MPs must mark their attendance electronically from their specific seats inside the House, instead of signing a register in the lobby.
- **Announced by:** The initiative was announced by **Om Birla**, the Speaker of the Lok Sabha.
- **Aim:** The main goal is to ensure the **actual presence** of MPs during sittings. It aims to boost **transparency, discipline**, and the overall **productivity** of the Parliament. It also strictly links the daily money allowance to the MP's presence in the House.
- **How it works:** Every seat has a digital console. MPs use **biometric thumb verification** to prove they are there. This stops anyone else from marking attendance for them (proxy marking).
- **Strict Rules:** The system is **locked** as soon as the House is adjourned. MPs cannot mark attendance later if they missed it. If they fail to record their presence, they lose their **daily allowance** and other benefits.
- **Key Features:** The old practice of signing outside is gone. This new method uses **biometric verification** to stop tampering. It forces MPs to be serious about **legislative engagement** and not just leave immediately after signing in. It is part of a larger plan for a **paperless** and **AI-assisted** Parliament.

Two New Rare Ant Fly Species Discovered

Researchers have found two very rare species of **ant flies** in **Delhi** and the **Western Ghats**.

- **What they are:** These flies belong to the **Microdontinae** family. They are unique because they are **myrmecophilous**, meaning their babies (larvae) live inside **ant nests** and eat the ant's babies. This makes them very hard to find.
- **Species 1: Metadon ghorpadei:**
 - Found in the **Northern Ridge Forest** of **Delhi**.
 - This discovery is important because it happened in a disturbed **urban forest**, showing that cities can still hold valuable nature.
- **Species 2: Metadon reemeri:**
 - Found in the **Siruvani Hills** of the **Western Ghats**, Tamil Nadu.
 - This adds to the rich list of unique insects in the Western Ghats.
- **Significance:** Only **27 species** of this group are known in the Indian subcontinent. These findings show we need to protect **native vegetation** and study hidden insects in both cities and forests.

UNESCO Media and Information Literacy (MIL) Alliance

The **UNESCO MIL Alliance** has elected its first-ever **Global Board**, a big step for its management.

- **What it is:** The MIL Alliance is a global network run by **UNESCO**. It fights against **disinformation, misinformation, and hate speech**.
- **Timeline:** It was launched in **2013** in Nigeria and relaunched in **2025** with the **Cartagena Declaration**.
- **Membership:** It includes over **300 organizations** and experts from more than **100 countries**.
- **Aim:** It aims to make societies stronger against fake news and help people understand media better.
- **Key Functions:**
 - **Global Board:** This is the main group that makes decisions and ensures everyone works together well.
 - **Policy:** The Alliance gives expert advice to help shape global rules on media literacy.
 - **Sharing:** It shares tools and research to help communities handle media risks.
 - **Transparency:** The Board ensures the group grows properly and reports its progress every year.

Kumbhalgarh Wildlife Sanctuary Eco-Sensitive Zone

The government has declared the area around **Kumbhalgarh Wildlife Sanctuary** as an **Eco-Sensitive Zone (ESZ)** to protect the **Aravalli Range**.

- **What it is:** Kumbhalgarh is a wildlife reserve famous for its dry forests and the historic **Kumbhalgarh Fort**.
- **Location:** It is in **Rajasthan**, spreading across Rajsamand, Udaipur, and Pali districts.
- **Geology:** It sits on ancient rocks in the Aravalli hills and has a **dry deciduous forest** ecosystem.
- **Flora and Fauna:** It is home to animals like the **Leopard, Indian wolf, Sloth bear**, and birds like the **Grey junglefowl**.
- **ESZ Status:** The zone covers **0 to 1 km** around the sanctuary. This status helps control bad activities like mining and construction to keep the wildlife safe.
- **Significance:** This sanctuary is a key **biodiversity corridor**. The ESZ will stop the forest from being broken up into small pieces and help manage human impact.

Internet Governance Internship & Capacity Building Scheme (IGICBS)

The **National Internet Exchange of India (NIXI)** celebrated the first anniversary of its internship scheme, designed to teach Indian youth about how the internet is governed.

- **What it is:** The **IGICBS** is a training program. It teaches young people about **internet governance** so they can participate in making rules for the internet at national and global levels.
- **Launch:** It started in **2025** and completed one year in **January 2026**.
- **Involved Bodies:** It is run by **NIXI** under the **Ministry of Electronics and Information Technology (MeitY)**.
- **Aim:** The goal is to create a team of skilled Indian experts who can speak for India in **global internet platforms**. It wants to make the internet **safe, inclusive, and trustworthy**.
- **Key Features:**
 - **Structured Internships:** It offers **6-month** and **3-month** terms that mix research with real-world work.
 - **Mentorship:** Interns are guided by senior experts from the government and global bodies.
 - **Capacity Building:** Interns must run **awareness programs** in colleges and communities.
 - **Global Exposure:** Participants get to engage with international internet groups.
- **Significance:** This helps India bridge the gap between policy and technology, creating future **digital leadership**.

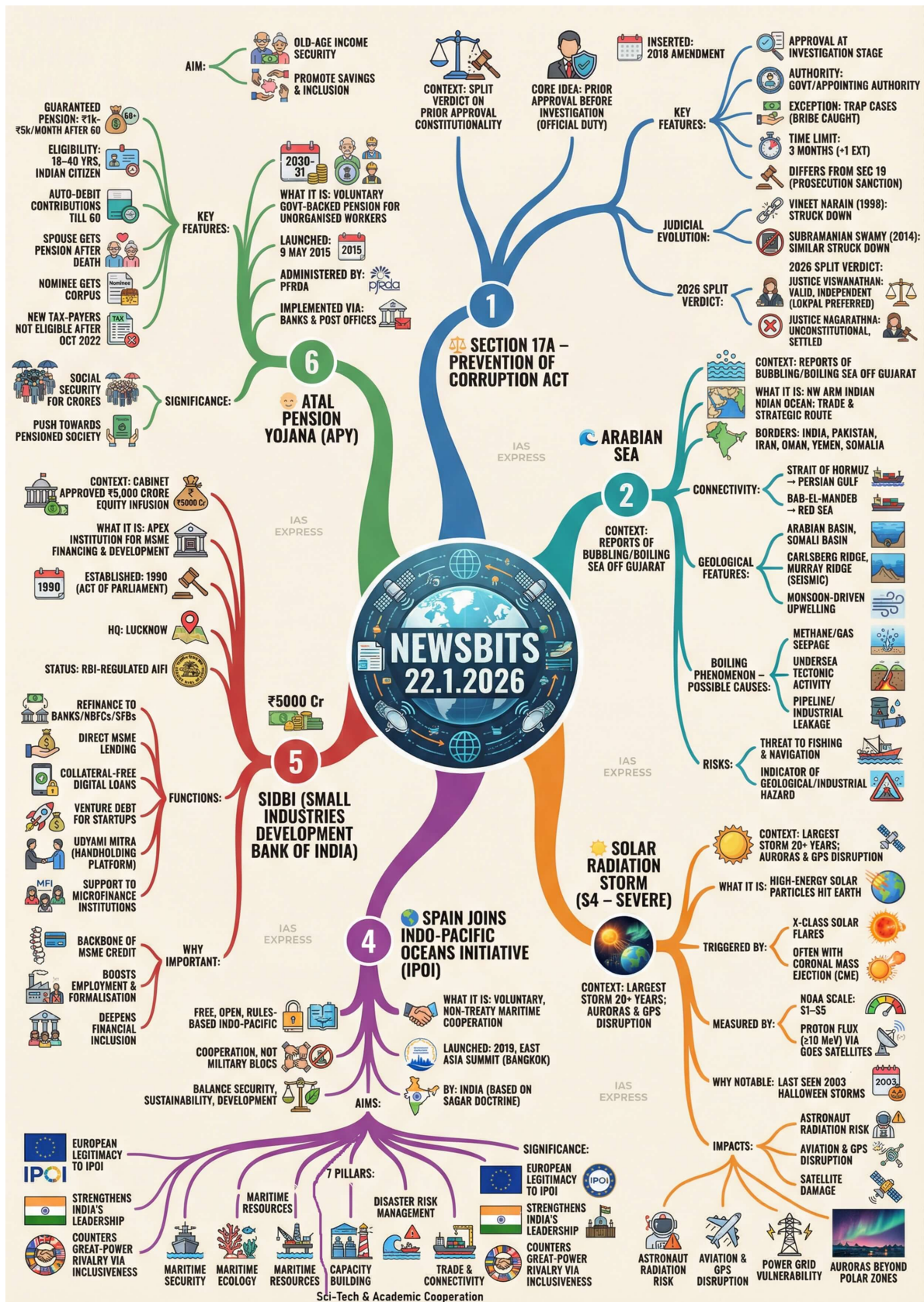
Silver Metal Market and Production

Silver prices are expected to jump by nearly **20%** soon because of a shortage in global supply and high demand from industries.

- **What it is:** Silver is a **precious metal** known for being shiny and white. It is used to store value (money) and is essential for making **electronics** and **renewable energy** equipment.

- **Key Characteristics:** It has the highest **electrical** and **thermal conductivity** of all metals. It is soft and does not rust easily, making it perfect for **solar cells**, jewelry, and medical tools.
 - **India's Production:** In 2022-23, India produced **7,13,768 kg** of silver, which is a **10% increase** from the year before. Most silver in India is found while mining other metals like lead and zinc.
 - **Top Indian States:**
 - **Rajasthan:** produces about **99%** of India's silver, mostly from **Hindustan Zinc Ltd.**
 - **Karnataka:** produces a small amount from gold refining at **Hutti Gold Mines.**
 - **Andhra Pradesh:** has very limited silver resources.
 - **Global Scenario:** The top producers in the world are **Mexico** (26%), **China**, and **Peru**. India holds only about **1%** of global silver reserves but processes a lot of it.
 - **Market Trends:** The demand for silver is growing fast because of **solar PV** panels, **electronics**, and **electric vehicles (EVs)**. This rising demand is making the market tight and prices volatile.
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[Newsbits] 22.1.2026



Verdict on Section 17A of the Prevention of Corruption Act

The Supreme Court of India gave a split decision regarding **Section 17A** of the **Prevention of Corruption Act, 1988**. This section requires police to get permission before investigating public officials.

- **Section 17A** was added to the law in **2018**.
- It stops police officers from starting an inquiry or investigation into corruption charges against a public servant without **prior approval** from a competent authority.
- This rule applies if the alleged crime is related to a decision or recommendation the official made while doing their duty.
- The **competent authority** is usually the government (Union or State) or the senior officer who has the power to fire the official.
- There is an exception: If a **public servant** is caught red-handed accepting a bribe (a "trap case"), no prior permission is needed.
- The authority must make a decision on giving permission within **3 months**, or 4 months if they give a reason for the delay.
- This is different from **Section 19**, which asks for permission only when the case goes to court (prosecution), whereas Section 17A stops the investigation at the very beginning.
- Historically, the Supreme Court had struck down similar rules in the **Vineet Narain case (1998)** and another case in 2014, saying such rules violate equality before the law.
- In the recent **2026 verdict**, the two judges disagreed.
- **Justice K. V. Viswanathan** supported Section 17A to protect honest officers but said the approval process should be independent.
- **Justice B. V. Nagarathna** declared Section 17A **unconstitutional**, saying it protects corrupt officials and repeats mistakes the court had already banned.

Unusual Phenomenon in the Arabian Sea

Fishermen and officials are worried about strange **boiling or bubbling** seen in the **Arabian Sea** near the Gujarat coast.

- The **Arabian Sea** is a part of the **Indian Ocean** located to the northwest of India.
- It is a very busy shipping route connecting Europe, Africa, and Asia.
- It is bordered by countries like **India, Pakistan, Iran, Oman, Yemen, and Somalia**.
- Geologically, it was formed about 50 million years ago and contains deep basins and active underwater ridges like the **Carlsberg Ridge**.
- The current issue involves seawater bubbling intensely, looking like it is boiling.
- Scientists are investigating natural causes like **methane gas seepage** from the ocean floor.
- It could also be due to **underwater tectonic activity** or volcanic movement near the submarine ridges.

- There is a fear that it might be an industrial accident, such as a leak from an **undersea pipeline**.
- This phenomenon poses a risk to **fishing boats** and ships navigating the area.
- It serves as a warning sign of potential **geological instability** or environmental damage.

Severe Solar Radiation Storm

The Sun recently released a massive **solar radiation storm**, the largest in over 20 years. It was ranked as **S4 (Severe)** and caused auroras (northern lights) to be seen in many places, while also disturbing GPS systems.

- A **solar radiation storm** happens when the Sun shoots out fast-moving, high-energy particles (mostly protons) towards Earth.
- These particles travel incredibly fast and can go through **Earth's magnetic shield**, creating risks for technology in space and high in the sky.
- These storms are usually caused by **X-class solar flares**, which are the most powerful explosions on the Sun.
- They are often linked to a **Coronal Mass Ejection (CME)**, which is a huge burst of plasma and magnetic fields from the Sun.
- The particles can reach Earth in just minutes to hours, traveling over 150 million kilometers.
- Scientists measure these storms on a scale from S1 to S5. An **S4 storm** is very rare; the last one of this size happened in **October 2003**.
- This event creates danger for **astronauts** on the International Space Station because of high radiation.
- It impacts **aviation** by disrupting radio communication and GPS for planes flying near the poles.
- **Satellites** can be damaged, leading to navigation errors or problems with their electronics.
- On the ground, these storms can mess with **power grids** and cause transformers to fail.
- A visual side effect is the appearance of beautiful **auroras** much farther from the poles than usual.

Spain Joins the Indo-Pacific Oceans Initiative (IPOI)

Spain has officially joined the **Indo-Pacific Oceans Initiative (IPOI)**. This happened when Spain's Foreign Minister gave the joining document to India's External Affairs Minister.

- The **IPOI** is a group where countries cooperate voluntarily to handle maritime issues in the Indo-Pacific region. It is not a military treaty.
- This initiative was launched by **India** in **2019** at a summit in Bangkok.
- It is based on India's **SAGAR doctrine**, which stands for "Security and Growth for All in the Region."
- The main aim is to keep the Indo-Pacific region **free, open, and inclusive**, following international rules.

- It focuses on solving problems through cooperation rather than forming military groups.
- The initiative tries to balance security, development, and the health of the ocean environment.
- There are **seven thematic pillars** or focus areas: **Maritime Security, Maritime Ecology, Maritime Resources, Capacity Building, Disaster Risk Reduction, Science Cooperation**, and **Trade Connectivity**.
- Countries work together in a **non-military** way.
- Specific focus is given to **Maritime Domain Awareness**, which means knowing exactly what is happening in the ocean waters.
- Member countries can choose to lead any of these specific pillars.
- Spain joining is significant because it shows the **global legitimacy** of this group and brings in European support.
- It strengthens India's position as a **net security provider** and helps reduce tension between big world powers by promoting teamwork.

Support for Small Industries Development Bank of India (SIDBI)

The government has approved giving **₹5,000 crore** to the **Small Industries Development Bank of India (SIDBI)**. This money is an equity infusion to help the bank grow and support more businesses.

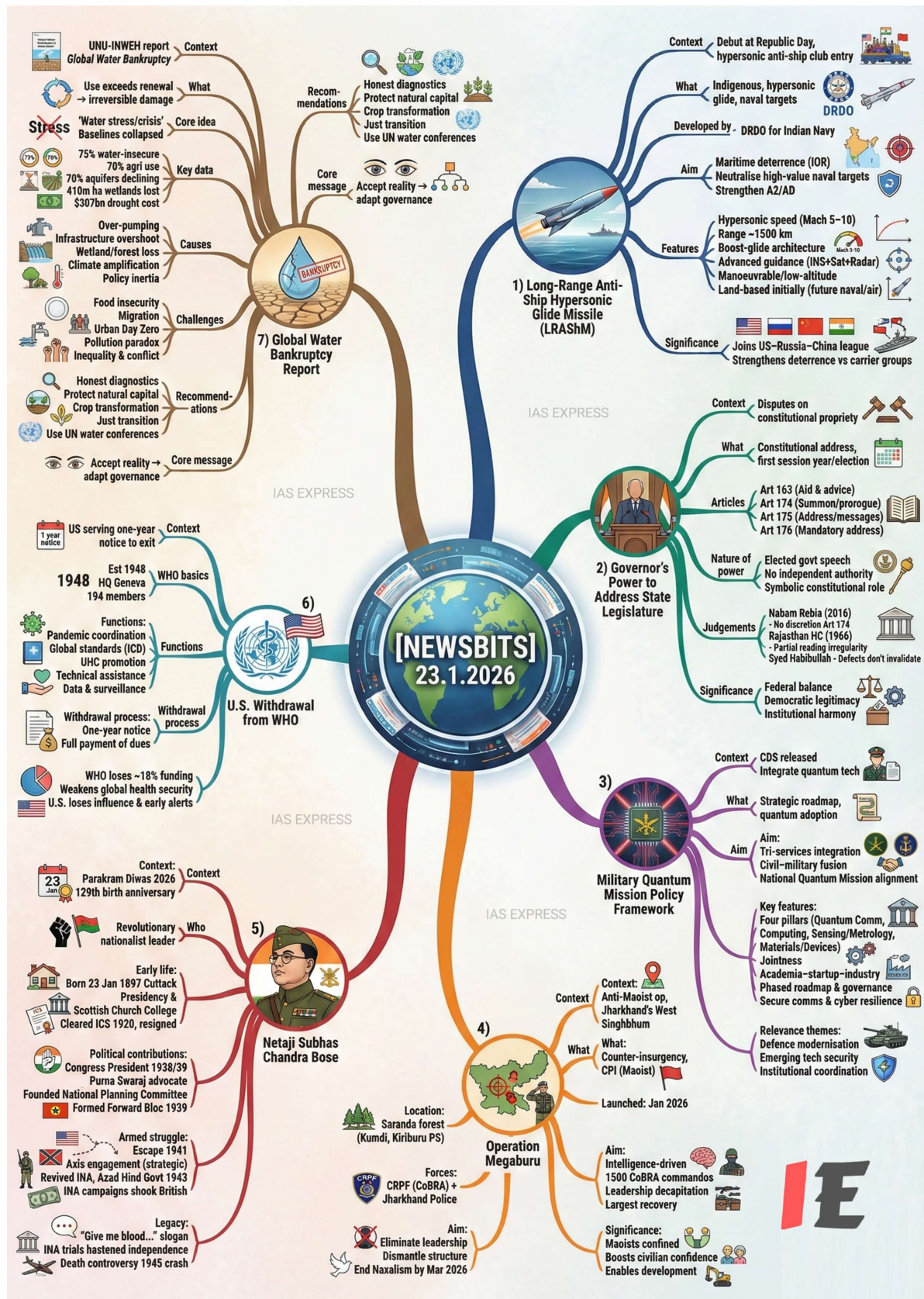
- **SIDBI** is the main financial institution that promotes and funds the **MSME sector** (Micro, Small, and Medium Enterprises) in India.
- It was started in **April 1990** through a special law passed by the Parliament.
- The headquarters of SIDBI is located in **Lucknow, Uttar Pradesh**.
- Originally, it was a subsidiary of IDBI Bank but became independent in March 2000.
- It is one of the five major **All India Financial Institutions (AIFIs)** that are regulated by the **RBI**.
- One of its key jobs is providing **refinance support**. This means it gives cheap bulk money to other banks so they can lend to small businesses without stress.
- It also does **direct lending**, giving loans directly to MSMEs for buying machinery or daily operations when they cannot get loans from regular banks.
- SIDBI offers **collateral-free loans**, meaning businesses don't need to pledge assets like property. They use **digital data** to approve these loans quickly.
- It supports startups through **venture debt**, which is funding that helps new companies grow and expand.
- Through initiatives like **Udyami Mitra**, it acts as a bridge connecting small businesses with banks and advisors.
- It also supports **microfinance institutions** that lend very small amounts to local village-level businesses.
- This support is vital because SIDBI is the backbone of credit for small businesses, helping create **employment** and bring more companies into the formal economy.

Continuation of Atal Pension Yojana (APY)

The government has decided to continue the **Atal Pension Yojana (APY)** until 2030-31. This extension includes more money to help spread awareness and support the scheme's growth.

- The **Atal Pension Yojana** is a pension scheme supported by the government. It is **voluntary**, meaning people choose to join it.
 - Its main goal is to provide a fixed monthly income to citizens, specifically those working in the **unorganised sector**, once they cross the age of 60.
 - The scheme was originally launched on **9 May 2015**.
 - It is managed by the **Pension Fund Regulatory and Development Authority (PFRDA)** and works through local banks and post offices.
 - The aim is to give **old-age income security** to poor and underprivileged workers who do not have a steady retirement plan.
 - It encourages people to save money for the long term so they are financially safe when they retire.
 - Subscribers can get a **guaranteed pension** ranging from **₹1,000 to ₹5,000 per month** after turning 60.
 - To be eligible, you must be an **Indian citizen** between the ages of **18 and 40 years** and have a savings account.
 - You make contributions monthly, quarterly, or half-yearly, and the money is automatically taken from your bank account until you reach age 60.
 - If the subscriber dies, the **spouse** receives the same pension amount. After the spouse dies, the saved money is given to the **nominee**.
 - An important rule is that people who pay **income tax** have not been allowed to join this scheme since **1 October 2022**.
 - The money collected is invested according to strict government guidelines to ensure safety. This scheme is significant because it gives dignity and **social security** to millions of workers and helps India become a society where more people have pension coverage.
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[Newsbits] 23.1.2026



Long-Range Anti-Ship Hypersonic Glide Missile (LR-AShM)

India is set to debut its indigenous **Long-Range Anti-Ship Hypersonic Glide Missile (LR-AShM)**. This places India in an exclusive group of nations with hypersonic capabilities.

- **What is it?:** This is a missile designed to hit high-value naval targets, like **aircraft carriers**, at extremely long ranges.
- **Developer:** It was developed by the **DRDO** (Defence Research and Development Organisation).
- **Hypersonic Speed:** The missile operates at speeds up to **Mach 10**. This extreme speed gives the enemy very little time to react.
- **Boost-Glide Architecture:** It uses a rocket to boost the vehicle high up, after which it glides unpowered at hypersonic speeds while maneuvering.
- **Range:** It has an operational range of approximately **1,500 km**.
- **Evasive Capabilities:** Unlike regular missiles, this one flies at a low altitude and can change course (maneuver), making it very hard for radar to detect or for anti-missile systems to intercept.
- **Strategic Goal:** It is designed to strengthen India's **deterrence** in the Indian Ocean Region and deny enemy ships access to strategic areas (A2/AD capability).

Governor's Power to Address the State Legislatures

There have been recent confrontations between State Governments and Governors regarding the **Governor's Address** to the State Legislature. This has raised questions about constitutional rules.

- **Constitutional Requirement:** Under **Article 176**, the Governor must address the State Legislature at the start of the first session after an election and the first session of every year.
- **Not Personal Views:** The address outlines the policies of the **elected government**, not the personal opinion of the Governor.
- **Article 163:** The Governor must act on the **aid and advice** of the Council of Ministers. They cannot rewrite the speech prepared by the government.
- **Mandatory Duty:** The Governor cannot refuse to read the address. However, courts have ruled that even a partial reading can fulfill the constitutional requirement.
- **Nabam Rebia Case (2016):** The Supreme Court ruled that the Governor has no discretion in summoning the Assembly and must follow the Cabinet's advice.
- **Symbolic Role:** The address is a symbolic constitutional formality. It represents the government's accountability to the legislature.
- **Significance:** These rules exist to ensure the Governor acts as a constitutional head and not a rival power center to the elected state government.

Military Quantum Mission Policy Framework

The Chief of Defence Staff (CDS) has released a new policy to integrate advanced **quantum technologies** into the Indian Armed Forces. This is a roadmap to ensure India has a technological edge in future warfare.

- **Strategic Vision:** The mission aims to operationalize quantum tech across the **Army, Navy, and Air Force** systematically.
- **Tri-Services Jointness:** The policy emphasizes that the three services must work together (interoperability) rather than developing separate, siloed technologies.
- **Civil-Military Fusion:** The military will not work alone. It will collaborate with **academia, startups, and industry** to align defence needs with the National Quantum Mission.
- **Four Key Pillars:** The policy focuses on four specific areas: **Quantum Communication, Quantum Computing, Quantum Sensing & Metrology, and Quantum Materials & Devices.**
- **Future Battlefield:** These technologies are crucial for secure communications that cannot be hacked, superior sensing to detect enemies, and faster decision-making using powerful computers.
- **Implementation:** The framework provides a roadmap with phased **milestones** and governance structures to ensure the policy is executed effectively.

Operation Megaburu

Security forces launched **Operation Megaburu**, a major offensive against **Maoist insurgents** in Jharkhand.

- **Objective:** The goal was to neutralize top leadership of the **CPI (Maoist)** and clear their strongholds in the **Saranda forest** region.
- **Key Outcome:** Security forces killed 16 Maoists, including top leader **Anal (Patiram Manjhi)**.
- **Forces Involved:** The operation involved elite **CoBRA commandos** and the Jharkhand Police.
- **Intelligence-Driven:** The operation was based on specific intelligence about the location of senior leaders.
- **Significance:** This is the largest recovery of Maoist bodies in a single encounter in the state. It signals that Maoist influence is shrinking to small pockets, advancing the government's goal to end Naxalism by **March 2026**.

Netaji Subhas Chandra Bose and Parakram Diwas

The government celebrates **Parakram Diwas** on January 23rd to honor the 129th birth anniversary of **Netaji Subhas Chandra Bose**. He was a revolutionary leader who believed in assertive action to gain independence.

- **Early Life:** Born in **Cuttack, Odisha** in 1897, Bose was a brilliant student who cleared the **Indian Civil Services (ICS)** exam but resigned to join the freedom struggle.

- **Radical Leadership:** He became a mass leader of the Left wing within the Congress. He was elected Congress President in **Haripura (1938)** and **Tripuri (1939)** but resigned due to ideological differences with Gandhi.
- **Purna Swaraj:** Bose demanded immediate and complete independence (**Purna Swaraj**) and rejected the idea of dominion status or gradual change.
- **Forward Bloc:** After leaving the Congress, he founded the **Forward Bloc** in 1939 to unite leftists, youth, and workers under a militant platform.
- **Global Struggle:** Bose escaped house arrest in 1941 and sought support from **Germany and Japan**. This was a strategic move to fight British imperialism.
- **Indian National Army (INA):** He revived the INA and formed the **Azad Hind Government** in 1943. This was India's first government-in-exile, complete with its own currency and courts.
- **Military Impact:** The INA advanced to **Imphal and Kohima** in 1944. Although they did not win militarily, they destroyed the myth of British invincibility and inspired revolts in the British Indian armed forces.
- **Legacy:** His slogan "**Give me blood, and I will give you freedom**" remains iconic. The **INA trials** after the war played a major role in accelerating the British exit from India.

U.S. Formally Withdraws From the World Health Organization

The **United States** has decided to formally withdraw from the **World Health Organization (WHO)**. This move comes after a one-year notice period and has sparked debates about global health safety.

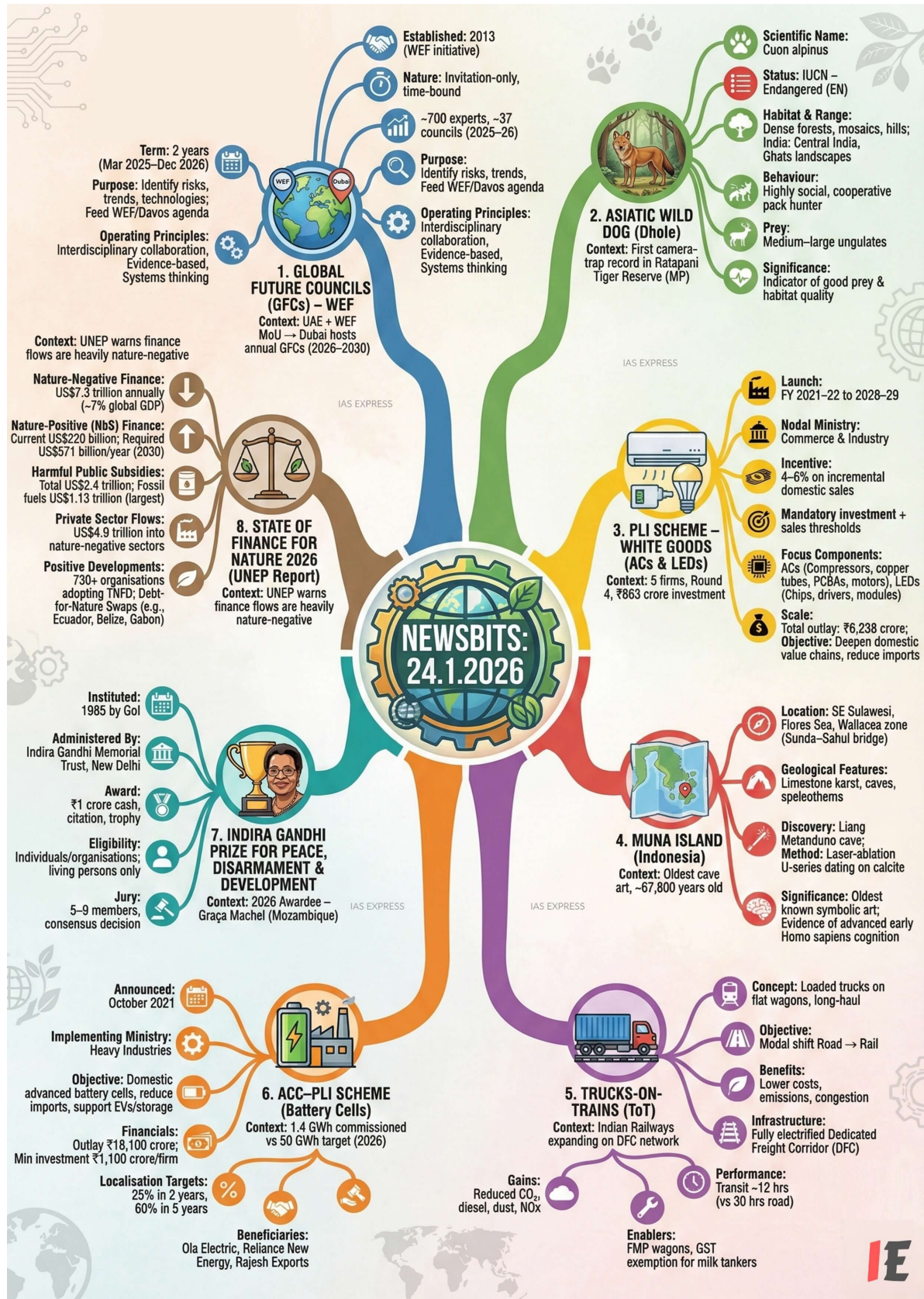
- **Role of WHO:** Established in 1948 in **Geneva**, the WHO is the UN agency responsible for international public health, setting standards, and fighting pandemics.
- **Withdrawal Process:** Under US law, the country must give a **one-year notice** and pay all outstanding **financial obligations** before leaving.
- **Funding Impact:** The US is a major donor. Its exit means a loss of approximately **18% of total funding** for the WHO.
- **Consequences for WHO:** This funding cut may lead to staff reductions and scaled-back programs, affecting the organization's ability to respond to health crises.
- **Global Health Risks:** Experts warn that this weakens **pandemic preparedness** and disease surveillance globally.
- **Impact on the US:** By leaving, the US loses access to real-time global health data and loses its influence in setting international health norms.

Global Water Bankruptcy Report

The United Nations University has released a critical report titled "Global Water Bankruptcy." It argues that the world has moved beyond simple water scarcity into a state of "bankruptcy," where we are using more water than nature can replenish.

- **Definition of Water Bankruptcy:** This is a state where water use consistently exceeds **renewable inflows**. The report states that terms like “water stress” are no longer enough because the previous “normal” water levels have collapsed.
 - **Massive Scale of Crisis:** As of 2026, nearly **75% of the world’s population** lives in countries that are water-insecure.
 - **Agricultural Impact:** Agriculture consumes about 70% of freshwater. Currently, over **170 million hectares** of farmland face very high water stress, threatening food production.
 - **Groundwater and Wetlands:** About 70% of major **aquifers** are declining. The world has lost **410 million hectares of wetlands** in the last 50 years, which removes natural barriers against floods.
 - **Economic Costs:** Human-caused droughts now cost the global economy approximately **\$307 billion annually**.
 - **Slow-Onset Depletion:** One major cause is the slow over-pumping of water. For example, the **Indo-Gangetic plain** has some of the highest groundwater depletion rates due to weak regulations.
 - **Infrastructure Overshoot:** Big cities rely on large dams and diversions that exceed local water limits. Cities like **Chennai** struggle to prevent “Day Zero” (when taps run dry) when monsoons fail.
 - **Ecological Liquidation:** destroying forests and wetlands for buildings removes nature’s shock absorbers. In **Bengaluru**, wetland loss has reduced groundwater recharge and caused flash floods.
 - **Climate Change Factor:** Climate change acts as a catalyst. Melting **Himalayan glaciers** threaten the future water flow of the Indus and Ganges rivers.
 - **Institutional Denial:** Many policies still assume the old water patterns will return, delaying necessary hard decisions on crop patterns and water rights.
 - **Food Security Risks:** A lack of water in major agricultural regions (breadbaskets) directly lowers crop **yields** and production.
 - **Migration and Conflict:** Water insecurity forces people to migrate, especially from rural to urban areas (e.g., Bundelkhand). It also causes conflict between rich and poor over resources.
 - **Water Quality Paradox:** Even where water exists, it is often too **polluted** to use. The **Yamuna River** in Delhi is a prime example of water that is volumetrically present but functionally useless.
 - **Recommendations:** The report suggests shifting focus from just protecting water volume to protecting the **hydrological cycle**. It calls for transforming agriculture to use less water and using the **UN Water Conferences** to treat water as a tool for peace.
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[Newsbits] 24.1.2026



Global Future Councils (GFCs) – WEF

The **United Arab Emirates** and the **World Economic Forum (WEF)** have officially signed an agreement. This agreement states that Dubai will host the annual meetings of the **Global Future Councils (GFCs)** for the next five years.

- **Context:** The GFCs act as a forward-looking knowledge network. They are designed to bring experts together to discuss the future.
- **Definition:** These councils are invite-only groups that operate for a specific time. They function like think tanks to create insights on future global challenges and chances.
- **Establishment:** They were set up in **2013** as part of the WEF's system for gathering knowledge about the future.
- **Goal:** The main aim is to spot new trends, risks, and technologies. They turn expert knowledge into useful advice for policymakers. This helps governments build development models that are strong, fair, and sustainable.
- **Membership Structure:** Members are invited to serve for **two-year terms**. The current term runs from March 2025 to December 2026.
- **Scale of Operations:** For the 2025–2026 term, there are roughly **37 thematic councils**. Currently, over **700 experts** are involved. Since the beginning, there have been 900 councils and more than **12,000 experts**.
- **Core Principles:** The councils focus on connecting different fields of study (interdisciplinary). They value fresh ideas and rely heavily on **data, research, and facts** rather than just opinions.

Asiatic Wild Dog (Dhole)

A rare **Asiatic Wild Dog**, also known as the **Dhole**, was recently caught on camera in the **Ratapani Tiger Reserve** in Madhya Pradesh. This sighting is important because it shows that the habitat and food supply in the area are improving.

- **Scientific Name:** *Cuon alpinus*.
- **Nature:** It is a wild canine native to South and Southeast Asia. It is a top predator that hunts in packs and helps control the population of plant-eating animals.
- **Habitat:** They prefer dense forests, grasslands, and hilly areas. In India, they are mostly found in **Central Indian forests**, the **Western Ghats**, and the **Eastern Ghats**.
- **Status:** It is listed as **Endangered (EN)** on the **IUCN Red List**.
- **Behavior:** They are highly social animals that live in **clans or packs**. They hunt cooperatively, relying on teamwork rather than hunting alone.
- **Diet:** Their preferred food includes medium-to-large animals like **chital, sambar**, and deer.
- **Appearance:** They have a distinctive **reddish coat**, rounded ears, and teeth that are specially shaped for shearing meat.

- **Ecological Role:** Their presence signifies a healthy ecosystem with a good prey base. They coexist with tigers and leopards but use different hunting strategies.

PLI Scheme – White Goods (ACs & LEDs)

The Government of India has moved forward with the **Production-Linked Incentive (PLI) Scheme** for **White Goods**. In the fourth round, five companies were selected with a committed investment of **₹863 crore**.

- **Purpose:** This is a central scheme to boost the manufacturing of components for **Air Conditioners (ACs)** and **LED lights** in India. It gives financial rewards based on performance.
- **Incentive Structure:** Companies get a **4% to 6% incentive** on increased domestic sales.
- **Timeline:** The scheme launched in FY 2021–22 and will run until FY 2028–29. The base year for measuring growth is **FY 2019–20**.
- **AC Components:** The scheme targets high-value parts like **compressors, copper tubes**, and **aluminium foils**. It also covers lower-value parts like PCB assemblies and motors.
- **LED Components:** For lights, it focuses on **LED chip packaging**, ICs, resistors, and fuses.
- **Total Scale:** The total money set aside (outlay) is **₹6,238 crore**. Across four rounds, **85 companies** have been selected.
- **Expected Impact:** The scheme expects to bring in investments worth roughly **₹11,198 crore** and generate production worth nearly **₹1.9 lakh crore**.
- **Goal:** To reduce reliance on imports and create a strong domestic supply chain for electronic components.

Muna Island (Indonesia)

Archaeologists have made a historic discovery on **Muna Island**, Indonesia. They identified **rock art** that is at least **67,800 years old**, making it the oldest known cave art in the world.

- **Location:** Muna Island is located in the **Southeast Sulawesi Province**. It lies in the **Flores Sea** within the **Wallacea zone**, which is a key area between Asia and Australia.
- **Geology:** The island features **limestone karst** landscapes full of caves. These caves have calcium carbonate deposits that help scientists determine the age of the art using **U-series dating**.
- **The Discovery:** At a cave called **Liang Metanduno**, a hand stencil was found.
- **Dating Method:** Scientists used a laser to analyze the layers of calcite on top of the paint to find its minimum age.
- **Significance:** This art is older than similar finds in Europe and western Indonesia. It proves that early **Homo sapiens** (humans) had complex artistic abilities.
- **Migration Route:** The find supports the theory that early humans took a northern maritime route from Southeast Asia towards Australia (Sahul) around **65,000 years ago**.

Trucks-on-Trains (ToT)

Indian Railways is expanding its **Trucks-on-Trains (ToT)** service using the **Dedicated Freight Corridor (DFC)** network. This system moves loaded trucks onto trains for long trips to save fuel and time.

- **Concept:** Loaded trucks are driven onto specially designed flat wagons. The train carries them for the long journey. The trucks only drive on the road for the first and last parts of the trip (pickup and delivery).
- **Goal:** The aim is to shift freight from roads to **electrified rail**. This reduces logistics costs and pollution.
- **Efficiency:** This method cuts transit time significantly. A trip that takes **~30 hours** by road can be done in **~12 hours** via ToT.
- **Environment:** It leads to huge reductions in **CO₂ emissions**, particulate matter, and diesel usage.
- **Reliability:** Trains are less affected by bad weather like fog or rain compared to highway trucks.
- **Benefits:** It helps decongest highways. Tariffs are transparent and based on weight. **Milk tankers** are exempt from GST, which helps transport perishable goods.
- **Future:** The service is scaling up with new **Flat Multipurpose (FMP)** wagons.

ACC-PLI Scheme (Battery Cells)

A recent report indicates that India's **Advanced Chemistry Cell-Production Linked Incentive (ACC-PLI)** scheme is running behind schedule. Only **1.4 GWh** of battery capacity has been commissioned, while the target is **50 GWh** by 2026.

- **Objective:** The scheme aims to promote the making of **advanced battery cells** (like lithium-ion) in India. These are used for **Electric Vehicles (EVs)** and storing energy.
- **Budget:** The government has committed a total outlay of **₹18,100 crore**.
- **Incentive:** The subsidy is linked to the actual sales of battery cells. There is a cap of approximately **₹2,000 per kWh** to control costs.
- **Requirements:** To qualify, manufacturers must make a minimum investment of **₹1,100 crore**. They must also meet targets for **domestic value addition** (25% in 2 years, rising to 60% in 5 years).
- **Strategic Goal:** The main goal is to reduce India's dependence on battery imports, especially from **China**.
- **Status:** Major companies like **Ola Electric**, **Reliance New Energy**, and **Rajesh Exports** were selected. However, the exit of Hyundai Global reduced the allocated capacity.

Indira Gandhi Prize for Peace, Disarmament & Development

Graça Machel, a respected humanitarian from Mozambique, has been selected to receive the **Indira Gandhi Prize for Peace, Disarmament and Development** for the year 2026.

- **About the Prize:** It is an international award given annually to an individual or organization.
- **Criteria:** It recognizes outstanding contributions to **global peace, nuclear disarmament, and equitable development**.
- **History:** The prize was established in **1985** by the Government of India to honor the memory of former Prime Minister **Indira Gandhi**.
- **Award Value:** The winner receives **₹10 million (₹1 crore)**, a citation, and a trophy made of **Haematite Jasper**.
- **Selection Process:** An **International Jury** selects the winner by consensus. The jury can choose to divide the prize or withhold it if no suitable candidate is found.
- **Objectives:** The prize promotes values like international peace, South-South cooperation, and the use of science for human welfare rather than war.
- **Graça Machel:** She is known for her advocacy for women's and children's rights and her humanitarian work.

State of Finance for Nature 2026 (UNEP Report)

The **United Nations Environment Programme (UNEP)** released the **State of Finance for Nature 2026** report. It issues a strong warning that money flowing into activities that harm nature is far greater than money spent to protect it.

- **The Imbalance:** Finance that harms nature (**Nature-Negative**) stands at **US\$7.3 trillion** annually. In contrast, investment that helps nature (**Nature-Positive**) is only **US\$220 billion**.
 - **Negative Impact:** The harmful finance flows represent roughly **7% of global GDP**.
 - **Subsidies:** Governments are providing **US\$2.4 trillion** in subsidies that harm the environment. Most of this (**US\$1.13 trillion**) goes to **fossil fuels**, followed by agriculture.
 - **Private Sector:** Private money flowing into nature-negative sectors totaled **US\$4.9 trillion**. Meanwhile, private investment in **Nature-based Solutions (NbS)** is very low, at only **US\$23.4 billion**.
 - **The Gap:** To meet global targets, investment in nature protection must increase **2.5 times** to **US\$571 billion** per year by 2030.
 - **Successes:** Some progress is seen in **Debt-for-Nature Swaps**, where debt is restructured to free up funds for conservation (e.g., in Ecuador and Gabon).
 - **Recommendations:** The report urges repurposing harmful subsidies, making it mandatory for companies to disclose nature risks, and using public funds to encourage private investment in nature.
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[Newsbits] 27.1.2026



Polar Vortex

- **Context:** A **polar vortex–driven winter storm** swept across the **United States** in January 2026, bringing heavy snow, freezing rain, and sub-zero temperatures to nearly 17 states, causing deaths and severe travel disruptions.
- The **Polar Vortex** is a large area of low pressure and extremely cold air that always surrounds the Earth's poles.
- It exists in two parts: the **Tropospheric polar vortex** in the lower atmosphere where weather happens, and the **Stratospheric polar vortex** higher up.
- In winter, the lack of sunlight at the poles makes the air very cold, which creates a strong **low-pressure system**.
- Strong winds usually keep this cold air locked near the poles, but sometimes the vortex gets disrupted.
- A disruption can happen if the **Jet stream** becomes weak and wavy, allowing cold air to leak towards the south.
- **Sudden Stratospheric Warming** is an event where the air gets warm very fast high up, which can weaken or split the vortex.
- **Climate change** and the warming of the Arctic region are making the vortex more unstable.
- When the vortex breaks, it causes extreme **cold waves**, heavy snow, and ice storms in places like the United States, Europe, and Asia.
- These storms can cause power outages, stop travel, and create health risks like **hypothermia**.

Wings India 2026

- **Context:** **Wings India 2026**, Asia's largest civil aviation event, will be held from 28–31 January 2026 at **Begumpet Airport, Hyderabad**, showcasing India's rapid rise as a global aviation hub.
- **Wings India** is a biennial global civil aviation exhibition and conference.
- It is organized by the **Ministry of Civil Aviation** to show how India is becoming a global hub for flying.
- The theme for this year focuses on the future, covering design, manufacturing, safety, and **sustainability**.
- It started in 2008 as "India Aviation" and has grown to include air shows and static displays of over 30 aircraft.
- The event brings together airlines, airport operators, and manufacturers for **B2B meetings** and business deals.
- A major focus of the event is on **Sustainable Aviation Fuel (SAF)** and making airports green to help the environment.
- It highlights important government plans like **UDAN** which helps connect smaller cities by air.

Day Zero

- **Context:** The concept of “**Day Zero**” has re-entered global focus as the **United Nations** warned that worsening climate change, **groundwater depletion**, and weak water governance could push many cities—including in India—towards acute water collapse.
- **Day Zero** is a term used to describe a time when a city runs out of water.
- It means the water supply has dropped below a safe level and the government must stop regular tap water.
- When this happens, water is **rationed**, meaning people can only get a small fixed amount from public collection points.
- Tap water is saved only for essential services like hospitals and fire stations.
- The term became famous during the water crisis in **Cape Town** in 2018.
- It is caused by long-term problems like taking out too much ground water, bad planning, and **climate change**.
- The results of reaching Day Zero are very bad for public health, food supply, and the economy.

Urban Co-operative Banks (UCBs)

- **Context:** The **Reserve Bank of India (RBI)** has proposed reopening the licensing window for **Urban Co-operative Banks (UCBs)** after a gap of more than 20 years, seeking stakeholder feedback.
- **Urban Co-operative Banks** are banks that are owned by their members and operate mostly in towns and cities.
- They follow the rule of “one member, one vote” and work to help the local community.
- These banks started in India in the early 1900s to help people who could not use big commercial banks.
- They provide loans to small businesses, traders, and regular people at affordable interest rates.
- They are regulated by both the state government and the **Reserve Bank of India (RBI)**.
- The RBI stopped giving new licenses for these banks in 2004 because of some management problems.
- Now, the RBI has proposed to start giving licenses again after more than 20 years to improve **financial inclusion**.
- These banks are very important because they bridge the gap between informal money lending and big banks.

Humanoid Robot ASC ARJUN

- **Context:** **Indian Railways** has deployed a humanoid robot named ‘**ASC ARJUN**’ at **Visakhapatnam Railway Station**, marking a first-of-its-kind initiative across the railway network.
- **ASC ARJUN** is a robot that looks like a human and uses **Artificial Intelligence (AI)**.
- It was made by a technical team from **Indian Railways** in Visakhapatnam.
- Its main job is to keep passengers safe, manage crowds, and watch for any trouble.
- It uses a **Face Recognition System** to find people who should not be there.

- The robot can speak to passengers in English, Hindi, and Telugu to give information.
- It has sensors to detect fire and smoke to warn people of danger immediately.
- The robot can move around the platform on its own and greet people with a “Namaste”.

UN Convention against Cybercrime (Hanoi Convention)

- **Context:** India has not signed the **UN Convention against Cybercrime (2024)**, reflecting deep fractures in global cyber governance and raising concerns over India’s institutional autonomy.
- This is the first global treaty designed to make specific cybercrimes illegal all over the world.
- It targets crimes like **ransomware**, financial fraud, and sharing private images without permission.
- The convention helps countries share **electronic evidence** quickly to solve crimes that happen across borders.
- It creates a 24/7 network so police in different countries can help each other in real-time.
- It is also the first global treaty to specifically fight against sexual violence against children online.
- India did not sign this convention because it felt the rules might affect its **national sovereignty**.
- India was concerned about sharing sensitive data of its citizens with foreign agencies without enough control.
- Critics also worry that the treaty has weak **human rights safeguards** and could be used to spy on people.

Cybercrime Trends

- **Context:** India recorded a massive rise in **cyber incidents**, jumping from 10.29 lakh in 2022 to 22.68 lakh in 2024, highlighting the growing crisis.
- Criminals are using **Artificial Intelligence** to make their attacks smarter and faster.
- **Deepfake** technology is being used to trick people by creating fake videos and voices.
- **Ransomware** attacks are changing; attackers now steal data and threaten to release it unless paid.
- Even small companies with low budgets are being targeted by these digital extortion schemes.
- India is losing a lot of money, estimated at ₹1,000 crore per month, to these frauds.
- **Identity security** is now the biggest problem because criminals are stealing passwords and biometric data.
- Many frauds happen because of “ghost SIM cards” used by criminals to hide their identity.

End-of-Life Vehicles (ELVs)

- **Context:** A **NITI Aayog** report “Enhancing Circular Economy of ELVs in India” has warned that **end-of-life vehicles (ELVs)** in India could double to nearly 50 million by 2030, posing serious risks.

- **End-of-Life Vehicles (ELVs)** are cars and trucks that are too old to run or have been declared as waste.
- Old vehicles cause a lot of harm because they release much more **pollution** than new ones.
- However, these old cars are valuable because they contain a lot of **steel** that can be recycled.
- India needs more **Automated Testing Stations (ATS)** to check if vehicles are fit to drive.
- The government has introduced a **Vehicle Scrapping Policy** to encourage people to scrap old cars properly.
- Manufacturers now have targets to use recycled steel from these old vehicles.

ELV Ecosystem Challenges

- **Context:** The NITI Aayog report also highlights that informal scrappers dominate the market, handling 2-3 lakh ELVs annually compared to just 72,000 by formal facilities.
- One big problem is the **price differential**; informal scrap dealers pay more cash for old cars than legal centers.
- Legal centers, called **RVSFs**, have to pay taxes and follow strict rules, so they cannot offer high prices.
- This makes people choose illegal scrappers, which hurts the environment.
- There is also a lack of infrastructure; most testing centers are only in a few states like Gujarat.
- The process to **de-register** a car is very difficult and involves too much paperwork.
- Many legal scrapping centers are losing money because they do not get enough cars to scrap.
- Some testing centers are corrupt and issue **fitness certificates** without even checking the vehicle.
- The **NITI Aayog** has suggested reforms like digital de-registration and better incentives to fix these problems.

China's Antarctic Activities and Environmental Protection Law

- **Context:** **China** has proposed a draft **Antarctic Activities and Environmental Protection Law**, submitted for first reading to the National People's Congress Standing Committee in December 2025.
- The goal is to make sure China follows the global **Antarctic Treaty System**.
- The law covers Chinese citizens, companies, and any foreign expeditions that start from China.
- It creates a permit system for activities like science research, tourism, and fishing.
- The law strictly protects the environment by demanding **Environmental Impact Assessments**.
- It bans digging for minerals and mining, allowing only scientific research.
- It prohibits military activities and weapon testing to ensure **peaceful use** of the region.
- This law shows China wants to play a bigger role in how the South Pole is managed globally.

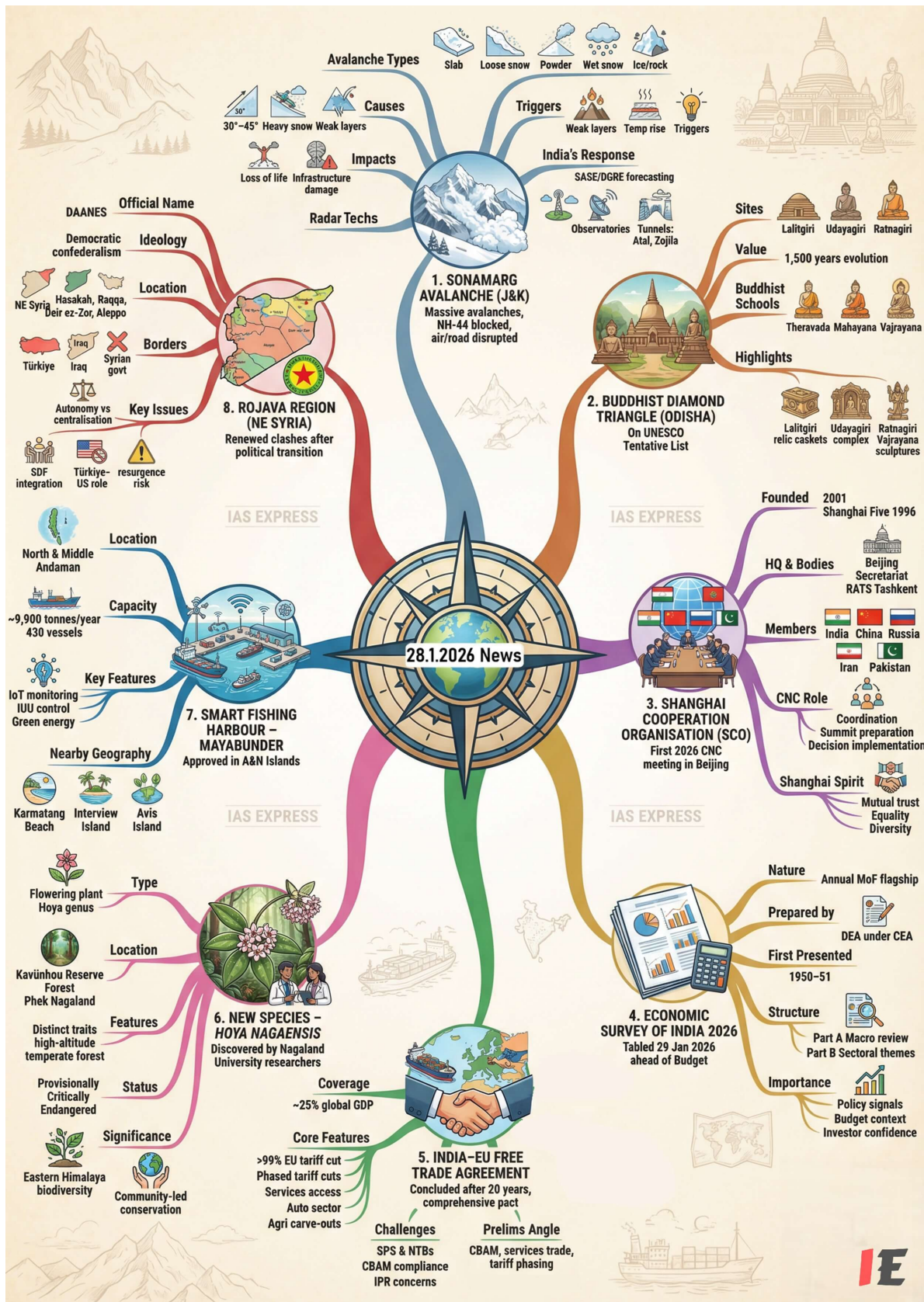
Aralam Butterfly Sanctuary

- **Context:** The **Kerala government** has officially renamed **Aralam Wildlife Sanctuary** as **Aralam Butterfly Sanctuary**, making it the first butterfly sanctuary in Kerala.
- This sanctuary is located in the **Kannur** district on the slopes of the **Western Ghats**.
- The area has thick forests and rivers that create the perfect home for butterflies.
- It is a **biodiversity hotspot** with 266 different species of butterflies recorded there.
- The sanctuary is famous for the mass migration of butterflies and a behavior called **mud-puddling**.
- Changing the name highlights the importance of conserving small insects and pollinators.
- It promotes **eco-tourism** and protects the unique nature of the Western Ghats.

Global Cyber Governance Forums

- **Context:** The widening gap between global cyber norms and national priorities is creating a crisis in governance, evident in initiatives like the **Budapest Convention** and **UN Global Digital Compact**.
 - There are several global groups trying to make the internet safer, but they often do not agree on how to do it.
 - The **Budapest Convention** is a major European treaty, but countries like India and Russia feel it is not inclusive.
 - The **Hiroshima Process** by the G7 nations focuses specifically on the safety of Generative AI.
 - The **UN Global Digital Compact** tries to create a safe digital future for everyone.
 - A big challenge is that different countries have different laws, making it hard to fight global crime.
 - Major powers want to keep control over their own data and resist international interference, known as **data sovereignty**.
 - To stay safe, India needs to build its own technical skills and adopt **Zero Trust Architecture**.
 - India should also set up cyber security units in every district to handle threats quickly.
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Sonamarg Avalanche and Disaster Management

- **Massive avalanches** recently struck the Sonamarg tourist resort in Jammu and Kashmir, causing severe disruption to transport and threatening infrastructure.
- An **avalanche** is defined as a rapid downward movement of snow, ice, and debris like rocks and vegetation, occurring when gravity overcomes the snowpack's mechanical strength.
- **Slab Avalanches** are the most dangerous type, where a cohesive layer of snow breaks away entirely, while **Loose Snow Avalanches** start at a single point and widen as they go down.
- **Powder Snow Avalanches** are composed of dry snow and can create dust clouds moving at speeds up to **300 km/h**, whereas **Wet Snow Avalanches** move slower but are very destructive due to high density.
- The most dangerous slides happen on **steep slopes** with angles between **30° and 45°**, often triggered by heavy snowfall of over **1 meter in a day**.
- **Weather changes** such as rapid temperature rises or rain falling on snow can lubricate the layers, making them unstable.
- **External triggers** often include earthquakes, human activities like skiing or construction, and loud vibrations from machinery.
- The primary impacts include **loss of life** through suffocation or trauma and the destruction of buildings, bridges, and power lines.
- Secondary impacts involve **communication isolation** for mountain communities and significant **economic losses** to tourism and agriculture.
- The Government of India has deployed **72 Snow Meteorological Observatories** and over **100 Automated Weather Stations** for real-time tracking.
- India's first **Avalanche Monitoring Radar** has been installed in North Sikkim, capable of detecting a trigger within just **three seconds**.
- Guidelines by the **NDMA** focus on hazard zoning, building structural controls like nets and fences, and ensuring **community preparedness** with survival tools.

Buddhist Diamond Triangle

- The **Buddhist Diamond Triangle** in Odisha, comprising Lalitgiri, Udayagiri, and Ratnagiri, has been added to the **UNESCO World Heritage Tentative List**.
- These three sites in Jajpur and Cuttack districts document **1,500 years** of history, showcasing the evolution of Buddhism through Theravada, Mahayana, and Vajrayana schools.
- **Lalitgiri** is the oldest site (2nd–3rd Century BCE) and serves as a spiritual hub where a massive stupa with **relic caskets** of gold and silver was found, believed to hold relics of Lord Buddha.
- Lalitgiri features an **apsidal chaityagriha**, which is the first of its kind discovered in the region of Odisha.
- **Udayagiri** flourished between the 1st and 13th Century CE and is known for its **double-storeyed monastery** and colossal statues of Avalokiteswara.

- **Ratnagiri** is considered the epicenter of **Vajrayana (Tantric) Buddhism**, often compared to the famous Nalanda university for its scholarly importance.
- Ratnagiri features an incredible collection of sculptures including **Tara and Vajrapani** and shows evidence of patronage by female devotees like **Queen Karpurashri**.
- The architecture at these sites shows a unique **syncretism**, blending Buddhist motifs with Brahmanical styles, creating a visual culture found nowhere else.

Shanghai Cooperation Organisation (SCO)

- The first meeting of the **SCO Council of National Coordinators (CNC)** for 2026 was held in Beijing under the chairmanship of the **Kyrgyz Republic**.
- The **CNC** acts as the primary management body, coordinating member states and preparing for the Council of Heads of State summits.
- The **Shanghai Cooperation Organization (SCO)** is the world's largest regional body, representing **42% of the global population** and over **23% of global nominal GDP**.
- The organization was established on June 15, 2001, with its headquarters in **Beijing** and focuses on mutual trust, equality, and common development.
- The **10 Member States** now include Belarus (joined 2024), India (joined 2017), Iran, Kazakhstan, China, Kyrgyzstan, Pakistan, Russia, Tajikistan, and Uzbekistan.
- The **Regional Anti-Terrorist Structure (RATS)** is a permanent body based in Tashkent that combats the "Three Evils": **Terrorism, Separatism, and Extremism**.
- The core philosophy is the "**Shanghai Spirit**," which emphasizes respect for diverse civilizations and consultation-based decision-making.

Economic Survey of India 2026

- The **Economic Survey 2026** is set to be presented by Chief Economic Advisor **V. Anantha Nageswaran** on January 29, 2026.
- This document is the Ministry of Finance's **flagship annual report** that reviews the economy's performance over the last 12 months.
- Historically, the first survey was presented in **1950–51**, and since 1964, it has been released a day before the Union Budget to provide context.
- The survey is authored by the **Economics Division** of the Department of Economic Affairs and requires the approval of the **Union Finance Minister**.
- **Part A** of the survey typically covers major macroeconomic developments, GDP growth, and future outlooks.
- **Part B** focuses on specific data-driven issues like **health, education, climate change**, and employment statistics.
- The document serves as a **policy blueprint**, often signaling the government's long-term reform plans, such as the "Pink Survey" which highlighted gender equality.

- Investors use the survey as a key **market indicator** to gauge the stability and investment climate of the nation.

India–EU Free Trade Agreement

- India and the **European Union (EU)** have concluded their **Free Trade Agreement (FTA)**, often called the “mother of all deals,” after nearly two decades of negotiations.
- The EU and India together represent **25% of global GDP**, and this pact aims to **double bilateral trade** by the year 2032.
- The EU will eliminate duties on over **99% of Indian exports**, while India will remove tariffs on roughly **92-97% of EU goods**.
- **Labour-intensive sectors** in India will see zero duties on **USD 33 billion** worth of exports, benefiting textiles, leather, and gems.
- A quota-based system allows EU luxury carmakers to sell vehicles in India with duties dropping from **110% to as low as 10%**.
- India gains access to **144 EU sub-sectors** in services, and a new mobility framework will help skilled professionals and **AYUSH practitioners** work in Europe.
- Indian students in the EU will benefit from **9-month post-study work rights**, enhancing the region as a global talent hub.
- Challenges remain regarding **Non-Tariff Barriers (NTBs)**, specifically stricter sanitary standards for Indian agricultural products.
- The agreement includes provisions on the **Carbon Border Adjustment Mechanism (CBAM)**, which may pose cost challenges for Indian steel and cement industries.
- Strategically, the deal helps India diversify away from dependency on the US and China and supports the “**Make in India**” initiative.

New Species *Hoya nagaensis*

- Researchers have discovered a new plant species named ***Hoya nagaensis*** in the **Kavünhou Community Reserved Forest** in Nagaland.
- This species belongs to the ***Hoya* genus**, which is famous for its waxy, ornamental flowers.
- The plant was found in the **Phek district** within the biodiversity-rich Eastern Himalayan region.
- It has distinctive **leaf morphology** and floral traits that separate it from all other known *Hoya* species.
- The species is found in a **high-altitude temperate forest** habitat that has not been fully explored by scientists.
- Due to its finding in a single location and limited range, it has been provisionally assessed as **Critically Endangered**.
- The discovery highlights the success of **community-led forest management** in preserving rare and undocumented flora.

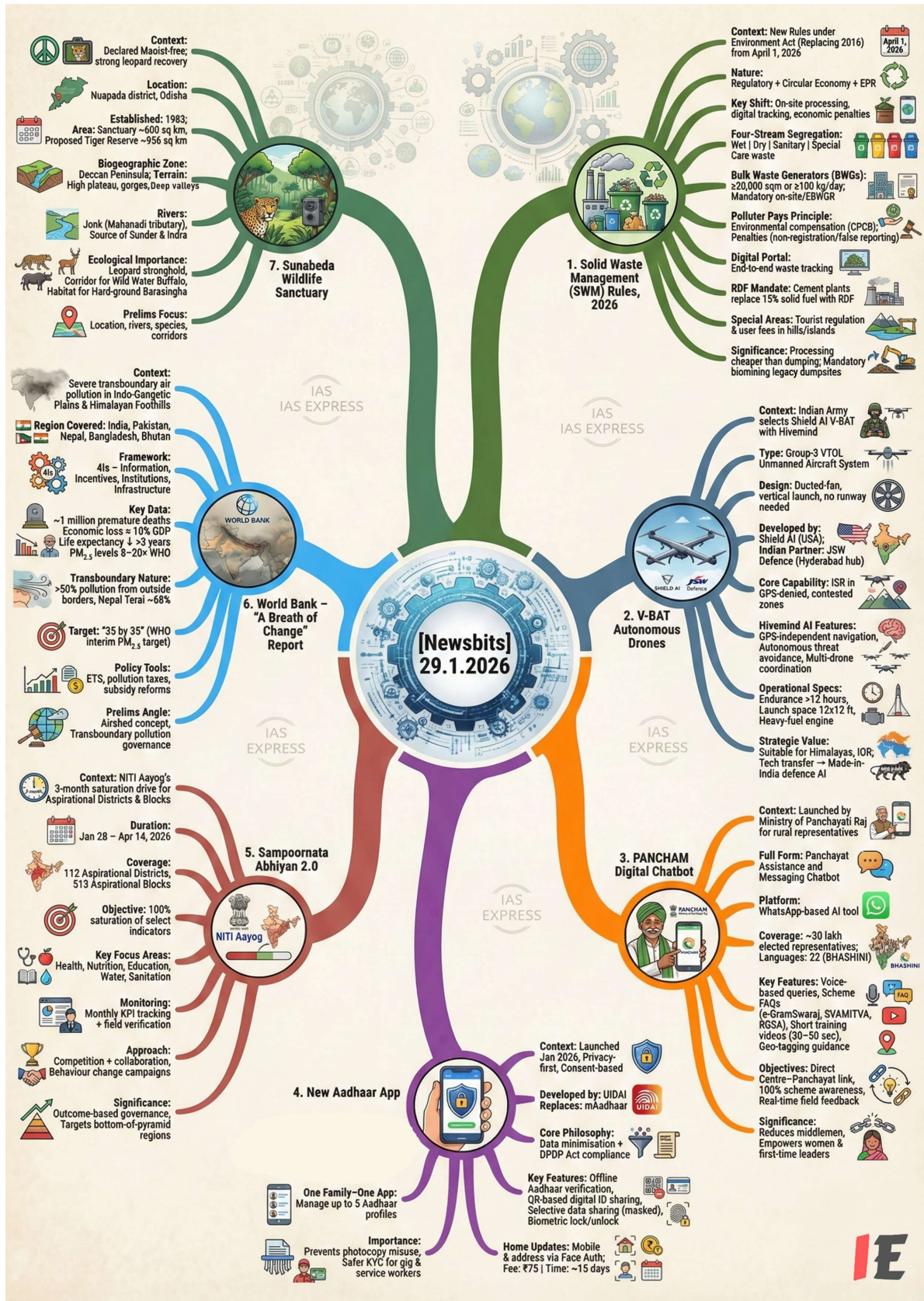
Smart Fishing Harbour at Mayabunder

- The Union Department of Fisheries has sanctioned a **Smart and Integrated Fishing Harbour** at Mayabunder in the **Andaman & Nicobar Islands**.
- Mayabunder is located in the northern part of **Middle Andaman Island**, about 242 km from Port Blair.
- The area is ecologically significant, with **Karmatang Beach** serving as a nesting ground for **Olive Ridley and Leatherback turtles**.
- Nearby **Interview Island** is known for rare freshwater springs and limestone caves, while **Avis Island** features coral reefs and coconut plantations.
- The new harbour is designed to handle **9,900 tonnes of fish annually** and provide safe berthing for **430 fishing vessels**.
- It will feature **IoT-enabled systems** for digital traceability and real-time monitoring of fishing activities.
- The project aims to combat **Illegal, Unreported, and Unregulated (IUU) fishing** while using green energy for operations.

Rojava Region

- **Rojava**, officially the Democratic Autonomous Administration of North and East Syria (DAANES), is facing renewed conflict following the collapse of the Assad regime.
 - It is a **de facto autonomous region** in northeastern Syria that follows the ideology of **democratic confederalism** and gender equality.
 - Geographically, it covers strategic oil and gas-rich areas in provinces like **Hasakah and Raqqah**.
 - The region is bordered by **Türkiye** to the north and **Iraq** to the east, making it a geopolitical crossroads.
 - Kurdish militias, particularly the **YPG**, gained fame for defeating ISIS at Kobane with support from the **United States**.
 - Recent fighting has resulted in the loss of nearly **80% of territory** previously held by the administration as central Syrian forces try to regain control.
 - **Türkiye** opposes Rojava's autonomy due to perceived links between the YPG and the PKK, while the U.S. stance is shifting.
 - The instability has raised fears of a resurgence of **ISIS**, as jailbreaks become more common during the fighting.
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Solid Waste Management Rules 2026

The Ministry of Environment, Forest and Climate Change has notified the **Solid Waste Management (SWM) Rules, 2026**, which act as a comprehensive regulatory framework superseding the 2016 rules to introduce a technology-driven approach effective from April 1, 2026.

- The primary goal is to integrate **Circular Economy** principles and **Extended Producer Responsibility (EPR)** into the waste management infrastructure to achieve a zero-waste to landfill status.
- A mandatory **Four-Stream Segregation** system is introduced where waste must be separated into **Wet Waste** (kitchen waste), **Dry Waste** (plastic, metal), **Sanitary Waste** (diapers), and **Special Care Waste** (bulbs, medicines).
- New regulations target **Bulk Waste Generators (BWG)**, defined as entities with a large floor area or generating over 100kg of waste daily, requiring them to process wet waste on-site or purchase **EBWGR certificates**.
- The rules introduce a strict **Polluter Pays** principle, empowering the **Central Pollution Control Board (CPCB)** to levy environmental compensation for false reporting, operating without registration, or improper disposal.
- To ensure transparency, a **Centralised Online Portal** will be used for digital tracking of waste from generation to disposal, replacing physical paperwork with digital audits.
- Industries, particularly Cement Plants, are now mandated to use **Refuse Derived Fuel (RDF)** to replace a portion of their solid fuel usage, promoting the recycling of non-recyclable plastics.
- Special provisions are made for **Hilly Areas and Islands**, allowing local bodies to regulate tourist inflow based on waste capacity and collect **User Fees** to fund waste management in these fragile ecosystems.
- The rules aim for time-bound **biomining** and bioremediation of existing dumpsites, ensuring that unsegregated waste becomes more expensive to dump than to process.

V-BAT Autonomous Drones

In a significant boost to national security, the Indian Army has selected **Shield AI**, a US-based firm, to supply advanced **V-BAT autonomous drones**, marking a shift towards sovereign autonomous military capabilities.

- The **V-BAT** is a Group 3 Unmanned Aircraft System (UAS) featuring a unique **Vertical Take-Off and Landing (VTOL)** capability, allowing it to launch and land like a rocket without needing runways or catapults.
- This procurement involves a partnership with **JSW Defence**, establishing a manufacturing hub in Hyderabad to produce these drones locally, ensuring technology transfer and a "Made in India" approach.

- The drones are designed for **Intelligence, Surveillance, and Reconnaissance (ISR)** in high-threat zones where traditional GPS or communication systems might be jammed or unavailable.
- A key feature is the **Hivemind AI** software, which acts as the drone's brain, enabling it to sense, navigate, and act autonomously without human piloting or GPS inputs.
- The system supports **Team Operations**, allowing multiple drones to collaborate on a single mission autonomously, making them highly effective for complex border surveillance.
- The V-BAT offers an **endurance** of over 12 hours and uses a heavy-fuel engine, making it logistically compatible with standard military fuel supplies.
- Its operational flexibility allows deployment from small clearings, ship decks, or rooftops, making it ideal for the difficult terrain of the **Himalayas** or the **Indian Ocean Region**.

PANCHAM Digital Chatbot

The Ministry of Panchayati Raj has launched **PANCHAM**, a WhatsApp-based AI chatbot, to create a direct two-way digital bridge between the Central Government and over 30 lakh elected rural representatives.

- Developed with **UNICEF** as a knowledge partner, this initiative aims to eliminate middlemen and provide **Sarpanches** and ward members with direct access to government data.
- The chatbot is integrated with the **BHASHINI** engine, providing **Multilingual Support** in 22 official Indian languages, ensuring users can interact in their local dialect.
- To bridge literacy gaps, PANCHAM features **Voice-Based Assistance**, allowing users to send voice notes and receive audio responses.
- It functions entirely through **WhatsApp**, removing the need for rural users to download or manage complex, storage-heavy mobile applications.
- The tool provides real-time updates and FAQs on schemes like **e-GramSwaraj**, **SVAMITVA**, and **Rashtriya Gram Swaraj Abhiyan (RGSA)**.
- It includes bite-sized video training modules on leadership and financial management to empower **women Pradhans** and young leaders.
- The chatbot also assists with administrative tasks by providing guidance on **geo-tagging** of Panchayat Bhawans and other mandatory reporting duties.

New Aadhaar App

The **Unique Identification Authority of India (UIDAI)** has released the **New Aadhaar App** in January 2026, featuring a **Privacy-First** design that gives residents greater control over their data.

- The app allows users to update their **mobile number** and address from the comfort of their homes using **Face Authentication**, eliminating the need to visit physical centres.
- A major feature is **Secure Offline Verification**, which enables identity verification without an active internet connection or the need to reveal the full 12-digit Aadhaar number.

- Users can utilize the **Share ID** feature to generate password-protected files containing only necessary details like Name and Age, masking sensitive information.
- The **QR Scanning** capability allows for instant, digitally signed proof of identity, enhancing security during interactions with service providers.
- The **One Family – One App** feature permits the management of up to five different Aadhaar profiles on a single smartphone, facilitating care for children and elderly dependents.
- To prevent misuse, the app includes a **Biometric Lock & Unlock** function, allowing users to disable their fingerprints or iris data with a single click when not in use.
- This initiative aligns with the **Digital Personal Data Protection (DPDP) Act**, ensuring that only essential, digitally signed credentials are shared for services like hotel check-ins.

Sampoornata Abhiyan 2.0

NITI Aayog has launched **Sampoornata Abhiyan 2.0**, a three-month intensive campaign running from January to April 2026, aimed at achieving 100% saturation of development indicators in underserved regions.

- The campaign focuses on 112 **Aspirational Districts** and 513 **Aspirational Blocks**, aiming to accelerate progress in health, nutrition, and education sectors.
- It sets specific **Key Performance Indicators (KPIs)**, such as ensuring **Supplementary Nutrition** intake and regular growth monitoring at **Anganwadi Centres**.
- A major focus is on **Anganwadi Sanitation** and the availability of **Clean Drinking Water**, alongside ensuring schools have functional toilets for girls.
- In the agricultural sector, the campaign tracks the **vaccination** of bovine animals against Foot and Mouth Disease (FMD) to ensure livestock security.
- The strategy involves a **3-Month Action Plan** where district officers conduct concurrent monitoring and field visits to validate data in real-time.
- **Behavior Change** is a core component, utilizing community tools like **Nukkad Nataks** (street plays) and Gram Sabhas to encourage local participation.
- The initiative promotes **Data-Driven Governance** by using monthly tracking to identify bottlenecks and foster healthy competition among districts to reach the most remote households.

World Bank A Breath of Change Report

The World Bank's 2025 report, titled **A Breath of Change**, addresses the critical issue of air pollution in the **Indo-Gangetic Plains (IGP)** and Himalayan Foothills, where nearly one billion people breathe hazardous air.

- The report introduces the **4Is framework**—Information, Incentives, Institutions, and Infrastructure—as a roadmap to combat pollution across 13 jurisdictions in countries like India,

Pakistan, and Nepal.

- It highlights that air pollution causes approximately one million **premature deaths** annually in the region and reduces average **life expectancy** by over three years.
- The economic impact is severe, with regional damages estimated at 10% of the GDP due to healthcare costs and lost productivity.
- A key finding is the **Transboundary Flow** of pollution, where up to 30% of pollution in Indian Punjab comes from Pakistan, and vice versa, necessitating regional cooperation.
- The report identifies major sources such as **Agricultural Practices** (crop residue burning) and **Industrial Clusters** (brick kilns, thermal plants) that emit pollutants traveling long distances.
- It recommends creating a **regional airshed** approach, managing pollution based on geographic flow rather than political borders.
- Solutions include scaling up **Emissions Trading Systems (ETS)**, reforming subsidies to favor clean technology, and expanding real-time monitoring using **GeoAI**.
- The report endorses the aspirational **"35 by 35" target**, aiming to bring air quality closer to WHO interim targets through coordinated international action.

Sunabeda Wildlife Sanctuary

Sunabeda Wildlife Sanctuary in the Nuapada district of Odisha has been in the news for being declared 'Maoist-free' and for its potential to become a new **Tiger Reserve**.

- The sanctuary is a massive biodiversity hotspot located on a high-altitude plateau featuring deep canyons and gorges, serving as a catchment area for the **Jonk River**.
 - Recent camera trap data indicates a thriving population of over 70 leopards, marking a successful recovery of wildlife in the area.
 - It functions as a vital ecological corridor connecting Odisha with the **Sitanadi and Udanti Sanctuaries** in the neighboring state of Chhattisgarh.
 - The habitat consists of **Dry Deciduous Tropical Forest** and supports rare species like the **Hard-ground Barasingha** (Swamp Deer) and the Wild Water Buffalo.
 - The sanctuary is also a significant bird-watching destination, hosting over 200 species including the elusive **Forest Owlet**.
 - With 11 waterfalls and diverse flora like Teak and Sandalwood, the area is being promoted for **eco-tourism** following the restoration of peace and security.
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Power Gap Index

Context/News: The **Economic Survey 2025-26**, recently tabled in Parliament, has cited the **Power Gap Index** for the first time. The Survey highlights a critical "Strategic Paradox": while India has officially entered the **Major Power** category in the **Asia Power Index**, it still registers a negative Power Gap score of -4.0, indicating that the nation is operating below its full strategic potential.

- **Understanding the Index:** The **Power Gap Index** is a unique tool created by the **Lowy Institute**, an Australian think tank. It is part of their annual **Asia Power Index**. The main purpose of this index is to measure a country's **Power Efficiency**—specifically, how well a nation converts its raw resources (like wealth and military size) into actual influence on the global stage (diplomacy and cultural impact).
- **How it is Scored:** A country receives a **Positive Score** if it is an "overperformer," meaning it exerts more influence than its size suggests. A **Negative Score** marks a country as an "underperformer," meaning it has great potential and resources but hasn't fully utilized them to shape international events.
- **Key Criteria:** The index looks at two main areas. **Resource-Based Measures** track what a country *has* (GDP, military spending, and resilience). **Influence-Based Measures** track what a country *does* (economic relationships, defense networks, and diplomatic ambition).
- **India's 2025-26 Status:** India has achieved a historic milestone by ranking **3rd** in the Asia Power Index, entering the **Major Power** category after the USA and China. However, its **Power Gap Score of -4.0** is the lowest among major Asian powers (excluding Russia and North Korea).
- **Strategic Implications:** The Economic Survey views this negative gap as a policy "Call to Action." It suggests that while India has the resources, it lags in **Defense Networks** (ranked 11th) and **Economic Relationships** (ranked 9th). To become a true global leader, India must transition from just having power to effectively using it to build stability and networks in the region.

Digital Food Currency

Context/News: The Government of India is set to launch a pilot program for **Central Bank Digital Currency (CBDC)**, also termed **Digital Food Currency**, in February 2026. This initiative targets beneficiaries in **Chandigarh, Puducherry**, and three districts of **Gujarat** (Anand, Sabarmati, and Dahod) to streamline the world's largest free food security program.

- **What is Digital Food Currency?:** These are essentially digital food coupons or tokens in the form of **e-Rupee**. Unlike cash, which can be spent on anything, these tokens are **programmed** specifically for one purpose: buying food at authorized **ration shops**.
- **Who Developed It?:** The system is a collaboration between the **Reserve Bank of India (RBI)**, the **National Payments Corporation of India (NPCI)**, and the Ministry of Consumer Affairs. It represents a major step in using financial technology for social welfare.

- **How it Works:** Beneficiaries receive the digital coupons directly in a digital wallet on their mobile phones. To get their free grains, they simply scan a **QR code** at the Fair Price Shop. The **Food Corporation of India (FCI)** supplies the grains, and the digital transaction is recorded instantly.
- **Key Benefits:** The biggest advantage is preventing the **diversion of funds**; the money can *only* be used for food. It also removes the hassle of **biometric authentication** (fingerprint scanning), which often fails for laborers and senior citizens due to connectivity issues or worn-out fingerprints.
- **Inclusivity:** The government is ensuring that even people without smartphones can use this system through **SMS-based vouchers** or offline tools. The tokens also have a specific **validity period** (like 30 days) to ensure subsidies are used promptly and not hoarded.

Coking Coal as Critical and Strategic Mineral

Context/News: The Government of India officially notified **Coking Coal** as a **Critical and Strategic Mineral** under the **MMDR Act, 1957**, a major reform aimed at slashing the country's 95% import dependence.

- **Policy Shift:** By moving **Coking Coal** to Part D of the First Schedule of the MMDR Act, the government has given it a special legal status. This allows for faster **environmental clearances** and exempts projects from lengthy public consultations, aiming to speed up domestic mining.
- **What is Coking Coal?:** Also known as **Metallurgical Coal**, this is a specific type of coal essential for making **steel**. Unlike thermal coal (used for electricity), coking coal is baked in an oven to create **Coke**, which is then used in blast furnaces to turn iron ore into steel.
- **The Import Problem:** India is the world's second-largest steel producer but is "Coking Coal Poor." The country currently imports about **95%** of its needs, mostly from Australia, Russia, and the USA. This creates a massive outflow of foreign exchange and makes India's steel industry vulnerable to global price changes.
- **Domestic Challenges:** India does have reserves (mostly in **Jharkhand**), but the local coal has high **ash content**, making it difficult to use without advanced washing technology. The new policy invites private companies with better technology to explore deep-seated deposits.
- **State Revenue:** Even though the central government manages the auctions for these strategic minerals, the law ensures that all **royalties and revenue** will still go to the **State Governments**, protecting their financial interests.

Western Disturbance

Context/News: The **India Meteorological Department (IMD)** has issued an alert for a quick succession of two **Western Disturbances (WD)** expected to sweep across Northwest and Central India from January 31 to February 3, 2026.

- **Defining the Phenomenon:** A **Western Disturbance** is an extra-tropical storm (a low-pressure system) that originates in the **Mediterranean region**. It is not a monsoon rain; it is a winter storm system driven by the **Westerlies**.
- **Journey to India:** These storms pick up moisture from the Mediterranean, Black, and Caspian Seas. They travel eastwards across the Middle East, Iran, and Pakistan, carried by the **Subtropical Westerly Jet Stream**, before hitting the Indian subcontinent.
- **Impact on Weather:** When these moisture-laden winds hit the **Himalayas**, they are forced to rise, causing **snowfall** in the mountains (Kashmir, Himachal) and **rain** in the plains (Punjab, Delhi, UP).
- **Significance for Agriculture:** These winter rains are crucial for **Rabi crops** like **Wheat** and **Mustard**. They act as a natural irrigation source during the dry season. The snow in the mountains is also vital because it feeds the **glaciers** that supply water to rivers like the Ganga and Yamuna in summer.
- **The Downside:** While beneficial, intense Western Disturbances can cause **hailstorms** that destroy crops. Furthermore, once the storm passes, the sky clears and cold winds from the snow-clad mountains blow into the plains, often triggering severe **Cold Waves** and dense fog.

Rising Digital Addiction and Mental Health Problems

Context/News: The **Economic Survey 2025-26**, has flagged the rapid rise of **digital addiction** and screen-related mental health issues as a significant public health threat and a risk to India's long-term economic productivity.

- **The Scale of the Problem:** The Survey reveals startling data: Indians spent **1 lakh crore hours** on smartphones in 2024. Internet connections have jumped to nearly **970 million**, with usage being almost universal among youth aged 15-29.
- **Defining Digital Addiction:** This is a pattern of compulsive use of devices that causes distress. It leads to **mental health** issues like anxiety and depression (often linked to social comparison) and **physical health** problems like "tech neck," sleep debt, and reduced physical activity.
- **Causes:** The addiction is driven by **dopamine-driven algorithms** designed by tech giants to keep users hooked with features like infinite scrolling. The **COVID-19 pandemic** also played a major role by normalizing high screen time for education and socializing.
- **Impact on Youth:** The report identifies the **15-24 age group** as the most vulnerable. There is a paradox where the **digital economy** contributes 74% to national income, but it is simultaneously eroding the **social capital** and cognitive attention spans of the workforce.
- **Proposed Solutions:** The Survey suggests shifting from just "digital access" to "**digital wellness**." Recommendations include **network-level safeguards** (like separate data plans for education vs. recreation), **age-based restrictions** on social media, mandatory **digital wellness curriculums** in schools, and expanding the **Tele-MANAS** helpline to treat digital dependency.

Health Spending in India

Context/News: Recent data and the **Economic Survey 2025-26** indicate a significant shift in India's health financing landscape: while state governments have ramped up their spending, the Union government's health expenditure as a percentage of GDP has witnessed a post-pandemic decline.

- **Spending Trends:** Health spending in India is a shared duty. Recently, **State spending** has risen to 1% of GDP, but **Union spending** has dropped to 0.29% of GDP. The overall share of health in the Union Budget has fallen to **2.05%**, which is lower than during the pandemic.
- **The Target Gap:** India's **National Health Policy (NHP) 2017** set a goal to spend **2.5% of GDP** on health by 2025. The country is currently missing this target, hovering around **1.9%**.
- **Out-of-Pocket Burden:** A major concern is **Out-of-Pocket Expenditure (OOPE)**, which refers to money people pay directly for treatment. In India, this remains very high at **48%**, pushing millions into poverty every year due to medical costs.
- **Utilization Issues:** There are problems with how funds are used. For instance, only one-fourth of the **Health and Education Cess** collected was actually spent on health. Also, Union transfers to States for schemes like the **National Health Mission (NHM)** have decreased, straining state finances.
- **Way Forward:** To secure India's demographic dividend, the government needs to prioritize **preventive care** and strengthen **primary healthcare** centers. Reducing the GST on medical supplies and institutionalizing a higher spending goal (1% for the Centre specifically) are key steps recommended to achieve **Universal Health Coverage**.

Paathara Khoni Grain Storage Practice

Context/News: The ancient **Paathara** (or **Khoni**) grain storage tradition in Andhra Pradesh's **Srikakulam district** is facing imminent extinction in January 2026.

- **What is Paathara?:** This is a traditional, indigenous method of storing **paddy** (rice) underground. It is primarily found in the **Uddanam** region. It is a highly scientific practice used by farmers to preserve grain for long periods without using chemicals.
- **Construction:** Farmers dig a pit in the ground, usually near their homes. The pit is lined with **straw ropes** to insulate it from soil moisture. Once filled with grain, the top is sealed with a thick layer of **clay and cow dung**, making it completely **airtight**.
- **Scientific Benefits:** The airtight seal acts as natural **pest control**, preventing insects and rodents from destroying the grain. This makes it a **zero-waste** and **zero-carbon** method, unlike modern energy-intensive cold storages.
- **Health Value:** Rice stored in a Paathara is considered "aged rice." It develops a superior **flavor** and has a lower **glycaemic index**, making it healthier and highly valued by consumers.
- **Cultural Loss:** This practice is disappearing because it requires specific skills and **hilly terrain** (it doesn't work in coastal areas due to moisture). The shift to modern warehouses is leading to the loss of this sustainable, eco-friendly agricultural heritage.

Living Root Bridges

Context/News: India officially submitted the nomination dossier for Meghalaya's living root bridges, titled **Jingkieng Jri / Lyu Chrai Cultural Landscape**, to **UNESCO** for the 2026-27 World Heritage evaluation cycle.

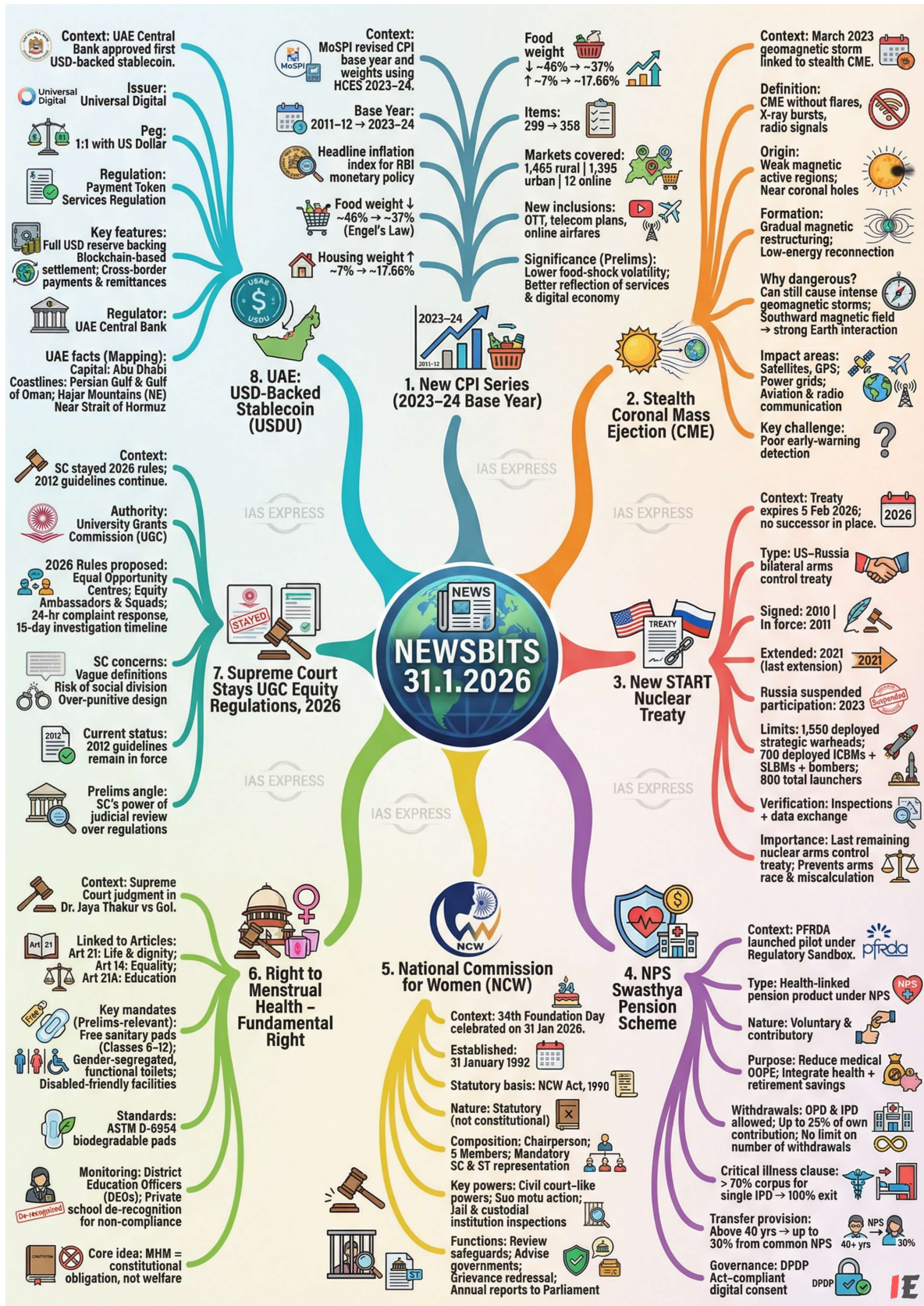
- **Nature's Architecture:** The **Living Root Bridges** (Jingkieng Jri) are unique pedestrian bridges found in **Meghalaya**. They are not built with construction materials but are "grown" from the aerial roots of the **Ficus elastica** (Indian Rubber Tree).
- **How They Are Made:** The indigenous **Khasi** and **Jaintia** tribes guide the young roots of the tree across rivers using hollow bamboo or palm trunks. Over 10 to 15 years, the roots reach the other bank, take hold in the soil, and are woven together to form a strong bridge.
- **Resilience:** Unlike steel or concrete bridges that rust and weaken in humidity, these bridges get **stronger with age**. As the tree grows, the bridge becomes more robust. They can withstand the extreme **monsoon floods** and storms of Meghalaya, which is one of the wettest places on Earth.
- **Sustainability:** These bridges are a perfect example of **bio-engineering**. They are self-repairing and carbon-sequestering. They represent a deep cultural philosophy known as **Mei Ramew** (Mother Earth), showing a harmonious relationship between humans and nature.
- **Global Value:** The UNESCO nomination recognizes these bridges as a global blueprint for **regenerative architecture**, offering lessons on how to build infrastructure that works *with* nature rather than against it.

Shiveluch Volcano

Context/News: The **Shiveluch volcano**, one of the most explosive in Russia, erupted twice sending massive ash columns nearly **9,000 meters** (29,500 feet) into the sky.

- **About the Volcano:** **Shiveluch** is a massive **stratovolcano** (a cone-shaped mountain made of layers of lava and ash) located in the **Kamchatka Peninsula** of Russia. It is part of the **Pacific Ring of Fire**, a region known for intense earthquake and volcanic activity.
- **Explosive Nature:** The volcano is famous for having **superhydrous magma**, which means its lava is very rich in water. This high water content makes its eruptions extremely explosive and dangerous.
- **History:** It is an ancient volcano, estimated to be roughly **60,000 to 70,000 years old**. It is the northernmost active volcano in Kamchatka and has been in a state of near-continuous eruption since 1999.
- **Strategic Threat:** The recent eruption is significant because the ash clouds reached heights that interfere with **aviation**. The volcano sits under major trans-Pacific flight routes, and volcanic ash can cause jet engines to fail, posing a risk to international travel.
- **Scientific Importance:** Shiveluch is also a **UNESCO World Heritage** site (part of the Volcanoes of Kamchatka). Its activity helps scientists understand how volcanoes function in **subduction** zones (where one tectonic plate slides under another) and their role in the global water cycle.

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New CPI Series 2023–24 Base Year

The Union Ministry of Statistics and Programme Implementation (**MoSPI**) has released details of a new **Consumer Price Index (CPI)** series. This update revises the base year from 2011–12 to **2023–24** and significantly cuts the weight of food and beverages in the inflation calculation.

- The **new CPI series** is an updated framework for measuring retail inflation in India. It uses **2023–24** as the base year and revises item weights based on the latest **Household Consumption Expenditure Survey (HCES)** of the same year.
- The primary aim is to better capture current consumption behavior, including the rise of **digital services**. This index serves as the anchor for the **monetary policy** managed by the RBI.
- Historically, the basket weights were based on **2011–12** patterns. These became outdated due to rising incomes, urbanization, and a shift toward services and housing.
- The methodology involves expanding market coverage to **1,465 rural markets** and **1,395 urban markets** across 434 towns. It also adds **12 online markets** in large cities.
- The total item basket has expanded from 299 to **358 items**. This includes improved methodologies for the **House Rent Index** and the inclusion of **e-commerce prices** like airfares, **OTT subscriptions**, and telecom plans.
- A key feature is the reduction in **food and beverages weight** from roughly **46%** to approximately **37%**. This aligns with **Engel's Law**, which suggests that as income rises, the share of spending on food decreases.
- Conversely, the weight for **Housing** (including water, electricity, and gas) has risen from **10.07%** to **17.66%**.
- This revision is significant because a lower food weight reduces the sensitivity of headline inflation to weather-driven food shocks. It signals India's structural transformation from food-dominated consumption to **housing- and services-led spending**.

Stealth Coronal Mass Ejection CME

Astronomers have linked an intense **geomagnetic storm** that struck Earth in March 2023 to a **Stealth Coronal Mass Ejection (CME)**. This was a faint solar eruption that provided no obvious warning signals before impact.

- **Stealth CMEs** are solar eruptions that lack clear low-coronal signatures. They do not show typical warning signs like **solar flares**, **X-ray bursts**, or strong radio emissions.
- They appear optically weak or invisible in standard observations but can still travel to Earth and trigger severe geomagnetic storms.
- These events generally originate from active regions on the Sun with weak magnetic fields or areas close to **coronal holes**.
- The formation process involves a **magnetic flux rope buildup** without flares, followed by **low-energy magnetic reconnection** that releases plasma slowly.

- High-speed solar wind from nearby coronal holes can accelerate the CME. If the magnetic field turns southward, it interacts strongly with Earth's **magnetosphere**.
- Despite being slow, they are **geoeffective** because they may travel behind high-speed solar wind streams and their magnetic clouds can expand significantly.
- The implications are serious for **space weather forecasting**. Current systems rely on visible flares, which stealth CMEs lack.
- These storms pose risks to modern infrastructure, including **satellites**, **GPS systems**, radio communications, and **power grids**.
- For India, accurate prediction is a matter of national resilience as the country expands its space assets and digital infrastructure.

New START Nuclear Treaty

The **New START nuclear treaty**, the last remaining arms control agreement between the **United States** and **Russia**, is set to expire on **5 February 2026**. Currently, there is no successor treaty in place.

- The **New Strategic Arms Reduction Treaty** is a bilateral agreement that places legally binding limits on **strategic nuclear weapons**.
- It governs weapons designed to strike an adversary's core political and military centers. The treaty was signed in April 2010 and entered into force in February 2011.
- The treaty had a duration of 10 years with a single five-year extension exercised in 2021. However, in February 2023, Russia suspended participation due to the **Ukraine conflict**, halting inspections.
- The treaty limits each side to **1,550 deployed strategic nuclear warheads**.
- It also limits delivery systems to a maximum of **700 deployed ICBMs**, submarine-launched ballistic missiles (**SLBMs**), and heavy bombers.
- There is a cap of **800 total launchers**, combining both deployed and non-deployed units.
- The treaty included mechanisms for **verification and transparency**, such as on-site inspections and data exchanges, to prevent miscalculation.
- The expiry is critical because it removes the last formal constraint on US–Russia nuclear forces.
- Without these limits, there is a risk of a new **arms race**, where both sides could upload additional warheads and expand delivery systems based on worst-case assumptions.

NPS Swasthya Pension Scheme

The **Pension Fund Regulatory and Development Authority (PFRDA)** has launched the **NPS Swasthya Pension Scheme** as a pilot project. This initiative integrates healthcare expense coverage with pension savings under the Regulatory Sandbox Framework.

- This scheme is a sector-specific initiative under the **National Pension System (NPS)**. It aims to provide financial support for medical expenses, including **outpatient (OPD)** and **inpatient (IPD)**

care.

- It is currently a **Proof of Concept (PoC)** to test feasibility before a full rollout.
- The primary goal is to reduce **out-of-pocket expenditure (OOPE)** on medical care and integrate healthcare financing with retirement planning.
- The scheme is **voluntary and contributory** for all Indian citizens, with flexible contribution amounts.
- Investments follow **Multiple Scheme Framework (MSF)** guidelines to ensure regulated asset allocation.
- Subscribers can make **partial withdrawals** for OPD and IPD expenses. Up to **25%** of the subscriber's own contributions can be withdrawn.
- There is no cap on the number of withdrawals, but the first withdrawal is allowed only after accumulating a minimum corpus of **₹50,000**.
- For **critical illness protection**, if a single inpatient treatment exceeds **70%** of the total corpus, the subscriber can exit prematurely with a **100% lump-sum withdrawal**.
- Subscribers above 40 years of age can transfer up to **30%** of their contributions from their Common Scheme Account to this Swasthya Scheme.
- Claims are settled directly to the hospital or Third Party Administrator (TPA), and strong governance safeguards protect subscriber data under the **Digital Personal Data Protection Act, 2023**.

National Commission for Women NCW

The **National Commission for Women (NCW)** recently marked its **34th Foundation Day** at Bharat Mandapam, New Delhi, reaffirming its mandate to protect women's rights.

- The NCW is a **statutory body** of the Government of India, established to protect and promote the constitutional and legal rights of women.
- It was established on **31 January 1992** under the **National Commission for Women Act, 1990**. It is not a constitutional body but a statutory one.
- The commission consists of a **Chairperson** nominated by the Central Government and **five members** from various fields like law and social welfare.
- There is mandatory representation requiring at least one member each from the **Scheduled Caste (SC)** and **Scheduled Tribe (ST)** communities.
- The NCW functions as a civil court, with powers to summon witnesses and examine documents.
- Its key roles include reviewing legal safeguards, advising the government on policy, and taking **suo motu action** on issues where women's rights are deprived.
- It also inspects jails and remand homes and submits annual reports to Parliament regarding the status of women and recommended reforms.

Right to Menstrual Health as a Fundamental Right

In a landmark verdict in the case of *Dr. Jaya Thakur vs Government of India*, the **Supreme Court of India** declared the right to menstrual health a **fundamental right** under **Article 21**.

- The Court ruled that menstruation is a biological reality that should not lead to structural exclusion or loss of educational opportunities.
- Providing pads and toilets is now a **constitutional obligation**, not charity, to ensure dignity, privacy, and equality.
- **Article 21** (Right to life and dignity) is violated when girls face humiliation due to a lack of facilities. **Article 14** (Right to equality) is involved because inaccessible hygiene creates a gender-specific barrier.
- **Article 21A** (Right to education) ensures menstrual poverty does not force girls to drop out.
- The judgment mandates that all schools must provide **free, bio-degradable sanitary napkins** to girls in **Classes 6–12**.
- Schools must have functional, **gender-segregated toilets** with water and soap, and establish **Menstrual Hygiene Management (MHM) Corners**.
- **District Education Officers** are accountable for annual inspections, with non-compliant private schools facing de-recognition.
- Recent reports from **2025** indicate girls in rural India miss **2–5 days** of school monthly; this ruling aims to stop this gap.
- Challenges to implementation include infrastructure maintenance, deep-rooted **social stigma**, and supply chain issues in remote areas.
- The way forward involves curriculum integration to normalize the topic, installing vending machines, and engaging community workers like **ASHAs** to break the silence.

Supreme Court Stays UGC Equity Regulations 2026

The **Supreme Court of India** has stayed the implementation of the **UGC (Promotion of Equity in Higher Education Institutions) Regulations, 2026**. The court directed that the previous **2012 guidelines** remain in force due to concerns over the new rules being vague.

- The **2026 regulations** were an attempt to replace the 14-year-old framework with stricter rules to curb **caste-based discrimination**.
- Key features of the stayed 2026 rules included separate definitions for caste discrimination (SC, ST, OBC), mandatory **Equal Opportunity Centres (EOC)**, and strict timelines (24-hour response to complaints).
- The rules also imposed punitive actions like de-recognition and loss of grants for non-compliance.
- The need for strong rules is highlighted by **UGC data (2026)** showing a **118.4% rise** in reported caste-discrimination cases in five years.
- However, the Court noted challenges, such as the **exclusionary scope** where the definition excluded General Category students.

- There were concerns about the **potential for misuse** due to a lack of penalties for false complaints.
- The language was deemed vague, with terms like “segregation” poorly defined, potentially leading to **social polarization**.
- Unlike the 2012 version, the 2026 rules omitted explicit details on **ragging**, which remains a major threat.
- The way ahead suggested by the Court involves an **expert panel review** to modulate the language and ensure the law is inclusive and precise.

UAE USD Backed Stablecoin USDU

The **Central Bank of the United Arab Emirates** has approved the first **USD-backed stablecoin (USDU)** under its Payment Token Services Regulation.

- **USDU** is a cryptocurrency pegged **1:1** to the US dollar. It is designed to maintain price stability while operating on blockchain networks.
 - It is issued by **Universal Digital**, a crypto firm regulated by the **Abu Dhabi Global Market (ADGM)**.
 - This marks the first foreign payment token issuer registered with the UAE central bank.
 - The coin features full **USD backing** with reserves, ensuring stability. It enables faster and cheaper **blockchain-based settlement**.
 - It is designed for **cross-border utility**, aiding international transfers and trade settlements.
 - This development highlights the **UAE's** role as a major player in global finance and its rapid diversification into the **digital economy**.
 - The UAE is a federation of seven emirates located on the Arabian Peninsula, holding a strategic location near the **Strait of Hormuz**, a critical global oil transit chokepoint.
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