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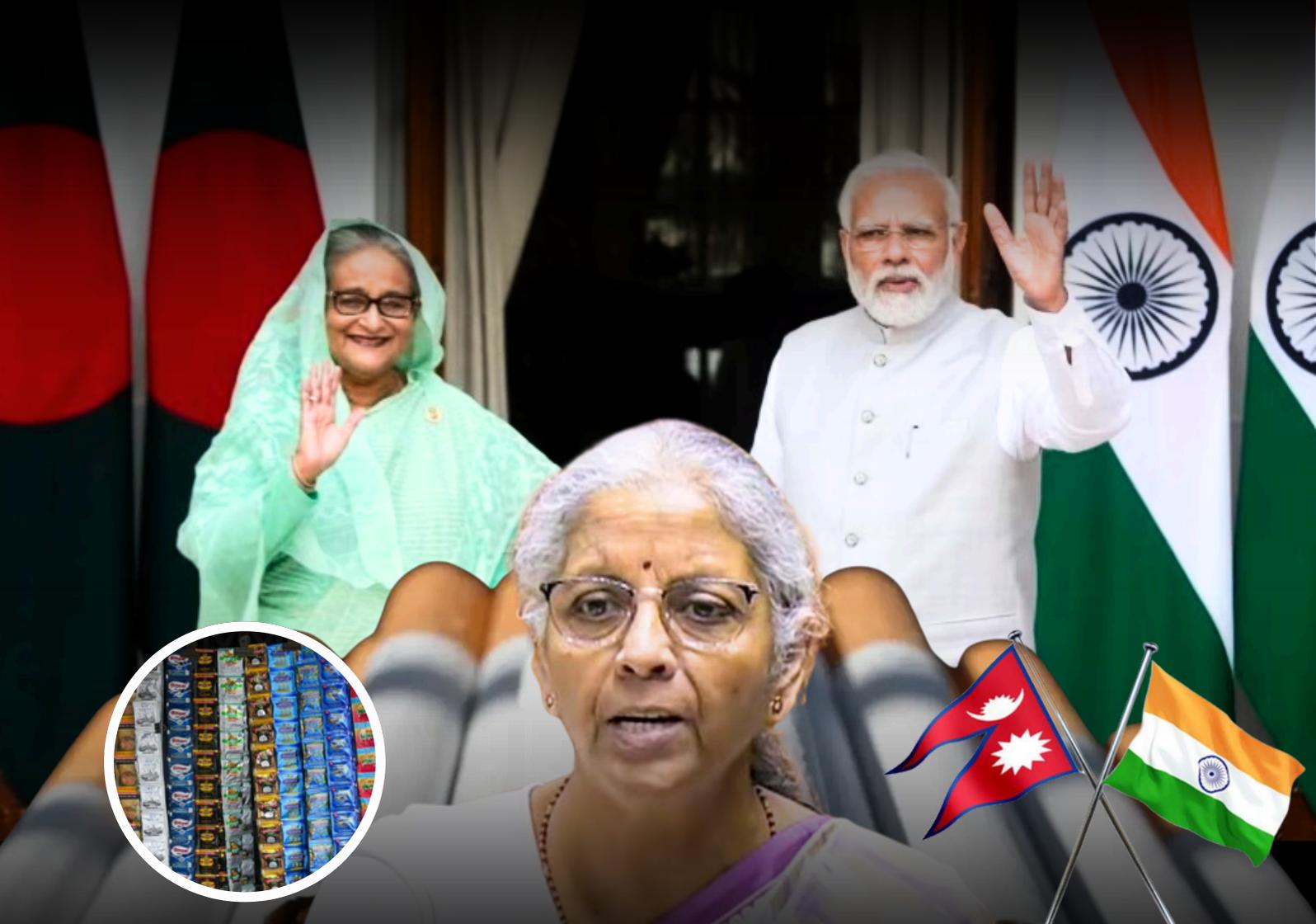
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CONSTITUTION, POLITY & GOVERNANCE

1. Parliament Passes Bills on Tobacco Excise and Pan Masala Cess:

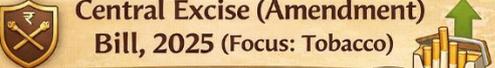
Context: In December 2025, the Parliament passed two crucial legislative measures—the **Central Excise (Amendment) Bill, 2025** and the **Health Security se National Security Cess Bill, 2025**. These bills aim to restructure the taxation framework for "sin goods" ahead of the discontinuation of the GST Compensation Cess.

I. Need for the Bills:

- **Sunset of Compensation Cess:** The GST Compensation Cess, levied to compensate states for revenue loss, is set to end in early 2026 as the loans taken during the pandemic are nearly repaid.
- **Preventing Price Drop:** Without legislative intervention, the removal of the compensation cess would have drastically reduced the price of cigarettes and tobacco, potentially increasing consumption.
- **Curbing Evasion:** The pan masala sector is notoriously prone to tax evasion; a new mechanism was needed to plug leakages.

II. Key Highlights of the Legislation:

- **Central Excise (Amendment) Bill, 2025 (Focus: Tobacco):**



Central Excise (Amendment) Bill, 2025 (Focus: Tobacco)

Objective:

🔦 To create fiscal space for the Centre to increase Central Excise Duty on tobacco products, ensuring the total tax incidence remains high even after the GST cess is removed.

New Rates:

- The Bill amends the Fourth Schedule of the Central Excise Act, 1944.
- Excise duty on cigarettes hiked significantly, ranging from ₹2,700 to ₹11,000 per 1,000 sticks depending on length and filter.
- Duty on chewing tobacco and hookah also raised (e.g., duty on chewing tobacco raised from 25% to 100%).

Product	New Excise Duty Rates ↑
 Cigarettes ↑	₹2,700 to ₹11,000 per 1,000 sticks (depending on length & filter)
 Chewing Tobacco ↑	100% (up from 25%) ₹750 per kg (up from ₹450)
 Hookah ↑	₹750 per kg (up from ₹450)

Impact:

- This excise duty is shareable with States (unlike the Cess, which was specific to compensation), thereby altering the fiscal federalism dynamic slightly.

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- **Impact:** This excise duty is shareable with States (unlike the Cess, which was specific to compensation), thereby altering the fiscal federalism dynamic slightly.
- **Health Security se National Security Cess Bill, 2025 (Focus: Pan Masala):**



- **Unique Levy:** This Bill imposes a special cess specifically on Pan Masala and similar notified goods.
- **Capacity-Based Taxation:**
 - ✓ Unlike standard GST which is on actual supply, this cess is levied on the production capacity of machines installed in the factory.
 - ✓ This "presumptive" style taxation is designed to stop under-reporting of production, a common evasion tactic in the sector.
- **Utilization of Funds:** The proceeds will go into a non-lapsable reserve fund dedicated to:
 - ✓ Public Health expenditures.
 - ✓ National Security infrastructure.

III. Significance:

- **Public Health Deterrent:** By maintaining high prices on "demerit goods," the government adheres to WHO benchmarks, which recommend that taxes should constitute at least 75% of the retail price of tobacco products.
- **Revenue Stability:** It creates a "predictable resource stream" for strategic sectors (Health & Defense) without relying on general budget allocations.
- **Compliance Overhaul:** The shift to machine-capacity-based taxation for pan masala forces unorganized players to comply or exit, formalizing the sector.

2. Lok Sabha Passes Manipur GST Bill:

Context: On the first day of the Winter Session (December 1, 2025), the Lok Sabha passed the Manipur Goods and Services Tax (Second Amendment) Bill, 2025. This legislation replaces an ordinance promulgated in October and aims to align the state's tax laws with recent national GST reforms. The move was necessary because Manipur is currently under President's Rule, requiring Parliament to legislate on its behalf.

I. Need for the Bill:

- **Constitutional Necessity:** Since Manipur is under Article 356 (President's Rule), the State Assembly cannot pass laws. The Parliament must step in to prevent a legislative vacuum in tax administration.

- **Uniformity:** To ensure that amendments made to the Central GST (CGST) Act via the Finance Act, 2025, are mirrored in Manipur's State GST (SGST) Act.
- **Revenue Protection:** Without this amendment, the state would lack the legal authority to levy tax on certain new categories (like ENA) or enforce new compliance measures.

II. Key Provisions of the Amendment:

Lok Sabha Passes

Manipur GST Bill Amendment: Key Provisions

Taxation on Extra Neutral Alcohol (ENA)

- State can now levy tax on un-denatured ENA used to make liquor.
- **Significance:** Clarifies states' right to tax ENA.

Track and Trace Mechanism (Section 148A)

- Unique Identification Marking for specified goods (likely tobacco, pan masala).
- Manufacturers must register packing machines & report capacity.
- Special penalty for failure to register (curbs tax evasion).

Retrospective ITC Relaxation (Section 16(5))

- One-time relief to claim ITC for FY 2017-18 to FY 2020-21 if filed by Nov 30, 2021.

Amnesty Scheme (Section 128A)

- Waiver of interest & penalties for FY 2017-18 to FY 2019-20 (Sec 73 tax demands).
- **Condition:** Pay principal tax by March 31, 2026

Reform in Appeals

- Mandatory pre-deposit for appeals reduced from 20% to 10% of disputed tax.

- **Taxation on Extra Neutral Alcohol (ENA):**
 - ✓ The Bill amends Section 9 of the Manipur GST Act to allow the state to levy tax on un-denatured Extra Neutral Alcohol (ENA) or rectified spirit used for manufacturing alcoholic liquor for human consumption.
 - ✓ **Significance:** Previously, this was a grey area between GST and State Excise. This amendment clarifies that States have the right to tax ENA used for liquor, protecting a major revenue source.
- **Track and Trace Mechanism (Section 148A):**
 - ✓ A new provision introduces "Unique Identification Marking" for specified goods (likely tobacco and pan masala).
 - ✓ It mandates manufacturers to register their packing machinery and production capacity.
 - ✓ **Penalty:** Failure to register machines attracts a special penalty (Section 122B) to curb tax evasion in high-leakage sectors.
- **Retrospective ITC Relaxation (Section 16(5)):**
 - ✓ It offers a one-time relief to businesses that failed to claim Input Tax Credit (ITC) for the financial years 2017-18 to 2020-21 within the deadline.
 - ✓ They can now claim this credit retrospectively if returns were filed by November 30, 2021.
- **Amnesty Scheme (Section 128A):**
 - ✓ A conditional waiver of interest and penalties is introduced for tax demands raised under Section 73 (non-fraud cases) for the period FY 2017-18 to FY 2019-20.
 - ✓ **Condition:** The taxpayer must pay the full principal tax amount by a specified date (March 31, 2026).
- **Reform in Appeals:**

- ✓ The mandatory pre-deposit for filing appeals before the Appellate Tribunal is reduced from 20% to 10% of the disputed tax amount, easing the liquidity burden on businesses.
- **Significance:**
 - ✓ **Ease of Doing Business:** By aligning Manipur's laws with the Centre, it removes cross-border trade friction and standardizes compliance for businesses operating in the North East.
 - ✓ **Fiscal Federalism:** It respects the consensus of the 56th GST Council, ensuring that even a state under President's Rule does not fall behind in implementing beneficial tax reforms.

3. NCBC Suggests Exclusion of 35 Communities from West Bengal's Central OBC List:

Context: In a significant move reported during the Winter Session of Parliament (December 2025), the National Commission for Backward Classes (NCBC) has formally recommended the exclusion of 35 communities from the Central List of Other Backward Classes (OBCs) for West Bengal. The Ministry of Social Justice and Empowerment confirmed that this advice was tendered following a rigorous scrutiny of the inclusions made back in 2014.

I. Background of the Issue:

- **The 2014 Inclusions:** Just ahead of the 2014 General Elections, 37 communities were added to West Bengal's Central OBC list. The NCBC's recent investigation revealed that 35 of these 37 communities were predominantly Muslim.
- **The "Appeasement" Charge:** The Commission observed that the inclusion of these groups appeared to be driven by "vote-bank politics" rather than genuine social and educational backwardness.
- **Judicial Precedence:** Earlier in May 2024, the Calcutta High Court had struck down the OBC status of several classes in the state, noting that "religion seemed to be the sole criterion" for their inclusion, which is unconstitutional. Although the Supreme Court stayed the order for review, the NCBC continued its independent scrutiny.

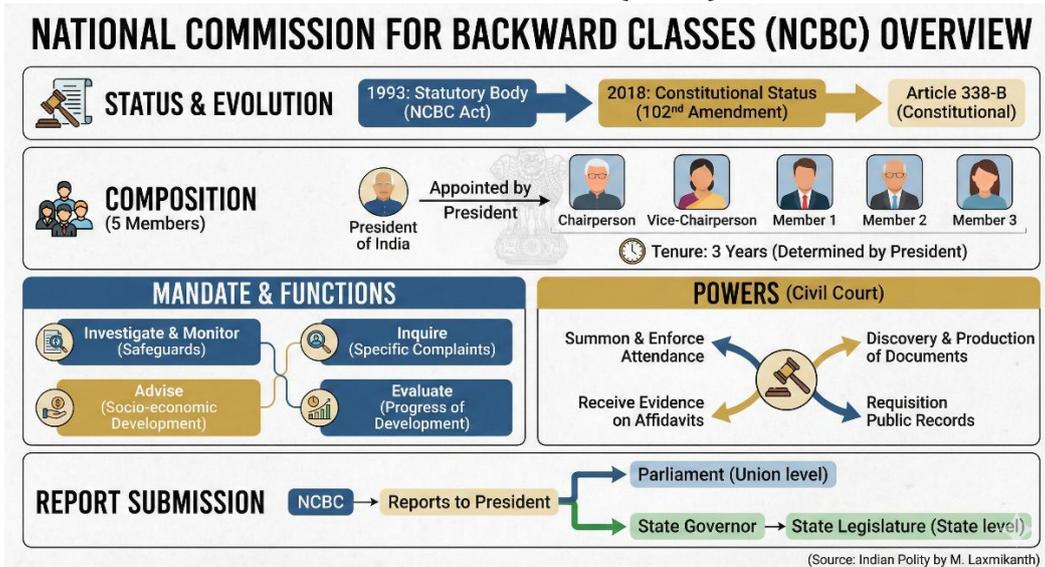
II. Key Reasons for Exclusion:

- **Lack of Quantifiable Data:** The Commission found a glaring absence of empirical data (like the NSSO or other socio-economic surveys) justifying the "backwardness" of these specific communities.
- **Religion as Sole Basis:** The NCBC emphasized that while Muslims can be OBCs (e.g., specific occupational groups like weavers or tailors), an entire religious community cannot be classified as "backward" without specific evidence of social discrimination comparable to the caste system.
- **Procedural Lapses:** The advice notes that the proper due diligence and hearings required for inclusion in the Central List were bypassed during the 2014 notification.

III. Significance:

- **Restoring Integrity:** The move aims to ensure that reservation benefits (27% in Central jobs/education) reach the genuinely marginalized sections rather than being diluted by politically motivated inclusions.
- **Federal Friction:** This recommendation is likely to intensify the Centre-State tussle, as the State Government defends its list while the Central body (NCBC) challenges it.
- **Parliamentary Procedure:** Since the NCBC has only recommended the exclusion, the actual removal will require a Bill to be passed by Parliament (as per Article 342A), making it a legislative matter.

IV. About National Commission for Backward Classes (NCBC):



- **Evolution:**
 - ✓ **1993:** Originally established as a Statutory Body under the NCBC Act, 1993, following the Supreme Court's direction in the Indra Sawhney Case (1992).
 - ✓ **2018:** Accorded Constitutional Status through the 102nd Constitutional Amendment Act, 2018. This Act inserted Article 338B (dealing with NCBC) and Article 342A (dealing with the list of backward classes).
- **Composition & Appointment:** Strength: It consists of 5 members:
 - ✓ A Chairperson
 - ✓ A Vice-Chairperson
 - ✓ Three other Members
- **Appointment:** Appointed by the President by warrant under his hand and seal.
- **Tenure:** Their conditions of service and tenure are determined by the President (currently 3 years).
- **Constitutional Provisions:**
 - ✓ **Article 338B:** Defines the structure, duties, and powers of the NCBC. It gives the NCBC the authority to examine complaints and welfare measures regarding Socially and Educationally Backward Classes (SEBCs).
 - ✓ **Article 342A:** Empowered the President to notify the Central List of SEBCs. Once the Central List is notified, only Parliament can add or remove communities from it by law.
 - ✓ **Article 366(26C):** Defines "Socially and Educationally Backward Classes."
- **Powers & Functions:**
 - ✓ **Investigative:** To investigate and monitor all matters relating to the safeguards provided for the socially and educationally backward classes.
 - ✓ **Grievance Redressal:** It has the specific power to inquire into specific complaints with respect to the deprivation of rights (a power the statutory NCBC previously lacked).
 - ✓ **Civil Court Powers:** While inquiring into complaints, it has the powers of a Civil Court (e.g., summoning persons, requiring production of documents, receiving evidence on affidavits).
 - ✓ **Advisory:** It advises the Union and State Governments on the socio-economic development of SEBCs.

4. SC Flags Issues in Payouts & Care for Acid Attack Survivors: "Marked for Life"

Context: In a recent stern observation, the Supreme Court expressed deep dissatisfaction with the implementation of the **Victim Compensation Scheme** across various states. While hearing a plea regarding the rehabilitation of survivors, the Bench remarked that victims are "**marked for life**" and the apathy of the state machinery in providing immediate relief is unacceptable.

I. Key Observations by the Court:

- **"Forcible Administration" Severity:** The Court distinguished between throwing acid and forcibly administering it (pouring it down the throat). The Bench observed that criminals who force victims to ingest acid display a "**depraved mentality**" and deserve harsher punishment, potentially bordering on the '**Rarest of Rare**' doctrine, as it destroys internal organs and causes a slow, painful death.
- **Failure of Private Hospitals:** Despite previous orders, reports surfaced that certain private hospitals were still demanding advance payments or refusing admission to survivors. The SC reiterated that **saving life is the paramount duty (Article 21)** and no hospital can refuse free first-aid and treatment.
- **Delays in Compensation:** The Court noted that the "**Minimum Compensation**" (**often fixed at ₹3 Lakhs by older mandates**) is not being released within the stipulated timeframe, forcing victims to run from pillar to post while suffering from excruciating pain.
- **Regulation of Acid Sale:** The Bench pulled up executive authorities for the lax enforcement of the "Poison Rules," noting that over-the-counter acid is still easily available in local markets despite the ban.

II. Existing Legal Frameworks:

1. Criminal Law Amendments (The Criminal Law (Amendment) Act, 2013): Prior to 2013, acid attacks were dealt with under general "Grievous Hurt" sections. The 2013 Act introduced specific sections in the Indian Penal Code (IPC) [Now corresponded in the Bharatiya Nyaya Sanhita - BNS]:

- **Section 326A:** Voluntarily causing grievous hurt by use of acid.
 - ✓ **Punishment:** Minimum 10 years imprisonment, extendable to life, plus a fine.
 - ✓ **Crucial Provision:** The fine must be paid directly to the victim to cover medical expenses.
- **Section 326B:** Voluntarily throwing or attempting to throw acid.
 - ✓ **Punishment:** Minimum 5 years, extendable to 7 years.

2. The Landmark Judgment: Laxmi vs. Union of India (2014): This is the most critical case regarding acid attacks. The SC issued the following directions:

- **Ban on OTC Sale:** Acid cannot be sold to anyone below 18 years.
- **KYC Norms:** Buyers must provide a valid ID and address proof; sellers must maintain a register.
- **Compensation:** Mandated a minimum compensation of ₹3 Lakhs for victims.
- **Free Treatment:** Mandated full free treatment for victims in both public and private hospitals.

3. Victim Compensation Scheme (Section 357A CrPC / Relevant BNSS Section):

- It mandates the State Government, in coordination with the Central Government, to prepare a scheme for providing funds for compensation to victims or their dependents.

5. A Growing Shadow over Digital Constitutionalism:

Context: In a series of recent analyses and legal commentaries, constitutional experts have raised alarms about the eroding state of "Digital Constitutionalism" in India. This discourse was triggered by government notifications regarding the interception of encrypted messages and the high frequency of internet shutdowns recorded in the year-end data.

What is Digital Constitutionalism?

It is the ideology that the values of the Constitution (**Rule of Law, Fundamental Rights, Checks and Balances**) must be adapted and enforced in the digital ecosystem. It argues that the internet is not a lawless zone but a space where **Article 14, 19, and 21** must actively operate.

- **Key Concerns Highlighted:**
 - ✓ **The "Black Box" of Surveillance:** Experts argue that the executive's power to intercept digital communications (under the guise of national security) lacks judicial oversight. The absence of a "**procedural safeguard**" creates a shadow over the **Right to Privacy (Puttaswamy Judgment)**.
 - ✓ **Platform Governance vs. Free Speech:** The pressure on social media intermediaries to remove content (often without a public speaking order) is termed as "**informal censorship**," violating the spirit of Article 19(1)(a).
 - ✓ **The Digital Divide as Inequality:** As governance becomes 100% digital (e-Governance), those without access are effectively disenfranchised, violating **Article 14 (Equality before Law)**.
- **Significance:**
 - ✓ **Democratic Health:** Without digital constitutionalism, the internet becomes a tool for state control rather than citizen empowerment.
 - ✓ **Judicial Role:** The analysis calls for the Judiciary to evolve new doctrines (like the Proportionality Test) to check algorithmic bias and digital state overreach.
- **Way Forward:**
 - ✓ **Digital Rights Commission:** Establishment of an independent constitutional body to audit algorithms and investigate data breaches.
 - ✓ **Legislative Reform:** Moving beyond the Digital Personal Data Protection Act, 2023 (which has broad state exemptions) to a rights-centric framework.

6. "Judges are Conscious, Won't Let AI Overpower Judicial Process": SC

Context: During a hearing in December 2025 regarding the integration of technology in courts, the Supreme Court clarified its stance on Artificial Intelligence. The Bench asserted that while technology is a "force multiplier," **AI will never replace the human discretion of a judge**, particularly in substantive decision-making like sentencing or bail.

I. Key Observations by the Court:

- **"Human in the Loop" Principle:** The Court emphasized that AI tools (like SUPACE or SUVAS) are merely support systems for research, translation, and file management. The "judicial mind" cannot be outsourced to an algorithm.
- **The Danger of Bias:** The SC noted that AI models are trained on historical data. If historical data contains caste or gender bias, the AI might replicate it. Therefore, a judge's "conscious" intervention is necessary to ensure Substantive Justice.
- **Hybrid Hearing Success:** The Court cited the success of hybrid hearings in increasing access to justice for litigants in remote areas but warned that technology must remain a servant of the law, not its master.

II. AI Tools Currently in Indian Judiciary:

- **SUVAS (Supreme Court Vidhik Anuvaad Software):** An AI tool for translating judicial orders into regional languages.
- **SUPACE (Supreme Court Portal for Assistance in Court's Efficiency):** A bot that processes facts and makes them available to judges for speedier adjudication.

III. Constitutional Safeguards:

- **Right to Internet Access:**
 - ✓ **Case:** Anuradha Bhasin vs. Union of India (2020).

- ✓ **Ruling:** The SC declared that the freedom of speech and expression and the freedom to practice any profession over the internet are constitutionally protected under Article 19(1)(a) and Article 19(1)(g).
- ✓ **Doctrine:** Any restriction on the internet (shutdowns) must pass the Test of Proportionality.
- **Right to Privacy:**
 - ✓ Case: K.S. Puttaswamy vs. Union of India (2017).
 - ✓ Ruling: Privacy is a fundamental right under Article 21 (Right to Life and Liberty). This forms the bedrock of Digital Constitutionalism.
- **Separation of Powers:**
 - ✓ The debate on AI involves Article 50 (Separation of Judiciary from Executive), ensuring that the technology used by courts is not controlled by the Executive, preserving judicial independence.

7. Charting an Agenda on the Right to Health:

Context: On December 10, 2025 (Human Rights Day), the National Convention on Health Rights was convened in New Delhi. Timed strategically between Human Rights Day and Universal Health Coverage Day (Dec 12), this gathering of civil society members, public health experts, and doctors emphasized the urgent need to restructure India's healthcare framework to ensure equitable access for all.

I. Key Issues Highlighted:

- **The Privatization Trap:**
 - ✓ Experts at the convention argued that the health system is increasingly shifting towards privatization, often subsidized by public funds through insurance schemes like PM-JAY.
 - ✓ This "commercialization of care" risks making quality healthcare a luxury accessible only to the wealthy, rather than a universal right.
- **Chronic Underfunding:**
 - ✓ Despite the lessons from the global pandemic, public health spending in India remains stagnant at approximately 2% of the Union Budget, which is far below the global average.
 - ✓ Consequently, citizens are forced to bear 48.2% of healthcare costs out-of-pocket (as per National Health Accounts 2022 data), pushing millions into poverty every year.
- **Justice for Health Workers:**
 - ✓ The convention highlighted that the "Right to Health" for citizens is inseparable from "Labour Rights" for health workers.
 - ✓ The backbone of rural health—ASHA and Anganwadi workers—continues to face overwork and underpayment.
- **Intersectionality of Exclusion:**
 - ✓ Access to health is deeply linked to social hierarchy.
 - ✓ Marginalized communities, including Dalits, Adivasis, and LGBTQIA+ groups, continue to face systemic discrimination and barriers in accessing dignified care.

II. The "Rights-Based" Agenda (Key Demands):

- **Legal Guarantee:** The primary demand is the enactment of a central Right to Health Act (similar to the Rajasthan model) to make access to emergency and primary care a justiciable right.
- **Regulation of Private Sector:** Strict implementation of the Clinical Establishments Act, 2010 is required to standardize rates, ensure transparency, and prevent the exploitation of patients.

- **Universal Public Provisioning:** There is a call to move away from "insurance-based models" (which often suffer from high administrative costs) towards "direct public provisioning" of services to ensure universal coverage.

III. Constitutional Safeguards:



- **Fundamental Rights (Part III):**
 - ✓ **Article 21:** In the landmark case of Paschim Banga Khet Mazdoor Samity vs. State of West Bengal (1996), the Supreme Court declared that the Right to Life includes the Right to Health. The State is under a constitutional obligation to provide timely medical treatment to preserve human life.
- **Directive Principles (Part IV):**
 - ✓ **Article 38:** Mandates the State to secure a social order for the promotion of the welfare of the people.
 - ✓ **Article 47:** It is the primary duty of the State to raise the level of nutrition and the standard of living of its people and the improvement of public health.
- **International Commitments:**
 - ✓ SDG 3: Good Health and Well-being.
 - ✓ Universal Declaration of Human Rights (Article 25): Recognizes the right to a standard of living adequate for health.

8. MGNREGS Renamed as 'Pujya Bapu Gramin Rozgar Yojana'; Govt Introduces Bill to Replace MGNREGA

Context: In a major policy shift reported in December 2025, the Union Cabinet approved a proposal to rename and restructure the flagship rural employment scheme. Subsequently, the government introduced the **Viksit Bharat - Guarantee For Rozgar and Ajeevika Mission (Gramin) Bill, 2025 [VB-GRAM G Bill]** in the Lok Sabha. This Bill seeks to **repeal the existing Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), 2005**, renaming the scheme to "**Pujya Bapu Gramin Rozgar Yojana**" and altering its fundamental architecture.

Key Provisions of the Proposed Reform:

- **Renaming & Rebranding:**
 - ✓ The scheme, popularly known as MGNREGA, is set to be renamed Pujya Bapu Gramin Rozgar Yojana.
 - ✓ Government sources state this reflects a "renewed commitment to Gandhian ideals" of self-reliant villages (Gram Swaraj).
- **Increase in Workdays:**

- ✓ **Old Norm:** Guaranteed 100 days of wage employment per household per year.
- ✓ **New Proposal:** The Bill increases this guarantee to 125 days per household annually, aiming to provide greater income support.
- **Fundamental Shift: From 'Rights-Based' to 'Supply-Driven':**
 - ✓ **MGNREGA (2005):** Was a "Demand-Driven" scheme. Work had to be provided within 15 days of demand, or an unemployment allowance was mandatory.
 - ✓ **VB-GRAM G (2025):** Shifts to a "Supply-Driven" model. The Centre will now determine "normative allocations" and notify specific areas for implementation based on economic indices, potentially removing the universal "right" to demand work anywhere, anytime.
- **Change in Funding Pattern (The Federalism Tussle):**
 - ✓ **Current:** Centre pays 100% of wages and 75% of material costs.
 - ✓ **Proposed:** The new Bill proposes a 60:40 split (Centre:State) for all costs, including wages, for most major states.
 - ✓ **Impact:** This massively increases the financial burden on State governments. Opposition-ruled states like Telangana and Punjab have already passed resolutions rejecting this "unilateral offloading" of expenditure.
- **The 'Agri-Pause' Clause:**
 - ✓ The Bill introduces a provision to suspend the scheme for 60 days during peak agricultural seasons (sowing/harvesting).
 - ✓ **Rationale:** To ensure cheap labour availability for farming activities.
 - ✓ **Criticism:** Critics argue this hurts landless labourers the most, as they rely on the scheme precisely when farm wages are low or exploitative.
- **Significance (Intended Changes):**
 - ✓ **Asset Creation Focus:** Unlike the previous focus on manual labor, the new scheme prioritizes creating "durable assets" linked to the Viksit Bharat National Infra Stack (e.g., water conservation structures) to improve rural infrastructure.
 - ✓ **Fiscal Rationalization:** By capping the budget and notifying specific areas, the Centre aims to prevent fiscal slippage and target spending only on "distress zones."
- **Key Concerns:**
 - ✓ **Dilution of Rights:** The fundamental shift transforms the scheme from a justiciable legal right (where work must be provided) to a discretionary welfare program dependent on central notifications.
 - ✓ **Erosion of Economic Safety Net:** MGNREGA acted as an automatic stabilizer during crises (like COVID-19). A fixed-budget model cannot dynamically expand to absorb sudden spikes in rural unemployment.
 - ✓ **Undermining Federalism:** The Centre gains total control over the timing and geography of implementation, effectively bypassing the planning authority of Gram Sabhas and State Governments.
 - ✓ **Gender Parity at Risk:** Women currently constitute over 58% of the workforce. Moving away from a locally accessible, on-demand model may restrict their participation and financial independence.
 - ✓ **Political Fallout:** The rebranding and structural changes have invited accusations of "erasing legacy" and being "anti-poor," leading to legislative deadlock.

9. SHANTI Bill: Private Sector Allowed to Run Nuclear Power Plants:

Context: In a historic policy shift ending a six-decade state monopoly, the Lok Sabha passed the SHANTI Bill (Safety, Health, and Nuclear Technology Initiative), 2025 in December. This legislation amends the Atomic Energy Act, 1962, paving the way for private sector companies to manufacture

and operate nuclear power plants, a domain previously reserved exclusively for government entities like NPCIL.

I. Need for the Legislation:

- **Capital Deficit:** The Department of Atomic Energy (DAE) targets increasing nuclear capacity from 7,480 MW to 22,480 MW by 2031. This requires an investment of over ₹2.5 lakh crore, which the public exchequer alone cannot sustain.
- **Net Zero Goals:** To achieve the Net Zero 2070 target, the share of nuclear energy in India's electricity mix must rise significantly from the current 1.6%.
- **The SMR Revolution:** The global shift towards Small Modular Reactors (SMRs)—which are factory-built and safer—requires agile private sector manufacturing capabilities rather than the slow pace of PSUs.

II. Key Provisions of the SHANTI Bill:

- **End of PSU Monopoly:**
 - ✓ **Old Law:** Under the Atomic Energy Act, 1962, only the Central Government or a Government Company (where the Centre holds at least 51% stake) could produce nuclear energy.
 - ✓ **New Law:** The Bill allows "Non-Government Entities" to set up, operate, and maintain nuclear power plants, specifically focusing on SMRs.
- **Collaborative Models (PPP):**
 - ✓ It introduces a Public-Private Partnership (PPP) model where the private sector brings in capital and technology, while the fuel cycle (uranium supply and waste management) remains under government control for security reasons.
- **Regulatory Independence:**
 - ✓ The Bill statutorily strengthens the Atomic Energy Regulatory Board (AERB), giving it more teeth to oversee private operators and enforce safety standards without bureaucratic interference.
- **Liability Clarification:**
 - ✓ To address the hesitation of foreign suppliers (like Westinghouse), the Bill clarifies the "Right of Recourse" under the Civil Liability for Nuclear Damage Act, 2010, defining specific liability caps for private operators in case of accidents.

III. Significance:

- **Energy Security:** It diversifies India's energy basket, reducing reliance on coal and volatile oil imports.
- **Make in India:** It aims to turn India into a global manufacturing hub for SMRs, similar to the auto sector boom.
- **Cost Efficiency:** Private competition is expected to bring down the per-unit cost of nuclear power, which is currently higher than solar or wind.

IV. Concerns:

- **Safety vs. Profit:** Critics argue that private companies might cut corners on safety protocols to maximize profits, posing a radiation risk.
- **Waste Management:** The Bill is vague on who bears the long-term cost of storing radioactive waste—the private operator or the taxpayer.
- **Security Risks:** Proliferation concerns remain; ensuring that private technology doesn't fall into the wrong hands (non-state actors) is a massive challenge.

V. Nuclear Governance in India:

- **The Atomic Energy Act, 1962:**
 - ✓ It empowers the Central Government to produce, develop, use, and dispose of atomic energy.

- ✓ **Section 3:** Grants the Centre special powers to control the production and use of atomic minerals (Uranium, Thorium).
- **Institutional Structure:**
 - ✓ **Atomic Energy Commission (AEC):** The apex policy-making body, headed by the Secretary, DAE (directly under the PMO).
 - ✓ **NPCIL & BHAVINI:** The two Public Sector Undertakings (PSUs) currently responsible for nuclear power generation.
 - ❖ NPCIL: Operates Pressurized Heavy Water Reactors (PHWRs).
 - ❖ BHAVINI: Dedicated to the Fast Breeder Reactor program (Stage II).
 - ✓ **AERB:** The regulatory watchdog ensuring safety.
- **India's Three-Stage Nuclear Program (Homi Bhabha):**
 - ✓ **Stage I:** PHWRs using Natural Uranium.
 - ✓ **Stage II:** Fast Breeder Reactors (FBRs) using Plutonium.
 - ✓ **Stage III:** Reactors using Thorium (India has the world's largest Thorium reserves).

10. Higher Education Bill: 'Conscious' Separation of Funding from Regulator

Context: Senior officials from the Ministry of Education have clarified the rationale behind the upcoming **Higher Education Commission of India (Repeal of University Grants Commission Act) Bill, 2025**. Responding to academic concerns, officials stated that it was a "conscious decision" to strip the new regulator of funding powers, marking a distinct departure from the existing University Grants Commission (UGC) model.

I. The Core Policy Shift:

- **The Old Model (UGC):** Under the UGC Act, 1956, the Commission held a dual mandate: it was responsible for maintaining academic standards (Regulation) and disbursing grants to universities (Funding).
- **The New Model (HECI):** The proposed Bill creates a "separation of powers":
 - ✓ **Regulator:** The Higher Education Commission of India (HECI) will focus solely on academic quality, accreditation, and setting standards.
 - ✓ **Funder:** The financial powers (grant disbursement) will be moved to a separate administrative body, likely directly under the Ministry of Education or a dedicated Higher Education Grants Council (HEGC).

II. Rationale behind the Split:

- **Ending the 'Inspector Raj':** Officials argued that when a regulator holds the purse strings, the focus shifts from "mentoring" to "inspecting." The regulator often uses funding as a coercive tool rather than ensuring genuine quality compliance.
- **Conflict of Interest:** A regulator that also funds institutions faces a conflict of interest—it may be lenient on institutions it has heavily funded to avoid financial loss, or punitive towards others.
- **NEP 2020 Mandate:** The National Education Policy (NEP) 2020 explicitly recommended this "light but tight" regulatory framework, advocating for distinct pillars for Regulation (NHERC), Accreditation (NAC), Funding (HEGC), and Academic Standard Setting (GEC).

III. Significance:

- **Focus on Quality:** The HECI can dedicate its resources entirely to updating curricula, fostering research, and improving global rankings without being bogged down by grant management files.
- **Financial Accountability:** Separating funding allows for a more transparent, audit-focused mechanism for grant disbursement, potentially reducing bureaucratic delays.

IV. Concerns Raised:

- **Loss of Autonomy:** Critics argue that moving funding directly to the Ministry or a dependent Council might increase political interference in universities. The UGC, as a statutory body, offered a buffer between the government and academia.
- **Bureaucratic Hurdles:** Academics fear that without the leverage of funding, the new regulator (HECI) might become a "toothless tiger," unable to enforce standards effectively.

V. Existing regulations:

- **The University Grants Commission (UGC):**
 - ✓ Established in **1956** as a **statutory body**.
 - ✓ Modeled on the University Grants Committee of the UK.
 - ✓ **Headquarters:** New Delhi.
 - ✓ **Mandate:** Coordination, determination, and maintenance of standards of university education.
- **NEP 2020 Vision for Regulation:** It proposed replacing the UGC and AICTE with a single overarching umbrella body—the Higher Education Commission of India (HECI)—with four independent verticals:
 - ✓ **NHERC:** National Higher Education Regulatory Council (Regulation).
 - ✓ **NAC:** National Accreditation Council (Accreditation).
 - ✓ **HEGC:** Higher Education Grants Council (Funding).
 - ✓ **GEC:** General Education Council (Academic Standards).

11. RS Passes Bill for 100% FDI in Insurance Sector

Context: The Rajya Sabha passed **the Sabka Bima Sabki Raksha (Amendment of Insurance Laws) Bill, 2025**, following its approval in the Lok Sabha. The landmark legislation amends the **Insurance Act (1938)**, **LIC Act (1956)**, and **IRDA Act (1999)** to increase the Foreign Direct Investment (FDI) limit in the insurance sector from **74% to 100%**.

I. Key Highlights of the Bill:

- **100% FDI Permitted:**
 - ✓ The Bill raises the FDI cap in Indian insurance companies to 100% (previously 74%).
 - ✓ **Objective:** To attract long-term global capital, technology transfer, and best practices to improve insurance penetration (currently under 4% of GDP).
 - ✓ **Safety Valve:** While allowing 100% foreign ownership, the rules mandate that at least one among the Chairperson, MD, or CEO must be a resident Indian citizen.
- **Easing Reinsurance Norms:**
 - ✓ The Net Owned Fund (NOF) requirement for foreign reinsurance branches has been drastically reduced from ₹5,000 crore to ₹1,000 crore.
 - ✓ **Impact:** This lowers entry barriers for global reinsurers, aiming to turn India into a global reinsurance hub.
- **Empowering the Regulator (IRDAI):**
 - ✓ The Bill grants the Insurance Regulatory and Development Authority of India (IRDAI) the power to disgorge wrongful gains from insurers or intermediaries and return them to policyholders.
 - ✓ Penalties for violations have been rationalized and increased (e.g., penalty on intermediaries raised from ₹1 crore to ₹10 crore) to ensure compliance.
- **Operational Autonomy for LIC:**
 - ✓ The Life Insurance Corporation (LIC) has been granted greater autonomy to open zonal offices and align its foreign operations with local laws without constant central government approval.
- **Policyholder Protection:**

- ✓ Creation of a dedicated Policyholders' Education and Protection Fund.
- ✓ Mandatory alignment with the Digital Personal Data Protection Act (DPDP), 2023 for handling policyholder data.

II. Significance:

- **Capital Augmentation:** The insurance sector is capital-intensive. 100% FDI allows companies to access cheaper global capital for expansion without relying on domestic partners who may be capital-constrained.
- **"Insurance for All by 2047":** The move supports the regulator's vision of universal insurance coverage by potentially lowering premiums through increased competition.
- **No "Composite License":** Notably, the Bill omitted the expected provision for "Composite Licenses" (allowing one firm to sell Life, General, and Health insurance together), which remains a key demand of the industry.

12. FM Tables Securities Market Code Bill 2025 in Lok Sabha:

Context: The Finance Minister has tabled the landmark **Securities Market Code Bill, 2025** in the Lok Sabha. This comprehensive legislation aims to overhaul India's financial regulatory framework by consolidating multiple legacy laws into a single, unified code. The move is described as a **"cleaning up"** exercise to reduce compliance burdens and modernize the architecture of the Indian capital markets.

I. Need for the Bill:

- **Fragmentation:** Currently, the securities market is governed by multiple fragmented laws (SEBI Act, SCRA, Depositories Act), leading to overlapping jurisdictions and regulatory friction.
- **Outdated Laws:** Acts like the SCRA date back to 1956 and struggle to address modern complexities like algorithmic trading, crypto-assets, and high-frequency derivatives.
- **Ease of Doing Business:** A unified code is expected to simplify the legal landscape for foreign investors (FPIs) and domestic corporates.

II. Key Provisions of the Bill:

- **Consolidation of Laws (4-in-1):** The Bill seeks to repeal and merge the provisions of four key Acts:
 - ✓ The Securities Contracts (Regulation) Act, 1956 (SCRA)
 - ✓ The Securities and Exchange Board of India (SEBI) Act, 1992
 - ✓ The Depositories Act, 1996
 - ✓ The Government Securities Act, 2006
- **Unified Definition of 'Securities':**
 - ✓ It proposes a broader, technology-neutral definition of "securities" to potentially include investment contracts, digital assets, and commodity derivatives, ensuring that new-age financial products do not escape regulation.
- **Strengthening SEBI:**
 - ✓ The Code empowers SEBI with enhanced enforcement powers, including the authority to conduct search and seizure operations without prior judicial warrant in urgent cases of market manipulation (front-running/insider trading).
- **Market Infrastructure Institutions (MIIs):**
 - ✓ It introduces stricter statutory governance norms for MIIs (Stock Exchanges, Clearing Corporations, and Depositories), treating them as "public utility" infrastructures rather than just profit-making entities.
- **Settlement & Recovery:**

- ✓ The Bill codifies the "Settlement Mechanism" (settling offences by paying a fine without admitting guilt), which was previously governed by regulations, giving it statutory backing to clear the backlog of cases.

III. Significance:

- **Regulatory Certainty:** By replacing four disparate laws with one, it reduces litigation arising from interpretational differences.
- **Investor Protection:** The unified code closes loopholes used by "fly-by-night" operators who previously exploited the gaps between the jurisdiction of SEBI and the Ministry of Corporate Affairs.
- **Global Best Practices:** It aligns India's legal framework with global jurisdictions like the UK and Singapore, which have unified financial services and markets acts.

IV. Existing Regulations:

- **Securities and Exchange Board of India (SEBI):**
 - ✓ Established: Initially as a non-statutory body in 1988; given statutory status via the SEBI Act, 1992.
 - ✓ **Mandate:** To protect the interests of investors, promote the development of, and regulate the securities market.
 - ✓ **Key Powers:** Quasi-legislative (drafting regulations), Quasi-judicial (passing rulings), and Quasi-executive (investigation).
- **Securities Contracts (Regulation) Act, 1956 (SCRA):**
 - ✓ This Act prevents undesirable transactions in securities by regulating the business of dealing therein.
 - ✓ It provides for the recognition of Stock Exchanges (like NSE/BSE) by the Central Government/SEBI.

13. Child Trafficking a "Deeply Disturbing Reality", Says SC:

Context: In a stern judgment delivered recently, the Supreme Court termed child trafficking and commercial sexual exploitation as a "**deeply disturbing reality**" in India. While hearing a case involving the exploitation of a minor by an organized gang in Bengaluru, the **Bench of Justices Manoj Misra and Joymalya Bagchi** issued comprehensive guidelines to ensure that the justice system does not re-victimize the survivors.

I. Key Observations by the Court:

- **The "Deeply Disturbing" Reality:** Despite stringent laws, the Court noted that organized cartels continue to flourish, exploiting children for sexual purposes. This strikes at the "very foundations of dignity, bodily integrity, and the State's constitutional promise of protection."
- **Victim, Not Accomplice:** The Bench emphasized that a minor victim of sex trafficking is an "injured witness" and must never be treated as an accomplice. Her testimony deserves "due regard and credence."
- **Sensitivity in Evidence:**
 - ✓ **No "Precision" Expected:** The Court ruled that judges must show "sensitivity and latitude" while recording the testimony of a child.
 - ✓ **Ignore Minor Inconsistencies:** Given the trauma and the "complex, layered structure" of trafficking networks (involving recruiting, transporting, and harbouring), a child may not be able to narrate the sequence of events with perfect precision. Courts must not disbelieve her solely due to minor contradictions.
- **Secondary Victimization:** The process of recounting the "horrible spectre" of sexual violence before police and courts often leads to secondary victimization. The Court directed that the

judicial process must be marked by realism and empathy, considering the victim's socio-economic vulnerability.

II. Current Status of Trafficking (Data):

- **NCRB Data (2022):** Over 2,878 children were victims of trafficking, and a staggering 83,350 children were reported missing in a single year.
- **Low Conviction Rate:** As per Ministry of Home Affairs data presented to Parliament, the conviction rate for human trafficking cases (2018-2022) was a dismal 4.8%, highlighting the gap between law and enforcement.

III. Significance:

- **Guidance for Lower Courts:** This judgment serves as a binding precedent for Trial Courts to stop dismissing cases based on technicalities or "minor discrepancies" in a traumatized child's statement.
- **Call for Systemic Reform:** The Court's observations put the onus back on the government to strengthen Anti-Human Trafficking Units (AHTUs) and pass the pending Anti-Trafficking Bill to give law enforcement more teeth.

IV. Existing Constitutional and Legal Frameworks:



- **Constitutional Provisions:**
 - ✓ **Article 23:** Prohibits traffic in human beings and forced labour.
 - ✓ **Article 24:** Prohibits employment of children in hazardous factories (often a destination for trafficked children).
 - ✓ **Article 39(f):** Directs the State to ensure that children are given opportunities to develop in a healthy manner and are protected against exploitation.
- **Legal Framework:**
 - ✓ **Immoral Traffic (Prevention) Act (ITPA), 1956:** The primary law to prevent trafficking for commercial sexual exploitation.
 - ✓ **POCSO Act, 2012:** Provides stringent punishment for sexual offences against children.

✓ **Section 370 of IPC (now BNS):** Criminalizes trafficking for exploitation (physical or sexual).

• **International Commitments:**

✓ Palermo Protocol: India has ratified this UN protocol to prevent, suppress and punish trafficking in persons, especially women and children.

INTERNATIONAL RELATIONS

14. India-Nepal Energy Cooperation Pact Extended:

Context: In a significant diplomatic move to cement long-term energy security, India and Nepal have formally extended their bilateral Power Trade Agreement. This extension is a follow-up to the historic vision statement where India committed to importing **10,000 MW of hydroelectricity** from Nepal over the next 10 years. The recent high-level interactions have operationalized this vision into a binding long-term framework (25 years), moving away from short-term annual renewals.

Key Highlights of the Extended Pact:

- **Long-Term Horizon:** Unlike previous short-term contracts, this pact is set for 25 years, providing stability for investors in Nepal's hydropower sector.
- **Infrastructure Boost:** The agreement facilitates the construction of three major high-voltage cross-border transmission lines to handle the massive load of 10,000 MW.
 - ✓ Inaruwa (Nepal) – New Purnea (Bihar)
 - ✓ Lamki (Nepal) – Bareilly (UP)
 - ✓ New Butwal – Gorakhpur (Already under construction)
- **Joint Venture Model:** For the first time, Indian PSUs (like PowerGrid) and the Nepal Electricity Authority (NEA) have signed agreements to form Joint Venture (JV) companies to build these lines, ensuring shared stakes and faster execution.

India-Nepal Relations While energy is the current "engine" of ties, the relationship is multi-faceted, often described as 'Roti-Beti ka Rishta' (relationship of food and family).

Dimension	Key Feature
Historical	Rooted in the 1950 Treaty of Peace and Friendship, which grants Nepalese citizens national treatment in India (jobs, property) and an open border.
Economic	India is Nepal's largest trading partner and the largest source of Foreign Direct Investment (FDI). The Motihari-Amlekhgunj pipeline (South Asia's first cross-border oil pipeline) has revolutionized fuel supply.
Connectivity	1. Rail: Jayanagar-Kurtha-Bijalpura rail link is operational; Raxaul-Kathmandu rail survey is ongoing. 2. Digital: Nepal has adopted India's UPI (Unified Payments Interface), easing transactions for tourists and pilgrims.
Cultural	The Ramayana Circuit (Janakpur to Ayodhya) and Buddhist Circuit connect the shared religious heritage of the two nations.
Defense	The Gorkha Regiments of the Indian Army are a pillar of trust. The Joint Military Exercise 'Surya Kiran' is held annually.

Challenges:

- **Territorial Disputes:** The inclusion of Kalapani, Limpiyadhura, and Lipulekh in Nepal's new political map (2020) remains a sensitive issue.

- **China Factor:** Nepal's participation in China's Belt and Road Initiative (BRI) and the proposed Trans-Himalayan Railway creates strategic anxiety for India.
- **Trade Deficit:** Nepal often raises concerns about its massive trade deficit with India, urging for more non-tariff barrier removals.

Significance of the Pact:

- **For Nepal:** It converts "water into wealth," reducing its trade deficit with India by exporting surplus monsoon power.
- **For India:** It is crucial for India's Net Zero goals, as importing hydropower helps balance the fluctuations of solar and wind energy in the Indian grid.

15. PM Modi Calls Sri Lankan President: Operation Sagar Bandhu & Cyclone Ditwah Relief

Context: On December 1, 2025, Prime Minister Narendra Modi held a telephonic conversation with Sri Lankan President Anura Kumara Dissanayake to express solidarity following the devastation caused by Cyclone Ditwah. The cyclone, which struck the island nation in late November, caused massive landslides and flooding, claiming over 600 lives. In response, India launched "Operation Sagar Bandhu" (Friend of the Sea), reaffirming its role as the "First Responder" in the Indian Ocean Region (IOR).

Key Highlights of Operation Sagar Bandhu:

- **Swift Deployment:** India diverted its aircraft carrier INS Vikrant and frigate INS Udaygiri (which were in Colombo for the International Fleet Review) to immediate relief duties. Additionally, INS Sukanya was deployed to Trincomalee with relief supplies.
- **Air Support:** The Indian Air Force (IAF) deployed C-17 Globemaster aircraft to airlift Bailey Bridges (to restore connectivity in cut-off areas) and BHISHM Cubes (mobile hospitals) to the affected zones.
- **Evacuation:** Indian forces rescued not just Sri Lankans but also stranded nationals from Germany, UK, and Australia, showcasing India's capacity as a net security provider.
- **Reconstruction Package:** During his subsequent visit in late December, External Affairs Minister S. Jaishankar announced a \$450 million reconstruction package, focusing on rebuilding damaged roads and schools.

India-Sri Lanka Relations The relationship is anchored in civilizational ties but navigated through modern geopolitical realities.

Dimension	Key Features
Geopolitical	Sri Lanka is central to India's SAGAR (Security and Growth for All in the Region) doctrine. India monitors Chinese presence (e.g., spy ships at Hambantota) closely.
Economic	India is Sri Lanka's largest trading partner. Recent integration includes UPI acceptance in Sri Lanka and the proposed Land Bridge connecting Rameswaram to Talaimannar.
Energy	The two nations are connecting their power grids to allow Sri Lanka to export renewable energy to India. The Trincomalee Oil Tank Farms are being jointly developed.
Cultural	Buddhism is the strongest pillar. India is developing the Ramayana Circuit to attract Sri Lankan tourists.
Issues	1. Fishermen Issue: Frequent arrests of Indian fishermen in the Palk Strait remain a major irritant. 2. 13th Amendment: India consistently pushes for the full implementation of the 13th Amendment to ensure power devolution to the Tamil minority.

Significance:

- **Disaster Diplomacy:** Operation Sagar Bandhu stands alongside previous missions like Operation Neer (Water crisis) and Operation Karuna (Myanmar cyclone), cementing India's soft power.
- **Strategic Signal:** The use of INS Vikrant for HADR (Humanitarian Assistance and Disaster Relief) signals India's blue-water navy capabilities to China and the world.

About SAGAR Doctrine:

- **What is SAGAR?**
 - ✓ **Acronym:** Security And Growth for All in the Region.
 - ✓ **Launch:** Unveiled by PM Modi in 2015 during a visit to Mauritius.
 - ✓ **Objective:** It is a maritime initiative that prioritizes integrated regional cooperation. It seeks to safeguard India's maritime interests while ensuring that the Indian Ocean remains a "zone of peace."
- **Key Pillars:**
 - ✓ Safeguarding maritime territories.
 - ✓ Deepening economic and security cooperation.
 - ✓ Promoting collective action for natural disasters (like Operation Sagar Bandhu).
 - ✓ Sustainable development of marine resources (Blue Economy).

16. 23rd India-Russia Annual Summit: Redefining the "Special and Privileged" Partnership

Context: Recently, Russian President Vladimir Putin visited New Delhi for the **23rd India-Russia Annual Summit**. The visit, coinciding with the **25th anniversary of the India-Russia Strategic Partnership**, saw the two leaders holding extensive talks to "**synchronize watches**" on global issues. Kremlin spokesperson Dmitry Peskov emphasized that the primary agenda was to "**diversify and increase trade**," stating that Russia views India not just as a market, but as a key technology and manufacturing partner.

I. Need for the Summit:

- **Addressing Trade Imbalance:** While bilateral trade has surged (crossing \$65 billion largely due to oil imports), it remains heavily skewed in Russia's favor. India needs to push for more exports (pharma, machinery) to bridge this gap.
- **Payment Mechanism Hurdles:** With Russia locked out of SWIFT and western sanctions tightening, establishing a stable, long-term payment mechanism (beyond the stalled Rupee-Ruble arrangement) was a critical necessity.
- **Geopolitical Reassurance:** Amidst the deepening Russia-China "no limits" friendship and India's growing proximity to the US, both nations needed to reaffirm that their bilateral ties remain independent of third-party influence.

II. Key Highlights of the Summit:

- **Trade Target Revised:**
 - ✓ Both leaders acknowledged the unprecedented growth in energy trade but agreed that it is "too one-sided."
 - ✓ A new roadmap was unveiled to diversify the trade basket, targeting \$100 billion by 2030, with a specific focus on increasing Indian exports in sectors like pharmaceuticals, auto components, and electronic goods.
- **The "Make in India" Push in Defence:**
 - ✓ Moving beyond the "Buyer-Seller" relationship, the summit focused on joint production.
 - ✓ The leaders fast-tracked the deal for the manufacturing of advanced naval platforms and the **reciprocal logistics exchange agreement (RELOS)**, which had been pending for years.

- ✓ Discussions were held on the timely delivery of the remaining **S-400 Triumph squadrons**, which had faced delays.
- **Connectivity & Energy:**
 - ✓ **Chennai-Vladivostok Maritime Corridor:** The operationalization of this route was prioritized to reduce shipping time from 40 days (via Suez) to 24 days.
 - ✓ **Nuclear Cooperation:** The leaders reviewed the progress of the remaining units at the **Kudankulam Nuclear Power Plant (KKNPP)**, with Russia reaffirming its commitment to India's three-stage nuclear program.
- **Bilateral Investment Treaty (BIT):**
 - ✓ Talks were initiated to modernize the Bilateral Investment Treaty to protect investors in both countries, encouraging Russian companies to invest their surplus Rupees (accumulated from oil sales) into Indian infrastructure projects.

III. Significance of the Visit:

- **Strategic Autonomy:** By hosting Putin despite Western pressure, India signaled its commitment to Strategic Autonomy, demonstrating that it prioritizes its national interest over bloc politics.
- **Multipolarity:** The Joint Statement reiterated the vision of a "Multipolar World", subtly pushing back against unilateral sanctions and emphasizing the role of non-western groupings like BRICS and SCO.
- **Energy Security:** The renewal of long-term crude oil supply contracts ensures India remains insulated from volatile global oil prices.

IV. A Historical Perspective:

Dimension	Key Details
Historical Foundation	Rooted in the 1971 Treaty of Peace, Friendship and Cooperation, which was pivotal during the 1971 War. Russia (formerly USSR) has used its Veto power in the UNSC multiple times to support India on the Kashmir issue.
Institutional Mechanisms	1. Annual Summit: The highest dialogue mechanism (alternating between countries). 2. 2+2 Dialogue: Involves Foreign and Defence Ministers of both nations.
Defence Cooperation	1. Russia remains India's largest defence supplier (though the share has dropped from 65% to around 45%). 2. Key Projects: BrahMos Missile (Joint Venture), S-400 System, Su-30 MKI, INS Vikramaditya, and AK-203 Rifles (Amethi factory).
Major Connectivity Projects	1. INSTC (International North-South Transport Corridor): A multi-mode network connecting India to Russia via Iran. 2. Chennai-Vladivostok Maritime Corridor: Connects India's East Coast to Russia's Far East.
Areas of Divergence	1. Russia-China Axis: Russia's growing dependence on China is a strategic concern for India. 2. Russia-Pakistan Ties: Russia's recent military drills with Pakistan (Druzhba) have been viewed cautiously by New Delhi.

17. Turmoil in Bangladesh: Implications for India-Bangladesh Relations

Context: Violence has once again erupted in Bangladesh following the death of a key political leader, plunging the nation into fresh turmoil. The unrest has taken a sharp turn against the media, with mobs torching the offices of two leading newspapers. India has expressed deep concern over the deteriorating law and order situation, emphasizing the need for stability in its immediate neighborhood.

Background of the Crisis:

- **Political Instability:** Bangladesh has been witnessing periodic political volatility. The death of the leader served as a "flashpoint," triggering widespread clashes between rival political factions and security forces.
- **Attacks on Dissent:** The specific targeting of media houses (newspaper offices torched) indicates a crackdown on free speech and an attempt to control the narrative during the crisis.
- **India's Security Concerns:** As a neighbor sharing the longest land border, any instability in Dhaka has a direct "spillover effect" on India's northeastern states, raising alarms in New Delhi.

Key Highlights of the Recent Developments:

- **Escalation of Violence:**
 - ✓ Following the leader's death, violent protests spread across major cities including Dhaka and Chittagong.
 - ✓ Reports indicate that minority communities and their places of worship have also faced collateral damage during the riots.
- **India's Response:**
 - ✓ The Ministry of External Affairs (MEA) has issued a statement calling for restraint and the "restoration of normalcy."
 - ✓ Security along the India-Bangladesh border (4,096 km) has been tightened by the Border Security Force (BSF) to prevent illegal infiltration or the movement of insurgents taking advantage of the chaos.
 - ✓ India has reiterated that the safety of Indian nationals and the minority Hindu community in Bangladesh remains a "top priority."
- **Disruption of Connectivity:**
 - ✓ Cross-border trade via Petrapole-Benapole, the largest land port, has faced temporary disruptions due to strikes and blockades.
 - ✓ Passenger train services (like the Maitree Express) faced temporary suspension risks due to safety concerns.

Significance & Impact on India:

- **The "Neighborhood First" Challenge:** Bangladesh is often cited as the "model relationship" in India's Neighborhood First policy. Prolonged instability threatens this status and complicates sub-regional cooperation (BBIN, BIMSTEC).
- **Security Dilemma:** A weak government in Dhaka often leads to a rise in radical elements and anti-India rhetoric, which can be exploited by hostile external actors (like Pakistan or China).
- **Economic Stakes:** Bangladesh is India's largest trading partner in the subcontinent. Supply chain disruptions hurt Indian exporters and investors who have significant stakes in the ready-made garment and energy sectors.
- **Refugee Crisis Risk:** If violence continues, there is a fear of a fresh wave of refugees seeking shelter in West Bengal and Assam, which could reignite local political tensions regarding the CAA/NRC issue.

The "Golden Chapter" (Sonali Adhyaya):

Dimension	Key Details
Historical Ties	India played a pivotal role in the Liberation War of 1971, supporting the Mukti Bahini against West Pakistan. India was one of the first countries to recognize Bangladesh as a sovereign nation.
Boundaries	1. Longest Border: India shares its longest international boundary (4,096.7 km) with Bangladesh, touching West Bengal, Assam, Meghalaya, Tripura, and Mizoram.

	2. Land Boundary Agreement (LBA) 2015: A historic agreement that settled the 41-year-old border dispute through the exchange of enclaves.
River Cooperation	1. Both nations share 54 trans-boundary rivers. 2. Success: Ganges Water Treaty (1996) and the recent Kushiyara River Pact. 3. Conflict: The Teesta Water Sharing agreement remains a major unresolved issue due to objections from West Bengal.
Economic & Energy	1. Trade: Bangladesh is India's biggest trade partner in South Asia. India has extended Lines of Credit (LoC) worth over \$7 billion. 2. Energy: The India-Bangladesh Friendship Pipeline supplies diesel from Siliguri to Parbatipur
Connectivity	1. Rail Links: Maitree Express (Dhaka-Kolkata), Bandhan Express (Khulna-Kolkata), Mitali Express (Dhaka-NJP). 2. Transit: India uses Chattogram and Mongla ports for transit of goods to its North Eastern States.
Key Forums	Both are members of SAARC, BIMSTEC, and IORA.

18. Trump Mulls Tariffs on Indian Rice: India and the U.S. (2005 vs 2025)

Context: Tensions in **India-U.S.** trade ties resurfaced in December when U.S. President Donald Trump indicated that his administration is considering imposing punitive tariffs on rice imports from India. Citing concerns over "**dumping**" and the need to protect American farmers, the President's remarks have added a layer of economic friction to an otherwise robust strategic partnership.

I. Background of the Issue:

- **The "Reciprocity" Argument:** The Trump administration (2.0) has consistently flagged India as a "**tariff king**," demanding a reduction in duties on American agricultural products (like almonds and apples) and motorcycles.
- **The Rice Dispute:** American farmers have alleged that Indian rice (both Basmati and non-Basmati) is being sold in the U.S. at unfairly low prices due to Indian government subsidies (MSP), which they term as "dumping".
- **Trade Deficit:** The U.S. remains concerned about its merchandise trade deficit with India, which it aims to narrow through aggressive tariff measures.
- **Tariff Threat:** President Trump suggested that a "reciprocal tax" or specific anti-dumping duties could be levied to "stop the dumping" of Indian rice.
- **Asymmetric Impact:**
 - ✓ **On India:** Trade data reveals that the U.S. accounts for only about 3% of India's total rice exports. Therefore, the direct impact on Indian exporters would be limited.
 - ✓ **On the U.S.:** However, Indian rice constitutes nearly 26% of U.S. rice imports (mostly premium Basmati consumed by the diaspora). Analysts warn that tariffs would hurt American consumer's more than Indian farmers by driving up food inflation.
- **Existing Tariffs:** This threat comes on top of the 50% tariff hike already imposed on certain Indian goods in August 2025, which affected sectors like textiles and jewelry.

II. Significance: 2005 versus 2025 – A Transformation:



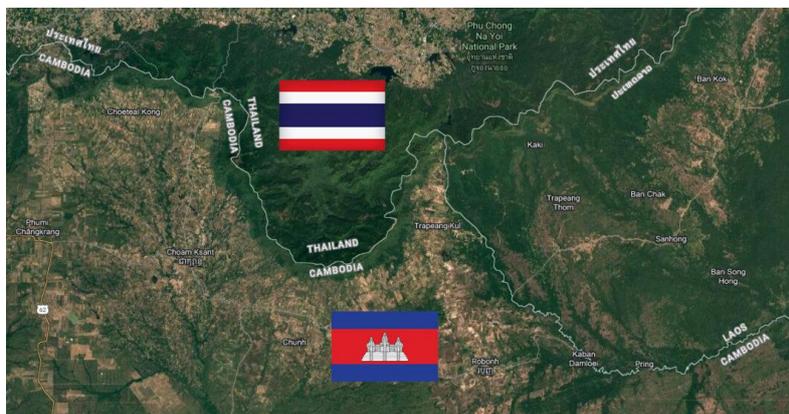
The threat highlights a shift in the trajectory of bilateral ties over the last two decades.

Dimension	2005 (The Era of Optimism)	2025 (The Era of Transactional Realism)
Strategic Vision	The U.S. explicitly stated its intent to "help India become a major world power" (2005 Joint Statement). The relationship was viewed as an "end in itself."	The 2025 U.S. National Security Strategy views India primarily as a "counter-weight" to China. The support is more conditional and transactional ("America First").
Defence	The New Framework for Defense Relationship (2005) was signed, breaking decades of mistrust. It laid the groundwork for the Civil Nuclear Deal.	The Framework was renewed in October 2025, focusing on "co-production" (GE Jet Engines) rather than just "buying". However, tech transfer is now linked to strategic alignment.
Trade Dynamics	Trade was minimal; the focus was on removing technology denial regimes (High-Tech Cooperation Group).	Trade is the primary friction point. Issues like Digital Services Tax, Data Localization, and Tariffs dominate the agenda.
Global Role	The U.S. was the sole superpower; India was a rising aspirant.	In a Multipolar World, India asserts "Strategic Autonomy" (e.g., buying Russian oil despite U.S. sanctions), which the U.S. tolerates but dislikes.

While the strategic "**China factor**" continues to glue New Delhi and Washington together, the economic pillar faces turbulence. The 2025 dynamic requires India to navigate a "transactional" U.S. administration where strategic partnership does not guarantee immunity from economic protectionism.

19. Truce in Tatters: ASEAN's Role in the Cambodia-Thailand Dispute

Context: The fragile peace along the Thai-Cambodian border has once again been shattered. In a significant escalation reported this month, artillery exchanges were reported near the disputed **Preah Vihear temple** complex, marking the first major violation of the ceasefire in recent years. The incident has drawn sharp criticism towards the **Association of Southeast Asian Nations (ASEAN)**, with experts arguing that the regional bloc must move beyond its policy of "quiet diplomacy" to prevent a full-scale conflict between its two member states.



I. Background of the Conflict:

- **The Preah Vihear Temple:** The core of the dispute lies in the ownership of the 11th-century Hindu temple, Preah Vihear. While the International Court of Justice (ICJ) awarded the temple to Cambodia in 1962, the ownership of the 4.6 square kilometers of scrubland surrounding it remains contested.
- **Nationalist Sentiment:** Historically, the dispute flares up whenever domestic politics in either Bangkok or Phnom Penh heat up. Nationalist rhetoric often uses the border issue to rally public support, turning a territorial dispute into a sovereignty crisis.
- **Previous Clashes:** The region saw deadly skirmishes between 2008 and 2011, which only subsided after ICJ intervention and Indonesia's mediation efforts.

II. Key Highlights of the Recent Crisis:

- **Breakdown of the Truce:**
 - ✓ Recent reports indicate a breakdown in the "zone of peace" agreement, with both sides accusing the other of troop build-ups and unauthorized construction in the overlapping claim area.
 - ✓ The exchange of fire has displaced local villagers on both sides of the border.
- **ASEAN's "Hands-Off" Approach Criticized:**
 - ✓ Critics argue that ASEAN's response has been "too little, too late."
 - ✓ The organization has traditionally relied on the "ASEAN Way"—a principle of non-interference in the internal affairs of member states and consensus-based decision-making.
 - ✓ However, analysts point out that this principle renders the bloc toothless when two members fight each other. The current "Chair's Statement" calling for restraint is seen as insufficient without a binding dispute resolution mechanism.
- **Indonesia's Role as Mediator:**
 - ✓ Indonesia, often the unofficial leader of ASEAN, has previously attempted to send observers (Indonesian Observer Team - IOT) to the border.
 - ✓ The current crisis has renewed calls for deploying these observers to enforce the ceasefire, a move previously stalled by military resistance from the involved parties.

III. Impact on India:

- **Strategic Delays (Trilateral Highway):**
 - ✓ The instability threatens the timeline of the India-Myanmar-Thailand Trilateral Highway, which is India's gateway to ASEAN. While the conflict is on the Cambodia-Thailand border, regional instability often leads to border closures and logistics hurdles that ripple across the Mekong sub-region.
 - ✓ This complicates India's Act East Policy, which relies on seamless connectivity through Thailand to reach Vietnam and Cambodia.
- **Cultural Diplomacy Stakes:**

- ✓ The Archaeological Survey of India (ASI) is deeply involved in the restoration of temples in the Mekong region (like Ta Prohm in Cambodia and Vat Phou in Laos).
- ✓ Any damage to the Preah Vihear temple (a Shiva temple and UNESCO World Heritage site) would be a blow to India's soft power and shared cultural heritage in the region.
- **Diplomatic Balancing Act:**
 - ✓ India maintains robust strategic ties with both Thailand (a key partner in BIMSTEC) and Cambodia (a close partner in the Mekong-Ganga Cooperation).
 - ✓ New Delhi faces the challenge of remaining neutral while urging de-escalation, as taking sides could alienate a key partner in its Indo-Pacific strategy.

Significance & Challenges:

- **Test for ASEAN Centrality:** If ASEAN cannot resolve a conflict in its own backyard, its credibility as a central security architecture for the Indo-Pacific (amidst US-China rivalry) is severely undermined.
- **Economic Impact:** The border skirmishes threaten cross-border trade and the vision of the ASEAN Economic Community (AEC). Connectivity projects linking Thailand's industrial east to Cambodia and Vietnam could face delays.
- **The Precedent:** A failure to mediate here sets a bad precedent for other regional disputes, such as the South China Sea claims where ASEAN unity is already fractured.

Way Forward:

- **Invoking the High Council:** ASEAN has a dispute settlement mechanism under the Treaty of Amity and Cooperation (TAC) called the High Council. It has arguably never been fully utilized. Activating this body could provide a formal "Asian solution to Asian problems."
- **From "Non-Interference" to "Constructive Engagement":** ASEAN needs to pivot towards "constructive engagement" or "flexible engagement," allowing it to intervene when a bilateral issue threatens regional stability.

The Preah Vihear Dispute & ICJ Rulings:

Dimension	Key Details
Geography	Preah Vihear Temple: Located on a cliff in the Dângrêk Mountains. Map Issue: Thailand relies on American maps; Cambodia relies on French colonial maps (1907 Franco-Siamese Treaty). The French map places the temple in Cambodia, even though the watershed line suggests otherwise.
ICJ Ruling (1962)	The International Court of Justice ruled that the temple belongs to Cambodia, forcing Thailand to withdraw troops. However, it did not clearly rule on the surrounding land.
UNESCO Listing (2008)	The conflict reignited in 2008 when UNESCO listed Preah Vihear as a World Heritage Site under Cambodia's application, angering Thai nationalists.
ICJ Ruling (2013)	In a clarification judgment, the ICJ ruled that the vicinity of the temple also belongs to Cambodia and ordered Thailand to withdraw its forces from that specific promontory.
ASEAN Mechanism	Treaty of Amity and Cooperation (TAC): A non-aggression pact signed by ASEAN members (and partners like India) to settle disputes peacefully.

20. Sudan's Civil War: A Deepening Humanitarian Catastrophe

Context: As the civil war in Sudan enters a new and deadlier phase in late 2025, the humanitarian situation has spiraled into what the United Nations has termed a "crisis of epic proportions." Recent reports indicate that the conflict between the Sudanese Armed Forces (SAF) and the Rapid Support

Forces (RSF) has not only intensified in the capital Khartoum but has also spread to the agricultural heartlands, triggering mass displacement and bringing millions to the brink of famine.



Background of the Crisis:

- **Power Struggle:** The conflict, which erupted in April 2023, is fundamentally a power struggle between General Abdel Fattah al-Burhan (SAF) and his former deputy, General Mohamed Hamdan Dagalo (RSF).
- **Failed Transition:** The fighting derailed Sudan's transition to civilian rule following the ouster of long-time dictator Omar al-Bashir.
- **Ethnic Dimensions:** In regions like Darfur, the conflict has taken on ethnic undertones, reviving memories of the genocide in the early 2000s, with Arab militias targeting non-Arab communities.

Key Highlights of the Recent Escalation:

- **Famine Declaration:**
 - ✓ International aid agencies have formally declared famine conditions in parts of North Darfur (El Fasher) and South Kordofan (Kadugli).
 - ✓ Over 25 million people (more than half the population) are now facing acute food insecurity. The disruption of the planting season in the "breadbasket" state of Al Jazirah has exacerbated the hunger crisis.
- **Refugee Spillover:**
 - ✓ The conflict has created the world's largest displacement crisis. Over 12 million people have been displaced, with millions fleeing to neighboring Chad, South Sudan, and Egypt, overwhelming their already fragile infrastructures.
 - ✓ Chad, in particular, is struggling to cope with the influx, leading to local resource conflicts.
- **Infrastructure Collapse:**
 - ✓ The healthcare system has effectively collapsed, with 80% of hospitals in conflict zones non-functional.
 - ✓ The capture of key oil infrastructure (like the Heglig oil field) by RSF forces has halted production, cutting off a vital revenue stream for both Sudan and South Sudan (which relies on Sudan's pipelines for exports).

Significance & Global Impact:

- **Destabilization of the Horn of Africa:** The vacuum in Sudan is drawing in regional actors, with reports of external support fueling both sides. This threatens the stability of the entire Red Sea region, a critical global trade route.
- **Terrorism Risk:** A lawless Sudan provides a fertile breeding ground for extremist groups to regroup and expand their footprint in the Sahel.

- **Failure of Diplomacy:** The repeated failure of ceasefire talks (Jeddah Process) highlights the limitations of international mediation when warring factions view the conflict as an existential zero-sum game.

Impact on India:

- **Diaspora and Evacuation Legacy:**
 - ✓ While India successfully evacuated over 4,000 nationals during Operation Kaveri (2023), a small number of Indian expats and workers remain in safer pockets.
 - ✓ Their safety is a recurring concern as frontlines shift.
- **Energy Interests:**
 - ✓ India has historical investments in Sudan's oil sector (via ONGC Videsh).
 - ✓ The damage to oil infrastructure and pipelines directly impacts the value of these assets and delays any potential recovery of past dues.
- **Strategic Concerns:**
 - ✓ Sudan's coastline along the Red Sea is strategically vital.
 - ✓ Instability there complicates India's maritime security calculus in the western Indian Ocean and threatens the safety of shipping lanes used for Indian exports to Europe.
- **Global South Leadership:**
 - ✓ As a voice of the Global South, India has been pressured to play a more active diplomatic role.
 - ✓ At the UN, India has consistently called for an "immediate cessation of violence" and supported African-led solutions, but the prolonged crisis tests this diplomatic neutrality.

Geography and Strategic Importance:

Dimension	Key Details
Geography	Location: Northeast Africa, bridging the Arab world and Sub-Saharan Africa. Borders: Egypt, Libya, Chad, Central African Republic, South Sudan, Ethiopia, Eritrea, and the Red Sea.
River System	The Nile River is the lifeline. The Blue Nile (from Ethiopia) and White Nile (from Lake Victoria) meet at the capital, Khartoum, to form the main Nile that flows into Egypt.
Resources	Rich in Gold (driving RSF funding), Oil (mostly in the south, but pipelines run north), and arable land (Al Jazirah scheme).
Key Conflict Zones	1. Darfur: Western region, site of ethnic cleansing. 2. Khartoum: The capital and center of power. 3. Kordofan: Oil-rich region bridging north and south.
Port Sudan	The country's main seaport on the Red Sea, currently the de-facto administrative capital for the SAF-led government.

21. Australia's Social Media Ban: A Global First for Digital Safety

Context: On December 10, 2025, Australia implemented its groundbreaking **legislation prohibiting children under 16 from accessing social media**. This unprecedented law, known as the **Online Safety Amendment (Social Media Minimum Age) Act**, shifts the responsibility for compliance directly onto technology companies instead of parents, signifying a significant transformation in international digital governance.



Need for the Ban:

- **Mental Health Crisis:** The Australian government responded to increasing evidence that links excessive social media usage to heightened levels of anxiety, depression, and body image concerns among young people.
- **Failure of "Self-Regulation":** Previous efforts to allow platforms to self-regulate have proven unsuccessful. Age restrictions (typically set at 13 years and older) were frequently circumvented, and algorithms continued to promote harmful content (such as extreme challenges and grooming threats) to underage users.
- **The "Seatbelt" Analogy:** Advocates contend that similar to the requirement of seatbelts for safety, which may limit movement, this prohibition serves as a vital "digital seatbelt" for a generation facing unregulated algorithmic dangers.

Key Highlights of the Law:

- **The Mechanism (How it operates):**
 - ✓ **Strict Liability on Platforms:** Technology firms (Meta, TikTok, X, Snapchat, etc.) are required to implement "reasonable measures" to prevent individuals under the age of 16 from creating accounts.
 - ✓ **No Penalties for Users:** Neither children nor their parents will face fines or penalties for circumventing the prohibition. The legislation is directed at the service providers.
 - ✓ **Heavy Fines:** Platforms that do not comply may incur fines reaching up to AUD 50 million (\$33 million) for systemic violations.
 - ✓ **Exemptions:** Services considered essential for educational and communicative purposes—such as Google Classroom, YouTube Kids, WhatsApp, and online gaming—are presently exempt from this prohibition.
- **Age Verification Challenges:**
 - ✓ The legislation does not specify a singular method for verification. Rather, platforms are exploring various "age assurance" technologies, which include biometric age estimation (facial recognition) and third-party tokenized verification, aimed at safeguarding user privacy while preventing access to minors.
- **Grandfathering Clause:** Accounts that are currently held by users under the age of 16 must be either closed or restricted, resulting in millions of young users being logged out as the law was enacted.

Significance & Global Impact:

- **A Global Test Case:** The international community is closely observing Australia. Should this "sovereign firewall" strategy prove effective, it could initiate a chain reaction, prompting nations such as France, the UK, and even certain US states (like Florida) to expedite the implementation of similar stringent laws.

- **Privacy vs. Safety Debate:** Detractors caution against a "**Privacy Paradox.**" In order to verify their age as over 16, adults may now be required to submit government-issued identification or facial recognition data to technology firms, which could lead to the establishment of a vast surveillance database susceptible to cyberattacks.
- **The "Dark Web" Risk:** Concerns are rising that prohibited minors may transition to unregulated, more perilous areas of the internet (for instance, unmoderated forums on the dark web) where the risks of grooming are significantly heightened and difficult to detect.

Impact on India / India's Existing Mechanisms:

- **Comparison with the DPDP Act, 2023:**
 - ✓ In contrast to Australia's "Blanket Ban" for individuals under 16, India's Digital Personal Data Protection (DPDP) Act, 2023 employs a "Consent-Based" framework.
 - ✓ In India, platforms are permitted to process the data of minors (defined as those under 18) solely with verifiable parental consent.
 - ✓ India emphasizes the prohibition of "behavioral monitoring" and targeted advertising directed at children, rather than imposing a complete access ban.
- **Verification Challenge in India:**
 - ✓ The implementation of an Australian-style prohibition in India presents technical challenges due to the vast number of users and the absence of a universal, privacy-preserving age verification system.
 - ✓ Nonetheless, the Australian model may exert pressure on the Indian government to enhance regulations under the forthcoming Digital India Act, potentially requiring more stringent age-gating for high-risk platforms.

Digital Rights & Children (UNCRC):

Concept	Explanation
UNCRC (Article 13)	The UN Convention on the Rights of the Child grants children the right to freedom of expression and access to information. Critics argue Australia's ban might violate this right by cutting them off from digital communities.
Age Assurance vs. Verification	Verification: Checking hard ID (Passport/Aadhaar) – High accuracy, High privacy risk. Assurance: Estimating age (e.g., AI analyzing vocabulary or facial features) – Lower accuracy, Lower privacy risk. Australia is pushing for the latter.
COPPA (USA)	The Children's Online Privacy Protection Act (1998) is the global baseline. It prohibits collecting data on kids under 13 without parental consent. Australia's law pushes this "protection age" up to 16.
Right to be Forgotten	A key digital right allowing individuals (especially children) to have their data erased from platforms. This is central to India's DPDP Act.

22. Mexico's 50% Tariff Hike: Impact on India's Auto Exports

Context: In December 2025, the Mexican Senate formally approved a new tariff measure imposing import duties ranging from **5% to 50%** on goods from countries with which Mexico does not have a **Free Trade Agreement (FTA)**. This move significantly impacts India, as Mexico is one of its largest markets for automobile exports. The new duties are set to take effect from January 1, 2026.



Reason for the Hike (Mexico's Perspective):

- **Pressure from the USA:** Mexico is under immense pressure from the United States to curb the "backdoor entry" of Asian goods (primarily Chinese, but also affecting India) into the North American market.
- **Protecting Domestic Industry:** The Mexican government aims to boost local manufacturing and protect jobs by discouraging imports of finished goods, especially in the automotive and steel sectors.
- **USMCA Compliance:** As the review of the USMCA (United States-Mexico-Canada Agreement) approaches in 2026, Mexico is aligning its trade policies to avoid punitive measures from Washington.

Key Highlights of the Tariff Regime:

- **Steep Hike:** Import duties on Passenger Vehicles (PVs) will jump from the current 20% to nearly 50%.
- **Affected Sectors:** While the move targets a wide range of 1,400 products including electronics, steel, and textiles, the Automobile and Auto-Components sector is the hardest hit.
- **No FTA Shield:** Since India and Mexico do not have a comprehensive Free Trade Agreement, Indian exports fall directly under this new punitive tax bracket.

Significance & Impact on India:

- **Blow to Auto Exports:**
 - ✓ Mexico is India's second-largest export market for cars (after South Africa/Saudi Arabia) and a top destination for auto components.
 - ✓ Indian automakers like Maruti Suzuki, Volkswagen India, and Hyundai India export nearly \$1.87 billion worth of vehicles annually to Mexico.
 - ✓ Models like the Volkswagen Vento and Suzuki Swift, which are made in India and shipped to Mexico, will become significantly more expensive, losing their price advantage against competitors from Brazil or the US.
- **Economic Ripple Effect:**
 - ✓ Components at Risk: The \$500 million auto-component trade is also threatened. Indian parts used in Mexican assembly lines will now cost more, prompting manufacturers to look for alternative suppliers.
 - ✓ Aluminum & Steel: Exports of aluminum and steel products will face duties rising from 10% to 35%, hurting Indian metal producers.

India's Response & Way Forward:

- **Diplomatic Engagement:** The Ministry of Commerce has commenced discussions at the technical level to pursue an exemption or a "standstill agreement," contending that Indian

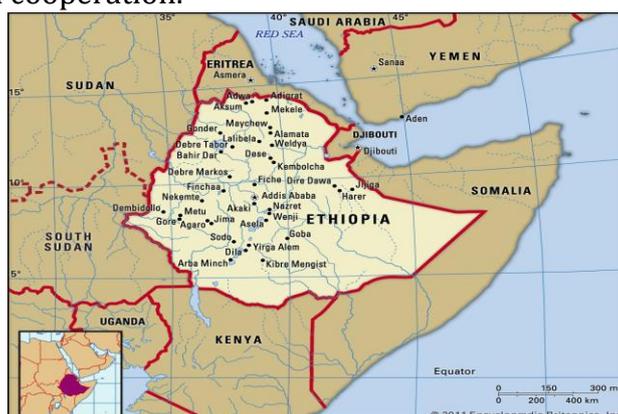
automobiles are small-engine compacts that do not pose competition to the large SUVs produced in Mexico or the United States.

- **Push for a Limited Trade Deal:** Analysts recommend that India should expedite the establishment of a Preferential Trade Agreement (PTA) with Mexico to circumvent these non-FTA tariffs.
- **Diversification:** This crisis underscores the dangers of excessive reliance on a single market. Indian automotive manufacturers may need to shift their focus to other emerging markets in Africa and Latin America (such as Chile, with which India has a PTA) to mitigate the impact of the loss.



23. The Right Moment to Boost India-Ethiopia Ties: Elevation to Strategic Partnership

Context: In a historic milestone for India-Africa relations, Prime Minister Narendra Modi recently visited Addis Ababa, marking the first bilateral visit by an Indian PM to Ethiopia. During the visit, both nations agreed to elevate their bilateral relationship to the level of a "Strategic Partnership." This move signals a shift from a purely developmental relationship to one encompassing deeper security, economic, and technological cooperation.



Why Now? (The Need for Elevation):

- **The "Horn of Africa" Relevance:** Ethiopia is the anchor state in the Horn of Africa. With increasing volatility in the Red Sea (due to piracy and Houthi attacks) and the strategic importance of the Bab-el-Mandeb strait, India needs a reliable partner in the region to secure its maritime trade routes.
- **BRICS Synergy:** Following Ethiopia's induction into the BRICS grouping (in 2024), both nations now share a common platform to push for Global South interests, making closer bilateral coordination essential.

- **Economic Liberalization:** Ethiopia is undergoing significant economic reforms, opening up sectors like telecommunications and finance. India, being a top investor, aims to leverage this "first-mover" advantage before other global powers dominate the market.

Key Highlights of the Visit:

- **Strategic Partnership Declared:** The leaders formally upgraded ties, creating a structured mechanism for regular dialogue on defence and security issues.
- **Eight Key Agreements Signed:**
 - ✓ Customs Cooperation: To facilitate smoother trade and curb illicit trafficking.
 - ✓ Data Centre: India will establish a Data Centre at the Ethiopian Ministry of Foreign Affairs, showcasing India's Digital Public Infrastructure (DPI) capabilities.
 - ✓ UN Peacekeeping: A pact to cooperate in training for UN missions, leveraging the fact that both are among the largest troop contributors to the UN.
- **Debt Restructuring Support:** In a significant diplomatic gesture, India signed an MoU on debt restructuring for Ethiopia under the G20 Common Framework, helping the African nation navigate its fiscal crisis.
- **Capacity Building:** India announced the doubling of ICCR scholarships for Ethiopian students and introduced specialized AI courses under the ITEC program.

Impact on India:

- **Maritime Security Architecture:**
 - ✓ By strengthening ties with Ethiopia (a landlocked power with immense influence over Djibouti and Somaliland), India secures an indirect foothold near the Red Sea, crucial for countering China's naval presence at its Djibouti base.
- **Market Expansion for "Make in India":**
 - ✓ With Indian investments already crossing \$5 billion (creating 75,000 jobs), the new strategic status protects Indian capital in sectors like textiles and pharmaceuticals.
 - ✓ The push for UPI and RuPay integration in Ethiopia (discussed during the summit) opens a new market for India's fintech giants.
- **Diplomatic Leverage:**
 - ✓ Supporting Ethiopia's debt restructuring positions India as a "responsible lender" and a true voice of the Global South, contrasting with the "Debt Trap" narrative often associated with other Asian powers in Africa.

Challenges:

- **Internal Instability:** Ethiopia continues to face internal ethnic conflicts (e.g., in the Amhara and Oromia regions). India must navigate these domestic sensitivities carefully without being seen as taking sides.
- **Regional Tensions:** Ethiopia's tensions with Egypt and Sudan over the Grand Ethiopian Renaissance Dam (GERD) on the Nile River pose a diplomatic tightrope for India, which has good relations with Cairo as well.

Ethiopia: The "Roof of Africa"

Dimension	Key Details
Geography	Location: Landlocked country in the Horn of Africa. Borders: Eritrea (North), Djibouti (East), Somalia (East/South), Kenya (South), South Sudan (West), Sudan (Northwest).
Capital	Addis Ababa (Also serves as the headquarters of the African Union).
Historical Ties	Trade dates back to the Axumite Empire (1st Century AD) and the ancient port of Adulis. Indian traders (Gujaratis) have been present for centuries.
River Nile	The Blue Nile (Abay), which contributes approx. 85% of the Nile's water, originates from Lake Tana in Ethiopia.

Global Status	Ethiopia is the only African nation that was never colonized (except for a brief Italian occupation, 1936-41).
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24. India-Oman CEPA: A Strategic Leap Beyond Trade

Context: The Prime Minister of India recently concluded a historic two-day visit to Muscat, marking the 70th anniversary of diplomatic relations between the two nations. The centerpiece of this visit was the signing of the Comprehensive Economic Partnership Agreement (CEPA), making Oman the second Gulf Cooperation Council (GCC) country (after the UAE) to sign a free trade pact with India. Experts have termed this visit "more than a routine diplomatic trip," signaling a decisive shift in India's West Asia strategy.



Need for the Pact:

- **Diversifying Export Markets:** With traditional markets like the US and EU erecting tariff walls (e.g., Carbon taxes, strict visa norms), India urgently needs new, duty-free markets for its manufacturing sector.
- **Energy Security:** Oman is a critical supplier of crude oil and LNG. Securing long-term supply chains free from volatile tariff fluctuations is vital for India's energy stability.
- **Strategic Gateway:** Oman serves as a gateway to the broader Gulf region and East Africa. Strengthening economic ties here anchors India's presence near the strategic Strait of Hormuz.

Key Highlights of the India-Oman CEPA:

- **Zero-Duty Access for Goods:**
 - ✓ Oman's Offer: Muscat has eliminated duties on 98% of tariff lines, granting immediate zero-duty access to Indian exports.
 - ✓ Beneficiary Sectors: Major gains are expected for labour-intensive sectors such as textiles, gems & jewellery, leather, pharmaceuticals, and engineering goods, which previously attracted 5% import duties.
 - ✓ India's Offer: In reciprocity, India has reduced duties on key Omani exports like petrochemicals, LNG, and dates.
- **Protection of Sensitive Sectors (The "Negative List"):**
 - ✓ To protect domestic interests, India has kept sensitive items like dairy, gold, silver, and certain agricultural products out of the tariff reduction list.
- **Services and Mobility (Mode 4):**
 - ✓ A standout feature is the liberalised visa regime for professionals.
 - ✓ The pact allows for longer stays and easier entry for Indian accountants, doctors, nurses, and architects.
 - ✓ The quota for "intra-corporate transferees" has been hiked from 20% to 50%, allowing Indian IT firms to easily move staff to their Omani branches.
- **Investment Boost:**

- ✓ The agreement permits 100% Foreign Direct Investment (FDI) by Indian companies in major service sectors in Oman, paving the way for Indian hospitals and educational institutions (like IIT campuses) to set up bases there.

Beyond Trade: The Strategic "Duqm" Factor: While trade is the headline, the underlying narrative is security.

- **Maritime Vision:** Both leaders adopted a new "Joint Vision on Maritime Cooperation."
- **Port Access:** The visit reinforced India's access to the Port of Duqm. This deep-sea port facing the Arabian Sea is crucial for the Indian Navy to counter China's growing footprint (via bases like Djibouti and Gwadar) in the Western Indian Ocean. It serves as a logistics hub for India's humanitarian and anti-piracy missions.

Significance & Impact:

- **Boosting MSMEs:** Since the duty cuts target sectors like textiles and leather, the pact directly benefits India's MSME sector, which contributes significantly to employment.
- **Remittance Economy:** With over 700,000 Indians living in Oman (sending home ~\$2 billion annually), the improved professional mobility rules will secure the future of the Indian workforce against "Omanisation" labor policies.
- **Blueprint for GCC:** This success sets a template for the wider India-GCC Free Trade Agreement, which has been under negotiation for years.

The "Oldest Friend" in the Gulf:

Dimension	Key Details
Historical Ties	Oman is India's oldest strategic partner in the Gulf region. The relationship is anchored in geography, with Oman being the closest Arab neighbor to India.
Strategic Location	Oman sits at the mouth of the Strait of Hormuz, through which a significant portion of India's oil imports pass.
Defence Exercises	India is the only country with which Oman conducts bilateral exercises across all three services: <ol style="list-style-type: none"> 1. Al Najah (Army) 2. Eastern Bridge (Air Force) 3. Naseem Al Bahr (Navy)
Key Port	Duqm Port: India has secured access for military use and logistical support here. It creates a "Diamond Necklace" strategy to counter China's "String of Pearls."
Cultural	The National Maritime Heritage Complex at Lothal (Gujarat) is collaborating with Oman to showcase shared ancient maritime trade routes.

25. India's West Asia Balancing Act: PM in Jordan, EAM in Israel

Context: In a rare display of diplomatic dexterity, India executed a high-wire "parallel diplomacy" in West Asia this month. While Prime Minister Narendra Modi landed in Amman for a historic bilateral visit to Jordan, External Affairs Minister S. Jaishankar simultaneously visited Tel Aviv to hold talks with the Israeli leadership. This synchronized engagement allowed New Delhi to reiterate its balanced position on the ongoing West Asian conflicts while securing vital national interests on both sides of the divide.



Need for the Dual Visits:

- **Fertilizer Security (Jordan):** India is heavily dependent on imported phosphates for its agriculture sector. Jordan, being a top global supplier of rock phosphate and phosphoric acid, is critical for India's food security.
- **Strategic De-hyphenation:** By engaging a key Arab partner (Jordan) and a strategic defence partner (Israel) simultaneously, India demonstrated its policy of "De-hyphenation"—treating relations with each nation on its own merit without third-party vetoes.
- **Regional Stability:** With the West Asian conflict threatening trade routes (Red Sea) and energy prices, India is stepping up as a "Voice of Peace," urging de-escalation and a return to dialogue.

Key Highlights of PM Modi's Jordan Visit:

- **Historic Milestone:** This was the first full-fledged bilateral visit by an Indian PM to Jordan, coinciding with the 75th anniversary of diplomatic ties.
- **Economic Outcomes:**
 - **Trade Target:** Both leaders set a target to double bilateral trade to \$5 billion by 2030.
 - **Digital Public Infrastructure (DPI):** Jordan expressed interest in adopting India's UPI (Unified Payments Interface) model, leading to the signing of an MoU on digital cooperation.
 - **Twinning Agreement:** A unique cultural pact was signed to link the heritage sites of Petra (Jordan) and Ellora Caves (India), both famous for their rock-cut architecture.
- **Fertilizer Deal:** A long-term agreement was renewed to ensure the uninterrupted supply of Muriate of Potash (MoP) and rock phosphate to Indian farmers.

Key Highlights of EAM Jaishankar's Israel Visit:

- **Security & Connectivity:** Talks focused on the safety of the IMEC (India-Middle East-Europe Economic Corridor), which has been stalled due to regional instability.
- **Gaza Peace Plan:** India officially threw its weight behind the "Gaza Peace Plan," calling for an immediate cessation of violence and the release of hostages.
- **Labour Mobility:** Discussions were held to fast-track the arrival of Indian construction workers to Israel, filling the labor void created by the conflict, while ensuring their safety and insurance coverage.

India's Stance on West Asian Conflicts (Reiterated):

- **Two-State Solution:** During both visits, India firmly reiterated its support for a negotiated Two-State Solution, advocating for a sovereign, independent, and viable Palestinian state living side-by-side in peace with Israel.

- **Zero Tolerance for Terror:** India maintained its principled stand against terrorism in all forms, condemning the attacks that triggered the conflict while also warning against the disproportionate loss of civilian lives.

Significance of the "Split-Screen" Diplomacy:

- **Strategic Autonomy:** The timing sent a signal that India's growing closeness with Israel does not come at the cost of its traditional ties with the Arab world.
- **Humanitarian Role:** India announced a fresh tranche of humanitarian aid (medicines and food) for the people of Gaza, to be routed through Jordan, highlighting Amman's role as a humanitarian hub.
- **Global South Leadership:** By pushing for a ceasefire and dialogue, India reinforced its position as a stabilizing power in the Global South, distinguishing its approach from the polarized positions of Western powers.

Jordan: The "Oasis of Stability"

Dimension	Key Details
Geography	Landlocked (almost) nation bordering Syria, Iraq, Saudi Arabia, Israel, and the West Bank. It has a tiny coastal outlet on the Red Sea via the port of Aqaba.
Strategic Role	Jordan is custodian of the Al-Aqsa Mosque in Jerusalem (third holiest site in Islam). It hosts one of the largest Palestinian refugee populations in the world.
Petra	An ancient city carved into pink sandstone cliffs, capital of the Nabataean Empire (c. 4th century BC). It is a UNESCO World Heritage site.
Dead Sea	Located on the Jordan-Israel border, it is the lowest point on Earth. It is a major source of Potash and Bromine for Jordan's economy.
India-Jordan Trade	Jordan is a major source of Phosphates and Potash for India (critical for DAP fertilizers). India exports engineering goods and textiles to Jordan.

26. India-New Zealand FTA: Breaking Barriers Down Under

Context: In a significant boost to its "Act East" economic diplomacy, India successfully concluded negotiations for a comprehensive Free Trade Agreement (FTA) with New Zealand in December 2025. The announcement followed a telephonic conversation between Prime Minister Narendra Modi and his New Zealand counterpart Christopher Luxon. This marks India's second major trade pact with an Oceania nation (after Australia), aiming to double bilateral trade to \$5 billion within the next five years.



Need for the Pact:

- **Market Diversification:** As traditional Western markets, such as the US and EU, experience economic downturns, India is strategically shifting its focus towards the Indo-Pacific region. A trade agreement with New Zealand enhances the existing ECTA with Australia, thereby establishing a cohesive economic zone for Indian products within the Pacific.
- **Level Playing Field:** Indian exports, including textiles and leather, had previously encountered tariffs ranging from 5-10% in New Zealand, which diminished their competitiveness against products from China or Vietnam, both of which already benefit from FTAs with New Zealand. This new agreement alleviates that competitive disadvantage.
- **Service Sector Mobility:** India's primary offensive interest was "mobility", ensuring easier visa norms for its professionals and students, which was a sticking point in earlier negotiations.

Key Highlights of the Agreement:

- **Tariff Eliminations (Goods):**
 - ✓ **New Zealand's Offer:** New Zealand will abolish customs duties on 100% of Indian exports immediately. This represents a significant advantage for labor-intensive industries such as Textiles, Leather, Footwear, and Pharmaceuticals.
 - ✓ **India's Offer:** India has proposed duty reductions on approximately 70% of tariff lines, which include timber (logs), wool, and premium fruits (kiwis, avocados).
- **The "Dairy" Red Line:**
 - ✓ **Protectionism Maintained:** India has successfully excluded its Dairy Sector entirely from the tariff reduction list. Consequently, there will be no duty reductions for New Zealand's milk powder, butter, or cheese, thereby protecting the livelihoods of millions of Indian smallholder farmers.
 - ✓ **Investment Exception:** A distinctive clause permits New Zealand companies to invest in Indian dairy processing units only if the final product is entirely re-exported and not marketed domestically.
- **Investment & Services:**
 - ✓ **\$20 Billion Target:** The agreement encompasses an investment chapter aiming for \$20 billion in foreign direct investment (FDI) from New Zealand over the next 15 years.
 - ✓ **Mobility Quotas:** New Zealand has consented to a quota of 5,000 temporary work visas each year for Indian professionals, including chefs, yoga instructors, and practitioners of traditional medicine (AYUSH).
 - ✓ **Student Rights:** Indian students, who constitute the second largest international group in New Zealand, will now benefit from extended post-study work rights.



27. A Year of Dissipating Promises for Indian Foreign Policy

Context: As 2025 approaches its conclusion, experts in foreign policy have described it as a year characterized by "dissipating promises." The year commenced with significant hopes that India would solidify its position as a "leading global power" through consistent leadership and bold diplomatic initiatives. Nevertheless, by December, New Delhi was confronted with considerable challenges on various fronts—spanning trade conflicts with the United States to an unstable regional environment—prompting inquiries into the effectiveness of "performative diplomacy" in comparison to meaningful strategic results.

Evolution of Indian Foreign Policy Doctrines

Phase/Doctrine	Key Features
Panchsheel (1954)	The foundational 'Five Principles of Peaceful Coexistence' (Non-interference, Mutual respect). Focused on Non-Alignment (NAM).
Gujral Doctrine (1996)	'Non-Reciprocity' with neighbors. India gives more than it takes to build trust with smaller neighbors (Nepal, Bangladesh, Sri Lanka).
Look East to Act East (2014)	Shift from passive engagement to active economic and security cooperation with ASEAN and East Asia.
SAGAR (2015)	'Security and Growth for All in the Region.' India's vision for the Indian Ocean, positioning itself as a 'Net Security Provider.'
Multi-Alignment (Current)	Engaging with competing powers (US, Russia, Iran, Israel) simultaneously based on issue-based convergence (e.g., buying S-400 from Russia while signing ICET with US).

Key Challenges Emerged in 2025:

- **Economic & Energy Security (The US Friction):**
 - ✓ **Tariff Shock:** Relations with the United States encountered their "most challenging year in decades" following the imposition of a 25% reciprocal tariff by the Trump 2.0 administration on significant Indian exports such as apparel, gems, and seafood.
 - ✓ **Energy Sanctions:** A newly introduced 25% surcharge on countries importing Russian oil severely impacted India. Although Russian oil imports soared to a record \$52 billion, the looming threat of secondary sanctions has generated unparalleled uncertainty for Indian refiners.

- ✓ **Stalled Agreements:** Although India successfully concluded Free Trade Agreements (FTAs) with Oman, the UK, and New Zealand, the high-profile trade agreements with the United States and the European Union—expected to be the most significant accomplishments of the year—remain unratified.
- **Regional Security (Operation Sindoor & Aftermath):**
 - ✓ **Conflict Escalation:** The terror attack in Pahalgam during April prompted a significant military reaction from India in May, referred to as "Operation Sindoor".
 - ✓ **Diplomatic Isolation:** In contrast to earlier operations (Uri/Balakot), this particular strike received minimal diplomatic backing from Western nations. The inquiries concerning the purported loss of Indian aircraft during the conflict have undermined the "credibility of deterrence."
 - ✓ **Neighborhood Instability:** The "Neighborhood First" policy is currently experiencing a crisis:
 - **Bangladesh:** Relations have reached a historic low due to the abrupt change in regime and the rise of anti-India sentiments.
 - **Nepal:** The emergence of the "Gen-Z protests" has led to the introduction of a new and unpredictable political leadership.
 - **Myanmar:** India's involvement in the Junta's elections has faced backlash for placing security interests above democratic values.
- **Major Power Equations (The "G-2" Concern):**
 - ✓ **US Strategy Transition:** The US National Security Strategy (NSS) 2025 indicated a shift towards a "G-2" partnership with China. This development may have diminished India's role from a "Global Strategic Partner" to simply a regional counterbalance.
 - ✓ **China Standoff:** In spite of the reinstatement of direct flights and visa services, the fundamental military standoff at the Line of Actual Control (LAC) persists without resolution. There are no fresh security assurances, and ongoing economic limitations on Chinese investments continue to adversely affect Indian manufacturing.
- **Significance & Analysis:**
 - ✓ **Limits of "Optics":** The past year has revealed the shortcomings of diplomacy that is primarily summit-focused. Despite high-profile visits and gestures of goodwill, such as "hugs," there has been no tangible progress in terms of tariff waivers or assistance during security emergencies, highlighting that personal rapport cannot supersede fundamental national interests.
 - ✓ **The Credibility Gap:** Experts contend that India's status as a "normative power"—a beacon of moral leadership—has diminished due to its contradictory actions. While it promotes democracy on a global scale, it simultaneously engages with the Taliban and the Junta in Myanmar, all while facing international criticism regarding its treatment of domestic minority groups.
 - ✓ **Re-evaluating Autonomy:** The dual pressures from the United States, particularly regarding tariffs, alongside the absence of support from Russia and China, have compelled a reassessment of what "Strategic Autonomy" truly entails. India is coming to understand that in a world driven by transactions, genuine autonomy necessitates economic strength in addition to adept diplomatic strategies.
- **Way Forward:**
 - ✓ **From Optics to Substance:** Foreign policy should shift from merely managing events to achieving concrete economic results, such as safeguarding MSMEs against tariff disruptions.

- ✓ **Internal Consolidation:** A robust foreign policy is contingent upon domestic stability. It is crucial to tackle internal social divisions to rehabilitate India's reputation as a reliable democratic ally.
- ✓ **Diversification:** Minimizing excessive reliance on the US for trade and on Russia for defense has transitioned from being an option to an imperative for navigating the "New Cold War."

ECONOMY

28. Core Sector Pulse: Cement & Steel Shine as Energy Falters

Context: According to data released by the Ministry of Commerce and Industry in December 2025, the output of India's Eight Core Industries (ICI) recorded a moderate growth of 1.8% in November 2025 compared to the same month last year. While the growth is positive, it signals a moderation in industrial momentum, with the sector being largely propped up by the robust performance of Cement, Steel, and Electricity sectors, even as fuel-related sectors like Crude Oil and Natural Gas witnessed a contraction.

What is the "Core Sector"?

- **Definition:** The Index of Eight Core Industries tracks the production volume of eight key industries: Coal, Crude Oil, Natural Gas, Refinery Products, Fertilizers, Steel, Cement, and Electricity.
- **Weightage:** Together, these industries comprise 40.27% of the weight of items included in the Index of Industrial Production (IIP), making them a leading indicator of broad-based industrial activity.
- **Decreasing Order of Weight:** Refinery Products (28%) > Electricity (19.85%) > Steel (17.92%) > Coal > Crude Oil > Natural Gas > Cement > Fertilizers.

Key Highlights of the Recent Data:

- **Top Performers (The Leaders):**
 - ✓ **Cement:** Witnessed the sharpest jump of 14.5%, driven by the government's accelerated infrastructure spending (PM Gati Shakti) and a revival in the housing sector post-monsoon.
 - ✓ **Steel:** grew by 6.1%, reflecting sustained demand from the construction and automobile manufacturing sectors.
 - ✓ **Fertilizers:** Recorded a healthy growth of 5.6%, ensuring adequate supply for the Rabi sowing season.
 - ✓ **Coal:** Posted a moderate increase of 2.1%, crucial for meeting thermal power demand.
- **The Laggards (The Drag):**
 - ✓ **Crude Oil & Natural Gas:** Both sectors contracted by 3.2% and 2.5% respectively. This decline highlights India's persistent challenge in ramping up domestic hydrocarbon exploration despite policy reforms like OALP (Open Acreage Licensing Policy).
 - ✓ **Electricity:** While overall positive in cumulative terms, monthly generation saw a dip of 2.2% (year-on-year) in November, partly due to a high base effect from last year and variations in seasonal demand.

Significance of the Trends:

- **Infrastructure Push:** The double-digit growth in Cement and steady rise in Steel validate the government's heavy capex push in roads, railways, and urban housing.
- **Energy Transition Dilemma:** The contraction in fossil fuel production (Oil/Gas) contrasts with the record renewable capacity addition (solar/wind), signaling a gradual structural shift in India's energy mix, though import dependence for oil remains a vulnerability.

- **Impact on IIP:** Since these sectors make up 40% of the IIP, a 1.8% growth here suggests that the overall industrial production numbers for November (to be released later) will likely remain modest, requiring policy support for manufacturing.

29. Industrial Slowdown Meets Price Relief: PMI Signals Caution for 2026

Context: The HSBC India Manufacturing Purchasing Managers' Index (PMI) for December 2025 dipped to a two-year low of 55.0, down from 56.6 in November. While the reading remains well above the threshold of 50 (indicating continued expansion), the data signals a "loss of growth momentum" as the year concludes. However, a silver lining emerged as input cost inflation eased to negligible levels, offering relief to manufacturers facing competitive pressures.

Purchasing Managers' Index (PMI) Overview

Dimension	Key Details
What is it?	A survey-based economic indicator derived from monthly questionnaires sent to purchasing executives in over 400 private companies.
Who Releases it?	S&P Global (in partnership with HSBC for India). It is not a government stat like IIP or GDP.
Interpretation	<ul style="list-style-type: none"> • > 50: Expansion (Growth). • < 50: Contraction (Decline). • = 50: No Change (Stagnation).
Components (Weights)	<ol style="list-style-type: none"> 1. New Orders (30%) – Highest Weight. 2. Output (25%) 3. Employment (20%) 4. Suppliers' Delivery Times (15%) 5. Stocks of Purchases (10%)
PMI vs IIP	<p>PMI: Sentiment-based, released monthly (faster), covers private sector only.</p> <p>IIP: Volume-based (actual production), released with lag, covers broader industrial base.</p>

Key Highlights of the December Data:

- **Growth Moderation:**
 - ✓ The headline PMI figure of 55.0 is the lowest since December 2023.
 - ✓ **New Orders:** While still in expansion mode, the growth rate of new business inflows softened to its weakest in two years.
 - ✓ **Output:** Production volumes grew at their slowest pace since October 2022, reflecting the broader industrial slowdown seen in core sector data.
- **Export Slump:**
 - ✓ International Sales: New export orders rose at the slowest pace in 14 months.
 - ✓ Narrow Base: The survey noted that export demand was largely limited to specific markets in Asia, Europe, and the Middle East, indicating a lack of broad-based global demand.
- **Input Costs & Inflation (The Positive Signal):**
 - ✓ Cost Pressures Ease: Input costs rose at a "historically negligible pace," marking a significant relief for firms.
 - ✓ Selling Prices: Consequently, the rate of charge inflation (selling price hikes) eased to a nine-month low, as firms avoided passing high costs to consumers to maintain market share.
- **Employment & Sentiment:**
 - ✓ Hiring Slowdown: Job creation continued but at the slowest rate in 22 months, as firms grew cautious about adding capacity.
 - ✓ Future Outlook: Business confidence regarding output for the year 2026 slipped to a three-and-a-half-year low, dampened by competitive pressures and market uncertainty.

Significance of the Trend:

- **Resilience amidst Slowdown:** A PMI of 55.0 is still indicative of a healthy sector (far above the global average), showing that India's manufacturing is "bending but not breaking" under global headwinds.
- **Easing Inflation:** The moderation in input costs suggests that WPI (Wholesale Price Index) inflation may remain benign in the coming months, giving the RBI (Reserve Bank of India) more room to consider rate cuts to spur growth.
- **Export Warning:** The sharp deceleration in exports aligns with global trade fragmentation (e.g., tariff wars, geopolitical conflicts), warning policymakers that domestic demand must do the heavy lifting for GDP growth in Q4 FY26.

30. Masala Bonds Face Legal Heat: Kerala vs ED in a Battle of Autonomy

Context: The long-standing tussle between the Kerala government and the Enforcement Directorate (ED) over the Masala Bonds issued by the Kerala Infrastructure Investment Fund Board (KIIFB) flared up again recently. The controversy reignited after the ED issued show-cause notices to the Chief Minister, the former Finance Minister, and the KIIFB CEO, alleging violations of the Foreign Exchange Management Act (FEMA). However, the Kerala High Court intervened, granting an interim stay on the proceedings, providing temporary relief to the state machinery.

Understanding Masala Bonds	
Feature	Details
Definition	Masala Bonds are Rupee-denominated bonds issued by Indian entities in overseas capital markets (e.g., London Stock Exchange) to raise funds.
Why 'Masala'?	The term was coined by the International Finance Corporation (IFC) to evoke the culture and cuisine of India.
Key Benefit (Currency Risk)	Unlike a Dollar Bond (where the Indian borrower must pay back in Dollars), in a Masala Bond, the currency risk is borne by the investor. Example: If the Rupee depreciates against the Dollar, the foreign investor gets fewer dollars upon maturity, but the Indian issuer's liability remains fixed in Rupees.
Regulatory Framework	They fall under the External Commercial Borrowings (ECB) policy regulated by the Reserve Bank of India (RBI).
Prohibited End-Uses	Proceeds generally cannot be used for: <ol style="list-style-type: none"> 1. Real Estate activities (selling/buying land for profit). 2. Investing in capital markets (stock market). 3. On-lending to other entities.
First Issuers	<ul style="list-style-type: none"> • First Overall: IFC (2014). • First Indian Corporate: HDFC (2016). • First State-Level Body: KIIFB (Kerala) in 2019.

The Core Issue: What is the Dispute?

- **The Allegation (ED's Stand):** The central agency contends that KIIFB violated RBI's External Commercial Borrowings (ECB) norms. The specific objection relates to the "end-use" of the funds raised. The ED argues that a significant portion of the funds (approx. ₹466 crore) was used for "land acquisition," which they classify as "Real Estate Activity"—a prohibited sector for ECB funds under FEMA regulations.
- **The Defense (KIIFB's Stand):** The state government argues that acquiring land for public infrastructure projects (like roads, bridges, and industrial parks) is distinct from speculative "real estate business." They assert that the funds were deployed strictly for infrastructure development, which is a permitted activity, and that the RBI was kept informed throughout the process.

Key Developments in the Saga:

- **Show-Cause Notices:** The ED issued notices to top state functionaries, treating the alleged contravention as a proven violation and seeking explanations on why penalties should not be imposed.

- **Judicial Intervention:**
 - ✓ KIIFB challenged the notices in the Kerala High Court, terming them "politically motivated" and legally unsound.
 - ✓ The High Court granted a three-month stay on the ED's proceedings. The court observed that the distinction between "infrastructure development" and "real estate" requires a detailed legal examination and that halting the notices was necessary to prevent irreparable damage to the state's development activities.
- **Federal Friction:** The issue has snowballed into a larger Centre-State conflict, with the Kerala government accusing the Centre of using central agencies to strangle the state's financial autonomy and derail its development model.

Significance & Impact:

- **Testing State Autonomy:** KIIFB was the first sub-sovereign entity (state-level agency) in India to tap the international market via Masala Bonds. The outcome of this case will set a precedent for other states looking to bypass central fiscal constraints (like borrowing limits) to raise funds globally.
- **Infrastructure Funding:** If the ED's interpretation holds, it could severely restrict how states use foreign funds, specifically barring them from using such money for land acquisition—often the most capital-intensive part of any Indian infrastructure project.

31. A Missing Link in India's Mineral Mission: The Processing Gap

Context: While India has aggressively reformed its mining policies with the launch of the National Critical Mineral Mission (NCMM) earlier this year, experts in December 2025 flagged a critical "Missing Link"—the lack of domestic processing and beneficiation capacity. Despite successfully auctioning mineral blocks, India remains vulnerable because it exports raw ore and imports finished, high-purity derivatives, keeping the strategic leverage in the hands of countries like China.

National Critical Mineral Mission (NCMM)	
Feature	Details
Launch Status	Announced in Union Budget 2024-25; formally approved by Cabinet in January 2025.
Total Outlay	Approx. ₹34,300 Crore over 7 years (2024-25 to 2030-31). (Includes ₹16,300 Cr government support + ₹18,000 Cr expected investment by PSUs).
Nodal Ministry	Ministry of Mines (Coordinated by an "Empowered Committee" led by the Cabinet Secretary).
Primary Objective	To secure India's supply chain for critical minerals by reducing import dependence (currently 100% for Lithium/Cobalt) and promoting "Circular Economy" (Recycling).
Key Targets (By 2030)	1. Exploration: Complete 1,200 domestic exploration projects (led by GSI). 2. Innovation: Generate 1,000 patents in extraction/processing tech. 3. Recycling: Recover 400,000 tonnes of critical minerals from e-waste/scrap. 4. Infrastructure: Set up 4 dedicated Mineral Processing Parks.
Strategic Components	KABIL (Khanij Bidesh India Ltd): Mandated to acquire overseas assets (like Lithium blocks in Argentina/Chile). Export Control: Ensuring domestic reserves are not depleted by unregulated exports.

The "Missing Link":

- **Mining vs. Processing Mismatch:** India has ramped up exploration (via GSI) and successfully auctioned blocks for lithium, graphite, and rare earths. However, mining is only the first step.
- **The Value Trap:**
 - ✓ **Example:** India mines Graphite, but it lacks the technology to process it into "battery-grade" graphite. Consequently, the raw ore is exported (often to China) and bought back as expensive battery anodes.
 - ✓ **Dependency:** China controls over 85% of global processing capacity for rare earths and cobalt. Without domestic refineries, India's "Aatmanirbharta" remains incomplete, as supply chains can still be choked at the processing stage.

Key Challenges Identified:

- **Technological Deficit:** Indian PSUs and private miners lack the advanced hydrometallurgy and separation technologies required to extract pure critical minerals from complex ores.
- **Environmental Hurdles:** Processing facilities (smelters/refineries) are highly polluting and face stiffer environmental clearance hurdles than the mines themselves.
- **Capital Intensity:** Setting up a "minerals-to-metals" value chain requires massive capital with long gestation periods, which private investors are hesitant to commit to without "offtake guarantees."

Recent Government Interventions:

- **Focus on "Urban Mining":**
 - ✓ The Ministry of Mines has directed the Centres of Excellence (CoEs) to prioritize technologies for extracting critical minerals from secondary sources (waste).
 - ✓ Potential: India generates millions of tonnes of Red Mud (Aluminium waste) containing Vanadium and Titanium, and Fly Ash containing Rare Earth Elements (REEs). Using these "secondary ores" can bypass the need for new mines.
- **Incentives for Refining:**
 - ✓ Under the NCMM, a new proposal is being finalized to offer Production Linked Incentives (PLI) specifically for "standalone processing units"—allowing companies that don't own mines to set up refineries and source ore globally.
- **International Collaboration:**
 - ✓ Negotiations advanced this month with Australia and the US (under the Minerals Security Partnership) to transfer proprietary processing technologies to Indian firms.

Significance & Way Forward:

- **Strategic Autonomy:** Control over processing is more valuable than control over reserves. Japan, for instance, has no mines but dominates rare earth processing. India needs to emulate this "Japan Model."
- **Job Creation:** Downstream processing creates high-value jobs in metallurgy and chemical engineering, unlike upstream mining which is labour-intensive but low-skill.
- For the Critical Mineral Mission to succeed, India must pivot from being a "Pit-head" economy (dig and sell) to a "Process-head" economy (refine and sell).

32. Fugitive Economic Offenders: ₹58,000 Crore Dues, Only One-Third Recovered

Context: In a significant disclosure during the Winter Session of Parliament (December 2025), the Union Finance Ministry informed the Lok Sabha that fugitive economic offenders (FEOs) who have fled the country continue to owe Indian public sector banks a staggering amount. While the total accumulated dues (principal + interest) from 15 declared offenders stand at over ₹58,082 crore, banks have managed to recover only about ₹19,187 crore so far. This leaves an outstanding "recovery gap" of nearly ₹39,000 crore that remains unpaid.

Key Highlights of the Government Data:

- **The "Big Three" Burden:**
 - ✓ The bulk of the debt is concentrated among a few high-profile fugitives. The Finance Ministry identified Vijay Mallya (Kingfisher Airlines), Nirav Modi (Firestar Diamond), and the Sandesara Brothers (Sterling Biotech) as the primary defaulters.
 - ✓ **Vijay Mallya:** His total dues (with interest) are estimated at over ₹22,000 crore. However, this case has seen the highest recovery success, with banks recouping nearly ₹14,000 crore (approx. 63%) by liquidating his seized shares and assets.

- ✓ **Nirav Modi:** In contrast, recovery here has been sluggish. Against dues exceeding ₹9,600 crore, only about ₹545 crore has been realized, as most of his assets are entangled in international legal disputes.
- ✓ **Sterling Biotech (Sandesara):** The promoters, Nitin and Chetan Sandesara, owe nearly ₹18,000 crore. While a one-time settlement (OTS) is being negotiated, substantial public money remains stuck.
- **Recovery Rate:**
 - ✓ The data indicates a recovery rate of roughly 33% against the total claims.
 - ✓ The government emphasized that the remaining assets have been "attached" by the Enforcement Directorate (ED), but "attachment" does not equal "recovery" until the courts permit their sale (liquidation).

Why is Recovery Difficult? (The Challenges):

- **Jurisdictional Deadlocks:** Offenders often exploit the legal systems of their host countries (primarily the UK, Antigua, and Nigeria). For instance, despite winning extradition cases in lower courts, appeals in higher courts (e.g., UK High Court) stall the final repatriation of both the person and the assets.
- **Asset Concealment:** A significant portion of the funds was siphoned off to shell companies in tax havens (like the British Virgin Islands), making the "money trail" difficult to establish for confiscation.
- **Depreciation:** The value of attached physical assets (like luxury cars, jets, or factories) depreciates over time. By the time legal clearance for auction is received, the asset often fetches a fraction of its original value.

Significance of the Disclosure:

- **NPA Management:** The unpaid ₹39,000 crore adds to the burden of Non-Performing Assets (NPAs) on Public Sector Banks (PSBs), limiting their capacity to lend to genuine productive sectors.
- **Deterrence Value:** The successful liquidation of Mallya's assets—even in his absence—sends a strong signal that fleeing the country is no longer a "safe passage" to enjoy ill-gotten wealth. The Fugitive Economic Offenders Act has allowed the state to confiscate properties before a conviction, a major shift from earlier laws.

About The Fugitive Economic Offenders Act (FEOA), 2018:

Who is an FEO?	An individual against whom an arrest warrant has been issued for a Scheduled Offence (e.g., money laundering, fraud) and who has left India to avoid criminal prosecution or refuses to return.
Monetary Threshold	The offence must involve a value of ₹100 Crore or more.
Key Power (Confiscation)	Unlike the PMLA (where confiscation happens after conviction), the FEO Act allows the Special Court to confiscate all properties of the offender (both crime proceeds and other personal assets) immediately upon declaring them a fugitive.
Bar on Civil Claims	A unique provision bars the FEO from filing or defending any civil claim in Indian courts (e.g., they cannot sue to protect their property while hiding abroad).
Implementing Agency	The Enforcement Directorate (ED) is the nodal agency to file applications under this Act.

33. India's Currency Under Pressure: Dollar Strength, FPI Exit, and Trade Deal Delays

Context: The Indian Rupee (INR) has witnessed significant volatility recently, breaching the psychological mark of ₹90 against the US Dollar for the first time. The currency has emerged as one of Asia's worst-performing currencies this year, depreciating by nearly 6%. Analysts attribute this sharp slide primarily to the prolonged "deadlock" and lack of clarity on the India-US Trade Deal, coupled with aggressive tariff posturing by the US administration.

Reasons Behind the Slide:

- **The Trade Deal Stalemate:**
 - ✓ Markets had priced in an early conclusion to the India-US trade negotiations. However, recent diplomatic signals indicate that a final agreement might be pushed to March 2026.
 - ✓ This delay has spooked investors, leading to speculative selling of the Rupee.
- **Tariff Tantrums:**
 - ✓ The imposition of "reciprocal tariffs" (up to 50% on certain Indian goods) by the US has hurt export sentiment.
 - ✓ Fears that these tariffs might become permanent without a trade pact are driving Foreign Portfolio Investors (FPIs) to pull money out of Indian equities and debt markets at record rates.
- **Global Dollar Strength:**
 - ✓ The US Dollar Index (DXY) remains elevated due to the "Trump Trade" effect—expectations of higher US inflation and interest rates—drawing capital back to American assets.

Is the Falling Rupee a Cause for Alarm? While the headline number of ₹91/\$ sounds alarming, economists argue for a nuanced view:

- **Arguments for "Alarm" (Concerns):**
 - ✓ **Imported Inflation:** A weaker rupee makes imports (oil, electronics, fertilizers) costlier, potentially stoking domestic inflation just as it was stabilizing.
 - ✓ **Corporate Debt:** Indian companies with unhedged external commercial borrowings (ECBs) face a higher repayment burden, stressing their balance sheets.
 - ✓ **FPI Exit:** Continuous depreciation acts as a negative feedback loop, discouraging foreign investors who see their dollar returns shrinking.
- **Arguments for "Calm" (Resilience):**
 - ✓ **Overvaluation Correction:** The Reserve Bank of India (RBI) data shows that the Rupee's Real Effective Exchange Rate (REER) was overvalued. This correction brings it closer to its "fair value," theoretically helping export competitiveness.
 - ✓ **War Chest:** Unlike the "Taper Tantrum" of 2013, the RBI sits on a massive forex reserve cushion of nearly \$696 billion (as of late December). This allows the central bank to intervene and smooth out "jerky movements" without running out of ammo.
 - ✓ **Peer Comparison:** The fall is not unique to India; currencies like the Japanese Yen and Thai Baht have faced similar pressures against the Dollar.

RBI's Stance:

- The central bank has reiterated that it does not target a specific exchange rate (e.g., ₹89 or ₹90).
- Its intervention is limited to curbing "excessive volatility". However, recent data suggests the RBI has been actively selling dollars to prevent a freefall past the 91 mark.

Way Forward:

- **Expediting Trade Talks:** The immediate stabilizer would be a clear roadmap or a "mini-deal" with the US to soothe market nerves.

- **Export Diversification:** Reducing reliance on the US market and pivoting to the EU or Global South can insulate Indian exports from specific bilateral tariff wars.

Exchange Rate Management: REER vs NEER

Concept	Explanation
Nominal Effective Exchange Rate (NEER)	The weighted average of the Rupee's value against a basket of currencies of major trading partners. It does not account for inflation.
Real Effective Exchange Rate (REER)	This is the NEER adjusted for inflation differentials between India and its trading partners. Significance: REER > 100 implies the currency is Overvalued (bad for exports). REER < 100 implies it is Undervalued (good for exports).
Managed Float	India follows a "Managed Float" system. The market determines the rate, but the RBI intervenes (buys/sells dollars) to contain volatility, unlike a "Fixed Peg" (China pre-2005) or a pure "Free Float" (USA).
Impossible Trinity	An economic theory stating a country cannot simultaneously have: 1. Fixed Exchange Rate 2. Free Capital Flow 3. Independent Monetary Policy. India prioritizes 2 and 3, thus sacrificing a fixed rate.

34. RBI's ₹1 Lakh Crore OMO: Liquidity Boost to Stabilize Markets and Credit Growth

Context: The Reserve Bank of India (RBI) has announced a massive Open Market Operation (OMO) purchase auction to acquire Government Securities (G-Secs) worth ₹1,00,000 crore from the secondary market. This move comes as the banking system faces a severe liquidity crunch, with the deficit widening to a multi-month high. The central bank aims to inject durable liquidity to cool down elevated short-term interest rates.

Why the Move? (The Need for Liquidity):

- **Advance Tax Outflows:** A significant amount of cash left the banking system recently as corporates paid their quarterly advance taxes, draining the liquidity available with banks.
- **GST Payments:** Simultaneous outflows towards Goods and Services Tax (GST) payments further tightened the surplus cash.
- **Call Money Rate Spike:** Due to the scarcity of funds, the Weighted Average Call Rate (WACR)—the interest rate at which banks lend to each other overnight—spiked above the Repo Rate. The RBI intervenes when the WACR drifts too far from the policy anchor (Repo Rate).
- **Slow Government Spending:** While tax collections have been robust, government spending has been slower than expected, meaning money is "stuck" in the government's account with the RBI rather than circulating in the economy.

Key Highlights of the Operation:

- **The Mechanism:**
 - ✓ The RBI will purchase long-term government bonds (G-Secs) from banks and other financial institutions.
 - ✓ In exchange, the RBI credits the bank accounts of these institutions with funds, thereby permanently adding ₹1 lakh crore of "durable liquidity" to the system.
- **Yield Management:**

- ✓ Bond yields (interest rates on bonds) had been hardening (rising) due to the liquidity tightness.
- ✓ By buying bonds, the RBI increases their demand, pushing their prices up and yields down. This helps keep the government's borrowing costs under control.
- ✓ Multi-Security Auction: The purchase will be conducted across different maturity buckets (e.g., bonds maturing in 2029, 2032, and 2035) to ensure the yield curve remains smooth.

Significance & Impact:

- **Stability for Borrowers:** If the RBI hadn't intervened, banks might have raised interest rates on loans (MCLR/Repo Linked rates) to compensate for the higher cost of funds. This infusion keeps rates stable for home and auto loan borrowers.
- **Support for Credit Growth:** With the festive and marriage season driving high demand for credit, banks urgently needed this liquidity to lend to productive sectors without exhausting their reserves.
- **Signal of "Accommodative" Management:** The move signals that while the RBI is focused on inflation, it will not allow the financial system to "starve" of cash, ensuring the engine of economic growth remains oiled.

About Open Market Operations (OMO):

Definition: Open Market Operations (OMO) denote the concurrent purchasing and selling of government securities (G-Secs) and Treasury Bills by the central bank (Reserve Bank of India) within the open market. This mechanism serves as one of the most potent quantitative monetary policy instruments employed to manage the money supply and liquidity in the economy over a sustained period.

- **Authority and Participants:**
 - ✓ **Executed By:** The Reserve Bank of India (RBI) utilizing its Core Banking Solution (E-Kuber) system.
 - ✓ **Involved Parties:** Commercial banks, financial institutions, and Primary Dealers (PDs).
 - ✓ **Characteristics:** In contrast to the Liquidity Adjustment Facility (Repo/Reverse Repo), which caters to short-term or overnight liquidity needs, Open Market Operations (OMOs) are primarily employed for the management of long-term (sustainable) liquidity.
- **Objectives of OMO:**
 - ✓ **Liquidity Management:** To provide funds during periods of cash shortages or to absorb excess funds when liquidity is abundant.
 - ✓ **Inflation Control:** To mitigate inflation by decreasing the money supply.
 - ✓ **Yield Management:** To stabilize the G-Sec yield curve and oversee government borrowing expenses.
 - ✓ **Forex Stability:** Indirectly bolsters the rupee by regulating interest rate differentials.

Mechanism: How it Works

- **Scenario A: OMO Purchase (Injecting Liquidity)**
 - ✓ **The Action:** The RBI purchases Government Securities from commercial banks.
 - ✓ **The Flow of Funds:** The RBI pays the banks for these bonds. Consequently, the cash reserves of the banks increase.
 - ✓ **The Result:** This increases the overall money supply in the economy.
 - ✓ **When is it used?** This is typically done during an economic slowdown, deflationary trends, or a liquidity deficit.
 - ✓ **Impact on Interest Rates:** With more funds available, banks are likely to reduce lending rates, which encourages borrowing and investment.

- **Scenario B: OMO Sale (Absorbing Liquidity)**
 - ✓ **The Action:** The RBI sells Government Securities to commercial banks.
 - ✓ **The Flow of Funds:** The banks pay the RBI to buy these bonds. Consequently, the cash reserves of the banks decrease.
 - ✓ **The Result:** This decreases the overall money supply in the economy.
 - ✓ **When is it used?** This is done during periods of high inflation or when there is excess liquidity in the system that needs to be mopped up.
 - ✓ **Impact on Interest Rates:** With fewer funds available, money becomes more expensive, leading to higher interest rates which cools down demand.

Impact on Bond Yields:

- There is an inverse relationship between Bond Prices and Bond Yields. OMOs directly influence this dynamic.
- **During OMO Purchase:** When the RBI buys bonds, the demand for bonds increases. Higher demand drives the Bond Prices up. As bond prices rise, the Bond Yields fall. Lower yields on government bonds usually lead to lower interest rates in the broader economy.
- **During OMO Sale:** When the RBI sells bonds, the supply of bonds in the market increases. Increased supply pushes Bond Prices down. As bond prices fall, the Bond Yields rise.

Types of OMOs:

- **Outright OMOs:** These are permanent transactions where the RBI buys or sells securities without any agreement to reverse the trade later. The impact on the money supply is permanent.
- **Operation Twist:** This is a special type of OMO involving the simultaneous buying and selling of securities. The RBI buys long-term securities to inject cash and lower long-term yields, while simultaneously selling short-term securities to absorb cash. The goal is to flatten the yield curve.
- **Sterilization:** This is a specific form of OMO used to neutralize the monetary impact of foreign exchange interventions. For example, if the RBI buys US Dollars (which releases Rupees into the market), it may simultaneously conduct an OMO Sale of bonds to suck those Rupees back out, preventing inflation.

35. The Evolution of Pension Reforms in India:

Context: The landscape of India's pension sector is undergoing a significant transformation with the operationalization of the **Unified Pension Scheme (UPS)**, effective from April 1, 2025. This marks a decisive shift from the pure "**market-linked**" logic of the National Pension System (NPS) back toward "**assured benefits**," striking a middle ground between fiscal prudence and social security. The recent report by the **T.V. Somanathan Committee** has been pivotal in shaping this "hybrid" model, addressing the long-standing demand of government employees for guaranteed returns.

Phase 1: The Era of Defined Benefits (Pre-2004)

- **Old Pension Scheme (OPS):**
 - ✓ **Structure:** It was a Defined Benefit (DB) scheme where pensioners received 50% of their last drawn salary as a monthly pension.
 - ✓ **Burden:** The entire financial burden was borne by the government (taxpayer money) with zero contribution from the employee.
 - ✓ **Why it failed:** As life expectancy increased, the pension bill ballooned, becoming fiscally unsustainable for both Centre and States. It created a liability for future generations without a dedicated corpus.

Phase 2: The Shift to Defined Contribution (2004-2024)

- **National Pension System (NPS):**

- ✓ **Launch:** Introduced in 2004 for government employees (except armed forces) and later opened to the private sector.
- ✓ **Structure:** It is a Defined Contribution (DC) scheme. Employees contribute 10% of their salary, matched by the government (initially 10%, later raised to 14%).
- ✓ **The Problem:** The final pension amount depended entirely on market returns (equity/debt). There was no guarantee of a fixed monthly amount, leading to anxiety among employees about their post-retirement security during market downturns.

Phase 3: The Hybrid Era – Unified Pension Scheme (UPS) (2025 Onwards)

The "Middle Path": The UPS, operational from April 2025, combines the "contribution" aspect of NPS with the "assurance" aspect of OPS.

- **Key Features of UPS:**

- ✓ **Assured Pension:** Guarantees 50% of the average basic pay drawn in the last 12 months before retirement for those with 25 years of service.
- ✓ **Inflation Indexation:** Like the old scheme, the pension will be linked to the All India Consumer Price Index (AICPI-IW), meaning it increases with inflation (Dearness Relief).
- ✓ **Family Pension:** Upon the subscriber's death, the spouse receives 60% of the pension immediately.
- ✓ **Minimum Pension:** A guaranteed minimum of ₹10,000 per month for those with at least 10 years of service.

- **Funding Mechanism:**

- ✓ Employees continue to contribute 10%.
- ✓ The Government increases its contribution from 14% to 18.5%. This extra cost covers the "assurance" guarantee.

Significance & Impact:

- **Fiscal Compromise:** While UPS is more expensive than NPS (due to the higher government contribution of 18.5%), it is far cheaper than returning to the Old Pension Scheme (OPS), preventing a complete fiscal disaster for state exchequers.
- **Political Stability:** It neutralizes the "OPS vs NPS" debate that had become a major election issue in states like Himachal Pradesh and Rajasthan.
- **Coverage Gap:** A major criticism remains that these reforms largely benefit the organised formal sector (government staff). The vast unorganised sector still relies on voluntary schemes like Atal Pension Yojana (APY), where returns are meager and not inflation-linked.

About Pension Fund Regulatory and Development Authority (PFRDA):

- **Establishment:** Established under the PFRDA Act, 2013 as a statutory body.
- **Parent Ministry:** Ministry of Finance (Department of Financial Services).
- **Mandate:** To promote, develop, and regulate the pension sector in India. It oversees the National Pension System (NPS) and the new Unified Pension Scheme (UPS).
- **Key Intermediaries:**
 - ✓ **Central Recordkeeping Agency (CRA):** Maintains data (NSDL/CAMS).
 - ✓ **Pension Fund Managers (PFMs):** Invest the corpus (e.g., SBI Pension Fund, LIC Pension Fund).
 - ✓ **Custodian:** Holds the assets (Stock Holding Corporation of India).
- **NPS Tiers:**
 - ✓ Tier-I: Mandatory retirement account (Rigid withdrawal rules).
 - ✓ Tier-II: Voluntary savings account (Flexible withdrawal, like a savings bank).

36. Harnessing the Deep: Offshore Minerals for India's Energy Transition:

Context: Amidst growing protests from coastal states and fishing communities, the Ministry of Earth Sciences (MoES) clarified in Parliament that Marine Protected Areas (MPAs) have been strictly excluded from the offshore mineral blocks offered for auction. The government emphasized that the 13 blocks identified for mining—containing resources like construction sand, lime mud, and polymetallic nodules—were carved out only after mapping and excluding ecologically sensitive zones.

The Controversy (Why the Clarification was needed):

- **The Auction Plan:** The Centre recently launched the first-ever auction of 13 offshore mineral blocks located in the Exclusive Economic Zone (EEZ).
 - ✓ **Kerala Coast:** Blocks for construction-grade sand.
 - ✓ **Gujarat Coast:** Blocks for Lime mud.
 - ✓ **Andaman & Nicobar:** Blocks for Polymetallic Nodules.
- **Resistance from States:** The Kerala Legislative Assembly passed a unanimous resolution opposing the move, arguing that "seabed mining" would destroy fish breeding grounds and trigger coastal erosion. Fishing unions expressed fear that dredging would impact their livelihood.

Key Highlights of the Government's Stance:

- **Exclusion of Sensitive Zones:**
 - ✓ The Ministry stated that 130 notified Marine Protected Areas (MPAs) and 106 Important Coastal and Marine Biodiversity Areas (ICMBAs) were superimposed on the mineral map, and the mining blocks were drawn outside these boundaries.
- **Regulatory Safeguards:**
 - ✓ Actual mining cannot begin immediately after the auction. The successful bidder must first prepare a detailed Environmental Management Plan (EMP).
 - ✓ **Clearances:** Operations are subject to strict clearances under the CRZ (Coastal Regulation Zone) Notifications and the Environment (Protection) Act, 1986.
- **Role of the Trust:**
 - ✓ The government highlighted the establishment of the Offshore Areas Mineral Trust.
 - ✓ **Composition:** Coastal states are members of this trust.
 - ✓ **Function:** Funds collected from the miners (as royalties/contributions) will be used for the welfare of affected coastal communities and for mitigating adverse ecological impacts.

Why is India Pushing for Offshore Mining?

- **Critical Mineral Security:** Land-based reserves of high-value minerals are depleting. The deep sea (especially off Nicobar) holds Polymetallic Nodules rich in Cobalt, Nickel, and Copper—vital for India's EV and energy transition.
- **Import Substitution:** India currently imports vast quantities of fertilizer minerals and high-grade sand. Harnessing offshore lime mud and sand can reduce this import bill.
- **Blue Economy:** The move is part of the broader Deep Ocean Mission to sustainably harness ocean resources, aiming to boost the maritime economy.

Challenges Ahead:

- **Sediment Plumes:** Environmentalists warn that even if mining is outside MPAs, the "sediment plumes" (dust clouds underwater) created by dredging can drift for kilometers, choking coral reefs and fish gills in nearby protected areas.
- **Data Deficit:** Unlike land, the deep sea biodiversity is poorly mapped. Critics argue that "excluding known MPAs" is insufficient because many sensitive areas in the deep sea are yet to be discovered.

About Marine Protected Areas (MPAs):

- **MPA:** A clearly defined geographical space in the ocean where human activity is more strictly regulated than the surrounding waters to conserve biodiversity (e.g., Gahirmatha Marine Sanctuary, Gulf of Mannar).
- **Legal Framework:** MPAs in India are primarily notified under the Wildlife (Protection) Act, 1972.

About OAMDR Act, 2002 (Offshore Areas Mineral (Development and Regulation) Act):

- Regulates mining in India's maritime zones (Territorial Waters, Continental Shelf, EEZ).
- 2023 Amendment: Introduced auction as the method of allocation (replacing "first-come-first-serve") and set up the Offshore Areas Mineral Trust.
- **Polymetallic Nodules:** Potato-shaped rocks on the seafloor containing Manganese, Iron, Nickel, Copper, and Cobalt. India has exploration rights for these in the Central Indian Ocean Basin (CIOB).

37. The Indian Ocean: Cradle of a New Blue Economy

Context: The Indian Ocean is witnessing a paradigmatic shift, transitioning from being viewed merely as a geopolitical battleground to becoming the "cradle of a new Blue Economy." This vision was reinforced recently when the Union Minister for Science and Technology, Dr. Jitendra Singh, described India's oceans as a "largely untapped national asset" vital for achieving the goal of Viksit Bharat by 2047. The government has signaled a move beyond land-based economic reliance, positioning the Indian Ocean Region (IOR) as a laboratory for sustainability, innovation, and climate resilience.

The Shift: From "Extraction" to "Stewardship" Policy experts highlight a fundamental change in India's approach to the maritime domain, termed the "New Blue Economy":

- **Old Approach:** Focused primarily on the maximum extraction of resources (fisheries, hydrocarbons) and securing sea lanes for trade.
- **New Approach:** Prioritizes "Stewardship of the Global Commons." It aims to balance economic growth with ecosystem health, treating the ocean as a shared heritage rather than a contested space. This aligns with the global BBNJ Agreement (Biodiversity Beyond National Jurisdiction).

Key Pillars of India's Blue Economy Strategy:

- **Deep Ocean Mission & Strategic Minerals:**
 - ✓ **Samudrayaan Mission:** India is accelerating its timeline for the Samudrayaan mission, which aims to send three humans to a depth of 6,000 meters in the indigenous submersible Matsya 6000.
 - ✓ **Polymetallic Nodules:** With the International Seabed Authority (ISA) contracts secured, India is focusing on exploring Polymetallic Nodules (containing Nickel, Cobalt, Copper, Manganese) in the Central Indian Ocean Basin. These are critical for India's energy transition (EV batteries).
- **Port-led Prosperity (Green Shipping):**
 - ✓ **Capacity Expansion:** Under the Maritime Amrit Kaal Vision 2047, major ports have seen a massive capacity upgrade to handle ultra-large container vessels.
 - ✓ **Green Ports:** The focus has shifted to "Green Shipping" with initiatives to develop Green Hydrogen hubs at ports like Kandla and Tuticorin. This aims to decarbonize the maritime sector, reducing the carbon footprint of India's trade.
- **Ocean Energy & Biotech:**
 - ✓ **OTEC Potential:** Investments are being channeled into Ocean Thermal Energy Conversion (OTEC) plants in Lakshadweep and Andaman & Nicobar Islands to harness the temperature difference between surface and deep waters for power generation.

- ✓ **Marine Biotech:** Research is intensifying on "Blue Biotechnology"—using marine resources for pharmaceuticals (e.g., anti-cancer drugs from sponges) and bio-plastics.

Significance & Geopolitical Impact:

- **Countering Debt-Trap Diplomacy:** By promoting an "inclusive" Blue Economy model through the IORA (Indian Ocean Rim Association), India offers a sustainable alternative to the predatory infrastructure lending seen in the region.
- **SAGAR Doctrine:** The initiative operationalizes the Prime Minister's vision of SAGAR (Security and Growth for All in the Region) by sharing ocean data, disaster warning systems, and sustainable fishing technologies with smaller island nations (Maldives, Mauritius, Seychelles).
- **Climate Resilience:** The Indian Ocean is warming three times faster than the Pacific. The "New Blue Economy" focuses on restoring Blue Carbon ecosystems (Mangroves, Seagrasses) that act as natural barriers against cyclones and tsunamis.

Challenges:

- **Marine Pollution:** The IOR is becoming a sink for ocean plastics. Microplastics threaten the marine food web and human health.
- **IUU Fishing:** Illegal, Unreported, and Unregulated (IUU) fishing, particularly by distant-water fishing fleets (often from China), depletes fish stocks and threatens the livelihood of India's traditional fishermen.

Way Forward: Navigating the Blue Frontier

To truly transform the Indian Ocean into a cradle of prosperity, India must move from "vision" to "execution" through a multi-pronged strategy:

- **Finalize the National Blue Economy Policy:**
 - ✓ The draft policy released by the Ministry of Earth Sciences needs to be enacted into law to provide a stable regulatory framework. This will attract long-term private investment in high-risk sectors like deep-sea mining and offshore wind energy.
 - ✓ Marine Spatial Planning (MSP): India must fast-track the MSP framework to scientifically zone the ocean—designating specific areas for tourism, mining, fishing, and conservation—to prevent conflict between sectors.
- **Strengthen Maritime Domain Awareness (MDA):**
 - ✓ To combat IUU (Illegal, Unreported, and Unregulated) Fishing, India needs to expand its "eyes on the ocean." This involves integrating data from the Information Fusion Centre-Indian Ocean Region (IFC-IOR) with satellite feeds to monitor dark vessels (ships that switch off their AIS trackers).
 - ✓ Collaborating with neighbors like Sri Lanka and Maldives for real-time data sharing is crucial to police the vast EEZ.
- **Decarbonize the Maritime Sector:**
 - ✓ Green Shipping: India should aggressively incentivize the retrofitting of ships to run on cleaner fuels (Methanol/Green Ammonia) to meet the IMO's 2050 net-zero targets.
 - ✓ Green Ports: Transformation of major ports into "Green Hydrogen Hubs" (as planned for Tuticorin and Kandla) should be expedited to make India a refueling bunkering capital of the East.
- **Promote "Blue Finance":**
 - ✓ Developing a dedicated Blue Bond market (similar to Green Bonds) can help raise cheap capital for ocean restoration projects (like mangrove plantation) and sustainable fisheries.
 - ✓ SEBI's new framework for "Blue Bonds" needs to be operationalized to tap into global ESG funds.
- **Community-Centric Approach:**

- ✓ The transition must be just. Traditional fishermen should be upskilled in Deep Sea Fishing and Seaweed Farming (Mariculture) to diversify their income and reduce pressure on near-shore fish stocks.
- ✓ Disaster Resilience: Investing in "bio-shields" (mangroves/casuarinas) along the coast is a cost-effective adaptation strategy against rising sea levels and cyclones.

38. Why Inclusion Drives Business Growth: Beyond the "Pink Economy"

Context: The global discourse on diversity is shifting from a purely ethical commitment to a strategic economic imperative, a sentiment recently reinforced by judicial reaffirmations of equality in the United States. This international momentum has reignited the debate on inclusion as a business driver. In India, despite lingering cultural hurdles, the "Pink Economy" is increasingly being recognized as an untapped engine for the next phase of consumption-led growth, with the potential to unlock significant value across sectors.

I. The Economic Case for Inclusion:

- **The "Pink Economy" Potential:**
 - ✓ **Global Scale:** The global LGBTQIA+ community commands an estimated \$3.9 trillion in annual spending power.
 - ✓ **India's Untapped Market:** With an estimated 135 million LGBTQIA+ individuals (nearly 10% of the population), the community's purchasing power in India is estimated at \$168 billion in nominal GDP terms. This rivals the size of several major industrial sectors yet remains largely under-served.
- **Cost of Exclusion:**
 - ✓ **GDP Loss:** World Bank studies indicate that discrimination leads to significant macroeconomic losses due to health disparities and labour market exclusion. For India, this "exclusion cost" is estimated between 0.1% to 1.7% of GDP.
 - ✓ **Brain Drain:** Talented individuals from the community often migrate to more inclusive geographies, leading to a loss of human capital for Indian enterprises.

II. How Inclusion Drives Business Growth?

- **Consumer Loyalty:**
 - ✓ **Authenticity Wins:** Younger consumers (Gen-Z and Millennials) increasingly prefer brands that celebrate diversity. However, they are quick to spot "Performative Allyship" (e.g., only changing logos during Pride Month).
 - ✓ **Brand Stickiness:** Companies that integrate inclusion into their core product design and year-round messaging forge stronger emotional connections, turning passive buyers into loyal advocates.
- **Talent Acquisition & Retention:**
 - ✓ **Workplace Culture:** An inclusive workplace is a key differentiator in the "War for Talent." Employees in diverse environments report higher motivation and innovation levels.
 - ✓ **Innovation:** Diverse teams bring varied perspectives, which is crucial for problem-solving and designing products for a heterogeneous market like India.
- **Global Competitiveness:**
 - ✓ As Indian firms integrate deeper into Global Value Chains (GVCs), compliance with global ESG (Environmental, Social, and Governance) standards—which heavily weight social inclusion—is becoming mandatory for securing contracts with MNCs.

III. Challenges in India:

- **"Seasonal" Gestures:** Many Indian corporations limit their engagement to symbolic gestures during Pride Month, lacking substantive internal policies (like same-sex partner insurance benefits).
- **Social Stigma:** Cultural resistance often forces businesses to retreat from inclusive campaigns due to backlash, leading to inconsistent brand positioning.

IV. Way Forward:

- **From Policy to Practice:** Companies need to move beyond "Diversity Hiring" to "Inclusive Retention"—creating employee resource groups (ERGs) and gender-neutral infrastructure.
- **Data Visibility:** The government and industry bodies must formally recognize the "Rainbow Economy" in economic surveys to better understand its consumption patterns and contribution to GDP.

V. About Pink Economy:

- **Definition:** It refers to the purchasing power and economic contribution of the LGBTQIA+ community.
- **Key Sectors:** Tourism, Fashion, Entertainment, and increasingly, Financial Services (Insurance/Wealth Management for partners).
- **Legal Milestone:** The decriminalization of Section 377 (in 2018) was the watershed moment that allowed businesses in India to openly court this consumer base without legal fear.
- **ESG Framework:** The 'S' (Social) component in ESG investing explicitly measures how well a company treats its workforce and diverse communities, directly impacting its stock valuation.

39. Trade Deficit Falls to \$6.6 Bn in Nov Due to Merchandise Export Growth:

Context: India's external trade position witnessed a significant turnaround in November, with the overall trade deficit (merchandise and services combined) narrowing sharply to \$6.64 billion. This marks a substantial improvement compared to the \$17.06 billion deficit recorded in the same month last year. The contraction was driven primarily by a robust double-digit expansion in merchandise exports—the highest in nearly a decade for this month—coupled with a notable moderation in imports, particularly of gold and petroleum.

I. Key Trade Statistics (November Data):

- **Merchandise Exports:** Surged by 19.4% year-on-year to reach \$38.13 billion, defying global headwinds and muted demand in western markets.
- **Merchandise Imports:** Declined marginally by 1.9% to \$62.66 billion, offering relief to the import bill.
- **Merchandise Trade Deficit:** Consequently, the gap between goods exports and imports shrank to \$24.53 billion, down from the alarming levels seen in October.
- **Services Sector:** Continued its steady performance with estimated exports of \$35.86 billion and a surplus of ~\$17.9 billion, which helped cushion the overall trade balance.

II. Sectoral Performance: The Drivers of Growth

- **Engineering Goods:** emerging as the top performer, this sector registered a growth of 24%, signaling a revival in industrial demand globally.
- **Electronics:** Exports jumped by nearly 39%, validating the success of the Production Linked Incentive (PLI) schemes, especially in smartphone manufacturing.
- **Gems & Jewellery:** Despite high tariffs in key markets like the US, this labour-intensive sector grew by 28%, likely due to festive demand and restocking in international markets.
- **Drugs & Pharmaceuticals:** Recorded a healthy growth of 21%, reinforcing India's status as the "Pharmacy of the World."

III. Reasons for the Import Contraction:

- **Gold Imports Plunge:** The most significant factor aiding the deficit reduction was a 59% drop in gold imports. This sharp correction followed a massive surge in October (due to Diwali demand), indicating a normalization of inventory levels.
- **Petroleum Products:** A moderation in global crude oil prices and reduced volume demand contributed to a lower oil import bill, further easing pressure on the trade balance.

IV. Significance:

- **Resilience Against Tariffs:** The robust export performance is particularly noteworthy as it comes amidst stiff tariff barriers (e.g., 50% reciprocal tariffs by the US) and geopolitical uncertainties. It suggests that Indian exporters are successfully diversifying markets or moving up the value chain.
- **Current Account Deficit (CAD):** The narrowing trade deficit is a positive signal for the CAD. If this trend sustains, it will reduce the pressure on the Indian Rupee, which has been volatile against the US Dollar recently.
- **Employment Boost:** The growth in labour-intensive sectors like Readymade Garments (+11%) and Leather (+6%) is crucial for domestic job creation, which remains a priority for the economy.

V. Challenges Ahead:

- **Sustainability:** Economists warn that the sharp dip in imports (especially gold) might be cyclical. A bounce-back in commodity prices or domestic demand could widen the deficit again.
- **Global Slowdown:** With major economies like the EU and China facing slowdowns, sustaining a ~20% export growth rate will require continued policy support and competitive currency valuation.

VI. Way Forward: Sustaining Export Momentum & Managing Deficit

To ensure that the narrowing of the trade deficit is structural rather than just cyclical, a multi-pronged strategy is required:

- **Maximizing FTA Utilization:**
 - ✓ **Operationalize New Pacts:** With the India-Oman and India-New Zealand trade deals now concluded, the immediate focus must be on awareness campaigns for exporters to utilize the zero-duty benefits immediately.
 - ✓ **Audit Existing FTAs:** The utilization rate of India's FTAs (like with ASEAN or Japan) remains low (often below 25%). A "Rules of Origin" awareness drive is essential to help MSMEs navigate complex compliance norms and claim duty benefits.
- **Product & Market Diversification:**
 - ✓ **Beyond the "Big Two":** Currently, the US and EU consume a large chunk of Indian exports. To counter the risk of recession or tariffs (like the US reciprocal tariffs), exporters must pivot to Latin America (Pharma, Autos) and Africa (Engineering goods) where demand is growing.
 - ✓ **Focus on "Sunrise" Exports:** Shifting from low-value raw materials to high-value goods like Electronic Components (driven by PLI), Green Hydrogen, and Specialty Chemicals will capture higher margins and reduce volume-dependence.
- **Infrastructure & Logistics:**
 - ✓ **Districts as Export Hubs (DEH):** The government must fast-track the DEH initiative to identify and support one unique product from each of the 700+ districts. This decentralizes export production and creates local employment.
 - ✓ **E-Commerce Export Hubs:** Establishing dedicated "E-Commerce Export Zones" (ECEZs) near airports with integrated customs clearance can help Indian MSMEs tap into the \$5 trillion global B2C e-commerce market.
- **Policy Support & Financing:**

- ✓ **Interest Equalization:** With global interest rates remaining high, extending the Interest Equalization Scheme for rupee export credit is vital to shield MSMEs from high borrowing costs.
- ✓ **RoDTEP Rationalization:** Ensuring that the Remission of Duties and Taxes on Exported Products (RoDTEP) rates are updated regularly to cover all embedded taxes (like electricity duty and fuel cess) will keep Indian goods price-competitive.
- **Strategic Import Substitution:**
 - ✓ **Quality Control Orders (QCOs):** The government should continue issuing QCOs for non-essential goods (like cheap toys, low-grade machinery) to curb substandard imports and boost domestic manufacturing (Atmanirbhar Bharat).
 - ✓ **Energy Transition:** Accelerating the shift to renewables and EVs is the only long-term solution to permanently reduce the Oil & Gas import bill, which remains the biggest drag on the trade balance.

SOCIAL ISSUES & SOCIAL JUSTICE

40. Population in A&N, Lakshadweep Set to Rise: IIMAD-PFI Report

Context: A new national-level report titled “Unravelling India’s Demographic Future: Population Projections for States and Union Territories 2021-2051” has projected a steady population increase for India’s island territories—Lakshadweep and Andaman & Nicobar (A&N) Islands—over the next three decades. The report was jointly released by the International Institute of Migration and Development (IIMAD) and the Population Foundation of India (PFI). These findings are critical as they challenge the assumption that population stabilization is uniform across all small territories.

I. Key Findings of the Report:

- **Projected Growth (2016-2051):**
 - ✓ **Lakshadweep:** The population is projected to rise by 9.68%, growing from approximately 67,600 in 2016 to roughly 74,194 by 2051.
 - ✓ **Andaman & Nicobar Islands:** A growth of 5.73% is expected, with the population increasing from roughly 3.98 lakh to 4.21 lakh during the same period.
- **Gender-wise Breakdown:**
 - ✓ In Lakshadweep, the male population is set to increase to roughly 37,700, while the female population will touch 36,300.
 - ✓ In Andaman & Nicobar, the male population will reach roughly 2.26 lakh, outstripping the female population projected at 1.95 lakh, indicating a continued gender imbalance.
- **Methodological Shift:**
 - ✓ The report notes that standard demographic data sources like the Sample Registration System (SRS) often fail to capture reliable trends for smaller territories due to erratic decadal growth rates.
 - ✓ Consequently, researchers employed a unique “Mathematical Logistic Curve Fitting” method rather than the traditional cohort-component method to arrive at these specific island projections.

II. Implications for Policy & Environment:

- **Carrying Capacity Stress:** The projected rise, though seemingly modest in percentage terms, is significant for island ecosystems with limited Carrying Capacity. Lakshadweep, being a coral archipelago, faces acute land constraints and freshwater scarcity.
- **Resource Management:** Planners will need to account for increased demand on freshwater aquifers, waste management systems, and healthcare infrastructure, which are already stretched during tourist seasons.

- **Demographic Dividend vs. Dependency:** Unlike mainland states that might face an ageing crisis by 2051, these islands will need specific strategies to manage a growing workforce against a backdrop of limited local industries.

III. Significance of the Report:

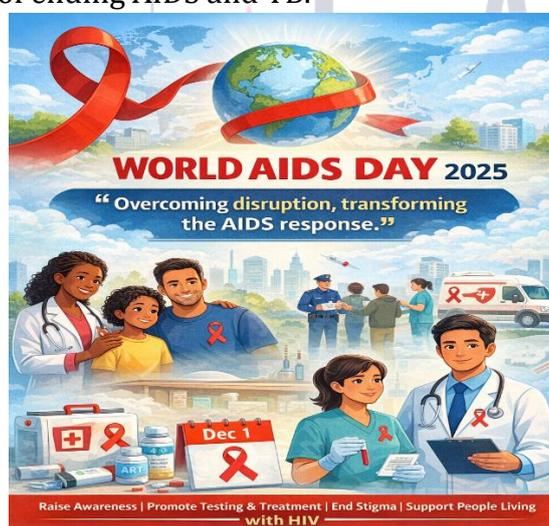
- **Data Gap Filling:** It plugs a vital gap in demographic data for Union Territories, which are often clubbed together in larger national surveys, masking their unique local realities.
- **Strategic Planning:** With the government pushing for the "Great Nicobar Development Project" and high-end tourism in Lakshadweep, these population baselines are essential for conducting accurate Environmental Impact Assessments (EIA).

IV. Organizations Behind the Report:

- **Population Foundation of India (PFI):** A national NGO founded in 1970 by J.R.D. Tata. It works to promote gender-sensitive population, health, and development strategies. It advocates for family planning as a human right rather than just population control.
- **IIMAD:** International Institute of Migration and Development. A Kerala-based research institute focusing on migration studies, demographics, and development economics. It specializes in tracking the "Kerala Model" of migration and demographics.
- **Demographic Transition Model:** A theoretical model used to represent the shift from high birth/death rates to low birth/death rates as a country develops. Most of India is in the 3rd Stage (Declining Birth Rate, Low Death Rate), moving towards the 4th Stage (Stability).

41. World AIDS Day 2025: Global Disruption and the Tamil Nadu Model

Context: On World AIDS Day (December 1, 2025), UNAIDS and WHO released critical reports warning that the global fight against HIV/AIDS is facing a "historic funding crisis," threatening to unravel decades of progress. Amidst this global disruption, Tamil Nadu has emerged as a beacon of hope, with experts citing its integrated "AIDS-TB Control Model" as a blueprint for the rest of India to achieve the sustainable development goal of ending AIDS and TB.



I. World AIDS Day 2025: Key Highlights

- **Theme:** "Overcoming disruption, transforming the AIDS response."
 - ✓ This theme highlights the urgency to address the collapse in international funding and the "deprioritization" of community-led services in 2025.
- **The "Funding Shock":** The UNAIDS 2025 report flagged that a sudden withdrawal of key international donors has disrupted prevention programs in low-and-middle-income countries. It warns that if this trend continues, there could be an additional 6 million HIV infections by 2029.

- **New Prevention Tools:** WHO emphasized the rollout of Lenacapavir, a twice-yearly injectable drug for HIV prevention, which could be a game-changer if made affordable and accessible.

II. Why Tamil Nadu "Shows the Way Again"?

A recent analysis highlights how Tamil Nadu is repurposing its successful HIV control infrastructure to fight Tuberculosis (TB), creating a unique **"Differentiated Care Model."**

- **Institutional Legacy (TANSACS):**
 - ✓ In the 1990s, Tamil Nadu became the first state to form an autonomous State AIDS Control Society (TANSACS). This decentralized model allowed direct funding and faster decision-making, helping reduce the state's HIV prevalence from 0.54% (2000) to 0.16% (2024)—one of the sharpest declines in India.
 - ✓ **Lesson:** Autonomy and decentralization are key to epidemic control.
- **The "TB-HIV Integration" (The New Innovation):**
 - ✓ **The Challenge:** TB is the leading cause of death among HIV patients (Coinfection).
 - ✓ **The TN Solution:** The state has seamlessly linked its AIDS and TB control cells. Now, every presumptive TB patient is screened for HIV, and vice versa.
 - ✓ **Predictive Tech:** Tamil Nadu is the first state to deploy ICMR-NIE's predictive software. This AI-driven tool analyzes patient data to identify TB patients with a "high risk of mortality" (e.g., those with severe malnutrition or HIV coinfection) before they become critical, allowing for "Differentiated TB Care" (priority hospitalization and nutrition).
- **Community & Nutrition:**
 - ✓ Leveraging the Pradhan Mantri TB Mukh Bharat Abhiyaan, TN has successfully mobilized corporate CSR to provide nutritional support (food baskets) to co-infected patients, improving treatment adherence.

III. Significance of the TN Model:

- **Replicability:** As India struggles to meet its ambitious "TB Mukh Bharat" target, the Centre is looking to replicate TN's "Single Window" delivery system where a patient gets tested/treated for both diseases at one centre.
- **Cost Efficiency:** By using existing HIV field workers to track TB defaulters, the state has optimized its health workforce without massive new hiring.

IV. Understanding HIV & AIDS:

- **What is HIV?**
 - ✓ **Full Form:** Human Immunodeficiency Virus.
 - ✓ **Nature:** It is a Retrovirus (Lentivirus family). Unlike most viruses that carry DNA, HIV carries its genetic material in the form of RNA.
 - ✓ **Target:** It specifically attacks the CD4 Cells (T-Helper Cells) of the human immune system. These cells are the "generals" of the immune army that signal other cells to fight infections. By destroying them, HIV leaves the body defenseless.
- **Mechanism of Action (How it Attacks):**
 - ✓ **Entry:** The virus binds to the CD4 receptor on the surface of the T-cell.
 - ✓ **Reverse Transcription:** Once inside, the virus uses a special enzyme called Reverse Transcriptase to convert its viral RNA into DNA. This is a crucial step because human cells only understand DNA instructions.
 - ✓ **Integration:** The viral DNA then enters the nucleus of the human cell and integrates (hides) itself into the human DNA using an enzyme called Integrase.
 - ✓ **Replication:** The infected human cell now becomes a factory, churning out new copies of the virus which burst out to infect other cells.
- **The Difference between HIV and AIDS:**
 - ✓ HIV is the virus itself. A person can live with HIV for many years without having AIDS.

- ✓ AIDS (Acquired Immunodeficiency Syndrome) is the final, most severe stage of the infection.
- ✓ **Clinical Definition:** A person is diagnosed with AIDS when their CD4 Count drops below 200 cells/mm³ (a healthy person has 500-1,600) or when they develop certain "Opportunistic Infections" like Tuberculosis, Pneumonia, or Kaposi's Sarcoma.
- **Transmission: Myths vs Facts**
 - ✓ **How it Spreads:**
 - Unprotected sexual contact with an infected person.
 - Transfusion of contaminated blood.
 - Sharing infected needles (common among intravenous drug users).
 - Mother-to-Child: During pregnancy, childbirth, or breastfeeding (Vertical Transmission).
 - ✓ **How it DOES NOT Spread:**
 - Mosquito bites (the virus cannot survive in insects).
 - Touching, hugging, or shaking hands.
 - Sharing food, water, or toilets.
- **Treatment: ART and the "U=U" Concept**
 - ✓ **Antiretroviral Therapy (ART):** This is a combination of drugs (e.g., Tenofovir, Lamivudine, Dolutegravir) that stops the virus from replicating. It is not a cure but manages the virus as a chronic condition.
 - ✓ **U=U (Undetectable = Untransmittable):** If an HIV-positive person takes ART daily and their viral load becomes "undetectable," they cannot sexually transmit the virus to others. This is a major pillar of modern prevention.
- **India's Legal & Policy Framework:**
 - ✓ **HIV and AIDS (Prevention and Control) Act, 2017:**
 - **Rights-Based:** It makes ART a legal right for every infected person.
 - **Non-Discrimination:** It prohibits discrimination against HIV-positive persons in employment, healthcare, and education.
 - **Informed Consent:** No HIV test or medical treatment can be conducted without the person's informed consent.
 - **Confidentiality:** It mandates that no person shall be compelled to disclose their HIV status.
 - **Ombudsman:** Every state must appoint an Ombudsman to inquire into complaints of discrimination.
 - ✓ National AIDS Control Programme (NACP) Phase-V (2021-2026):
 - Aims to reduce annual new HIV infections and AIDS-related deaths by 80% by 2026.
- **Mission Sampark:** Launched to trace those who are "Lost to Follow Up" (people who started treatment but stopped) and bring them back onto ART.
- **95-95-95 Target (Global & India):**
 - ✓ 95% of HIV-positive people should know their status.
 - ✓ 95% of those diagnosed should be on ART.
 - ✓ 95% of those on treatment should have viral suppression.

42. Child Nutrition: POSHAN Tracker Shows Mixed Progress

Context: Data tabled by the Ministry of Women and Child Development in the Lok Sabha during the Winter Session has revealed a complex picture of India's battle against malnutrition. While the Poshan Tracker—the government's real-time monitoring tool—indicates a significant decline in malnutrition

rates compared to the **National Family Health Survey (NFHS-5)**, experts have flagged "**stark discrepancies**" between the two datasets. This has triggered a debate on whether the progress is real or a result of "data variance."

I. Key Findings from the New Data:

- **The "Improvement" Narrative:**
 - ✓ **Stunting (Chronic Malnutrition):** The Poshan Tracker data shows stunting among children (under 5) has dropped to ~33.5% (compared to 35.5% in NFHS-5).
 - ✓ **Wasting (Acute Malnutrition):** The most dramatic divergence is here. The Tracker reports wasting at just ~5%, whereas NFHS-5 had pegged it at a worrying 19.3%.
 - ✓ **Underweight:** similarly, the Tracker shows only 14.4% children are underweight, a sharp contrast to the 32.1% reported in NFHS-5.
- **Regional Disparities:**
 - ✓ **Laggards:** Bihar (20.9% underweight) and Madhya Pradesh remain the worst performers.
 - ✓ **Surprise Concern:** The Union Territory of Lakshadweep reported an alarmingly high wasting rate (~11.6%), the highest in the country, contradicting the general trend of better health indicators in the south.
 - ✓ **South India:** While generally better, Karnataka and Telangana showed higher-than-expected rates of chronic undernutrition.

II. The Core Controversy: Why the Discrepancy?

- **Methodology Clash:**
 - ✓ **NFHS:** Uses a "randomized sample" conducted by independent field surveyors every 4-5 years. It is globally accepted as the "Gold Standard."
 - ✓ **Poshan Tracker:** Relies on "administrative data" entered by Anganwadi Workers (AWWs) daily. Critics argue that since AWWs are judged on the health of children in their care, there is an inherent "conflict of interest" leading to potential under-reporting of malnutrition (to show "Green" zones).
- **The Coverage Gap:**
 - ✓ Despite the digital push, the data reveals a massive coverage blind spot. Out of the estimated 16.1 crore children (under 6) in India, only about 8.6 crore are actively enrolled and measured in the Poshan Tracker. This means nearly 50% of the target population—likely the poorest and most vulnerable—is missing from this "real-time" picture.

III. Challenges in Implementation:

- **Digital Fatigue:** Anganwadi workers report that the pressure to update the app (often on personal devices with poor internet) takes time away from their core duty of feeding and counselling children.
- **Device Accuracy:** Reports indicate that many Anganwadi centres lack functional Growth Monitoring Devices (Stadiometers and Infantometers), leading to manual guessing of height/weight, which corrupts the data.

IV. Government's Stance:

- The Ministry argues that the Poshan Tracker is superior because it offers "dynamic, real-time trends" rather than the "static, one-time snapshot" of the NFHS. They emphasize that the tracker has facilitated the distribution of Take Home Rations (THR) to 95% of beneficiaries using facial recognition/Aadhaar validation.

V. Way Forward:

- **Independent Audit:** To restore credibility, the Poshan Tracker data should be periodically audited by a third party (like IITs or Medical Colleges) to check for data fudging.

- **Focus on Diet Quality:** The debate must shift from "Data" to "Diet." Including eggs and milk in the Anganwadi menu (as done by Tamil Nadu) is a proven method to reduce wasting, regardless of what the app says.

VI. About POSHAN Abhiyaan & Mission Poshan 2.0:

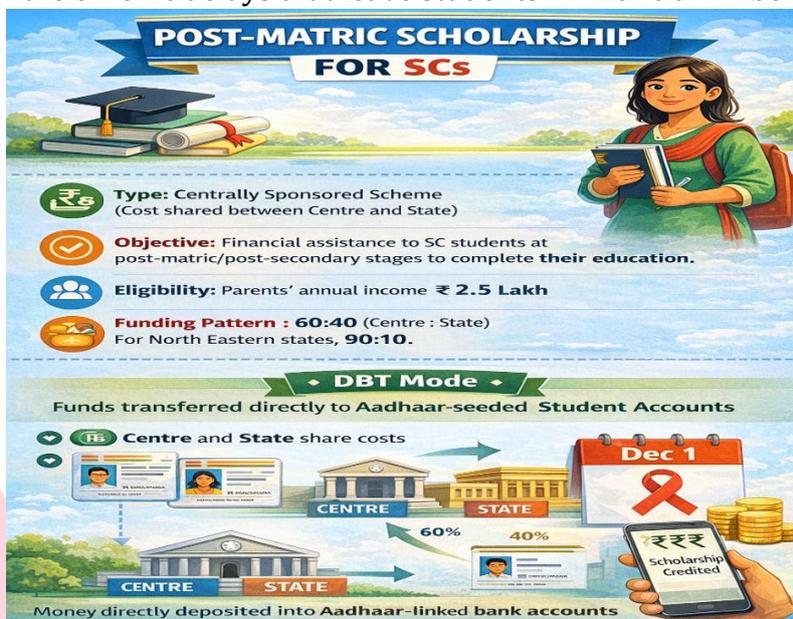
POSHAN (Prime Minister's Overarching Scheme for Holistic Nutrition) Abhiyaan, also known as the National Nutrition Mission, is India's flagship programme to improve nutritional outcomes for children, pregnant women, and lactating mothers. Originally launched in March 2018 from Jhunjhunu, Rajasthan, it has now been restructured and reinvigorated as Mission Saksham Anganwadi and Poshan 2.0 (or simply Poshan 2.0) for the period 2021-2026.

- **The Core Vision (POSHAN Abhiyaan)**
 - ✓ **Full Form:** Prime Minister's Overarching Scheme for Holistic Nutrition.
 - ✓ **Nodal Ministry:** Ministry of Women and Child Development (MWCD).
 - ✓ **Goal:** To achieve a "Suposhit Bharat" (Malnutrition-free India) by 2022 (now extended under Poshan 2.0).
 - ✓ **Target Beneficiaries:**
 - Children (0 - 6 years).
 - Pregnant Women & Lactating Mothers (PW&LM).
 - Adolescent Girls (14 - 18 years).
- **Mission Poshan 2.0 (The Current Umbrella):** To strengthen nutritional content, delivery, and outreach, the government merged the following existing schemes under Mission Poshan 2.0:
 - ✓ Supplementary Nutrition Programme (SNP) of Anganwadi Services.
 - ✓ POSHAN Abhiyaan.
 - ✓ Scheme for Adolescent Girls.
- **Key Pillars of the Programme:**
 - ✓ **Technology (Poshan Tracker):**
 - Replaced the old manual registers with a real-time monitoring application called the Poshan Tracker.
 - Anganwadi Workers (AWWs) use smartphones to track the delivery of services and the growth of children (height/weight) daily.
 - ✓ **Convergence:**
 - Ensures that various ministries (Health, Water & Sanitation, Rural Development) work together. For example, linking nutrition with sanitation (Swachh Bharat) and safe drinking water (Jal Jeevan Mission).
 - ✓ **Jan Andolan (Behavioral Change):**
 - Converting nutrition into a "mass movement."
 - Poshan Maah: Observed every September.
 - Poshan Pakhwada: Observed every March to raise awareness.
 - ✓ **Diet Diversity & Traditional Wisdom:**
 - Focus on Millets (Nutri-cereals) and setting up Poshan Vatikas (Nutri-gardens) at Anganwadi centers to provide fresh, local fruits and vegetables.
- **Specific Targets (The "2-2-3-2" Rule):** The mission targets to reduce malnutrition indicators annually by specific percentages:

Indicator	Target Reduction (Per Year)
Stunting (Low height for age)	2%
Under-nutrition (Underweight)	2%
Anaemia (among young children, women & girls)	3%
Low Birth Weight	2%

43. SC/ST Scholarships: DBT Timelines Tightened & Rules Overhauled

Context: The **Ministry of Social Justice and Empowerment (MoSJE)** has introduced stricter guidelines and tightened the **Direct Benefit Transfer (DBT)** timelines for the **Post-Matric Scholarship and Top Class Scholarship schemes for Scheduled Caste (SC)** students. In a series of updates released in December 2025, the Centre has made the release of central funds contingent upon strict adherence to state-level disbursement timelines and institutional accountability, aiming to end the chronic delays that leave students in financial limbo.



I. Key Changes & Tightened Norms:

- **The "Contingent Release" Mechanism:**
 - ✓ **Strict Sequencing:** The Centre has mandated that the 60% Central Share of the scholarship will be released only after the State Government releases its 40% State Share (10% for North-Eastern states) to the beneficiaries.
 - ✓ **Data Sharing Pre-requisite:** States must first upload the data of the "State Share Paid" on the National Scholarship Portal (NSP). The central funds will not move until this proof of payment is verified, effectively forcing states to adhere to strict disbursement timelines to unlock central grants.
- **Top Class Education Scheme Overhaul (2024-25 Guidelines):**
 - ✓ **Direct Tuition Payment:** For premier institutes (like IITs, IIMs), the Centre will now transfer full tuition fees and non-refundable charges directly to the students via DBT.
 - ✓ **Capping:** For private institutions, this support is capped at ₹2 lakh per annum.
 - ✓ **Living Expenses:** Students will receive a tightened academic allowance structure: ₹86,000 in the first year (to cover one-time costs like laptops/books) and ₹41,000 in subsequent years.
 - ✓ **Performance-Linked Renewal:** Scholarship renewal is no longer automatic; it is strictly linked to "satisfactory academic performance," compelling institutions to upload results promptly.
- **Technological Guardrails (NSP Updates):**
 - ✓ **One-Time Registration (OTR):** A new biometric-based OTR system has been enforced to track a student's entire academic lifecycle, preventing multiple scholarship claims.
 - ✓ **Global De-duplication:** The NSP now runs a "de-duplication" algorithm across all ministries to ensure one student receives only one government scholarship, cancelling duplicate applications automatically.

- **Why the "Tightening" Was Needed:**
 - ✓ **The "Limbo" Crisis:** Previously, states often delayed their share of funds for months or years, diverting the money elsewhere. This left students unable to pay fees, leading to dropouts or withholding of degrees by colleges.
 - ✓ **Ghost Beneficiaries:** A review by the Committee of Secretaries found gaps where scholarships were claimed for non-existent students. The Aadhaar Payment Bridge (APB) system has now been made mandatory to weed out these fakes.
- **Institutional Accountability:**
 - ✓ **Performance Monitoring:** Institutes (IITs, NITs, etc.) are now tasked with monitoring the academic progress of beneficiaries. If a student fails to perform, remedial coaching must be provided.
 - ✓ **Penalty for Institutes:** Institutions failing to verify applications or update student data for three consecutive years will be de-notified and removed from the scheme.
- **Significance:**
 - ✓ **Financial Autonomy:** By transferring tuition fees directly to students (instead of reimbursing colleges later), the move empowers students to pay their dues on time, reducing friction with college administrations.
 - ✓ **Federal Pressure:** The "State-first" payment rule acts as a financial lever, compelling State Governments to prioritize SC welfare funds in their budgets to access central assistance.

44. Empty Classrooms, Misplaced Resources: India's Public Schooling Crisis:

Context: A deepening paradox in India's public education system was highlighted in the Lok Sabha during the recent parliamentary session. Data tabled by the **Union Ministry of Education** revealed that while the total number of government schools in India is steadily **declining** (due to closures and mergers), the number of schools with "**critically low enrolment**" (fewer than 10 students or zero students) has **risen sharply by 24% over the last two years**.

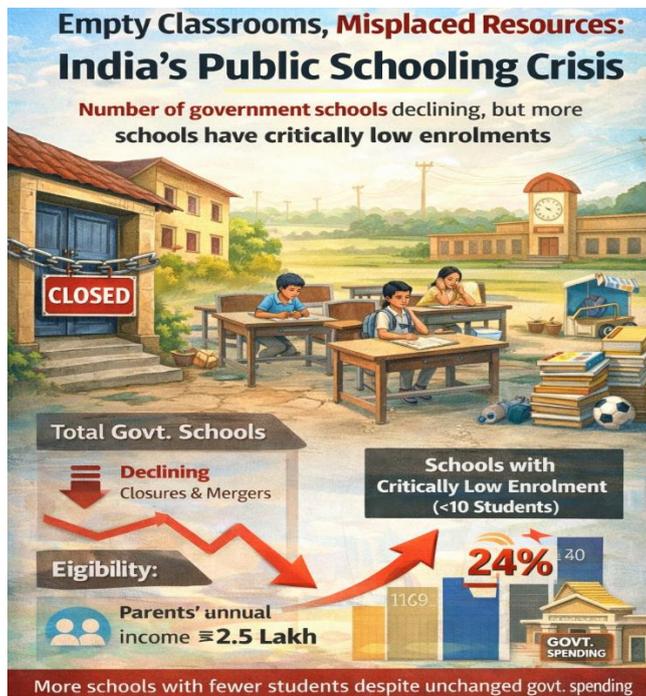
Key Findings of the Ministry's Data:

- **The "Hollow" School Phenomenon:**
 - ✓ **Low Enrolment:** The number of government schools with fewer than 10 students (or zero) increased from 52,309 in 2022-23 to 65,054 in 2024-25.
 - ✓ **Zero Enrolment:** Within this category, 5,149 schools reported having zero students attending classes.
 - ✓ **Total Decline:** Simultaneously, the overall count of government schools dropped from 10.32 lakh (2019-20) to 10.13 lakh (2024-25), indicating that the system is shrinking in size but growing in inefficiency.
- **Regional Disparities:**
 - ✓ The crisis of "empty schools" is most acute in Telangana and West Bengal, which together account for over 70% of the zero-enrolment schools.
 - ✓ West Bengal presents a unique challenge where the state relies heavily on government schools, yet has the highest number of tiny, unviable units.
- **The Teacher Deployment Paradox:**
 - ✓ Despite classrooms being empty, the number of teachers posted in these specific low-enrolment schools has increased.
 - ✓ Data shows that 1.44 lakh teachers are currently deployed in schools with fewer than 10 students (up from 1.26 lakh in 2022-23). This points to a massive "resource misalignment," where teachers are drawing salaries to teach virtually no one, while larger schools elsewhere face staff shortages.
- **Reasons Behind the Trend:**

- ✓ **Demographic Shift (Falling TFR):** Southern states like Telangana and Kerala have seen their Total Fertility Rates (TFR) drop below replacement levels (2.1). Fewer children are being born, naturally shrinking the cohort of school-going age children entering Class 1.
- ✓ **The "Private" Exodus:** There is a continued migration of students to private schools (perceived as better quality) or larger "model" government schools, leaving the smaller, neighborhood government primary schools empty.
- ✓ **Migration Patterns:** Rapid urbanization has led to the depopulation of remote villages. The "neighborhood school" remains physically open to satisfy legal norms, but the families have moved to towns.
- **Policy Dilemma: Access vs. Viability**
 - ✓ **RTE Mandate:** The Right to Education (RTE) Act, 2009 mandates a primary school within 1 km of every habitation. This forces states to keep tiny schools open even for 1-2 students to avoid legal violations.
 - ✓ **Rationalization (Mergers):** NITI Aayog has long advocated for School Consolidation (Mergers)—combining small, unviable schools into larger, well-resourced "Cluster Schools" (as seen in the SATH-E project in Jharkhand and Odisha). However, this is politically sensitive as it may force children to travel longer distances.
- **Way Forward:**
 - ✓ **Cluster Resource Centres:** Instead of closing small schools, states can officially "cluster" them, pooling teachers and resources to a central hub while providing transport facilities for students from remote hamlets.
 - ✓ **Teacher Redeployment:** Immediate rationalization of teacher transfer policies is needed to move the 1.44 lakh "surplus" teachers from empty schools to high-enrolment zones.

45. From Welfare to the Purple Economy: Redefining Disability Rights and Inclusion in India

Context: On **International Day of Persons with Disabilities (December 3, 2025)**, President Droupadi Murmu conferred the **National Awards for the Empowerment of Divyangjan**. The observance this year was marked by a significant shift in the national discourse—moving from "welfare" to the "**Purple Economy**" (**economic contribution of PwDs**). Additionally, a landmark Supreme Court judgment delivered on the same day has redefined "**reasonable accommodation**" for students appearing in competitive exams.



Key Highlights of the Developments:

- **Supreme Court Verdict (Dec 3, 2025):**

- ✓ In a decisive ruling regarding the Civil Services Examination Rules, 2025, the Supreme Court held that "Reasonable Accommodation" is a fundamental right flowing from Article 14 and 21, not an act of charity.
- ✓ **The Change:** The Court directed recruitment bodies (like UPSC) to allow candidates with disabilities the flexibility to change their scribe up to 7 days before an exam (previously rigid). It also mandated the standardization of Assistive Technologies (AT) like screen readers in all government exams.
- ✓ **Quote:** The Bench noted that "The measure of a just society lies in the opportunities it ensures for all citizens to realize their fullest potential."

- **The Rise of the "Purple Economy":**

- ✓ The government highlighted that the "Purple Economy"—which accounts for the spending power and economic potential of Persons with Disabilities (PwDs)—is a critical engine for achieving Viksit Bharat.
- ✓ **Initiative:** The Ministry of Social Justice & Empowerment launched the "Divyangjan Udyam" portal to connect PwD entrepreneurs directly with corporate supply chains, pushing for their integration into the mainstream economy rather than just reserved, low-skill jobs.

- **Sugamya Bharat App 2.0:**

- ✓ Coinciding with the International Purple Fest in Goa, a revamped version of the Sugamya Bharat App was launched.
- ✓ **New Feature:** It now includes a "Crowd-Sourced Accessibility Audit" feature, allowing citizens to upload photos of inaccessible public buildings (e.g., lack of ramps), which are geographically tagged for immediate action by district collectors.

- **Significance & Challenges:**

- ✓ **Substantive Equality:** The Supreme Court's ruling moves India closer to "Substantive Equality" (addressing disadvantage) rather than just "Formal Equality" (treating everyone the same).

- ✓ **Economic Logic:** With over 2.68 crore PwDs (Census 2011, though estimates are higher), excluding them costs the economy nearly 5-7% of GDP due to lost productivity. The "Purple Economy" approach aims to reclaim this.
- ✓ **Implementation Gap:** Despite the 2016 Act, reports tabled in Parliament show that only 18% of public buildings are fully accessible, and the private sector employment rate for PwDs remains below 1%.

About Rights of Persons with Disabilities (RPwD) Act, 2016:

- **Model:** Shifts from the "Medical Model" (disability as a disease) to the "Social Model" (disability as a societal barrier), aligning with the UNCRPD.
- **Disability Types:** Expanded the list of recognized disabilities from 7 to 21. (Added: Acid Attack Victims, Autism, Learning Disabilities, Parkinson's, etc.).
- **Reservation:** Increased reservation in government jobs from 3% to 4% and in higher education institutions to 5%.
- **Rights:** Guarantees Right to Inclusive Education and protection from cruelty.
- **Penalties:** Violating the Act is a punishable offence (Imprisonment up to 2 years and/or fine up to ₹5 Lakh).

46. Mental Health and Disability Justice: Towards Substantive Equality in India

Context: A critical national conversation is currently underway, arguing that mental health care in India must shift from a purely "**biomedical model**" (focused on treating the illness) to a "**Disability Justice model**" (focused on treating the person with dignity). This perspective has gained significant urgency following the Supreme Court's landmark observation that the Right to Mental Health is intrinsic to the **Right to Dignity under Article 21**. The discourse emphasizes moving beyond mere "symptom reduction" to addressing the deep-seated structural violence—such as homelessness, caste discrimination, and poverty—that often precipitates mental distress.

I. The Paradigm Shift: From "Cure" to "Care"

- **The Deficit Model (Current Approach):**
 - ✓ The existing system views mental illness as a "biological deficit" or a brain disorder that needs fixing through medication.
 - ✓ **Limitation:** It ignores the Social Determinants of Health. For instance, a homeless woman with schizophrenia needs housing and safety (social care) just as much as she needs antipsychotics (medical care).
- **The Disability Justice Model (Proposed Approach):**
 - ✓ **Core Philosophy:** Care is not just a medical service but an act of "Relational Justice." It involves recognizing that the person's distress is often a reaction to an unjust world (abuse, neglect, discrimination).
 - ✓ **Dignity First:** Recovery is redefined not as "becoming normal/productive" but as "living a life of meaning" with autonomy.
 - ✓ **Interdependence:** Unlike the Western ideal of "independence," this model values "interdependence"—acknowledging that relying on community and family support is a strength, not a weakness.

II. Key Dimensions of Dignity-Based Care:

- **Restoring Agency:**
 - ✓ Psychosocial disability often leads to "civil death" where family members or courts take decisions for the patient. Dignity-based care prioritizes "Supported Decision Making" (as mandated by the RPwD Act, 2016) over "Substitute Decision Making" (Guardianship).
- **The "Home" Solution:**

- ✓ Institutionalization (locking people in asylums/beggars' homes) strips dignity. The alternative is "Home Again" models—community living options where patients live in regular neighborhoods with visiting support workers.

- **Addressing Intersectionality:**

- ✓ Mental health cannot be isolated from identity. A Dalit woman or a queer individual faces unique stressors. "Justice" implies that care providers must be trained to understand these historical and social traumas, not just the clinical diagnosis.

III. Legal & Constitutional Backing:

- **Supreme Court's Stance (Sukdeb Saha Case):**

- ✓ The Court recently held that mental healthcare is a constitutional right, elevating it from a statutory obligation to a fundamental right under Article 21 (Right to Life & Dignity).
- ✓ It ruled that educational institutions and workplaces must have non-negotiable mental health safeguards, moving beyond mere "advisories."

- **Mental Healthcare Act, 2017 (MHCA):**

- ✓ Guarantees the Right to Access Mental Healthcare funded by the government.
- ✓ Decriminalized suicide (Section 115), treating it as a cry for help rather than a crime.
- ✓ Prohibits inhuman treatments like direct electro-convulsive therapy (ECT) without anesthesia.

IV. Challenges in Implementation:

- **The "Treatment Gap":** India has a massive treatment gap of 70-80%, meaning the majority of people with mental illness get no care.
- **Budgetary Skew:** A significant chunk of the mental health budget is still spent on tertiary institutions (mental hospitals) rather than District Mental Health Programmes (DMHP) which bring care to the grassroots.
- **Caregiver Burnout:** The discourse often ignores the "Carer." Family members, mostly women, bear the disproportionate burden of unpaid care work, often leading to their own mental fatigue.

Mental Healthcare Act, 2017 vs. RPwD Act, 2016		
	Mental Healthcare Act (MHCA), 2017	Rights of Persons with Disabilities (RPwD) Act, 2016
	 Primary Focus	 Primary Focus
Primary Focus	<ul style="list-style-type: none"> • Clinical treatment, rights of patients during treatment, and decriminalization of suicide 	<ul style="list-style-type: none"> • Social inclusion, reservation in jobs/ education, and non-discrimination in society
Key Instrument	<ul style="list-style-type: none"> • Advance Directive: A person can state in writing how they wish to be treated (or not treated) if they fall ill in the future. 	<ul style="list-style-type: none"> • Disability Certificate: Recognizes "Mental Illness" as a disability, entitling the holder to benefits.
Agency	<ul style="list-style-type: none"> • Creates Mental Health Review Boards to protect patients from forced institutionalization. 	<ul style="list-style-type: none"> • Creates Chief Commissioner for PwDs to monitor implementation of rights

V. Way Forward:

- **Community-Based Rehabilitation (CBR):** Shift funding from "Mental Hospitals" to "Halfway Homes" and community centers where individuals can relearn daily living skills.

- **Peer Support Volunteers:** Train "expert patients" (those who have recovered) to act as bridges between doctors and patients. Their "lived experience" is often more effective than clinical advice in building trust.
- **Curriculum Reform:** Medical education must include Human Rights & Ethics as a core paper for psychiatrists to prevent the "medical gaze" from dehumanizing the patient.

47. Dowry is a "Cross-Cultural Evil", Says Supreme Court:

Context: In a landmark judgment delivered in December 2025 (**State of Uttar Pradesh vs. Ajmal Beg**), the Supreme Court termed dowry as a "**cross-cultural evil**" that has permeated every section of Indian society, irrespective of religion or region. The Bench, comprising **Justices Sanjay Karol and N. Kottiswar Singh**, observed that the practice has evolved from voluntary "**gifts**" into an institutionalized system of coercion, violating the core constitutional values of **dignity and equality**.

I. Key Observations of the Court:

- **Beyond Religious Boundaries:**
 - ✓ The Court rejected the notion that dowry is specific to any one community. It noted that while historically associated with Hindu practices of "Hypergamy" (marrying a daughter into a higher status family), it has now diffused into other communities through "cultural assimilation."
 - ✓ **Impact on Muslim Marriages:** The Bench specifically highlighted that in many Muslim marriages, the concept of "Mehr" (a mandatory payment by the groom to the bride meant for her financial security) has been "hollowed out" or reduced to a nominal formality. Instead, it has been overshadowed by the demand for dowry from the bride's side, reversing the intended economic protection for women in Islamic law.
- **The "Gifts" Loophole:**
 - ✓ The Court observed that the Dowry Prohibition Act, 1961 is often circumvented by disguising dowry as "voluntary gifts" or "social expectations" given to the groom's family to maintain status.
 - ✓ It termed this practice as a "Systemic Bias" where a woman's worth is calculated based on the material assets she brings, reducing marriage to a financial transaction.
- **Constitutional Violation:**
 - ✓ The judgment declared that dowry is not just a social crime but a direct violation of Article 14 (Right to Equality) and Article 21 (Right to Life and Dignity). It creates an unequal partnership where the wife enters the matrimonial home as a "debtor."

Legal Framework Against Dowry

Provision	Details
✓ Dowry Prohibition Act, 1961	Defines " Dowry " as any property or valuable security given directly or indirectly in connection with marriage. Section 3 makes giving/taking dowry punishable (Min 5 years jail).
✓ Section 304-B (IPC)	Dowry Death: If a woman dies of burns/bodily injury or under unnatural circumstances within 7 years of marriage, and was subjected to cruelty for dowry "soon before death".
✓ Section 498-A (IPC)	Cruelty: Deals with harassment (mental or physical) by the husband or his relatives. It is a non-bailable offence (though subject to recent safeguards against misuse).
✓ Presumption of Guilt	Under Section 113B of the Indian Evidence Act, if dowry death is proved, the court shall presume that the husband/relatives caused it.

"Dowry across a religions has evolved into an institutionalized practice of coercion." -
Justices Sanjay Karol and N. Kotiswar Singh

II. Major Directions Issued:

- **Curriculum Reform:** The Centre and State Governments must revise school and college curricula to include lessons on the "constitutional ethos of marriage" as a partnership of equals, explicitly countering the dowry mindset.
- **Dowry Prohibition Officers:** The Court directed the immediate appointment of Dowry Prohibition Officers in every district (a mandate under the 1961 Act that remains largely unimplemented). Their contact details must be publicized in all police stations and marriage registrar offices.
- **"Zero Pendency" Drive:** High Courts have been asked to identify and fast-track all pending cases under Section 304-B (Dowry Death) and Section 498-A (Cruelty), noting that delays often force victims to compromise.
- **Social Audit:** The Court suggested that communities and religious leaders must be engaged to boycott weddings where dowry is exchanged, turning it into a "social stigma" rather than a status symbol.

III. Significance:

- **Shift in Narrative:** By labeling it "cross-cultural," the Court has removed the communal lens often applied to personal laws, treating dowry as a secular, gender-based human rights violation.
- **Focus on Prevention:** The emphasis on "Curriculum Reform" signals a shift from purely punitive measures (arrests) to preventive social conditioning.

48. Invasive Mosquito Species Threatens India's 2030 Malaria Elimination Goal

Context: According to the "**Malaria Elimination Technical Report**" recently released by the Union Health Ministry, the rapid spread of an invasive mosquito species, **Anopheles stephensi**, in **metropolitan areas** poses a severe threat to **India's target of eliminating malaria by 2030**. The report warns that this vector is shifting the malaria battlefield from traditional rural-forest areas to dense urban centres, complicating the national strategy.

I. The "Urban" Threat: *Anopheles stephensi*

- **Adaptability:** Unlike traditional rural vectors (like *Anopheles culicifacies*) that breed in riverbeds or fields, *Anopheles stephensi* is uniquely adapted to urban environments. It thrives in artificial containers common in cities—overhead tanks, construction sites, discarded tyres, and air-cooler water.
- **Invasive Nature:** Originally native to South Asia, its aggressive expansion into new urban clusters is now termed "invasive" behavior by the World Health Organization (WHO), similar to its recent devastation in Africa.
- **Dual Transmitter:** It is a highly efficient vector for both *Plasmodium falciparum* (deadliest) and *Plasmodium vivax* (most common), making it a "double threat."

II. Key Challenges Highlighted in the Report:

- **Asymptomatic Reservoirs:** A major hurdle identified is "Asymptomatic Malaria"—individuals who carry the parasite without showing fever. They act as "silent spreaders," keeping the transmission cycle alive in cities despite control measures.
- **The "Last Mile" Pockets:**
 - ✓ While cases have dropped by over 85% since 2015, the disease is now entrenched in "hard-to-reach" pockets.
 - ✓ **High Burden States:** Odisha, Tripura, and Mizoram continue to report high transmission.
 - ✓ **Border Risk:** Porous borders with Myanmar and Bangladesh are facilitating the entry of drug-resistant strains into Northeast India.
- **Private Sector Gap:** A significant volume of urban malaria cases treated in private clinics goes unreported to the national database, creating a "data blind spot."

III. India's Elimination Timeline (The Targets):

- **2027 (Interim Goal):** Achieve Zero Indigenous Cases (no local transmission).
- **2030 (Final Goal):** Full Malaria Elimination (certification by WHO).

IV. Government Strategy & Way Forward:

- **City-Specific Plans:** The Health Ministry has called for shifting from a "one-size-fits-all" rural strategy to "City-Specific Vector Control Plans" that involve municipal corporations (bylaws for construction sites) and urban housing bodies.
- **Larval Source Management:** Focus on biological control (using Larvivorous fish like *Gambusia*) and chemical larvicides in urban water tanks.
- **Digital Surveillance:** Strengthening the Integrated Health Information Platform (IHIP) to track fever cases in real-time from both public and private sectors.

Malaria Vectors & National Strategic Plan

Feature	Details
 <p>✓ Primary Vectors</p>	<p>1. Anopheles culicifacies: Main rural vector (responsible for ~65% of cases). Breeds in clean water (rain pools, riverbeds).</p> <p>2. Anopheles stephensi: Main urban vector. Breeds in artificial containers.</p>
 <p>✓ The Parasites</p>	<p>✓ Plasmodium falciparum: Causes severe/cerebral malaria.</p> <p>✓ Plasmodium vivax: Causes relapsing malaria (can hide in the liver for years).</p>
 <p>✓ High Burden to High Impact (HBHI)</p>	<p>An initiative launched by WHO in 11 high-burden countries (including India) to aggressively reduce cases. India is the only high-burden country to record a decline in recent years.</p>
<p>✓ Mera India Initiative</p> <p>✓ Malaria Elimination Research Alliance. A conglomeration of research institutes (ICMR) to conduct research on malaria control.</p>	

GEOGRAPHY, DISASTER MANAGEMENT & ENVIRONMENT

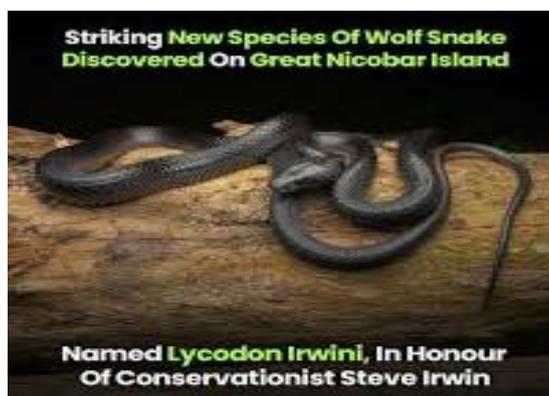
49. New Finds Highlight Great Nicobar Project Site's Biodiversity

Context: Recent scientific publications have revealed the discovery of a new species of snake and a potentially new bird species at the very site designated for the **Great Nicobar Island (GNI) Mega Infrastructure Project**. These findings have reignited debate over the environmental clearance granted to the **₹72,000-crore project**, as they expose significant gaps in the initial biodiversity assessments that had claimed 'limited ecological impact.

I. Key New Discoveries (The "Missing" Link):

- **Lycodon irwini (Irwin's Wolf Snake):**

- ✓ **Description:** A non-venomous snake with a distinct white collar, named in honour of the late Australian conservationist Steve Irwin.
- ✓ **Location:** Found on the eastern coast of Great Nicobar, specifically in areas overlapping with the proposed township and airport zones.
- ✓ **Status:** It has been recorded only four times so far. Researchers from the Zoological Survey of India (ZSI) and international collaborators have recommended classifying it as "Endangered" on the IUCN Red List due to its highly restricted range and habitat threat.



- **The Great Nicobar Crake (Rallina sp.):**

- ✓ **Discovery:** A bird belonging to the Rallina genus has been documented. It has been photographed only three times in the last decade.
- ✓ **Significance:** Ornithologists suggest this is likely a species new to science (distinct from the Andaman Crake), endemic to the island's dense rainforest floor—a habitat slated for diversion.



- **The "Tip of the Iceberg" Trend:**

- ✓ Since 2021, nearly 40 new species have been reported from Great Nicobar, including the Nicobar Frog (*Microhyla nicobarensis*), several geckos, and endemic crabs.
- ✓ Crucially, 50% of these discoveries were made in 2025 alone, proving that the island's biodiversity is still largely undocumented and under-explored.

II. Why these Findings are Critical vs. The Project:

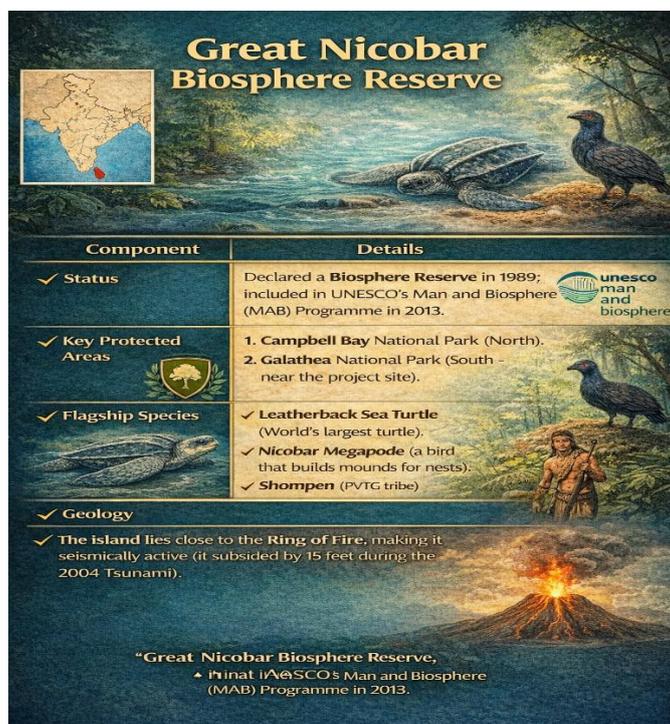
- **Flawed EIA Reports:** The Environmental Impact Assessment (EIA) based on which the project received clearance had largely categorized the project site as having "low biodiversity value." The discovery of an Endangered snake right in the construction zone contradicts this premise.
- **Irreversible Loss:** Unlike tigers or elephants, micro-endemic species like *Lycodon irwini* often exist in small, specific pockets (e.g., a single valley). Clearing 130 sq. km of primary rainforest for the project could lead to their extinction before they are even fully studied.
- **Galathea Bay Sensitivity:** The project involves a transshipment port at Galathea Bay, which is now confirmed to be not just a nesting site for Leatherback Turtles but also a prime habitat for these newly discovered reptilian species.

III. Ecological Significance of Great Nicobar:

- **Evolutionary Lab:** Isolated from the mainland for millions of years, the island has high Endemism (species found nowhere else). Roughly 24% of its fauna is endemic.
- **Sundaland Hotspot:** It is the southernmost tip of the Sundaland Biodiversity Hotspot, sharing more biological affinity with Sumatra (Indonesia) than with mainland India.

IV. Way Forward:

- **Re-evaluation of Clearance:** Environmentalists argue that the National Green Tribunal (NGT) must take cognizance of these "new material facts" and order a fresh, multi-seasonal biodiversity survey before allowing tree felling.
- **Adaptive Design:** If the project is strategic and inevitable, the "Township" and "Power Plant" components should be shifted away from the biodiversity-rich eastern coast to less sensitive zones, protecting the micro-habitats of these new species.



50. Steady Rise in Electricity-Related Fatality Rates in India

Context: A recent analysis based on the latest data from the **National Crime Records Bureau (NCRB)** and the **Central Electricity Authority (CEA)** has flagged a worrying trend: India is witnessing a "steady rise" in electricity-related fatality rates. Despite achieving near-universal electrification, the country's safety infrastructure has failed to keep pace with this expansion, leading to a death rate that remains significantly higher than global benchmarks.

I. Key Findings of the Analysis:

- **The Fatality Burden:**
 - ✓ **Total Deaths:** Electricity-related accidents claimed over 18,000 lives in 2023 alone.
 - ✓ **Fatality Rate:** The "Electrical Fatality Rate" (deaths per lakh population) has risen to 1.0, meaning at least one person dies for every 1 lakh population in India.
 - ✓ **Global Comparison:** This is alarmingly high compared to developed nations like the UK, USA, and Japan, where the rate hovers between 0.01 and 0.04. India's rate is nearly 25 to 100 times higher.
- **Primary Causes:**
 - ✓ Electrocutation remains the leading cause of death, followed by Lightning and Electrical Fires.
 - ✓ **CEA Data (2025):** A breakdown reveals that 61% of these accidents occur in the Distribution Network (overhead wires, transformers), while 30% happen within Non-Industrial Consumer Premises (homes/shops).
 - ✓ **Specific Triggers:** The analysis identifies "accidental contact with live wires" (35%) and "neglect of safety measures" (15%) as the top triggers.
- **Victim Profile:**
 - ✓ Data from select DISCOMs (Distribution Companies) indicates that over 90% of the victims are members of the General Public, not electrical staff. This points to a massive public safety failure rather than just occupational hazards.

II. Regional & Urban Disparities:

- **State Variations:** The fatality rate varies widely across states, ranging from as low as 0.2 to as high as 2.6 deaths per lakh population.
- **Megacity Vulnerability:**

- ✓ While rural areas suffer from snapping conductors, Megacities (population >10 lakh) account for about 13% of total deaths.
- ✓ However, megacities see a higher proportion of deaths due to Electrical Fires (~25%) compared to the national average, often triggered by short circuits in dense, unplanned commercial zones.

III. Reasons for the Crisis:

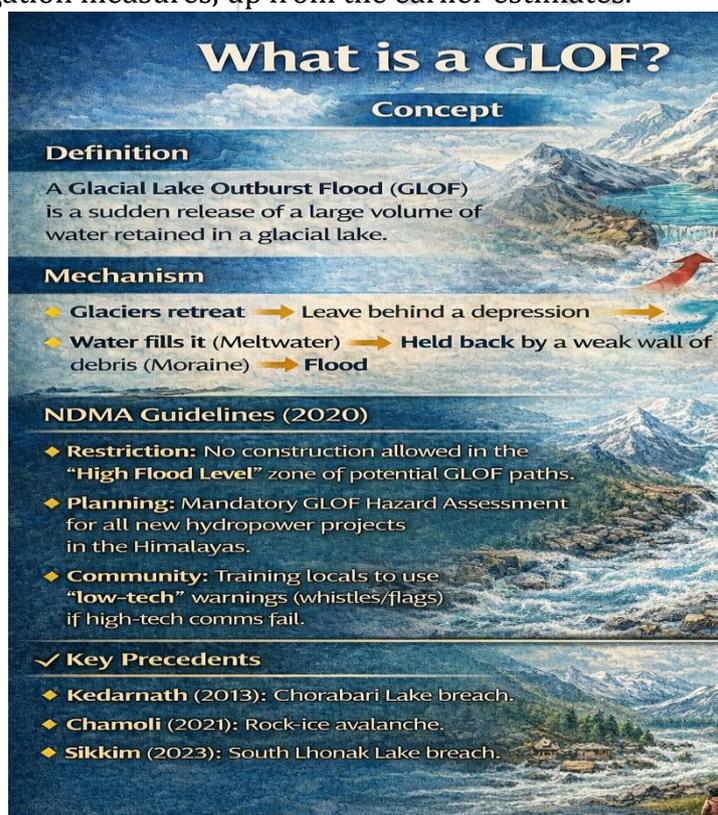
- **Inadequate Protection Devices:** A significant number of households still lack Earth Leakage Circuit Breakers (ELCBs) or Residual Current Circuit Breakers (RCCBs), which are mandatory safety devices designed to cut off power instantly during a shock.
- **Poor Maintenance:** The high percentage of accidents in the distribution network (61%) highlights the poor maintenance of overhead lines (sagging wires) and unfenced transformers by DISCOMs.
- **Unauthorised Construction:** Rapid urbanization has led to buildings coming dangerously close to High Tension (HT) lines, violating the "Right of Way" norms.

Way Forward:

- **Mandatory Safety Audits:** State Electricity Regulatory Commissions (SERCs) must mandate annual safety audits of distribution networks and penalize DISCOMs for negligence.
- **Retrofitting RCCBs:** A mission-mode approach, similar to the LED bulb UJALA scheme, is needed to retrofit old households with ELCB/RCCB devices to prevent shocks.
- **Underground Cabling:** Accelerating the shift from overhead wires to Underground Cabling in dense urban areas (under schemes like RDSS) will drastically reduce contact accidents.

51. Glacial Lake Outburst Risk Mapping Updated: 189 Lakes on "High Watch"

Context: In a significant update tabled during the Winter Session of Parliament, the **National Disaster Management Authority (NDMA)** and the **Central Water Commission (CWC)** have finalized the "**Dynamic Risk Atlas**" of glacial lakes in the Himalayas. Following the catastrophic South Lhonak Lake outburst in Sikkim (2023), the Centre has now identified 189 high-risk glacial lakes that require immediate mitigation measures, up from the earlier estimates.



I. Key Findings of the Updated Mapping:

- **The "Expanding" Threat:**
 - ✓ **Area Increase:** The CWC's "Monthly Monitoring Report" revealed that the water spread area of glacial lakes in India has increased by nearly 27% since 2011.
 - ✓ **Inventory:** Out of roughly 7,500 glacial lakes mapped across the Himalayan catchment, 189 have been categorized as "Category A" (Highest Risk) based on their size, proximity to settlements, and structural instability of their moraine dams.
- **State-wise Vulnerability:**
 - ✓ Arunachal Pradesh and Sikkim host the highest density of these risky lakes.
 - ✓ Jammu & Kashmir and Ladakh have seen a concerning rise, with 50 lakes in J&K now flagged for "vigorous monitoring" due to rapid glacial retreat.
- **Ground Validation (The "Expedition" Phase):**
 - ✓ Unlike previous years which relied solely on satellite data, the 2025 update includes data from 16 multi-disciplinary expeditions sent to altitudes above 4,500m. These teams (comprising Army, CDAC, and scientists) conducted Bathymetric Surveys (measuring lake depth) to estimate the actual volume of water—a critical data point missing earlier.

II. Government Intervention:

NGRMP The government has operationalized the National Glacial Lake Outburst Flood Risk Mitigation Programme (NGRMP) with a corpus of ₹150 crore. Its core components include:

- **Automated Weather & Water Stations (AWWS):** Installation of sensors that transmit real-time data on rainfall and lake water levels.
- **Lake Lowering:** Civil engineering interventions (like pumping or tunneling) to controlled-release water from "critically full" lakes to reduce pressure on the natural dam.
- **Early Warning Systems (EWS):** Two pilot EWS (sirens linked to sensors) have been successfully installed at South Lhonak and Shako Cho lakes in Sikkim.

III. Technological Shift:

- **SAR Interferometry:** The use of Synthetic Aperture Radar (SAR) satellites to detect millimetric movements in the slopes surrounding the lakes (to predict landslides that could trigger a lake outburst).
- **Electrical Resistivity Tomography (ERT):** Used during ground expeditions to check the "structural integrity" of the moraine dam (the pile of rocks holding the water).

IV. Challenges Remaining:

- **Trans-Boundary Blindspot:** Many dangerous lakes lie upstream in Tibet (China). A breach there (like the Parechu river floods) can devastate Indian villages downstream, yet real-time data sharing remains limited.
- **The "Summer Window":** Expeditions are only possible during a short 2-3 month window (July-Sept), limiting the speed of ground validation.

V. Way Forward:

- **Digital Twin:** Creating a "Digital Twin" of the Himalayas using LiDAR data to simulate flood scenarios and zoning regulations accurately.
- **Climate Diplomacy:** India must push for a Himalayan GLOF Pact with Nepal and Bhutan for a unified monitoring grid.

52. Forest Fire Monitoring Expanded via Satellites: FAST 3.0 & Global Resolution

Context: A significant stride was made at the recent **UN Environment Assembly (UNEA-7)** where India's resolution on '**Strengthening the Global Management of Wildfires**' was adopted, reinforcing the need for satellite-based early warning systems. Concurrently, the **Forest Survey of India (FSI)**

has operationalized its upgraded **FAST 3.0 (FSI Forest Fire Alert System)**, which now integrates advanced satellite sensors to track large forest fire events in near-real-time, moving beyond simple "fire counts" to more actionable data.

I. Key Features of the Expanded Monitoring (FAST 3.0):

- **Advanced Sensors (VIIRS vs MODIS):**
 - ✓ The system has shifted reliance from the older MODIS (Moderate Resolution Imaging Spectroradiometer) to the advanced SNPP-VIIRS (Visible Infrared Imaging Radiometer Suite).
 - ✓ **Why the upgrade?** VIIRS offers a significantly higher spatial resolution (375m per pixel) compared to MODIS (1km), allowing detection of smaller fires before they spread.
- **"Large Fire" Monitoring Programme:**
 - ✓ A dedicated module now tracks "Large Forest Fires" (fires that persist for days). It enables the FSI to escalate support from state to national agencies if a fire remains active beyond a threshold period.
- **Beat-Level Accuracy:**
 - ✓ The alerts are now disseminated down to the "Beat Level" (the smallest forest administrative unit) in over 20 states. This ensures that the ground staff knows exactly which specific patch of forest is burning, reducing response time.
- **Van Agni Geo-portal:**
 - ✓ A "One-Stop" web-GIS portal has been launched to allow users to visualize active fire spots, historical burnt areas, and fire danger ratings on a single platform.

II. The "Data Blindspot" Debate (Critical Analysis):

- **The "Evening Fire" Phenomenon:**
 - ✓ **Critical gap:** Most official data relies on Polar Orbiting Satellites (like Terra/Aqua) which pass over India between 10:30 AM and 1:30 PM.
 - ✓ **The Shift:** To evade detection, farm and forest fires are increasingly being lit in the late evening.
 - ✓ **The Solution:** The analysis suggests integrating data from Geostationary Satellites (like Meteosat with SEVIRI sensors). Unlike polar satellites that "visit" once a day, geostationary satellites "stare" continuously at the same spot, capturing fire data every 15 minutes, even in the evening.
- **Fire Counts vs. Burnt Area:**
 - ✓ Experts argue that "Fire Counts" (number of red dots) is a misleading metric. A single large fire can be counted as one dot, while ten small fires are counted as ten. The focus is now shifting to "Burnt Area Assessment" to measure the actual ecological damage.

III. Significance of the New Framework:

- **Global Leadership:** By spearheading the UNEA resolution, India has positioned itself as a leader in "Integrated Fire Management," advocating for a shift from "fire fighting" to "fire prevention."
- **Community Integration:** The new alerts are designed to be shared not just with foresters but also with registered community members via SMS, enabling rapid local mobilization.

IV. About Forest Survey of India (FSI) & Fire Sensors:

- **Forest Survey of India (FSI):** An organization under MoEFCC, established in 1981. Headquartered in Dehradun. Mandated to conduct forest resource assessment (State of Forest Report) and monitor forest fires.
- **MODIS:** Moderate Resolution Imaging Spectroradiometer. A key instrument aboard NASA's Terra and Aqua satellites. Viewing the entire Earth's surface every 1 to 2 days.

- **SNPP-VIIRS:** Suomi National Polar-orbiting Partnership. The VIIRS sensor extends and improves upon the measurements of MODIS. It has a "Day/Night Band" that can detect low-light emission sources (like fires) at night.

Way Forward:

- **Geostationary Integration:** ISRO must accelerate the use of its INSAT-3D/3DR satellites for fire monitoring to cover the "evening blindspot."
- **Ground Validation:** A robust protocol is needed where ground staff "closes the loop" by uploading photos of the extinguished fire to the Van Agni portal, verifying the satellite alert's accuracy.

53. Farm Fires in Punjab, Haryana Have 'Episodic' Impact on Delhi-NCR Air Quality: Centre

Context: In a significant submission to the Parliament and the Supreme Court, the Union Ministry of Environment, Forest and Climate Change (MoEFCC) stated that stubble burning in Punjab and Haryana is merely an "episodic event" affecting Delhi-NCR's air quality. The Centre argued that the primary drivers of the capital's toxic air are year-round local and regional sources, countering the popular narrative that farmers are solely responsible for the winter smog.

I. Key Highlights of the Centre's Submission:

- **The "Episodic" Argument:**
 - ✓ The Environment Minister clarified that farm fires are a seasonal phenomenon occurring only for a few weeks (Oct-Nov). Their contribution to Delhi's PM_{2.5} levels spikes only during this window (peaking at ~30% on specific days) but remains negligible for the rest of the year.
 - ✓ **Data Backing:** According to the Commission for Air Quality Management (CAQM), the average contribution of stubble burning to Delhi's pollution load has significantly declined, recording a ~90% drop in fire incidents in the 2025 paddy season compared to 2022 levels.
- **Dominance of Local Sources:**
 - ✓ The Centre emphasized that the sustained "Very Poor" to "Severe" AQI in December—after the farm fire season ended—proves that vehicular emissions, construction dust, and industrial waste burning are the real, chronic culprits.
 - ✓ **The "Covid Paradox":** The Supreme Court also observed that during the 2020 Covid lockdown, the skies were blue despite stubble burning continuing in Punjab. This reinforces that when local vehicular/industrial emissions are stopped, farm fires alone do not choke the city.
- **Reduction in Fire Counts (2025 Data):**
 - ✓ **Punjab:** Recorded roughly 5,114 active fire events in 2025 (a massive drop from previous years).
 - ✓ **Haryana:** Recorded only 662 incidents.
 - ✓ This reduction is attributed to the distribution of over 2.6 lakh Crop Residue Management (CRM) machines and the deployment of the "Parali Protection Force" for ground enforcement.

II. Critical Analysis (The Counter-View):

- **The "Smokescreen" Debate:** Experts from the Centre for Science and Environment (CSE) argue that while fire counts have dropped, the intensity of smog has not. This suggests two possibilities:
 - ✓ **Late Burning:** Farmers may be burning residue late in the evening (after 3 PM) to evade "Polar Orbiting Satellites" (like NASA's Terra/Aqua) which only pass over India around noon.

- ✓ **Meteorology:** The "episodic" smoke gets trapped due to temperature inversion (cold air trapping pollutants near the ground) and low wind speeds, amplifying its impact far beyond the actual number of fires.

Commission for Air Quality Management (CAQM)

Establishment

- Statutory body established under the CAQM Act, 2021.

Jurisdiction

- Delhi-NCR and adjoining areas (Punjab, Haryana, Rajasthan, UP).

Powers

- Supersedes DPCC, HSPCB in matters of air quality
- Issue Directions
- Close Industries
- Impose Penalties Up to ₹1 Crore or 5 Years Jail

Decision Making

- Nodal body for implementing the Graded Response Action Plan (GRAP).

Composition

- Headed by a Chairperson (Secy rank).
- Members from: ISRO | CPCB | NITI Aayog

GRAP GRADED RESPONSE ACTION PLAN

MODERATE
POOR
VERY POOR

III. Government Interventions:

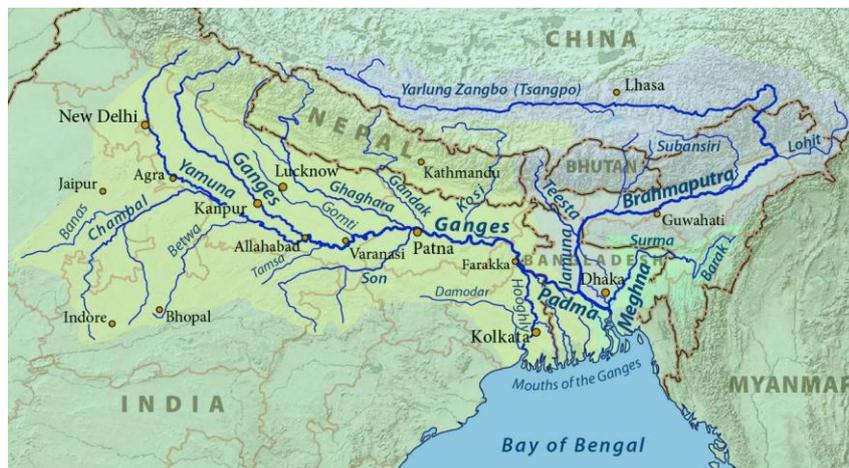
- **Bio-Decomposition:** Expanded use of the Pusa Bio-Decomposer to turn stubble into manure.
- **Ex-Situ Management:** Mandating thermal power plants to co-fire biomass pellets (made from stubble) with coal.
- **Strict Enforcement:** The CAQM has empowered district collectors to file FIRs and impose heavy "Environmental Compensation" fines on errant farmers.

IV. Way Forward:

- **Shift Focus:** The policy narrative must shift from "Farmer Blaming" to "Urban Cleanup"—tackling the 10 million+ vehicles and unpaved roads in Delhi.
- **Geostationary Monitoring:** India must switch to geostationary satellites (like INSAT) for 24x7 fire monitoring to catch "evening fires" that current satellites miss.
- **Market for Straw:** Creating a viable economic market for paddy straw (e.g., in packaging or bio-ethanol) is the only permanent solution to stop burning.

54. Plan to Divert Ganga Water to Yamuna Hits Farmer Roadblock

Context: The ambitious proposal by the Centre to divert "surplus" water from the Ganga River to rejuvenate the drying Yamuna in Delhi has hit a major administrative and social hurdle. The Uttar Pradesh government has flagged serious concerns regarding the project, citing potential unrest among farmers in Western Uttar Pradesh who fear that diverting water for Delhi's pollution control will come at the cost of their irrigation needs.



I. The "Ganga-to-Yamuna" Transfer Plan:

- **The Proposal:** The plan involves releasing approximately 500 cusecs of water from the Upper Ganga Canal (UGC) into the Eastern Yamuna Canal (EYC).
- **The Route:** Since the UGC and Yamuna are not directly connected, the water was proposed to be routed through an existing channel (Deoband branch) and then released into the Yamuna upstream of Delhi.
- **Objective:** To increase the "Environmental Flow" (E-flow) in the Delhi stretch of the Yamuna, which is currently ecologically dead due to a lack of fresh water to dilute the sewage load.
- **Condition:** The plan explicitly states that this diverted water is not for drinking purposes in Delhi but solely for river cleaning (flushing). The water is supposed to be recovered by Uttar Pradesh downstream via the Agra Canal.

II. The "Roadblock": Why are Farmers Protesting?

- **Irrigation Scarcity:** Farmers in districts like Muzaffarnagar, Meerut, and Baghpat—through which the connecting channels pass—have opposed the move. Their argument is that the Upper Ganga Canal system itself struggles to meet irrigation demands during the lean season (Rabi crops).
- **The "Bypass" Fear:** The primary grievance is that water will flow through their lands via the canal network but they will be legally barred from lifting it, as it is earmarked for Delhi. Farmer unions have termed this an "anti-farmer" diversion of agricultural resources for urban sanitation.
- **Engineering Challenges:** The UP Irrigation Department has highlighted that the existing connecting channels are not designed to carry such high volumes (500 cusecs) and would require massive re-engineering and lining to prevent seepage and breaches, which could flood adjacent fields.

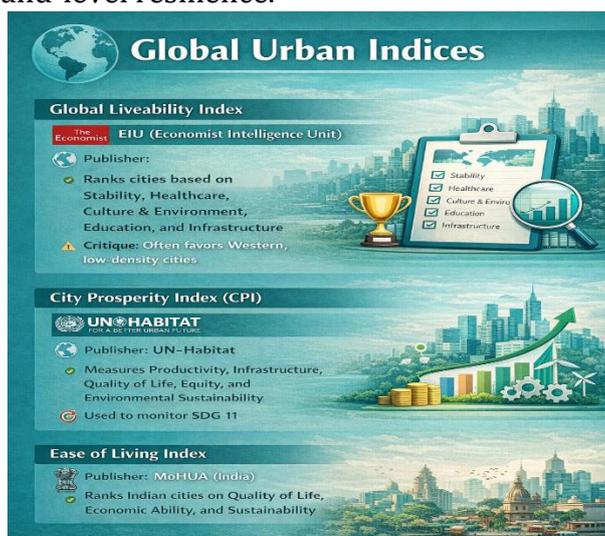
III. Impact on Yamuna Rejuvenation:

- **Delay in Deadlines:** This stalemate serves as a setback for the "Clean Yamuna" targets. The river currently receives only 10 cumecs (cubic metres per second) of fresh water at the Wazirabad barrage against the recommended 23 cumecs needed to sustain aquatic life.
- **Shift to Dams:** With the diversion plan stalled, officials are pivoting back to long-term storage solutions like the proposed Renukaji and Lakhwar-Vyasi dams in the upper Yamuna basin, though these will take years to complete.

55. The Climate is Breaching the Wall of Urban Metrics

Context: The traditional "metrics" used to measure urban development—such as the Global Liveability Index or Smart City rankings—are increasingly seen as obsolete. The accelerating climate crisis is effectively "breaching the wall" of these static frameworks, as they fail to capture the true vulnerability of cities to extreme weather events. This critique has gained urgency in the wake of

recent floods in Asian cities (including parts of Sri Lanka, Thailand, and the Philippines), where urban centres ranked high on development indices crumbled under climate stress, exposing the gap between theoretical rankings and ground-level resilience.



I. The "Wall" of Flawed Metrics:

- **Efficiency vs. Resilience:** Current urban indices (like the **UN-Habitat City Prosperity Index**) heavily weight factors like "economic productivity," "connectivity," and "hard infrastructure" (roads/metros). They often treat environmental sustainability as a minor sub-component.
- **The "Capital Bias":** The analysis highlights that most indices focus on capital cities or economic hubs (e.g., Mumbai, Delhi, Bangkok), completely ignoring "Secondary Cities" and peri-urban areas. However, these secondary cities (e.g., Hat Yai in Thailand or tier-2 cities in India) are often the hardest hit by climate disasters but lack the data visibility to attract funding.
- **Averaging Inequity:** Global rankings often use city-wide averages for data (e.g., "average water supply per capita"). This masks the **"Climate Apartheid"** within cities, where wealthy areas have resilient infrastructure while informal settlements (slums) face the full brunt of floods and heatwaves.

II. How the Climate is "Breaching" these Metrics:

- **The "1-in-100 Year" Fallacy:** Urban planning metrics often rely on historical weather data (e.g., designing drains for a 1-in-100-year flood). The editorial notes that climate change has rendered these historical baselines useless, as "rare" events are now annual occurrences, breaching the designed capacity of **"smart"** infrastructure.
- **Invisible Risks:** Metrics measure visible amenities (parks, bus stops) but fail to measure invisible resilience factors, such as the permeability of soil (sponge capacity), the stability of floodplains, or the redundancy of power grids during storms.

III. Key Recommendations for a New Urban Framework:

- **From "Liveability" to "Survivability":** Urban rankings must shift focus from **"ease of living"** to "capacity to withstand shocks." This includes measuring the redundancy of critical systems (e.g., does the hospital have solar backup if the grid fails?).
- **Hyper-Local Data:** Instead of city-wide averages, indices must adopt a **"Ward-Level"** approach to identify vulnerability hotspots.
- **The "Peri-Urban" Focus:** Metrics must expand to include the **"urban sprawl"** areas where unregulated construction is blocking natural drainage channels, as seen in recent Bengaluru and Chennai floods.

IV. Way Forward:

- **Climate-Responsive Master Plans:** Cities must move from "Static Land Use Plans" (updated every 20 years) to "Dynamic Climate Action Plans" (updated continuously with real-time weather data).
- **Green Infrastructure:** Investing in "Blue-Green" infrastructure (urban wetlands, permeable pavements) should be a primary metric for funding allocation under the next phase of the Smart Cities Mission.

56. Man-Animal Conflict Frays India's Wildlife Conservation Principles

Context: The escalating frequency of Human-Wildlife Conflict (HWC) is effectively "fraying" India's traditional ethos of conservation, challenging the delicate balance between community tolerance and wildlife protection. This critical discourse has gained urgency following a tragic train collision in Assam's Hojai district that resulted in the death of seven elephants, coupled with the release of National Tiger Conservation Authority (NTCA) data revealing the highest tiger mortality recorded in a decade.

I. The "Fraying" of Conservation Ethos:

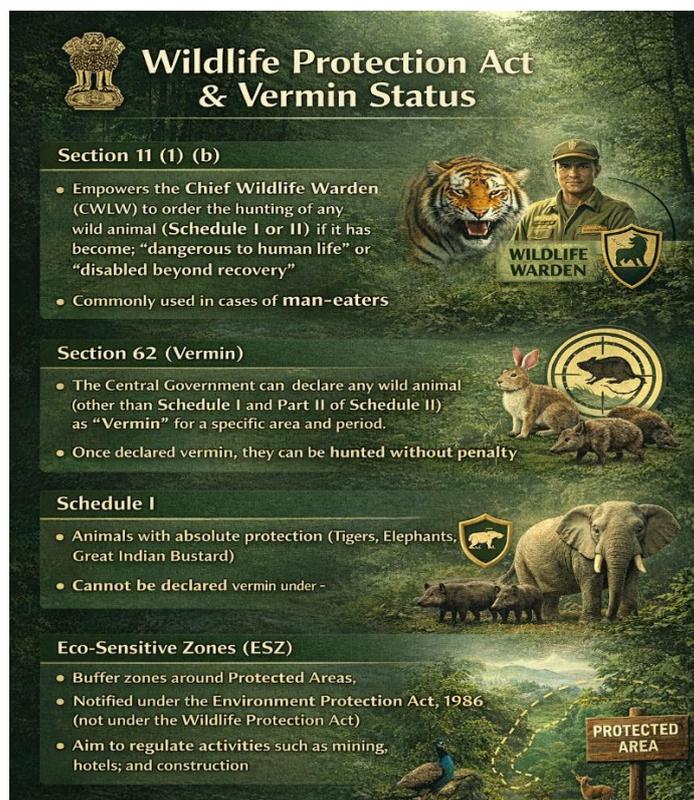
- **From Reverence to Retaliation:** The editorial highlights a dangerous shift in the public psyche. Historically, Indian communities revered megafauna (elephants/tigers) as cultural icons. However, due to sustained economic losses and threat to life, this "tolerance" is rapidly turning into "hostility," leading to retaliatory killings (poisoning/electrocution).
- **The "Vermin" Debate:** In states like Kerala (Wayanad) and Karnataka (Kodagu), there is a growing political demand to amend the Wildlife Protection Act (WLPA), 1972 to classify crop-raiding animals (like Wild Boars and even Elephants in specific zones) as "Vermin" to allow culling—a move that challenges the core "protectionist" philosophy of Indian law.

II. Recent Triggers:

- **Assam Train Tragedy:** On December 20, the Rajdhani Express collided with a herd crossing tracks in Hojai (a non-notified corridor), killing 7 elephants. This has exposed the failure of the "AI-based Intrusion Detection System" (IDF) to cover all sensitive stretches.
- **Wayanad Tiger Conflict:** A tribal headman was killed by a tiger in the Kurichiyad range, sparking violent protests where locals prevented forest officials from retrieving the body, demanding "shoot-at-sight" orders.
- **Tiger Mortality Spike:** Data released by NTCA reveals that 166 tigers died in 2025, with Madhya Pradesh and Maharashtra topping the list. A significant portion of these deaths is attributed to "snare traps" set by farmers to protect crops, which inadvertently kill big cats.

III. Structural Drivers of the Conflict:

- **Ecological Sinks:** Protected Areas (PAs) are becoming "sources" of wildlife populations (due to successful conservation like Project Tiger) but the surrounding corridors act as "sinks." For instance, Bandipur's tiger population has spilled over into coffee estates because the forest cannot support the density.
- **Linear Infrastructure:** The fragmentation of habitats by railways (as seen in Assam) and highways cuts off traditional migration routes, forcing animals to detour through villages.
- **Monoculture Plantations:** The proliferation of invasive species (like Lantana camara) inside forests reduces edible fodder, while the periphery is lined with high-calorie crops (sugarcane/paddy), creating an "Ecological Trap" that lures herbivores out.



IV. Legal & Policy Gaps:

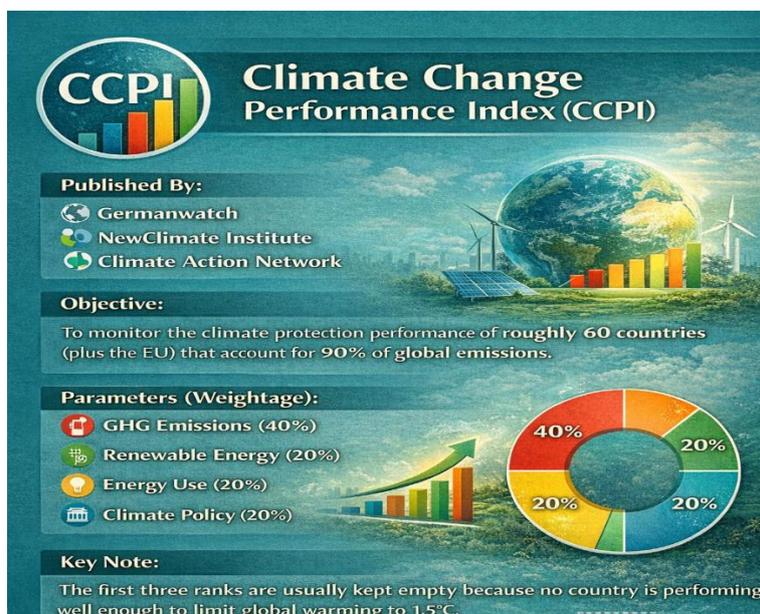
- Rigidity of WLPA:** Critics argue that the 2022 Amendment to the WLPA made the law more rigid by reducing the number of Schedules, thereby making it harder for states to declare specific problem animals as vermin.
- Compensation Delays:** The "Ex-gratia" payment for crop loss remains significantly lower than the market value and takes months to process, fueling anger among small and marginal farmers.

V. Way Forward:

- Corridor Securement:** Implementing the "Right of Passage" for elephants by purchasing land for corridors (as done in the Thirunelli corridor, Wayanad) rather than just fencing forests.
- Dynamic Mitigation:** Shifting from "Physical Fences" (which break connectivity) to "Early Warning Systems" (radio collars + SMS alerts) that allow humans and animals to avoid each other in shared landscapes.
- Crop Insurance:** Integrating wildlife damage into the Pradhan Mantri Fasal Bima Yojana (PMFBY) to ensure instant, market-linked compensation for farmers.

57. Chile's Lesson for India's Coal Conundrum

Context: India's ranking in the **Climate Change Performance Index (CCPI)** has slipped to the **23rd position**, primarily due to the **slow pace of phasing out coal in favour of cleaner** alternatives. While the country has aggressively expanded its installed renewable energy capacity, actual electricity generation remains heavily dependent on fossil fuels. In this backdrop, experts are increasingly pointing to Chile—a developing nation that successfully decoupled its power sector from coal—as a viable template for India's own "**Just Energy Transition.**"



I. The "Coal Conundrum" in India:

- **Capacity vs. Generation Gap:**
 - ✓ **Installed Capacity:** India has achieved a milestone where non-fossil fuel sources (solar, wind, nuclear, hydro) account for over 50% of the total installed capacity.
 - ✓ **Actual Generation:** Despite this, Coal still contributes nearly 75% of the actual electricity flowing through the grid. This is because renewable energy is intermittent (available only when the sun shines or wind blows), whereas coal provides the steady "Baseload Power" required for stability.
- **The Paradox:** India is simultaneously adding record renewable capacity and expanding domestic coal production to meet the rising energy demand from manufacturing and urbanization.

II. Chile's Success Story (The Model):

- **Rapid De-coalification:** Chile reduced the share of coal in its electricity mix from 43.6% in 2016 to just 17.5% in 2024. It has legally committed to a complete phase-out by 2040.
- **Key Policy Drivers:**
 - ✓ **Carbon Tax:** Chile introduced a carbon tax of \$5 per tonne on emissions, making dirty power economically unviable.
 - ✓ **Strict Emission Norms:** It enforced stringent pollution standards that raised compliance costs for coal plants by roughly 30%.
 - ✓ **Competitive Auctions:** The government held technology-neutral auctions where solar and wind (backed by storage) consistently underbid coal prices.

III. Lessons for India (Way Forward):

- **Reforming Market Signals:**
 - ✓ **Carbon Pricing:** Like Chile, India needs to internalize the "social cost of carbon." A graded carbon tax could fund the transition without hurting the poor if redistributed wisely.
 - ✓ **Clean Dispatch Rules:** The power market design must shift to "Market-Based Economic Dispatch" (MBED) that prioritizes the cheapest source (often renewables) over long-term coal contracts.
- **Addressing the "Just Transition":**
 - ✓ **The Difference:** Unlike Chile, India's coal sector is a massive employer. Entire districts in Jharkhand, Chhattisgarh, and Odisha depend on coal for jobs and state revenue (royalties/cess).

- ✓ **Transition Fund:** India requires a dedicated "Green Energy Transition Fund" to support the reskilling of coal workers and the economic diversification of coal-dependent states.
- ✓ **Storage is Key:** Chile's success relied heavily on Energy Storage Systems (ESS) to stabilize the grid. India must fast-track its Pumped Hydro and Battery Storage projects to make renewables "dispatchable" round the clock.

IV. Why a "No Regrets" Policy?

- **Health Costs:** Phasing out coal is not just about climate; it is a public health imperative. Studies show that districts with thermal power plants suffer significantly higher rates of respiratory illnesses and infant mortality.
- **Economic Risk:** Persisting with coal risks "Stranded Assets"—investments that will become worthless as global climate regulations (like the EU's Carbon Border Adjustment Mechanism) tighten.

58. Breeding Project Gives Endangered Western Tragopan Breathing Space

Context: A major conservation milestone was reported this month from the **Sarahan Pheasantry in Himachal Pradesh**, the only facility in the world dedicated to the captive breeding of the **Western Tragopan (*Tragopan melanocephalus*)**. The centre recorded its most successful breeding season yet, with a record survival rate of chicks. This success has given "breathing space" to the species, locally revered as '**Jujurana**' (**King of Birds**), which faces extinction risks in the wild.



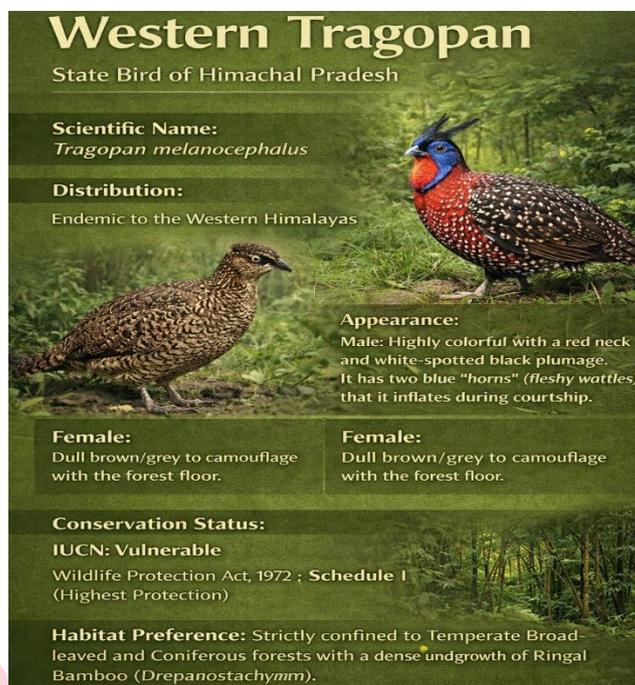
Key Highlights of the Breeding Success:

- **The "Jujurana" Breakthrough:**
 - ✓ The Western Tragopan is notoriously difficult to breed in captivity due to its extreme sensitivity to human disturbance and specific habitat needs.
 - ✓ The Sarahan centre, located at 2,200m altitude, successfully raised a record clutch of chicks this season, stabilizing the captive population which now stands at approximately 46 individuals.
 - ✓ **Genetic Viability:** This is crucial because the entire captive population is descended from just eight wild founders. The new additions help maintain genetic diversity, acting as an "Insurance Population" against extinction.

II. The "Soft Release" Strategy (The Next Step):

- **From Cages to Forests:** The ultimate goal of the project is not just captive breeding but "Rewilding."
- **The Protocol:** Officials are preparing for a "Soft Release" of these captive-bred birds into the Great Himalayan National Park (GHNP).

- ✓ Unlike a "Hard Release" (immediate release), a Soft Release involves keeping the birds in a large, net-covered enclosure within the forest for weeks.
- ✓ This allows them to acclimatize to the local climate and diet while being protected from predators before the final release.
- **Why GHNP?** The park holds the world's largest contiguous population of Western Tragopans and provides the specific Ringal Bamboo undergrowth the bird needs for nesting.



III. Challenges to Conservation:

- **Habitat Fragmentation:** The species is a "Habitat Specialist," requiring dense understorey in temperate forests (2,400m–3,600m). Infrastructure projects and hydro-power lines in Himachal have fragmented these corridors.
- **The "Climate Elevator":** As temperatures rise, the temperate forest line is shifting upwards. The Tragopan, trapped on mountain "islands," has limited space to migrate higher.

IV. Way Forward:

- **Community Stewardship:** The success of the "Soft Release" will depend on local communities in the Tirthan Valley (near GHNP) acting as guardians, preventing poaching and forest fires.
- **Corridor Connectivity:** The government must prioritize securing the Kanawar Wildlife Sanctuary corridor to allow gene flow between isolated populations.

59. How Mangroves' Cells Help Plants Survive in Saltwater

Context: A ground-breaking study published in the journal *Current Biology* has overturned long-held assumptions about how mangroves survive in lethal saltwater environments. While scientists previously believed that mangroves survived primarily by manipulating their stomata (pores used for gas exchange), the new research reveals that the secret lies in the physical geometry of their leaf cells. This discovery offers a new blueprint for engineering salt-tolerant crops in an era of rising sea levels.

I. The "Old" vs. "New" Understanding:

- **The Previous Assumption (Stomatal Trade-off):**
 - ✓ For decades, botanists believed that to survive salinity, mangroves had to compromise on photosynthesis.

- ✓ The theory was that mangroves evolved fewer or smaller stomata to minimize water loss, which in turn limited their ability to absorb Carbon Dioxide (CO₂) for growth.
- **The New Finding (Cellular Architecture):**
 - ✓ The study found that mangroves do not rely on shrinking their stomata. Instead, they have evolved unusually small epidermal pavement cells (the outer skin of the leaf).
 - ✓ **Thick Walls:** These tiny cells are reinforced with exceptionally thick cell walls.
 - ✓ **The Mechanism:** This dense, rigid cellular structure allows the leaves to withstand the immense hydrostatic pressure required to draw water from saline soil. It acts like a "pressure vessel," preventing the cells from collapsing under the high osmotic stress caused by salt.



II. Key Dimensions of the Study:

- **Independent Evolution:** The researchers analyzed 80 species of mangroves from 20 different plant families. They found that despite being genetically unrelated, these species converged on the same solution: shrinking their leaf cells and thickening the walls.
- **Mechanical Strength vs. Chemical Filtering:**
 - ✓ While we already knew about "Macro" adaptations (like waxy roots filtering salt or leaves excreting salt crystals), this study identifies the "Micro" adaptation that supports the plant's structural integrity.
 - ✓ It proves that salt tolerance is as much a physics problem (dealing with pressure) as it is a chemical one.

III. Significance for Agriculture:

- **Designing "Super-Crops":**
 - ✓ Current efforts to make crops like Rice and Wheat salt-tolerant have focused on complex genetic modification of chemical pathways (how ions are moved).
 - ✓ **This study suggests a simpler path:** altering the cell size. By breeding crops with smaller, thicker-walled leaf cells, scientists might confer salt tolerance without sacrificing photosynthetic efficiency (yield).
- **Climate Resilience:** With rising sea levels causing salinity ingress in coastal farmlands (e.g., in the Sundarbans and Kerala), these insights could help secure food security for coastal populations.

IV. Mangroves: The Halophytes

- **Salt Exclusion:** Species like Rhizophora possess ultra-filtration mechanisms in their roots that block 90-97% of salt from entering the xylem.

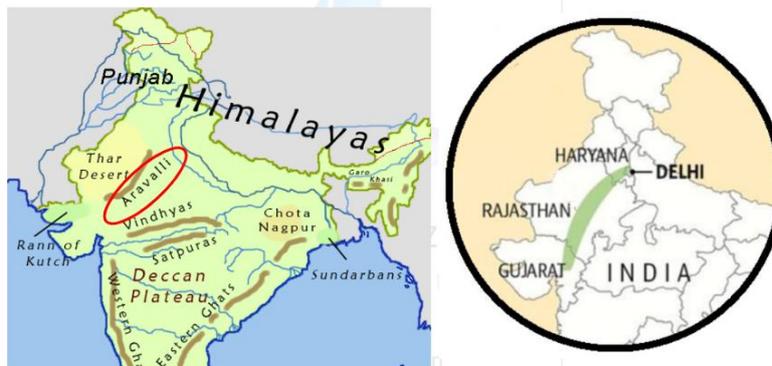
- **Salt Secretion:** Species like *Avicennia* (Black Mangrove) and *Aegiceras* have special salt glands on their leaves to excrete excess salt (often visible as white crystals).
- **Viviparity:** Seeds germinate while still attached to the parent tree. The seedling (propagule) grows a long spear-like root before dropping, allowing it to anchor immediately in the shifting mud.
- **Pneumatophores:** "Blind Roots" or breathing roots that grow vertically upwards (against gravity) to absorb oxygen from the air, as mangrove soil is anaerobic (oxygen-poor).

V. Way Forward:

- **Genomic Mapping:** Agricultural universities must now identify the specific genes responsible for cell wall thickening in mangroves to attempt gene-editing (CRISPR-Cas9) trials on cereal crops.
- **Blue Carbon:** Protecting these cellular marvels is critical, as they sequester 4x more carbon than terrestrial rainforests, making them a cornerstone of India's Net Zero strategy.

60. Aravallis at the Crossroads: Greenwashing, Legal Definitions, and the Struggle for Ecological Justice

Context: A sharp debate on "**Greenwashing**" has erupted following a series of conflicting legal and policy moves regarding the Aravalli Range. While the government promotes the "**Aravalli Green Wall Project**" as a massive restoration effort, critics and a recent editorial in *The Hindu* argue that simultaneously redefining what constitutes the "**Aravallis**" to exclude lower hills exposes a "**trust deficit**." This culminated in the Supreme Court staying its own earlier order which had accepted a controversial "**100-meter elevation**" definition, acknowledging that it might leave 90% of the hills vulnerable to mining.



I. The "Definition" Controversy (The Core Issue):

- **The "100-Meter" Rule:**
 - ✓ The Centre proposed (and SC initially accepted) that only landforms rising 100 meters above the "local relief" (surrounding ground) should be legally defined as "Aravalli Hills."
 - ✓ **The Flaw:** Critics pointed out that the Aravallis are an old fold mountain range, eroded over millions of years. Many ecologically vital ridges, specifically in Haryana (Faridabad/Gurugram) and Delhi, are low-lying hillocks (under 100m).
 - ✓ **Impact:** An internal assessment (cited by petitioners) suggested this definition would strip legal protection from nearly 90% of the range, opening it up for real estate and mining under the guise of "**not being a hill.**"
- **SC's Reversal:**
 - ✓ Recognizing the potential for irreversible damage, the Supreme Court stayed this definition and directed the constitution of a High-Powered Expert Committee to re-examine the criteria, stating that "ecological function" must trump "administrative height."

II. The "Greenwashing" Debate:

- **Afforestation vs. Destruction:**
 - ✓ The government touted the Aravali Safari Park (10,000 acres in Gurugram/Nuh) and the Green Wall Project as conservation wins.
 - ✓ **The Counter-View:** Environmentalists term this "Greenwashing"—using eco-tourism projects to distract from the deregulation of the actual forest land. They argue that creating a "Safari" involves construction (fences, roads, hotels) in a natural forest, which degrades the ecosystem rather than protecting it.
- **The "Critical Mineral" Loophole:**
 - ✓ While the SC banned fresh mining leases until a Management Plan for Sustainable Mining (MPSM) is finalized, it carved out an exception for "Critical, Strategic, and Atomic Minerals" (e.g., Uranium, Lithium).
 - ✓ **Fear:** Activists fear this exception will be misused to allow mining in sensitive zones, as the definition of "strategic" can be expansive.

III. Institutional Distrust:

- **Data Opacity:** The editorial highlights a "Trust Deficit" because key data—such as the Forest Survey of India (FSI) report contradicting the Ministry's "100-meter" claim—was reportedly not placed in the public domain initially.
- **Conflict of Interest:** State governments (Rajasthan, Haryana) view the Aravallis primarily as a source of revenue (mining royalty) rather than an ecological barrier, leading to a consistent push to dilute legal protection.

IV. The Aravalli Range & Legal Status:

- **Geological Status:** One of the oldest fold mountain systems in the world (Pre-Cambrian era). Acts as a "Water Divide" between the Indus and Ganga basins.
- **Ecological Role:**
 - ✓ **Barrier:** Prevents the Thar Desert from expanding eastward into the Indo-Gangetic plains (Delhi/UP).
 - ✓ **Groundwater:** Acts as a critical recharge zone for the parched NCR region.
- **Legal Protection:**
 - ✓ **PLPA, 1900:** The Punjab Land Preservation Act notifies certain areas as "forest" (historically used to protect Aravallis in Haryana).
 - ✓ **NCZ (Regional Plan 2021):** Designated as a Natural Conservation Zone where construction is limited to 0.5%.
- **M.C. Mehta Case (2004):** The landmark SC judgment that ordered the restoration of the Aravallis and banned mining in notified areas.

Way Forward:

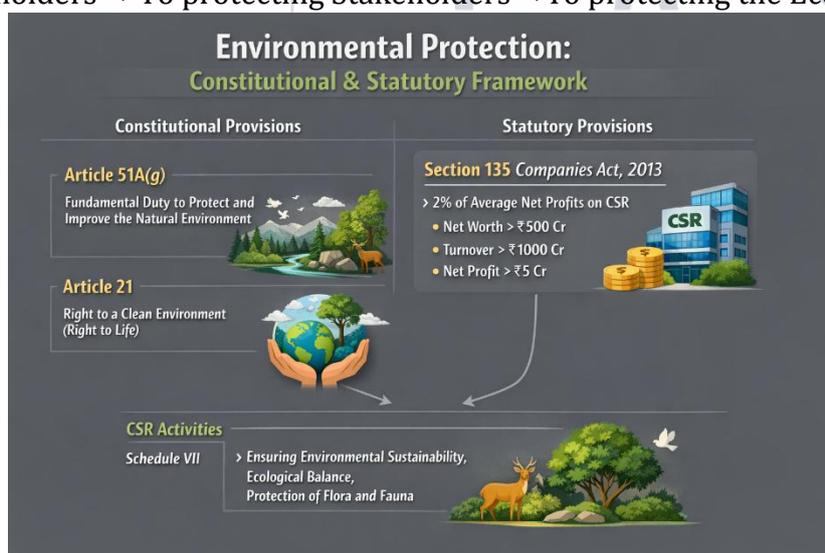
- **Functional Definition:** The Expert Committee must define the Aravallis based on "Geomorphology and Ecological Function" (e.g., presence of specific rock systems, vegetation, or aquifer recharge potential) rather than an arbitrary height (100m).
- **Unified Authority:** A single, statutory "Aravalli Environment Management Authority" (spanning Gujarat, Rajasthan, Haryana, Delhi) is needed to override state-level revenue pressures.
- **Transparency:** All maps, including the "Ground Truthing" of the 100m survey, must be made public to restore trust in the governance process.

61. Constitutionalizing CSR: Supreme Court's Environmental Duty Ruling in the Great Indian Bustard Case

Context: In a landmark verdict (**M.K. Ranjitsinh vs Union of India**), the Supreme Court ruled that **Corporate Social Responsibility (CSR)** is not merely a statutory requirement but a "**Constitutional Obligation**." The Bench, while hearing a case on the protection of the **critically endangered Great Indian Bustard (GIB)**, asserted that corporations, as "**legal persons**," share the **Fundamental Duty to protect the environment under Article 51A(g)**, just like any citizen.

I. Key Highlights of the Judgment:

- **Constitutionalizing CSR:**
 - ✓ The Court held that Article 51A(g) (duty to protect forests, lakes, wildlife) applies not just to natural citizens but also to Corporates (Legal Persons).
 - ✓ **Ruling:** "The corporate definition of 'social responsibility' must inherently include 'environmental responsibility'."
 - ✓ **Implication:** Spending CSR funds on environmental protection is no longer a voluntary act of charity but a fulfillment of a constitutional duty.
- **The "Guest" Doctrine:**
 - ✓ Addressing the conflict between renewable energy projects and wildlife in Rajasthan/Gujarat, the Court remarked that power companies operating in the habitat of the Great Indian Bustard are "guests in its abode."
 - ✓ They must operate with "heightened sensitivity," ensuring that their profit-making activities (like laying transmission lines) do not lead to the host's (species) extinction.
- **Polluter Pays Principle Applied to Extinction:**
 - ✓ The Bench clarified that if corporate activities (mining/power) threaten a species, the "Polluter Pays" principle mandates that the company bears the full cost of Species Recovery (both in-situ and ex-situ conservation).
- **Shareholder vs. Ecosystem:**
 - ✓ The Court observed that the traditional corporate duty has evolved: From protecting Shareholders → To protecting Stakeholders → To protecting the Ecosystem.



II. Significance of the Ruling:

- **Justiciable Responsibility:** By linking CSR to the Constitution, the Court has opened the door for citizens to file writs against corporations that neglect environmental duties, moving beyond the limited scope of the National Green Tribunal (NGT).
- **GIB Conservation:** The judgment validated the "Priority Areas" (14,013 sq km in Rajasthan) where overhead power lines must be regulated/undergrounded to prevent bird collisions.

- **End of "Greenwashing":** Companies can no longer claim CSR credits for superficial tree plantation drives while their core operations destroy biodiversity.

III. Way Forward:

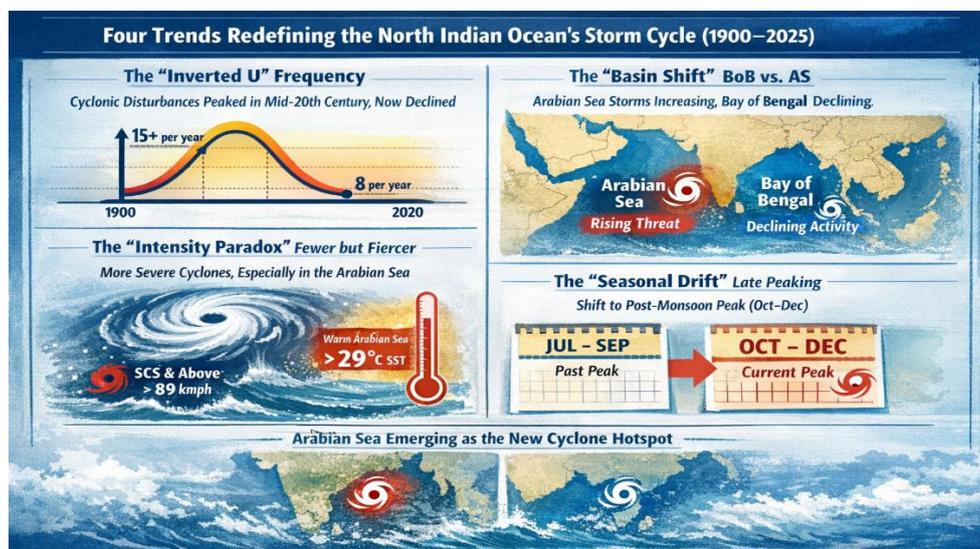
- **Green Audits:** The Ministry of Corporate Affairs (MCA) should mandate "Biodiversity Audits" for companies operating in Eco-Sensitive Zones (ESZs) as part of their annual reporting.
- **Biodiversity Credits:** CSR funds should be channelled into the newly proposed "Green Credit Programme" to professionalize conservation efforts.

62. Four Trends Redefining the North Indian Ocean's Storm Cycle

Context: A comprehensive data analysis spanning the last century (1900–2025) has identified four distinct long-term trends in the cyclonic patterns of the North Indian Ocean (NIO). This study reveals a significant structural shift in the region's storm dynamics, challenging the traditional understanding that the "Bay of Bengal is the primary danger zone" and highlighting the alarming, rising threat emerging from the Arabian Sea.

I. The Four Redefining Trends:

- **The "Inverted U" Frequency:**
 - ✓ **Trend:** Contrary to the popular perception of "more storms," the total frequency of Cyclonic Disturbances (CDs) in the NIO has actually declined in the last few decades.
 - ✓ **Data:** The 10-year rolling average of disturbances rose from the 1900s, peaked at over 15 per year in the 1930s–1970s, but has since dropped to a low of 8 in the 2000s. While it has slightly rebounded in the 2020s, it remains below the mid-century peak.
- **The "Basin Shift" (BoB vs. AS):**
 - ✓ **Trend:** The overall decline is driven almost entirely by the Bay of Bengal (BoB), which is producing fewer depressions.
 - ✓ **Shift:** In contrast, the Arabian Sea (AS)—historically a "quiet basin"—has witnessed a marked increase in activity. While the BoB still produces more storms in absolute numbers, its dominance is shrinking, and the Arabian Sea is becoming an active theatre of cyclonic activity.
- **The "Intensity Paradox" (Fewer but Fiercer):**
 - ✓ **Trend:** While the number of disturbances has fallen, their severity has spiked. A much higher percentage of low-pressure systems now intensify into Severe Cyclonic Storms (SCS) or higher (>89 kmph).
 - ✓ **Arabian Sea Risk:** The data highlights that disturbances originating in the Arabian Sea are now more likely to intensify into severe cyclones than those in the Bay of Bengal. This is attributed to the "Rapid Warming" of the Arabian Sea (SST > 29°C), providing excess thermal energy.
- **The "Seasonal Drift" (Late Peaking):**
 - ✓ **Trend:** There is a significant shift in the timing of these storms, particularly in the Bay of Bengal.
 - ✓ **Shift:** Prior to the 1980s, cyclonic activity was concentrated in the monsoon months (July–September). However, in recent decades, the peak window has shifted to the final quarter (October–December). This "Post-Monsoon Peak" poses a greater threat to standing Kharif crops ready for harvest.



II. Implications of these Trends:

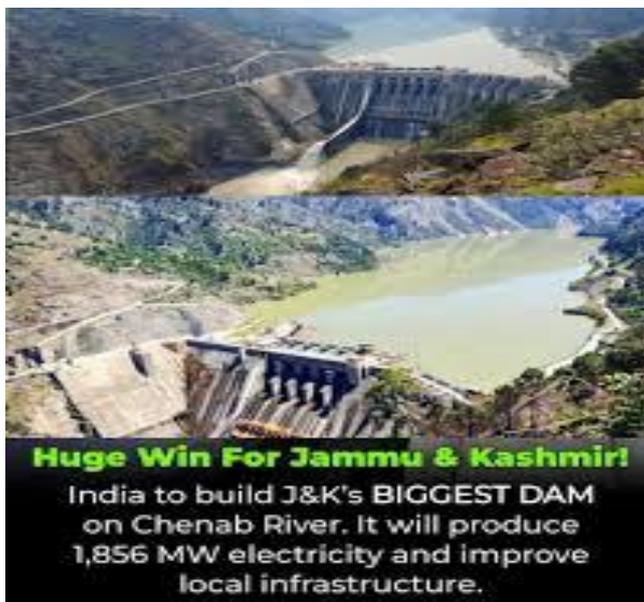
- **West Coast Vulnerability:** States like Gujarat, Maharashtra, and Kerala, which historically had lower cyclone resilience compared to Odisha/Andhra Pradesh, now face a "High Severity" risk from the Arabian Sea.
- **Predictability Challenge:** The shift to the Arabian Sea brings "Rapid Intensification" events (e.g., Cyclone Tauktae), giving disaster management agencies less time to evacuate.
- **Agricultural Hit:** The seasonal shift to Oct-Dec coincides with the harvest season, increasing the economic cost of each storm due to crop damage.

III. Way Forward:

- **Recalibrating SDRF:** The State Disaster Response Funds (SDRF) for West Coast states need to be increased to match the risk levels of East Coast states.
- **Port Resilience:** With the Arabian Sea hosting major industrial ports (Mundra, JNPT), infrastructure must be "Cyclone-Proofed" against severe surges.
- **Crop Calendar:** Agriculture departments may need to promote short-duration paddy varieties in coastal belts to ensure harvest before the new "October-December" cyclone peak.

63. Centre's Green Panel Gives Its Nod to Stage 2 Dulhasti Hydrel Power Project in J&K

Context: The Expert Appraisal Committee (EAC) under the Union Ministry of Environment, Forest and Climate Change (MoEF&CC) has granted environmental clearance for the Dulhasti Stage-II Hydroelectric Project in Jammu and Kashmir. This approval marks a decisive shift in India's water resource strategy, coming amidst a heightened focus on accelerating development in the Indus Basin following the suspension of the Indus Waters Treaty (IWT) earlier this year.



I. Key Highlights of the Project:

- **Project Profile:**
 - ✓ **Location:** The project is located in the Kishtwar district of Jammu & Kashmir on the Chenab River.
 - ✓ **Capacity:** It is a 260 MW run-of-the-river scheme, designed as an extension of the existing 390 MW Dulhasti Stage-I project (commissioned in 2007).
 - ✓ **Execution:** The project will be developed by NHPC Limited (National Hydroelectric Power Corporation) with an estimated investment of over ₹3,200 crore.
- **Technical Design (The "Tandem" Operation):**
 - ✓ Unlike a standalone dam, Stage-II is an "extension project." It will utilise water discharged from the Stage-I powerhouse.
 - ✓ A new 3.7 km long tunnel (Head Race Tunnel) will divert this water to a fresh underground powerhouse aimed at generating peaking power.
 - ✓ This design ensures that no new large reservoir or displacement of population is required, significantly reducing its ecological footprint compared to greenfield dams.

II. Strategic Significance:

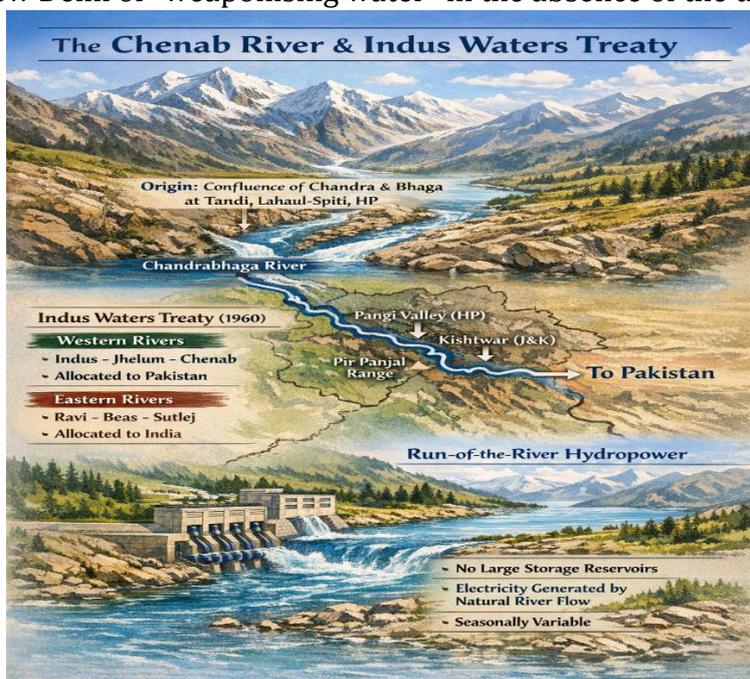
- **Post-Treaty Suspension Push:**
 - ✓ The approval is seen as part of India's strategic move to fast-track projects on the "Western Rivers" (Indus, Jhelum, Chenab). Following the suspension of the IWT by India in April 2025 (cited in recent reports due to cross-border tensions), the Centre is no longer bound by the treaty's restrictive data-sharing clauses.
 - ✓ The government is aggressively clearing a "cascade" of projects on the Chenab—including Rattle (850 MW), Kiru (624 MW), and Kwar (540 MW)—to fully utilise its share of water potential.
- **Energy Security:**
 - ✓ The project is critical for the Northern Grid, providing stability during peak demand hours in states like Punjab, Haryana, and Rajasthan.

III. Environmental Conditions Imposed:

- **River Health Study:** The EAC has mandated a "Post-Commissioning Impact Study" to be conducted five years after operation to assess changes in the river's ecology.
- **Cumulative Impact:** The panel noted that the Chenab basin is seeing heavy construction. It directed a comprehensive "Basin-Level Strategy" to ensure Environmental Flows (E-flows) are maintained to protect aquatic biodiversity, particularly the endangered Himalayan fish species.

IV. International Reaction:

- **Pakistan's Objection:** Islamabad has termed the clearance a "violation of international norms," arguing that diverting Chenab waters affects flows into Pakistan's Punjab plains. They have accused New Delhi of "weaponising water" in the absence of the treaty framework.



V. Way Forward:

- **Integrated Basin Management:** With multiple projects (**Kiru, Kwar, Ratle, Dulhasti**) coming up in close proximity on the Chenab, a unified "Sediment Management Plan" is needed to prevent silt accumulation from one dam affecting the longevity of the next.
- **Local Employment:** To avoid local unrest, NHPC must prioritize the employment of "**Project Affected Families**" (PAFs) from **Kishtwar** in the construction phase, as mandated by the J&K Hydropower Policy.

DEFENSE & INTERNAL SECURITY

64. Al Falah University Founder Jawad Siddiqui Sent to 14-Day Judicial Custody in Delhi Blast Case

Context: A Delhi Court has remanded Jawad Ahmed Siddiqui, the founder and chairman of Haryana-based Al-Falah University, to **14-day judicial custody** following the expiry of his interrogation by the **Enforcement Directorate (ED)**. This development marks a significant escalation in the probe into the Red Fort Terror Attack, where investigative agencies have uncovered a disturbing nexus between an educational institution, financial fraud, and terror financing.

I. Key Highlights of the Court Order:

- **Custody Details:**
 - ✓ The Additional Sessions Judge at Saket Court sent Siddiqui to judicial custody after the ED submitted that his further custodial interrogation was not required immediately, but his release could hamper the ongoing probe due to his influence.
 - ✓ The court allowed special medical assistance (prescribed medication and spectacles) for the accused during his time in Tihar Jail, citing health grounds.
- **The Charges:**
 - ✓ Siddiqui was arrested under the Prevention of Money Laundering Act (PMLA).

- ✓ The agency flagged him as the "mastermind" behind a complex web of financial irregularities that allegedly funded the "White Collar" terror module responsible for the blast.

II. The "Terror-Finance" Nexus (The White Collar Module):

- **The Trigger:** The university came under the scanner after investigations revealed that the suicide bomber involved in the November 10 blast near Red Fort was a doctor employed at the Al-Falah Medical College.
- **The "Meteoric Rise":**
 - ✓ The ED informed the court that the university witnessed a "meteoric rise" in revenue, generating over ₹415 crore between 2018 and 2025.
 - ✓ **Mismatch:** This massive influx of funds was not backed by matching academic receipts or legitimate assets, raising suspicions of foreign terror funding being routed through student fees.
- **Shell Companies:**
 - ✓ The probe identified at least nine shell companies operating from a single address linked to the Siddiqui family.
 - ✓ Funds collected as "tuition fees" were allegedly layered through these shell firms and diverted to personal accounts of the chairman's family members (wife and children) under the guise of "construction and catering contracts."

III. Regulatory Fraud & "Educational Trap":

- **Fake Accreditation:**
 - ✓ The ED's investigation, based on FIRs filed by the Delhi Police Crime Branch, found that the university had deceived thousands of students by making fraudulent claims regarding its accreditation.
 - ✓ It falsely claimed recognition from the National Assessment and Accreditation Council (NAAC) and status under Section 12(B) of the UGC Act to attract students and funds, which were then allegedly siphoned off.
- **Explosives Storage:**
 - ✓ Shockingly, investigations revealed that the university campus was used as a "safe harbor." The accused professors reportedly stored Ammonium Nitrate and other explosive precursors in sheds adjoining the campus mosque and library, exploiting the institution's distinct status to evade police scrutiny.

IV. Prevention of Money Laundering Act (PMLA), 2002:

Burden of Proof
Under Section 24, the burden is on the accused to prove that the alleged proceeds of crime are **untainted** property.

Twin Conditions for Bail
Under Section 45, Bail is difficult. Court must be satisfied that:
1. There are reasonable grounds to believe the accused is **NOT GUILTY**.
2. The accused is **NOT likely** to commit any offence while on bail.

ED Case Information Report (ECIR)
Unlike an FIR, the ECIR is an internal document of the ED.
Supreme Court: ECIR need not be given to the accused at the time of arrest (Vijay Madanlal Choudhary case)

V. Way Forward:

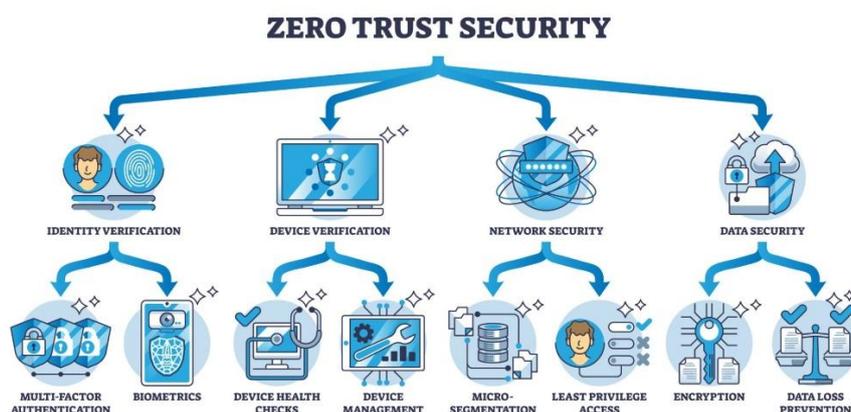
- **Forensic Audit:** A comprehensive forensic audit of all private universities in the NCR region is needed to detect "accommodation entries" and prevent educational trusts from becoming conduits for money laundering.
- **UGC Oversight:** The University Grants Commission (UGC) must establish a "Vigilance Cell" to physically verify the infrastructure and financial health of private universities, moving beyond mere paper-based compliance.

65. Securing Critical Information Infrastructure: From Air-Gapping to Zero Trust

Context: In a "High Severity" advisory issued, the Indian Computer Emergency Response Team (CERT-In) has warned of a coordinated wave of cyber-attacks targeting India's Critical Information Infrastructure (CII). The advisory specifically flags the emergence of "AI-driven Polymorphic Ransomware" capable of evading traditional firewalls, urging immediate patching of legacy systems in the Power, Banking, and Telecom sectors.

I. Key Highlights of the Advisory:

- **The "Polymorphic" Threat:**
 - ✓ **AI Adaptation:** Unlike static malware, this new strain uses Artificial Intelligence to constantly rewrite its own code (polymorphism) to bypass antivirus signatures.
 - ✓ **Target:** The advisory highlights that these attacks are specifically targeting Operational Technology (OT) systems—such as SCADA systems in power plants—which are often older and harder to patch than standard IT networks.
- **Sector-Specific Warnings:**
 - ✓ **Power Sector:** Warned against "Supply Chain Attacks" where hackers infiltrate the grid via third-party vendors (e.g., smart meter maintenance firms).
 - ✓ **Banking (UPI):** Flagged a rise in "Ghost Pairing" attacks, where attackers silently pair a rogue device to a user's financial apps to siphon funds without OTPs.
 - ✓ **Telecom:** Alerted against DDoS (Distributed Denial of Service) attacks aimed at disrupting 5G infrastructure in metro cities.
- **State-Sponsored Actors:**
 - ✓ The advisory notes a spike in "probing activities" from IP addresses linked to hostile state actors, aiming to map India's Digital Public Infrastructure (DPI) for potential future sabotage.
- **Government Response & Mitigation:**
 - ✓ **Cyber Swachhta Kendra (CSK):** The government has expanded the CSK's mandate to offer free "AI-based Botnet Cleaning Tools" to private companies operating critical infrastructure.
 - ✓ **NCIIPC Guidelines:** The National Critical Information Infrastructure Protection Centre (NCIIPC) has directed all "Protected Systems" to implement Air-Gapping (physically isolating critical networks from the public internet) immediately.
 - ✓ **Zero Trust Architecture:** All government ministries have been asked to shift to a "Zero Trust" model—where no user or device is trusted by default, even if they are inside the network.



II. Critical Information Infrastructure (CII) & Institutional Framework:

- **Definition (IT Act, 2000):** Section 70 defines CII as a computer resource, the incapacitation or destruction of which would have a debilitating impact on National Security, Economy, Public Health, or Safety.
- **Nodal Agency:** NCIIPC (National Critical Information Infrastructure Protection Centre): Created under Section 70A. It is the nodal agency specifically for protecting CII (e.g., Power Grid, Nuclear plants).
- **CERT-In:** Created under Section 70B. It is the national agency for responding to general cyber incidents (e.g., phishing, malware) across the country.
- **Protected System:** Any computer resource declared as CII by the government. Accessing it without authorization is punishable by up to 10 years in jail.

III. Way Forward:

- **Sovereign Cloud:** India must accelerate the "Meghraj" initiative to host critical data on sovereign clouds rather than relying on foreign servers.
- **Cyber Drills:** Regular "Red Teaming" (simulated attacks) should be mandatory for all CII entities to test their resilience against AI-driven threats.
- **Skill Gap:** A dedicated "Cyber Reserve Force" of ethical hackers should be raised to assist the government during national emergencies.

66. India Gives Tepid Response to Russian Push for Su-57, Long-Range Drones and Submarines

Context: During the high-profile annual summit in New Delhi, Russia made an aggressive pitch to supply India with its advanced **Su-57 fifth-generation stealth fighters, Geran-2 (Shahed-136 type) long-range kamikaze drones**, and new diesel-electric submarines. However, despite the signing of 19 agreements in trade and energy, India's response to these "**big-ticket**" military platforms remained notably "**tepid**" and non-committal, signaling a decisive structural shift in New Delhi's defence procurement strategy.



I. The Russian Offer:

- **Su-57 Felon:** Moscow offered a "localized production" model of its flagship stealth fighter to plug the Indian Air Force's (IAF) dwindling squadron strength.

- **Geran Drones:** Citing their battlefield success in Ukraine, Russia pitched these loitering munitions as a cost-effective solution for India's border needs.
- **Submarines:** Proposals were made to co-develop conventional submarines under the P-75I project or through government-to-government routes.

II. Why the "Tepid" Response? (Key Reasons):

- **The "Aatmanirbhar" Red Line:**
 - ✓ **Indigenous Priority:** Sources indicate that the Ministry of Defence (MoD) is firm on not importing a foreign fifth-generation fighter that could kill the domestic Advanced Medium Combat Aircraft (AMCA) project.
 - ✓ **Record Production:** The Defence Minister highlighted that India's domestic defence production has hit a record ₹1.51 lakh crore in 2025 (up from ₹46,000 crore in 2014), and acquiring the Su-57 would contradict this momentum.
- **Technical & Delivery Trust Deficit:**
 - ✓ **War Delays:** The ongoing Ukraine conflict has severely impacted Russia's ability to supply spares for existing fleets (Su-30MKI, MiG-29), creating skepticism about its capacity to deliver new complex platforms on time.
 - ✓ **FGFA Legacy:** India had already withdrawn from the joint Fifth Generation Fighter Aircraft (FGFA) program in 2018 due to disagreements over the Su-57's stealth capabilities and engine performance. Those technical concerns remain largely unaddressed.
- **Drone Mismatch:**
 - ✓ **Low-Tech Nature:** Experts pointed out that the Geran-2 is essentially a low-tech, noisy "flying moped" designed for mass terror strikes on civilian infrastructure. The Indian military, conversely, seeks high-precision, silent, and man-portable loitering munitions (like the indigenous Nagastra-1 or Israeli Rotem) for tactical strikes on military targets in the Himalayas.

III. The "Submarine Deal" Confusion:

- **Fact Check:** A report by a foreign agency claiming India had signed a \$2 billion deal for a new nuclear submarine was swiftly debunked by government sources.
- **Clarification:** It was clarified that the discussions were merely about the rescheduling of delivery for the Chakra-III (Akula class) nuclear submarine, which is already under an existing lease agreement from 2019 but has faced delays due to sanctions on Russian shipyards.

IV. Outcomes of the Summit:

- While avoiding new hardware, both sides signed a "Protocol for Military-Technical Cooperation" that shifts focus from "Buyer-Seller" to "Joint Research & Development" in niche areas like metallurgy and hypersonic missile fuels.
- **Spare Parts Logistics:** A key agreement was reached to set up "Forward Maintenance Hubs" in India to resolve the critical shortage of spares for Russian-origin weapons without sending them back to Moscow.



V. Way Forward:

- **Engine Diplomacy:** India must use its refusal of the Su-57 as leverage to press the US and France for 100% Transfer of Technology (ToT) on jet engines for the AMCA.
- **Sustainment Focus:** The immediate priority with Russia must remain strictly on "Sustainment"—ensuring the 60% of Indian military hardware that is of Russian origin remains operational despite the sanctions.

67. Navy Commissions Second MH-60R Copter Squadron, the 'Ospreys', at INS Hansa

Context: In a significant boost to its maritime surveillance and **anti-submarine warfare (ASW)** capabilities on the western seaboard, the Indian Navy has commissioned its second squadron of **MH-60R Seahawk multi-role helicopters**. The squadron, designated as **INAS 335** and nicknamed 'The Ospreys', was formally inducted at **INS Hansa** in Goa in the presence of the Chief of the Naval Staff. This marks the culmination of the induction process for the **24 helicopters** contracted from the US.

I. Key Highlights of the Commissioning:

- **The 'Ospreys' (INAS 335):**
 - ✓ **Location:** The squadron is based at INS Hansa, Goa, strategically positioned to monitor the vital sea lanes of the Arabian Sea.
 - ✓ **Role:** While the first squadron (INAS 334 'Seahawks') is based in Kochi (Eastern/Southern focus), the 'Ospreys' will primarily support the Western Naval Command, providing a "decisive edge" against sub-surface threats in waters often frequented by hostile submarines.
 - ✓ **Command:** The commissioning warrant was read by Captain Dhirender Bisht, the first Commanding Officer of the squadron.
- **Operational Status:**
 - ✓ Unlike typical inductions where integration takes time, the Navy Chief highlighted that the 'Ospreys' are "fully operational from Day 1."
 - ✓ The helicopters have already proven their mettle in recent operations, including Operation Sindoor and the TROPEX 2025 exercise, validating their seamless integration with the aircraft carriers INS Vikramaditya and INS Vikrant.
- **Sustainment Deal:**
 - ✓ The commissioning follows the recent signing of a ₹7,995 crore (\$946 million) "Follow-on Support" deal with the US, ensuring maintenance, spares, and performance-based logistics for the entire fleet for the next five years.

II. Strategic Significance:

- **The "Submarine Hunter":**
 - ✓ The induction plugs a critical capability gap in the Navy's arsenal. The MH-60R is considered the world's most advanced maritime helicopter, specifically designed to hunt modern diesel-electric and nuclear submarines that operate in the Indian Ocean Region (IOR).
- **Network Centric Warfare:**
 - ✓ The 'Romeo' helicopters act as "flying network nodes." They can relay real-time targeting data to other assets like the P-8I patrol aircraft and surface destroyers, creating a "Sensor-to-Shooter" grid that is difficult for adversaries to evade.



III. Way Forward:

- **Indigenisation of Spares:** While the aircraft are imported, the focus must shift to the "Intermediate Level" repair facilities being set up in India to reduce dependency on US OEMs for routine maintenance.
- **Carrier Integration:** The immediate priority for INAS 335 will be to maximize "night-landing" proficiency on the INS Vikramaditya, ensuring 24x7 ASW cover for the carrier battle group.

68. Govt. to Increase Reservation for Agniveers in CAPFs to 50%

Context: In a major policy recalibration aimed at securing the post-service future of soldiers recruited under the Agnipath scheme, the Union Ministry of Home Affairs (MHA) has decided to enhance the reservation for ex-Agniveers in the Central Armed Police Forces (CAPFs) from the previously announced 10% to 50%. This significant amendment marks a decisive shift in the rehabilitation strategy for the 75% of Agniveers who will be demobilized after their four-year tenure.

I. Key Highlights of the Policy Shift:

- **The 50% Quota Notification:**
 - ✓ The Ministry has notified amendments to the recruitment rules, starting with the Border Security Force (BSF). The notification states that 50% of vacancies in the rank of Constable (General Duty) will be reserved for ex-Agniveers.
 - ✓ This model, initially rolled out for the BSF, is set to be extended to other CAPFs including the CRPF, CISF, ITBP, and SSB.
- **Relaxations & Exemptions:**
 - ✓ **Physical Tests Waived:** Crucially, ex-Agniveers will be exempted from the rigorous Physical Standard Test (PST) and Physical Efficiency Test (PET), acknowledging their prior military training.
 - ✓ **Written Exam Mandatory:** However, to ensure merit and aptitude, they will still be required to qualify in the written examination alongside other candidates.
 - ✓ **Age Relaxation:** The government has granted a 5-year age relaxation for the first batch of ex-Agniveers (retiring in 2026) and a 3-year relaxation for all subsequent batches.
- **Recruitment Mechanism:**
 - ✓ The recruitment will occur in two phases:
 - **Phase 1:** The nodal CAPF will fill the 50% quota earmarked for ex-Agniveers.
 - **Phase 2:** The Staff Selection Commission (SSC) will conduct recruitment for the remaining vacancies (open category), which will include the existing 10% quota for Ex-Servicemen (regular army retirees).

II. Rationale Behind the Move:

- **Securing Futures:** The primary objective is to address the anxiety regarding the "unemployment trap" for the thousands of young soldiers who will exit the armed forces annually without a pension.
- **"Battle-Ready" Recruits:** By absorbing ex-Agniveers, the CAPFs will gain a pool of disciplined, combat-trained personnel, significantly reducing the time and cost required for basic training. This effectively militarizes the police forces to better handle internal security challenges like Naxalism and border guarding.

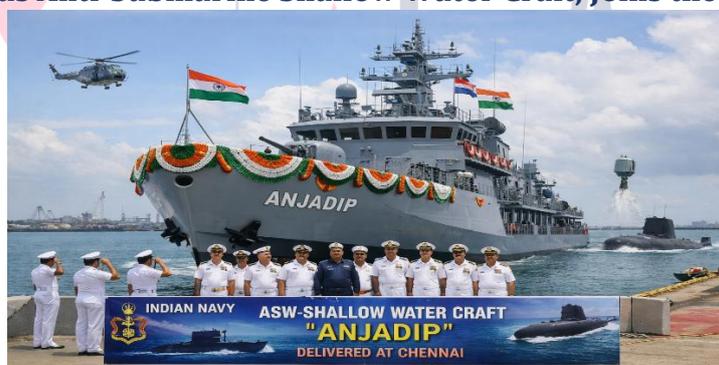
III. Critical Analysis & Concerns:

- **Impact on General Aspirants:**
 - ✓ Critics argue that reserving 50% of posts for a specific group significantly shrinks the opportunity for general civilian aspirants, who effectively have only half the vacancies left to compete for. This could lead to resentment among the unemployed youth who did not join Agnipath.
- **Operational Culture:**
 - ✓ There is a debate on whether "army-trained" soldiers are suitable for "police duties," which require a different approach focused on crowd control and civilian interaction rather than enemy combat.

IV. Way Forward:

- **Bridge Courses:** The MHA must design specific "re-orientation modules" for ex-Agniveers joining CAPFs to help them transition from a military mindset (neutralize enemy) to a policing mindset (restraint and law enforcement).
- **Private Sector Parity:** While the government has done its part, it must aggressively push the corporate sector to honor their pledges of hiring ex-Agniveers to ensure the remaining candidates also find gainful employment.

69. 'Anjadip', Indigenous Anti-Submarine Shallow Water Craft, Joins the Navy



Context: The Indian Navy has received the delivery of 'Anjadip', the third of eight Anti-Submarine Warfare Shallow Water Crafts (ASW SWC) being built by Garden Reach Shipbuilders & Engineers (GRSE), Kolkata. The vessel was delivered in Chennai, marking a pivotal moment in India's quest for self-reliance in warship construction. This induction significantly bolsters the Navy's littoral warfare capabilities, specifically addressing the gap in shallow-water submarine detection.

I. Key Highlights of 'Anjadip':

- **Indigenous Design & Build:**
 - ✓ **Builder:** The ship is built by GRSE in collaboration with L&T Shipyard, Kattupalli, under a unique Public-Private Partnership (PPP) model.
 - ✓ **Local Content:** It boasts over 80% indigenous content, aligning with the 'Aatmanirbhar Bharat' initiative.
- **Technical Specifications:**

- ✓ **Propulsion:** 'Anjadip' is one of the largest Indian naval warships to be propelled by Water-Jet Propulsion. This is critical for shallow waters where traditional propellers might hit the seabed or get entangled.
- ✓ **Dimensions:** Approximately 77 meters in length with a displacement of 900 tons.
- ✓ **Speed:** Capable of speeds up to 25 knots with an endurance of 1,800 nautical miles.
- **Advanced Weaponry:**
 - ✓ The craft is equipped with indigenously developed anti-submarine rockets and lightweight torpedoes.
 - ✓ It features a Hull-Mounted Sonar and a Low-Frequency Variable Depth Sonar (LFVDS) specifically tuned for the noisy, warm, and shallow waters of the Indian coast.
 - ✓ For surface threats, it carries a 30mm Naval Surface Gun and 12.7mm Stabilised Remote Control Guns (SRCG).

II. Strategic Significance:

- **Bridging the Shallow Water Gap:**
 - ✓ Conventional large warships (Destroyers/Frigates) struggle to operate effectively in shallow coastal waters due to draft constraints and sonar limitations (thermal layers).
 - ✓ 'Anjadip' fills this void, capable of hunting Midget Submarines and Underwater Drones that adversaries might use to infiltrate harbors or mine ports.
- **The "Reincarnation":**
 - ✓ The ship is named after the strategic Anjadip Island off the coast of Karwar (Karnataka). It is a reincarnation of the erstwhile INS Anjadip, a Soviet-origin Petya-class corvette that served the Navy until 2003, symbolizing the continuity of naval maritime tradition.

III. Way Forward:

- **Coastal Security Integration:** 'Anjadip' must be integrated into the Coastal Security Network (CSN), working in tandem with the Coast Guard and P-8I aircraft to create a "sensor-to-shooter" grid for the coastline.
- **Export Potential:** With its high indigenous content and specific design for tropical shallow waters, this class of ships holds immense export potential for friendly littoral nations in the Indian Ocean Region (IOR).

SCIENCE & TECHNOLOGY

70. Sanchar Saathi Pre-installation Mandate: Issued and Withdrawn

Context: The Department of Telecommunications (DoT) recently issued a controversial directive mandating all smartphone manufacturers to pre-install the 'Sanchar Saathi' mobile application on every new device sold in India. However, following severe backlash from opposition parties, privacy experts, and the tech industry regarding potential "mass surveillance," the government revoked the mandatory order within a week. The Centre clarified that while the app is a powerful tool for citizen safety, its adoption should remain voluntary rather than coerced.

I. The Initial Mandate (What was proposed?):

- **Pre-loading Requirement:** The DoT had invoked powers under the Telecommunications Act, 2023 to order Original Equipment Manufacturers (OEMs) like Samsung, Apple, and Xiaomi to install the app at the factory level.
- **Non-Removable Clause:** The initial draft reportedly suggested that the app should be deeply integrated into the Operating System (OS) in a way that it could not be easily uninstalled by the user, ensuring a "security layer" for the telecom network.
- **Scope:** It applied to all new devices and required existing devices to receive the app via "Over-the-Air" (OTA) software updates.

II. Why did the Government want this? (Rationale):

- **Combating Cyber Fraud:** The government argued that pre-installation was necessary to curb the menace of "Digital Arrests" and complex cyber frauds. A pre-installed app would allow real-time detection of cloned IMEIs and suspicious SIM swaps.
- **Jan Bhagidari (Public Participation):** The aim was to democratize access to security tools. The DoT believed that a pre-installed app would protect less digitally literate users who might not know how to download the app from the Play Store.

III. The "Snooping" Debate (Why was it withdrawn?):

- **Surveillance Fears:** Privacy advocates labeled the move as an attempt to create a "State-Surveillance Architecture." Concerns were raised that a government-mandated app with deep system permissions (access to location, calls, and messages) could be misused to track citizens, similar to the Pegasus spyware allegations.
- **Bloatware Issues:** Tech companies resisted the move, citing that mandatory apps (bloatware) consume storage and battery, and forcing them onto global supply chains violates the principle of "Technological Neutrality."
- **Legal Challenge:** Critics argued that forcing an app without a robust Data Protection Law in place violates the Right to Privacy (Puttaswamy Judgment), as the "proportionality" of the measure was not established.

IV. Key Modules of Sanchar Saathi:

- **CEIR (Central Equipment Identity Register):** Allows users to block and trace lost/stolen mobile phones using the IMEI number.
- **TAF COP (Telecom Analytics for Fraud Management):** Enables users to check how many mobile connections are registered in their name and report unauthorized ones.
- **Chakshu (The Eye):** A new feature that facilitates citizens to report suspected fraud communications (calls/SMS) intended for cyber-crime or financial scams.
- **KYM (Know Your Mobile):** Helps buyers verify the genuineness of a second-hand mobile phone before purchase by checking its IMEI status.

V. Way Forward:

- **Privacy by Design:** Instead of mandatory apps, the government should integrate the APIs of Sanchar Saathi directly into the Operating Systems (Android/iOS) in a privacy-preserving manner, similar to how the "Emergency SOS" feature works.
- **Trust Building:** The DoT must release the Source Code of the app for public audit to reassure citizens that it contains no backdoors for surveillance.

71. Semiconductor Fab Updates Under PLI Scheme: The "First Chip" Milestone & Revised Timelines

Context: As 2025 draws to a close, the India Semiconductor Mission (ISM) has witnessed a mix of historic milestones and realistic timeline recalibrations. While the Union Minister for Electronics and IT, Ashwini Vaishnaw, recently announced that four semiconductor plants will commence commercial production in 2026, a recent parliamentary reply by the Ministry has signaled a longer gestation period for India's first commercial Fab in Dholera. Meanwhile, Kaynes Technology has claimed a breakthrough by delivering India's first commercial "Multi-Chip Module."

Key Project Updates:

- **Micron Technology (Sanand, Gujarat):**
 - ✓ **Status:** The facility has moved from construction to the "Pilot Production" phase.
 - ✓ **Timeline:** The plant is on track to roll out the first "Made in India" memory chip for commercial use by early 2026.

- ✓ **Focus:** It is an ATMP (Assembly, Testing, Marking, and Packaging) unit, meaning it packages imported wafers into finished chips.
- **Kaynes Technology (Sanand, Gujarat):**
 - ✓ **The Breakthrough:** In a significant development reported in late 2025, Kaynes Technology announced the delivery of India's first commercial "Multi-Chip Module" from its pilot line.
 - ✓ **Significance:** This marks the first tangible product delivery under the ISM, moving beyond groundbreaking ceremonies to actual output. The facility is expected to scale to 6.3 million chips per day by mid-2026.
- **Tata Electronics (Dholera, Gujarat):**
 - ✓ **The Timeline Shift:** In a written reply to the Lok Sabha in December 2025, the Minister of State for Electronics & IT clarified that the commercial operations of the Dholera Fab (India's first full-scale wafer fabrication unit) are expected by FY 2029-30.
 - ✓ **Context:** This statement tempers earlier enthusiasm about a 2026 launch. However, officials clarified that pilot production might still begin earlier, but full-scale commercial viability takes 3-4 years of "yield stabilization."
- **Adani-Tower Semiconductor (Maharashtra):**
 - ✓ **Status:** While the Maharashtra Cabinet approved the \$10 billion joint venture in Panvel, the project is still awaiting final clearance from the India Semiconductor Mission (ISM) at the central level to qualify for the 50% subsidy. Discussions reportedly hit a roadblock over the "equity structure" and technology transfer terms.

II. Critical Analysis: ATMP vs. Fab

- **The "Packaging" First Strategy:** The government's strategy is now clearly prioritizing ATMP/OSAT units (Micron, Kaynes, CG Power) to get "quick wins" on the board. These units are faster to build (18-24 months) compared to Fabs (3-5 years).
- **The "Talent Gap" Reality:** Reports from December 2025 indicate a shortage of roughly 2.5 lakh skilled engineers. The government's "Chips to Startup" (C2S) program is racing against time to train workforce for the 2026 production boom.

III. Way Forward:

- **Ecosystem Beyond Chips:** The focus must now shift to the "Ancillary Industry"—securing domestic supply chains for ultra-pure water, specialty gases, and photo-resists, which are currently 100% imported.
- **Design-Led Growth:** India should leverage its strength in chip design (20% of the world's chip designers are Indian) to move up the value chain, ensuring we don't just become "packagers" for global firms.

72. AI Governance and Gendered Time Poverty: India's Twin Challenges in 2025

Context: As 2025 draws to a close, two critical narratives have emerged in India's Artificial Intelligence landscape. First, the release of the "**India AI Governance Guidelines**" (and a concurrent Private Member's Bill) seeks to establish a safety framework for public sector AI deployment. Second, a disturbing new analysis based on the Time Use Survey reveals that while the AI economy booms, women risk being left behind not due to a lack of capability, but due to severe "**Time Poverty**" that prevents upskilling.

I. Part 1: The AI Ethics Draft Guidelines (Public Sector Focus)

- **The "Duty of Care" Debate:**
 - ✓ **Core Principle:** The new guidelines propose a shift from purely "regulating content" (like deepfakes) to establishing a "Duty of Care" for AI developers. This means platforms must proactively prevent harm rather than just reacting to it.

- ✓ **The Gap:** An editorial in The Hindu titled "Model Conduct" highlights that while India has IT Rules for digital safety, it lacks a specific Consumer Safety Regime for AI. Unlike China's recent draft rules—which penalize algorithms that induce "emotional dependence" or addiction—India's approach is still largely reactive, relying on existing laws (IT Act, DPDP Act) which may be insufficient for psychological harms caused by AI.
- **Proposed Institutional Framework:**
 - ✓ **AI Safety Institute (AISI):** Modeled after global best practices, this body is proposed to handle the technical testing of "High-Risk" AI models used in governance (e.g., policing, welfare delivery).
 - ✓ **The "Lawful Purpose" Test:** A Private Member's Bill introduced in Parliament this session proposes strict penalties (up to ₹5 Crore) for AI misuse. It mandates that any AI used for surveillance must pass a strict "Lawful Purpose" test approved by an oversight committee, ensuring it violates neither privacy (Article 21) nor equality (Article 14).

II. Part 2: The Upskilling Gap – Why Women Risk Being Left Behind

- **The "Time Poverty" Crisis:**
 - ✓ **Data Point:** Recent analysis of the Time Use Survey (2024) reveals a startling gap: Working women in India spend approximately 10 hours less per week on "self-development and learning" compared to men.
 - ✓ **The Cause:** This is not due to a lack of ambition but the "Double Burden." Women spend an average of 9.6 hours/day on combined paid and unpaid work (caregiving/chores), whereas men spend 8.6 hours, with the majority of men's time going to paid employment.
- **The "AI-Skill" Trap:**
 - ✓ **Continuous Learning:** The AI economy is distinct because it requires continuous upskilling (learning new tools every 6 months).
 - ✓ **The Risk:** Since women lack the "leisure time" to upskill after work hours, they face a higher risk of "Occupational Stagnation." While men use their free time to learn Generative AI tools, women remain stuck in legacy roles that are most prone to automation.
- **Algorithmic Bias in Hiring:**
 - ✓ The report warns that AI-driven hiring tools often penalize "Career Breaks." Since women are more likely to take gaps for child-rearing, these "efficiency-focused" algorithms might systematically filter out capable female candidates, reinforcing the gender gap.

III. Key Recommendations (Way Forward):

- **"Time-Saving" Infrastructure:** The solution to the gender gap is not just "more courses" but "more time." The government must invest in Crèches and Elder Care centers as critical economic infrastructure to free up women's time for upskilling.
- **Workplace Redesign:** Companies should integrate "Learning Hours" within the 9-to-5 workday rather than expecting employees to upskill on weekends, which disproportionately disadvantages women.
- **Sandboxing for Public AI:** Before deploying AI in public services (like PDS or policing), it must be tested in a "Regulatory Sandbox" to ensure it doesn't hallucinate or discriminate against marginalized groups.

73. AI Could Widen Inequalities in Asia Pacific: The 'Next Great Divergence'

Context: A seminal report titled "The Next Great Divergence: Why AI May Widen Inequality Between Countries," released by the **United Nations Development Programme (UNDP)**, has

sounded a global alarm. The report warns that the unchecked expansion of Artificial Intelligence (AI) threatens to reverse decades of development convergence, potentially creating a "Great Divergence" where wealthy, tech-ready nations pull ahead while developing economies in the Asia-Pacific region are left behind.

I. Key Highlights of the Report:

- **The "Capability Gap":**
 - ✓ **Uneven Starting Line:** The report highlights that while the Asia-Pacific region is the "center of gravity" for the global AI transition (hosting 55% of the world's population and half of global AI users), the benefits are heavily skewed.
 - ✓ **The Divide:** Advanced economies like Singapore, South Korea, and China are dominating innovation (China alone holds ~70% of global AI patents). In contrast, lower-income nations in South Asia and the Pacific lack the "foundational capabilities"—reliable electricity, high-speed broadband, and skilled workforce—to harness AI, risking permanent economic marginalization.
- **Labor Market Disruption (Gender & Youth):**
 - ✓ **Women at Risk:** The report flags a critical gender dimension, noting that jobs held by women in the region are nearly twice as exposed to automation as those held by men. This is because women are disproportionately employed in routine, clerical, and BPO (Business Process Outsourcing) roles that Generative AI can easily replicate.
 - ✓ **Youth Employment:** The "entry-level" jobs that traditionally served as a ladder for young people to enter the formal workforce are vanishing, creating a crisis of "jobless growth" for the region's youth bulge.
- **Economic Impact:**
 - ✓ While AI could boost the region's GDP growth by 2 percentage points annually and add nearly \$1 trillion to ASEAN economies by 2035, these gains will likely be captured by capital owners and tech monopolies, widening the wealth gap within and between nations.
- **The "Digital" vs "Development" Paradox:**
 - ✓ **Thailand Case Study:** The report cites Thailand as an example of the "paradox." While it ranks high on digital readiness indices (3rd in ASEAN), it ranks lower on the Human Development Index (76th). This suggests that having digital infrastructure does not automatically translate to human welfare or protection from AI-induced disruptions.
 - ✓ **Data Exclusion:** A significant risk identified is "Data Invisibility." Rural and indigenous communities in the Asia-Pacific are often missing from the datasets used to train global AI models. This leads to "Algorithmic Bias," where AI tools for credit scoring or healthcare fail to work accurately for these marginalized populations.



II. Way Forward:

- **Fiscal Space for Adaptation:** International financial institutions must provide "concessional financing" to developing Asian nations, allowing them to invest in digital public infrastructure (DPI) without spiraling into debt.
- **"Human-in-the-Loop" Policies:** Governments must mandate that AI deployment in critical sectors (health, justice) retains human oversight to prevent algorithmic discrimination against the poor.
- **Reskilling Revolution:** A regional "Skills Compact" is needed to retrain the millions of BPO workers in India and the Philippines, moving them from "routine" tasks to "AI-complementary" roles.

74. Ensure Free Content Access for LLMs, Says Working Paper: A Hybrid Copyright Model

Context: A significant debate has erupted in India's tech policy landscape following the release of a working paper by the Department for Promotion of Industry and Internal Trade (DPIIT). The paper, drafted by an eight-member committee, recommends that **Large Language Models (LLMs)** like ChatGPT and Gemini should have unrestricted access to all content that is "lawfully available" online for training purposes. It proposes a **"Hybrid Model"** that balances the need for AI innovation with the rights of content creators, rejecting both the "total ban" on scraping and the "fair use" (zero payment) arguments.

I. Key Highlights of the Working Paper:

- **The "Blanket License" Proposal:**
 - ✓ **Right to Scrape:** The paper suggests that AI developers should be granted a "Statutory Blanket License". This means they do not need to negotiate individual permissions with millions of websites or authors to scrape data for training.
 - ✓ **No "Opt-Out" Mechanism:** Crucially, the committee recommends that publishers and content creators should not have the right to "opt-out" (block their content from being scraped) if the content is publicly available. This is intended to prevent "data monopolies" where only rich AI firms can afford data.
- **Revenue Sharing (The "Hybrid" Element):**

- ✓ **Pay Upon Commercialization:** While access for training is free/unrestricted, the paper mandates that AI companies must pay royalties once their model is commercialized.
- ✓ **CRCAT:** It proposes the creation of a centralized body—Copyright Royalties Collective for AI Training (CRCAT)—to collect these royalties from AI firms.
- ✓ **Distribution:** These funds would then be distributed to content creators (publishers, authors, musicians) based on metrics like web traffic and "social indicators."
- **Rejection of "Fair Dealing":**
 - ✓ The committee explicitly rejected the Silicon Valley argument that using data for AI training falls under "Fair Dealing" (Section 52 of the Copyright Act) and should be free forever. It argued that a "zero-price model" would destroy the economic incentive for humans to create new content.

II. Critical Analysis & Stakeholder friction:

- **Publishers' Angst:**
 - ✓ Media houses (like The Hindu or ANI) argue that removing the "Opt-Out" mechanism violates their proprietary rights. They fear that AI models will "cannibalize" their traffic by answering user queries directly, rendering the original websites obsolete without sufficient compensation.
- **Startups' Concern:**
 - ✓ Small Indian AI startups argue that a mandatory royalty regime will create a "High Entry Barrier." While giants like Google/Microsoft can afford to pay the CRCAT, early-stage startups might be stifled by the compliance burden.
- **The "Valuation" Puzzle:**
 - ✓ A major practical challenge remains: How do you value a single news article in a training dataset of 10 trillion tokens? The paper leaves the complex formula for royalty calculation to future deliberations.



II. Way Forward:

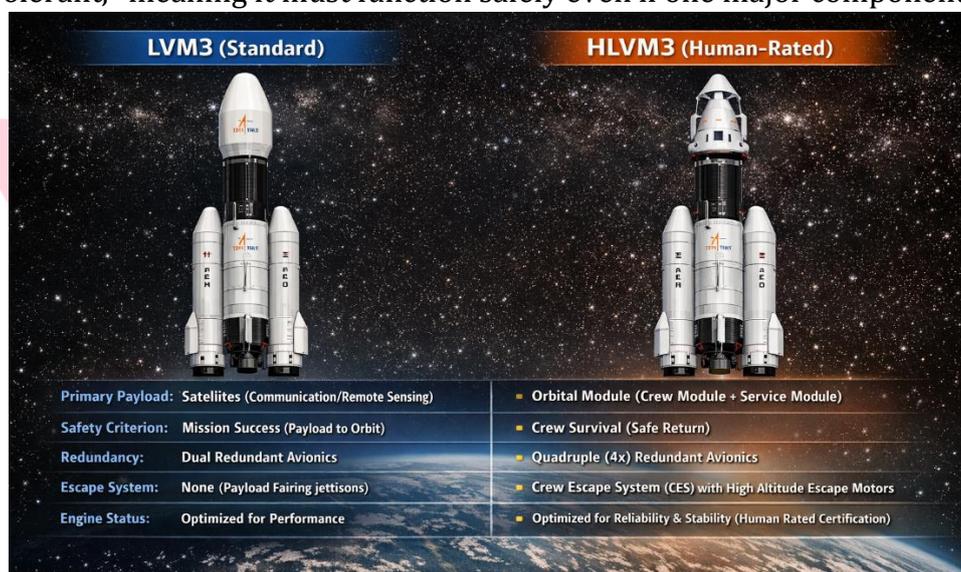
- **Global Harmonization:** India's policy cannot exist in a silo. The royalty rates must be competitive; otherwise, AI firms may simply shift their server locations to "Data Havens" (countries with loose copyright laws).
- **Granular Distinction:** The policy must distinguish between "Core Knowledge" (facts/news) and "Creative Expression" (art/fiction). While facts should remain free, creative expression warrants stricter protection.

75. Why Human-Rating Matters as India Prepares for Gaganyaan

Context: As the Indian Space Research Organisation (ISRO) accelerates its preparations for the first uncrewed flight (G1) of the Gaganyaan mission, the spotlight has shifted to the critical engineering process known as "Human-Rating." Recent analyses highlight that transforming a cargo-carrying rocket into a vehicle safe for astronauts involves a fundamental paradigm shift—from "Mission Success" to "Crew Survival"—necessitating stringent certification standards that go far beyond traditional satellite launches.

I. What is Human-Rating? (The Paradigm Shift)

- **Definition:** Human-rating is not just a stamp of approval but a rigorous certification process that ensures a space system can safely transport humans, sustain their lives in orbit, and return them to Earth.
- **The "Probability" Metric:**
 - ✓ For standard satellite launches, a failure rate of 1 in 100 (99% reliability) is often acceptable.
 - ✓ For human missions, international standards (like NASA's) demand a Loss of Crew (LOC) probability of less than 1 in 500. This requires the system to be "Single Fault Tolerant," meaning it must function safely even if one major component fails.



II. Key Pillars of Human-Rating the LVM3 (HLVM3):

- **Structural & Hardware Upgrades:**
 - ✓ **The "S200" Boosters:** The solid rocket boosters of the Launch Vehicle Mark-3 (LVM3) have been upgraded with enhanced safety margins to handle higher vibrations and acoustic loads without compromising the crew module's integrity.
 - ✓ **Thrust Regulation:** Unlike cargo rockets that prioritize maximum thrust, human-rated engines like the Vikas (Liquid stage) and CE-20 (Cryogenic stage) are tuned for stability to prevent high G-forces that could cause astronaut blackouts.
- **Intelligence & Redundancy:**
 - ✓ **Quadruple Redundancy:** The HLVM3 features a Quad-Redundant Digital Autopilot. If the primary computer fails, three backups are ready to take over instantly, ensuring the rocket never flies "blind."
 - ✓ **IVHM System:** An Integrated Vehicle Health Management system uses AI to monitor hundreds of parameters (pressure, heat, trajectory) in real-time to detect anomalies milliseconds before they become catastrophic.
- **The Crew Escape System (CES):**

- ✓ Often called the "mission within a mission," the CES is the most critical addition for human-rating.
- ✓ **Function:** If the rocket malfunctions on the launchpad or during ascent (up to atmospheric exit), the CES fires its high-thrust solid motors to pull the Crew Module away from the exploding rocket to a safe distance for a parachute landing.

III. Why is it Challenging?

- **The "Black Zones":** Human-rating requires eliminating "Black Zones"—phases of flight where abort is impossible. ISRO has conducted extensive Test Vehicle (TV-D1) flights to validate that the CES works across all flight regimes (Mach number and altitude).
- **Life Support (ECLSS):** Beyond the rocket, the Crew Module must maintain an Earth-like atmosphere (25°C, oxygen-nitrogen mix) in the vacuum of space. Developing an indigenous Environmental Control and Life Support System (ECLSS) has been one of India's steepest technological learning curves.

IV. Way Forward:

- **Man-Rating Certification:** The immediate next step is the formal certification of the HLVM3 by an independent external committee, verifying that every weld, valve, and code line meets the "Human-Rated" standard.
- **Vyommitra validation:** The upcoming uncrewed G1 flight carrying the humanoid robot Vyommitra will be the final "exam" for these life support systems, measuring parameters like radiation and cockpit pressure to ensure the environment is truly safe for Indian astronauts (Gaganyatris).

76. ISRO Sends Largest Commercial Communications Satellite to Orbit (BlueBird Block-2)

Context: In a historic milestone for India's space sector, the Indian Space Research Organisation (ISRO) successfully launched its heaviest commercial payload. The LVM3-M6 mission, lifting off from the Satish Dhawan Space Centre (SDSC) in Sriharikota, placed the BlueBird Block-2 communications satellite into Low Earth Orbit (LEO). This dedicated commercial mission was executed by NewSpace India Limited (NSIL), ISRO's commercial arm, marking a significant leap in India's share of the global heavy-lift launch market.

I. Key Highlights of the Mission:

- **The Payload (BlueBird Block-2):**
 - ✓ **Client:** The satellite is owned by the US-based company AST SpaceMobile.
 - ✓ **Record-Breaking Size:** Weighing approximately 6,500 kg, it is the heaviest satellite ever launched by an Indian rocket from Indian soil.
 - ✓ **Technology:** It features the largest commercial phased-array antenna (covering 223 square meters) ever deployed in LEO. This massive antenna acts as a "cell tower in space."
- **Direct-to-Device Connectivity:**
 - ✓ Unlike traditional satellites that require large ground dishes, BlueBird is designed to provide direct-to-mobile broadband. It allows standard, unmodified smartphones to connect directly to the satellite for 4G/5G voice and data services, eliminating "dead zones" in remote areas.
- **The "Baahubali" Performance:**
 - ✓ The LVM3 (Launch Vehicle Mark-3), often dubbed "Baahubali" for its lifting power, performed a precise injection.
 - ✓ This was a complex mission requiring the rocket to deploy the heavy payload into a specific Low Earth Orbit inclination, showcasing the vehicle's versatility beyond just Geostationary Transfer Orbit (GTO) missions.

II. Strategic Significance:

- **Competing with Global Giants:**
 - ✓ Historically, India relied on foreign rockets (like Arianespace) for launching satellites heavier than 4 tonnes. With this launch, ISRO has demonstrated its indigenous capability to lift 6-tonne+ class payloads to LEO, positioning LVM3 as a cost-effective alternative to SpaceX's Falcon 9 for specific orbital profiles.
- **Commercial Maturity:**
 - ✓ This is the second dedicated commercial mission for the LVM3 (after the OneWeb launch), proving that the vehicle is now "market-ready" for international customers, moving beyond its experimental phase.



III. Way Forward:

- **Production Ramp-up:** To compete commercially, ISRO needs to increase the launch frequency of LVM3 from the current 2 per year to at least 4-6 per year. The involvement of the HAL-L&T consortium in production is critical here.
- **Reusability:** While LVM3 is robust, it is expendable. To remain commercially viable in the long run against SpaceX, ISRO must accelerate the development of the Next Generation Launch Vehicle (NGLV) which features reusable stages.

77. PM-WANI Scheme

Context: In a significant update released by the Ministry of Communications on December 3, 2025, the government announced that the Prime Minister's Wi-Fi Access Network Interface (PM-WANI) scheme has achieved a major milestone, crossing 3.91 lakh public Wi-Fi hotspots across the country. The Department of Telecommunications (DoT) also highlighted key structural reforms implemented to accelerate the scheme's adoption.

I. About PM-WANI:

Launched in 2020, PM-WANI aims to provide affordable, high-speed internet connectivity in public spaces through a decentralized network of small-scale entrepreneurs. It operates on an "Unbundled Architecture" involving four key stakeholders:

- **Public Data Office (PDO):** The "last-mile" provider (e.g., a tea shop, kirana store) that establishes the Wi-Fi hotspot. No license or registration fee is required.

- **Public Data Office Aggregator (PDOA):** An aggregator that provides authorization and accounting services to PDOs.
- **App Provider:** Develops the app for users to register and discover nearby WANI-compliant hotspots.
- **Central Registry:** Maintained by C-DOT, it stores details of App Providers, PDOAs, and PDOs.

II. Key Reforms & Highlights:

- **Cost Reduction via FTTH:** To reduce operational costs, PDOs are now permitted to use regular Fiber-to-the-Home (FTTH) broadband connections to provide service, rather than expensive commercial leased lines.
- **Tariff Rationalization (TRAI Mandate):** Implementing the 71st Amendment Order, TRAI has mandated that Internet Service Providers (ISPs) must offer retail FTTH plans (up to 200 Mbps) to PDOs at a price not exceeding twice the consumer rate.
- **Backhaul Aggregation:** PDOs can now aggregate multiple access points to a single backhaul connection, allowing for wider coverage with fewer internet connections.
- **Dual-Use Policy:** Existing home or business Wi-Fi routers can now join the PM-WANI network by creating a separate "Public SSID," allowing private users to monetize their unused bandwidth.
- **Interoperability:** Roaming has been enabled between different PDOAs, allowing a user registered on one app to seamlessly connect to hotspots managed by different aggregators.

III. State-wise Performance:

- Delhi leads the tally with the highest number of hotspots (approx. 1.98 lakh), followed significantly by states like Uttar Pradesh and Maharashtra.

IV. Significance:

- **Digital Inclusion:** It bridges the "Digital Divide" in rural areas where 4G/5G signal penetration inside buildings may be weak.
- **Gig Economy:** It creates a new class of "Micro-Entrepreneurs" (PDOs) who earn additional revenue by selling internet access.
- **Data Offloading:** It helps decongest mobile networks by offloading heavy data traffic to wired broadband/Wi-Fi networks.

HISTORY & CULTURE

78. Vice-President Addresses Kashi Tamil Sangamam 4.0; PM Urges Participation

Context: The Vice-President of India, Shri C.P. Radhakrishnan, virtually addressed the fourth edition of the Kashi Tamil Sangamam (KTS 4.0), describing it as a "living symbol of India's timeless spiritual and cultural unity." Concurrently, Prime Minister Narendra Modi, through his Mann Ki Baat address and social media messages, urged citizens to actively participate in the event, asserting that "Tamil is the pride of India" and calling the festival a vital pillar of the Ek Bharat Shreshtha Bharat vision.

I. Key Highlights of KTS 4.0:

- **VP's Address (The "Civilizational Continuum"):**
 - ✓ Addressing the delegates virtually (and physically attending the Valedictory in Rameswaram), Vice-President C.P. Radhakrishnan emphasized that the bond between Kashi (Varanasi) and Tamil Nadu is not merely historical but a "spiritual continuum" that has united Bharat for millennia.
 - ✓ He quoted the legendary poet Mahakavi Subramania Bharati, stating that KTS 4.0 realizes Bharati's dream of a "united, integrated, and confident India."
- **Theme - "Tamil Karkalam" (Let's Learn Tamil):**

- ✓ Unlike previous editions which focused broadly on culture, KTS 4.0 was centered on the theme "Learn Tamil – Tamil Karkalam."
- ✓ **Objective:** To democratize the learning of one of the world's oldest languages among Hindi-speaking populations.
- **Major Initiatives Launched:**
 - ✓ **Sage Agasthya Vehicle Expedition:** A unique "Yatra" was flagged off from Tenkasi (Dakshin Kashi) in Tamil Nadu to Varanasi, retracing the ancient route taken by Sage Agasthya and the Pandya kings.
 - ✓ **Tamil in Kashi Schools:** As part of the initiative, 50 Tamil teachers were deployed to government schools in Varanasi to teach basic Tamil modules to local students.
 - ✓ **Student Exchange:** A cohort of 300 students from Uttar Pradesh was sent to Tamil Nadu for a 15-day immersive "Language and Culture" tour, reversing the traditional flow of delegates.
- **Significance of the Prime Minister's Message:**
 - ✓ **"Tamil is India's Pride":** The PM reiterated that preserving Tamil culture is a national duty. His call for participation aimed to transform the event from a government program into a "Jan Andolan" (People's Movement) for cultural integration.
 - ✓ **Bridging the North-South Divide:** By celebrating the "Ganga-Cauvery" connection, the leadership aimed to counter divisive narratives and highlight the shared intellectual heritage (e.g., the link between Kashi Vishwanath and Rameswaram).

79. Indian Navy's Stitched Sailing Vessel 'INSV Kaundinya' Sets Sail for Oman

Context: In a historic attempt to relive and revive India's ancient maritime glory, the Indian Navy's unique "stitched" sailing vessel, INSV Kaundinya, has embarked on its maiden trans-oceanic voyage from Porbandar (Gujarat) to Muscat (Oman). The expedition, dubbed the "Living Ocean Expedition," aims to retrace the trade routes frequented by ancient Indian mariners during the age of sail, validating the seaworthiness of traditional Indian ship designs.

I. Key Highlights of the Voyage:

- **The Vessel (A Floating Piece of History):**
 - ✓ **Design Source:** The ship is a faithful recreation of a 5th-century merchant vessel depicted in the murals of Ajanta Caves (Cave No. 17).
 - ✓ **Construction Method:** It is built using the ancient 'Tankai' method (stitched shipbuilding technique). Remarkably, no metal nails, screws, or nuts were used in its construction.
 - ✓ **Materials:** The wooden planks are "stitched" together using coconut coir ropes and sealed with natural resins and fish oil to make it watertight. The flexibility of the stitched hull allows it to absorb the energy of the waves rather than resisting it like rigid modern steel hulls.
- **The Route:**
 - ✓ The vessel was flagged off from Porbandar, a historic maritime hub, and is navigating the Arabian Sea using wind power to reach Muscat.
 - ✓ This route replicates the ancient "Monsoon Trade Route" where Indian sailors used the North-East Monsoon winds to sail to the Arabian Peninsula.
- **The Crew:**
 - ✓ The ship is commanded by Commander Vikas Sheoran and includes a crew of naval personnel and civilians, including economist and historian Sanjeev Sanyal, who has been a key proponent of the project.

II. Strategic & Cultural Significance:

- **Project Mausam:**
 - ✓ The voyage is a flagship initiative under the Ministry of Culture's Project Mausam, which seeks to reconnect with countries in the Indian Ocean Region (IOR) through shared maritime heritage.
 - ✓ It serves as a tool of "Soft Power Diplomacy," countering narratives that view the Indian Ocean solely through the lens of modern naval dominance.
- **Reviving Lost Knowledge:**
 - ✓ The project was executed by a tripartite agreement between the Indian Navy, Ministry of Culture, and Hodi Innovations.
 - ✓ It brought together traditional shipwrights (led by master craftsman Babu Sankaran from Kerala) whose oral knowledge of the 'Tankai' technique was on the verge of extinction.

III. Historical Context & Tankai Method:

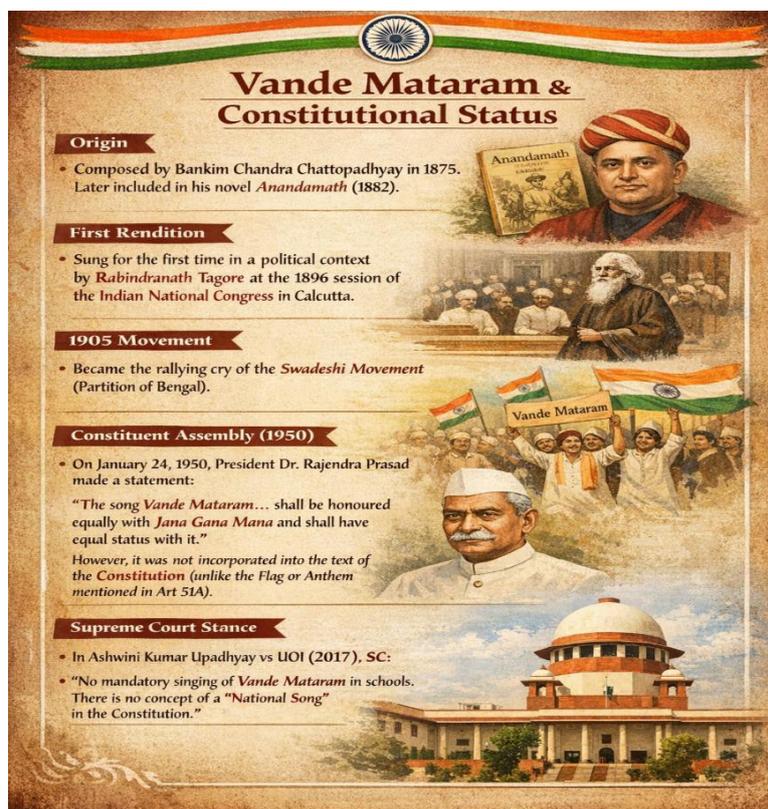
- **Tankai Method:** A traditional shipbuilding technique native to the Indian Ocean littoral. The planks are sewn together with cords (coir). This "flexible hull" was superior in navigating the shallow shoals and coral reefs of the Indian Ocean compared to rigid European ships.
- **Who was Kaundinya?** The ship is named after Kaundinya, a legendary Indian merchant-scholar from the 1st Century CE who is believed to have sailed from Kalinga (Odisha) to Southeast Asia. He married a local Naga princess, Soma, and founded the Funan Kingdom (precursor to the Khmer Empire in Cambodia), symbolizing India's early "Look East" influence.
- **Project Mausam:** Launched in 2014 by the Ministry of Culture (implemented by ASI). It aims to re-establish communications between countries of the Indian Ocean world, leading to an understanding of cultural values and concerns.

IV. Way Forward:

- **Maritime Archaeology:** The data gathered from INSV Kaundinya's performance (speed, stability, wind response) should be used to interpret other archaeological finds, such as the Lothal Dockyard or Roman records of Indian ships.
- **UNESCO Recognition:** India should use this successful reconstruction to pitch for the "Indian Ocean Maritime Routes" to be designated as a UNESCO Trans-national World Heritage site.

80. The National Song Debate: A Reading Between the Lines & Nadda's Clarification:

Context: The winter session of Parliament witnessed a heated debate regarding the 150th Anniversary of 'Vande Mataram' (first published in 1875). The controversy intensified after the ruling party initiated a special discussion to honour the song, which the Opposition termed a "diversionary tactic." In his concluding remarks in the Rajya Sabha, BJP President and Leader of the House J.P. Nadda asserted that the debate was "only to set the record straight" regarding the historical "injustice" done to the song by the Congress leadership in 1937, denying any intent to tarnish the image of Jawaharlal Nehru.



I. Key Dimensions of the Debate:

• The "Truncation" Controversy (1937):

- ✓ **Nadda's Argument:** Mr. Nadda argued that the "truncation" of Vande Mataram to just its first two stanzas by the Congress Working Committee (CWC) in 1937 was a "historic compromise" made to "appease minorities." He claimed this decision sowed the seeds of partition and that the song did not receive the "constitutional status" equal to the National Anthem due to this "appeasement politics."
- ✓ **The Counter-Narrative:** The Opposition (and historical records cited in editorials) pointed out that the 1937 decision was a collective one taken by a committee that included Subhash Chandra Bose, Maulana Azad, and Jawaharlal Nehru, with inputs from Rabindranath Tagore. They argued that the later stanzas contained idolatrous imagery (Durga/Kali) which conflicted with monotheistic beliefs, and the compromise was a pragmatic move to ensure national unity.

• "Reading Between the Lines":

- ✓ **The "Equal Status" Push:** The current revival of the debate is not merely commemorative but political. It aims to challenge the Constituent Assembly's decision (Jan 24, 1950) which adopted *Jana Gana Mana* as the Anthem while giving Vande Mataram "equal status" but not the same legal protection.
- ✓ **Legal Vacuum:** The debate highlighted that while the Prevention of Insults to National Honour Act, 1971 protects the National Anthem, it does not cover the National Song. The current discourse may be a precursor to amending this Act or introducing a new Fundamental Duty to enforce the singing of Vande Mataram.

• Political Symbolism:

- ✓ The debate is viewed as a test of "Cultural Nationalism." By emphasizing the song's spiritual roots (from the novel *Anandamath*), the ruling party seeks to reinforce a narrative where "cultural allegiance" (Vande Mataram) is tested alongside "state allegiance" (*Jana Gana Mana*).

81. International Sanskrit Conference Held in Haridwar; Commission Announced for Sanskrit Promotion

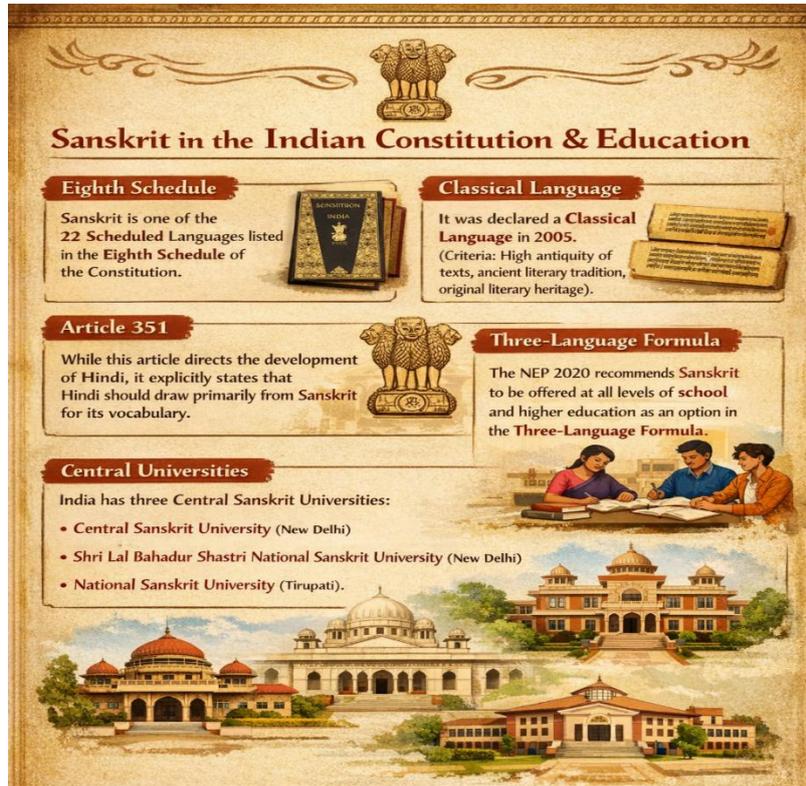
Context: In a significant push to revive Indian Knowledge Systems (IKS), the International Sanskrit Conference was recently concluded at the Uttarakhand Sanskrit Academy in Haridwar. The two-day event, themed around "Indian Knowledge Tradition: Sanskrit's Contribution to the Development of Global Knowledge," witnessed the participation of scholars from India and abroad. During the valedictory session, the Uttarakhand Chief Minister announced the formation of a high-level Commission dedicated specifically to the promotion and development of the Sanskrit language within the state.

I. Key Highlights of the Conference:

- **Formation of Sanskrit Commission:**
 - ✓ **Objective:** The newly announced commission will be the first of its kind in the state. Its mandate is to coordinate efforts between the government, universities, and gurukuls to expand Sanskrit education and research.
 - ✓ **Role:** It will focus on integrating Sanskrit with modern science and technology, moving beyond its perception as merely a language of rituals.
- **"Sanskrit Gram" (Sanskrit Villages):**
 - ✓ The state government reiterated its resolve to establish an "Ideal Sanskrit Village" in every district of Uttarakhand. In these villages, residents will be trained to use Sanskrit as a language of everyday conversation, similar to the model of Mattur (Karnataka).
- **Global Participation:**
 - ✓ Delegates from countries including Russia, Thailand, and Sri Lanka presented papers on the relevance of Sanskrit texts in solving modern global crises, highlighting the language's "scientific structure" suitable for Artificial Intelligence (AI) and Natural Language Processing (NLP).

II. Significance of the Move:

- **Second Official Language:** Uttarakhand is the first state in India to accord Sanskrit the status of a Second Official Language. The new commission aims to operationalize this status by ensuring government orders and names are visible in Sanskrit.
- **Alignment with NEP 2020:** The initiative aligns with the National Education Policy (NEP) 2020, which mandates the integration of Indian Knowledge Systems (IKS) into the curriculum. The conference emphasized developing "e-Sanskrit" platforms and mobile apps to make the language accessible to the youth.
- **Financial Support:** The Chief Minister highlighted the "Gargi Sanskrit Girls Scholarship Scheme," which provides financial incentives to girl students studying Sanskrit, encouraging gender parity in Vedic studies.



III. Way Forward:

- **Digitization of Manuscripts:** The new commission must prioritize the digitization of thousands of unread palm-leaf manuscripts lying in the mathas of Haridwar and Rishikesh to prevent the loss of ancient wisdom.
- **Functional Sanskrit:** The focus must shift from "Rote Learning" of grammar to "Spoken Sanskrit" camps (Sambhashana Shibirs) to make the language a living mode of communication.

MISCELLANEOUS

82. Postal Department Considers UPI-like 'Labels' for Addresses - DHRUVA

Context: The Department of Posts (DoP) has released a draft amendment to the Post Office Act, 2023, proposing a revolutionary digital addressing system named DHRUVA (Digital Hub for Reference and Unique Virtual Address). This initiative aims to replace complex physical addresses with simple, UPI-like virtual labels (e.g., name@post), creating a standardized and interoperable "Address as a Service" (AaaS) ecosystem for India.

I. Key Features of DHRUVA:

- **Virtual Address Labels:**
 - ✓ Just as UPI IDs (e.g., user@bank) mask bank account details, DHRUVA labels will mask the user's physical location.
 - ✓ **Mechanism:** Users can create easy-to-remember labels (e.g., amit@home) which can be shared with e-commerce platforms or delivery agents instead of typing out the full address.
- **Consent-Based Architecture:**
 - ✓ **Privacy First:** Sharing a label does not automatically reveal the address. Users will receive a request to "authorize" the label for a specific purpose (e.g., a one-time delivery).
 - ✓ **Time-Bound Access:** Users can grant "limited-time access" to service providers. Once the time expires, the logistics company loses access to the user's location details, enhancing privacy.

- **The Foundational Layer – DIGIPIN:**

- ✓ DHRUVA is built on top of DIGIPIN (Digital Postal Index Number), a geo-coded system developed by IIT Hyderabad and the DoP.
- ✓ **Precision:** Unlike the 6-digit PIN code which covers a large area, a DIGIPIN is a 10-character alphanumeric code that pinpoints a specific 4m x 4m (approx 14 sq. meters) grid location, ensuring doorstep accuracy even in unstructured rural areas.

II. Proposed Governance Structure:

- **Section 8 Company:** The draft amendment proposes setting up a specialized Not-for-Profit (Section 8) company, modeled after the National Payments Corporation of India (NPCI). This entity will manage the DHRUVA network, ensuring it remains neutral and interoperable across private players (like Amazon, Zomato) and public services.
- **Address Information Agents (AIAs):** Similar to Payment System Providers (PSPs) in UPI, private companies can register as AIAs to manage the user consent and address validation process.

III. Significance:

- **End of "Landmark" Confusion:** In India, addresses often rely on vague landmarks ("Near banyan tree"). DHRUVA replaces this with precise Lat-Long coordinates, reducing "Last Mile" delivery failures and costs.
- **E-Commerce Boost:** It simplifies checkout processes. Instead of filling lengthy address forms on every new app, a user simply enters their DHRUVA label.

Way Forward:

- **Digital Literacy:** For DHRUVA to succeed in rural India (where it is needed most due to unstructured addresses), assisted models via Postmen and Grameen Dak Sevaks will be crucial to help villagers generate their labels.
- **Privacy Safeguards:** As the system links physical location to digital identity, the proposed governance body must ensure strict compliance with the Digital Personal Data Protection (DPDP) Act, 2023 to prevent mass surveillance or data leaks.

83. India Tops Global Doping List for the Third Consecutive Year

Context: According to the World Anti-Doping Agency (WADA) 2024 Testing Figures Report, released in December 2025, India has emerged as the world's worst offender in terms of doping violations for the third consecutive year. With a record number of positive cases, the report serves as a severe indictment of the country's sporting ecosystem just as it prepares to bid for the 2036 Olympic Games and host the 2030 Commonwealth Games.

I. Key Highlights of the WADA Report:

- **The "Dubious Hat-trick":**
 - ✓ **Top Rank:** India topped the list with 260 Adverse Analytical Findings (AAFs) (positive tests), significantly higher than any other nation.
 - ✓ **The Gap:** The difference between the first and second spots is stark. While India had 260 cases, the second-placed France had only 91, followed by the USA (76), Russia (76), and China (43).
- **High Positivity Rate:**
 - ✓ While India's testing volume increased (over 7,113 samples collected by NADA), the positivity rate stood at 3.6%.
 - ✓ **Comparison:** In contrast, China conducted over 24,000 tests but had a positivity rate of just 0.2%, and the US had 1.1%. This suggests that doping in India is not just a result of "more testing" but reflects a deeper systemic malaise.
- **Worst Hit Sports:**

- ✓ Athletics (Track & Field) accounted for the highest number of offenders (76 cases), followed by Weightlifting (43) and Wrestling (29). These are traditionally India's high-yielding medal sports.

II. Why is Doping Rising in India? (The Analysis):

- **The "Medal-at-all-Costs" Culture:**
 - ✓ Experts point to the desperate rush for government jobs and cash awards linked to medals (especially at the state level) as a primary driver. Coaches at the grassroots often encourage junior athletes to use steroids to secure "quota" jobs.
- **Unregulated Supplements:**
 - ✓ A significant number of cases are attributed to "inadvertent doping" caused by consuming contaminated nutritional supplements. The market is flooded with uncertified products containing banned substances like Anabolic Androgenic Steroids.
- **Lack of Awareness:**
 - ✓ Despite initiatives, many athletes in rural belts rely on local "quacks" or gym trainers who administer injections without medical supervision.

III. Government Response:

- **NADA's Defense:** The National Anti-Doping Agency (NADA) argued that the high numbers are a result of its "Targeted Testing" strategy—focusing on high-risk athletes rather than random testing—which naturally yields more positives.
- **Digital Interventions:** NADA has ramped up the promotion of its "Know Your Medicine" (KYM) app, which allows athletes to check if a specific medicine contains banned substances.

84. Consumer Protection: Dark Patterns Guidelines Enforced

Context: In a decisive crackdown on deceptive digital practices, the Central Consumer Protection Authority (CCPA) announced in December that 26 leading e-commerce platforms (including Flipkart, Swiggy, and Zepto) have submitted mandatory "self-compliance" declarations, certifying their platforms are free of "Dark Patterns." Concurrently, the Ministry of Consumer Affairs has flagged a new threat—"AI-driven Dark Patterns"—where algorithms manipulate user choices in real-time, signaling the next frontier of regulatory enforcement.

I. Key Highlights of the Enforcement Drive:

- **Compliance vs. Action:**
 - ✓ **Voluntary Compliance:** Following a June 2025 advisory, 26 major firms conducted third-party audits and removed manipulative interface designs.
 - ✓ **Punitive Action:** For non-compliant entities, the CCPA has issued over 452 class-action notices and imposed penalties exceeding ₹2.13 crore, largely targeting the coaching sector and ticketing platforms for practices like "False Urgency" (e.g., "Only 2 seats left").
- **The AI Challenge:**
 - ✓ **Algorithmic Manipulation:** Authorities warned that companies are now using Artificial Intelligence to create "dynamic" dark patterns. Unlike static pre-ticked boxes, these AI tools analyze user behavior to trigger personalized "anxiety cues" (e.g., specific price drops or scarcity alerts) to induce impulse buying.
 - ✓ **Investigation:** A probe has been initiated into a leading online ticket-booking platform and ride-hailing apps (like Rapido) for systematic use of "drip pricing" (hidden charges revealed at the final step).
- **New Redressal Tools:**

- ✓ The government unveiled the 'e-Jagruti' portal and an AI-enabled dashboard for the National Consumer Helpline (NCH) to detect patterns in consumer complaints automatically, allowing for faster suo moto action.

II. Significance:

- **Shift to "Ethical UX":** The enforcement marks a shift from "Caveat Emptor" (Buyer Beware) to "Caveat Venditor" (Seller Beware), holding platforms accountable for their User Interface (UI) design.
- **Global Alignment:** India's stance aligns with the EU's Digital Services Act (DSA), which also criminalizes manipulative design interfaces.

III. About Dark Patterns:

- **Definition:** Deceptive design patterns using UI/UX interactions designed to mislead or trick users into doing something they originally did not intend to do (e.g., buying insurance with a flight ticket).
- **Legal Basis:** Regulated under the Guidelines for Prevention and Regulation of Dark Patterns, 2023 (notified under the Consumer Protection Act, 2019).
- **Common Types:**
 - ✓ **False Urgency:** Falsely implying scarcity ("Offer ends in 5 mins").
 - ✓ **Basket Sneaking:** Adding items to the cart without consent.
 - ✓ **Subscription Trap:** Making it easy to sign up but impossible to cancel.
 - ✓ **Confirm Shaming:** Using guilt to force a choice ("No, I hate saving money").

85. PM Inaugurates Rashtra Prerna Sthal in Lucknow: A National Memorial of Inspiration

Context: On the 101st birth anniversary of former Prime Minister Atal Bihari Vajpayee, the Prime Minister inaugurated the Rashtra Prerna Sthal in Lucknow, Uttar Pradesh. The memorial is dedicated to the ideals of unity, self-respect, and service, and honors three eminent leaders—Atal Bihari Vajpayee, Pandit Deendayal Upadhyay, and Dr. Syama Prasad Mookerjee.



I. Multi-Leader Tribute:

- ✓ The bronze statues of Atal Bihari Vajpayee, Pandit Deendayal Upadhyay, and Dr. Syama Prasad Mookerjee stand at a height of 65 feet.
- ✓ Each statue has a weight of 42 tonnes and is set amidst water bodies.

II. Atal Bihari Vajpayee's Legacy:

- ✓ He held the position of Prime Minister on three occasions (1996, 1998–1999, 1999–2004).
- ✓ He was honored with the Padma Vibhushan in 1994 and the Bharat Ratna in 2015.
- ✓ His birth anniversary, celebrated on December 25th, is recognized as Good Governance Day.

III. Pandit Deendayal Upadhyay's Philosophy:

- ✓ He was a key ideologue for the RSS and Bharatiya Jana Sangh.
- ✓ He championed the concept of Antyodaya, focusing on the upliftment of the most marginalized.
- ✓ He introduced Integral Humanism, which highlights the importance of social justice and self-reliance.
- ✓ His birth anniversary, observed on September 25th, is commemorated as Antyodaya Diwas.

IV. Dr. Syama Prasad Mookerjee's Contribution:

- ✓ He became the youngest Vice-Chancellor of Calcutta University in 1934.
- ✓ He established the Bharatiya Jan Sangh in 1951, which was the precursor to the BJP.
- ✓ He opposed Article 370, earning him the moniker "Lion of Parliament."

V. Architectural & Cultural Significance:

- ✓ The site spans 65 acres along the banks of the Gomti River.
- ✓ It features a museum shaped like a lotus, covering an area of 98,000 square feet.
- ✓ The museum includes five galleries and 12 interpretation walls that highlight the lives and ideologies of the leaders.

VI. National Asset & Vision:

- ✓ The construction cost was approximately ₹230 crore.
- ✓ It is envisioned as a lasting national memorial that promotes leadership values, cultural awareness, and public inspiration.

86. Circulatory System Ailments Caused Most Deaths in 2023: MCCD Report

Context: The Office of the Registrar General of India (RGI) released its "Annual Report on Medical Certification of Cause of Death (MCCD), 2023" in late December. The report reveals that diseases of the circulatory system (heart diseases, stroke, etc.) remained the leading cause of medically certified deaths in India, accounting for nearly 36.4% of fatalities. While this marks a slight decline from over 40% in 2022, it highlights the continuing dominance of Non-Communicable Diseases (NCDs) in India's mortality profile.

I. Key Highlights of the Report:

- **Top Killers (Cause of Death):**
 - ✓ **Circulatory System:** Topping the list at 36.4%, this category includes Ischaemic heart diseases, hypertensive diseases, and pulmonary circulation disorders.
 - ✓ **Respiratory System:** The second leading cause was respiratory ailments (like COPD, Asthma), contributing to 11.5% of deaths.
 - ✓ **Infectious & Parasitic Diseases:** Ranked third, accounting for roughly 8.1% of certified deaths.
- **Age-wise Vulnerability:**
 - ✓ The report notes a direct correlation between age and circulatory deaths. The highest incidence was recorded in the 70+ age group.
 - ✓ **Concern:** However, the data flags a worrying trend where circulatory diseases were the leading cause of death across all age groups starting from 15 years, indicating that heart risks are no longer restricted to the elderly.
- **The "Data Gap" (Certification Levels):**
 - ✓ **Low Coverage:** A critical finding is that only 22% of the total registered deaths in India were "Medically Certified" in 2023. This means for the remaining 78% of deaths (mostly in rural areas), the scientific cause of death remains unknown.
- **State Disparity:**
 - ✓ **Top Performers:** Goa achieved 100% medical certification. Other high performers include Manipur, Delhi, and Chandigarh.
 - ✓ **Poor Performers:** Larger states typically lag, skewing the national average.

II. Analysis of Trends:

- **Epidemiological Transition:** The data cements the shift in India's disease burden from "Communicable" (infectious) to "Lifestyle" (NCDs) diseases.
- **Post-COVID Impact:** While "COVID-19" deaths dropped significantly to just roughly 2,000 certified cases in 2023 (down from the 2021 peak), the persistence of respiratory and heart issues suggests potential long-term sequelae of the pandemic or environmental factors like air pollution.

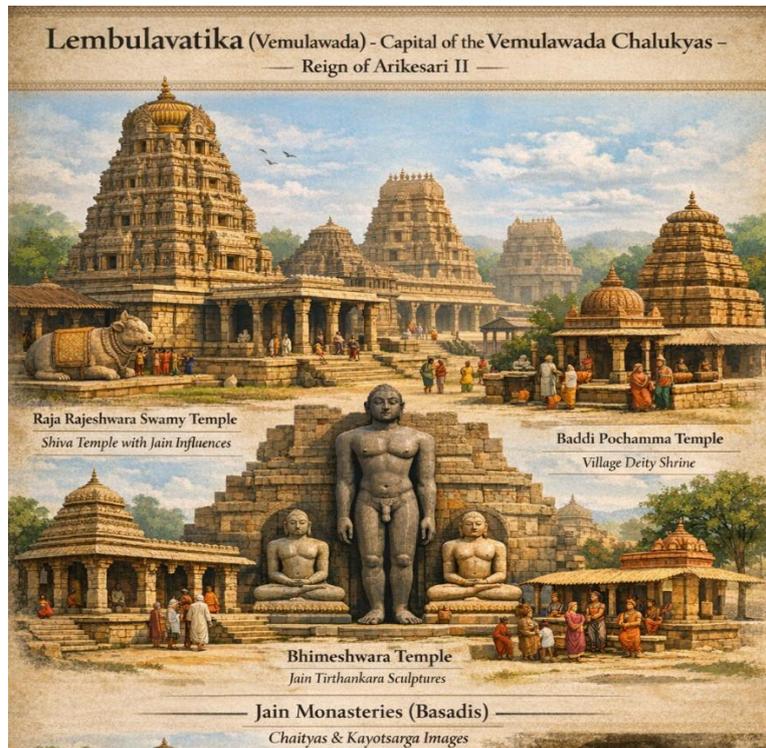
TELANGANA REGIONAL CURRENT AFFAIRS

1. Rare Jain Sculpture Unearthed in Vemulawada

Context: During a recent excavation for a roadside drainage canal in **Vemulawada (Rajanna-Sircilla district, Telangana)**, an ancient stone sculpture was unearthed. Historians and archaeologists from the **Kotha Telangana Charitra Brundam** have identified the rare artifact as a "**Panchaparamesthi**" Tirthankara sculpture, dating back to the era of the **Vemulawada Chalukyas**. The discovery has rekindled interest in the region's rich history of religious syncretism.

I. Key Highlights of the Discovery:

- **The Artifact:**
 - ✓ **Composition:** The sculpture is a single stone slab depicting five Jain Tirthankaras carved together.
 - ✓ **Rarity:** Historian Ramoju Haragopal noted that while individual Tirthankara idols are common, a "Panchaparamesthi" panel (depicting five supreme beings or Tirthankaras) on a single slab is extremely rare in Telangana's iconography.
 - ✓ **Current Status:** The slab has been temporarily preserved at the local Venugopala Swamy Temple for safety.
- **Historical Context (The Era of Harmony):**
 - ✓ **Period:** The sculpture is attributed to the Vemulawada Chalukya period (750 – 973 CE).
 - ✓ **Religious Syncretism:** The find corroborates historical records stating that Jainism and Shaivism flourished simultaneously and enjoyed equal royal patronage in this region.
 - ✓ **Previous Finds:** Similar Jain artifacts, including idols in the Kayotsarga (standing meditation) posture and Chaityas, were discovered during the 1970s renovation of the main Raja Rajeshwara Swamy temple and shifted to the adjoining Bhimeshwara Temple, indicating that the main temple complex was once a hub for both faiths.



II. Significance of Vemulawada Chalukyas:

- **Political History:** They ruled the region corresponding to modern-day Nizamabad and Karimnagar districts as feudatories of the Rashtrakutas. Their capital was Lembulavatika (modern Vemulawada).
- **Patronage of Literature:**
 - ✓ This era is considered the "Golden Age" of Kannada literature in Telangana.
 - ✓ The legendary Jain poet Pampa, the "Adikavi" of Kannada, was the court poet of King Arikesari II.
 - ✓ Pampa wrote his magnum opus, "Adi Purana" (the life history of the first Jain Tirthankara, Rishabhanatha), while residing in Vemulawada.
- **Jainism's Decline:** Following the fall of the Vemulawada Chalukyas (973 CE) and the rise of the Kalyani Chalukyas and later the Kakatiyas, Shaivism (specifically the Kalamukha sect) gained dominance, often converting Jain basadis into Shiva temples, though patronage did not vanish entirely.

2. Telangana Rising Global Summit 2025: A Blueprint for a \$3 Trillion Economy

Context: The Telangana Rising Global Summit (TRGS) 2025, held on December 8-9 at the newly designated Bharat Future City on the outskirts of Hyderabad, concluded with historic outcomes. The summit, serving as a launchpad for the state's "Vision 2047," secured investment commitments worth ₹5.75 lakh crore, signaling a decisive shift in the state's industrial policy from being "Hyderabad-centric" to a more inclusive, decentralised growth model.

I. Key Highlights & Outcomes:

- **Record Investments:**
 - ✓ **Total Corpus:** The summit garnered 50+ MoUs worth ₹5.75 lakh crore (approx. \$68 billion).
 - ✓ **Sectoral Lead:** The Energy sector emerged as the top recipient, securing nearly 50% of the total commitments, followed by Data Centres and Aerospace.
- **Major Corporate Pledges:**
 - ✓ **Infrastructure:** The biggest ticket size was a ₹75,000 crore pledge by a Brookfield-Axis Ventures consortium to build core infrastructure for the "Bharat Future City."

- ✓ **Data Centres:** Infrakey committed ₹70,000 crore for a massive 1 GW AI-ready data park, and Singapore-based AGIDC pledged ₹67,500 crore.
- ✓ **Green Energy:** Axis Energy/Evren announced ₹31,500 crore for solar-wind hybrid projects, aiming to make Telangana an energy-surplus state.
- ✓ **Life Sciences:** Significant expansions were announced by Aurobindo Pharma (₹2,000 crore) and Bharat Biotech (₹1,000 crore).
- **The "Bharat Future City":**
 - ✓ The summit venue itself was symbolic, marking the inauguration of Bharat Future City (located in Kandukur, Ranga Reddy district). It is envisioned as a "Net-Zero City" designed to be the future engine of Telangana's growth, rivaling GIFT City in Gujarat.

II. Vision 2047 Roadmap:

- **Economic Target:** The state government unveiled its "Vision 2047" document, aiming to transform Telangana into a \$3 Trillion economy by the centenary of India's independence.
- **The New Growth Model (CURE-PURE-RARE):**
 - ✓ **CURE (Core Urban Region Economy):** Focus on Hyderabad and Warangal as hubs for high-value services (AI, BFSI).
 - ✓ **PURE (Peri-Urban Region Economy):** Developing industrial corridors in the outskirts for manufacturing and logistics.
 - ✓ **RARE (Rural and Agri Region Economy):** Transforming rural districts into "Agri-Processing Zones" to boost farm incomes.

III. Strategic Shift:

- **Beyond IT:** Unlike previous summits that focused heavily on IT/Software, TRGS 2025 diversified into Green Hydrogen, Defense Manufacturing, and Textiles, attempting to de-risk the economy from global tech slowdowns.
- **Skill Development:** A key MoU was signed to establish a "Skilling University" within Bharat Future City to ensure the local workforce is "Industry 4.0 ready."

3. 1516 CE Inscription Rewrites History of Telangana's Bonalu Festival

Context: A historic epigraphical discovery has pushed back the timeline of Telangana's state festival, Bonalu, by over three centuries. An inscription dating back to 1516 CE, found during the reign of the Vijayanagara Emperor Sri Krishnadevaraya, has been identified at the State Archaeology Museum in Hyderabad. This find challenges the popular narrative that Bonalu began in the 19th century following a plague outbreak, establishing its roots firmly in the 16th-century pre-Qutb Shahi era.

I. Key Highlights of the Inscription:

- **Epigraphical Details:**
 - ✓ **Date:** The inscription is precisely dated to Saka 1438, Dhatu year, Jyestha month, Sukla Paksha, third day, which corresponds to May 4, 1516 (Sunday).
 - ✓ **Origin:** It was originally discovered at Gobbur, a village near the Telangana-Karnataka border, and later moved to the State Museum during the Nizam era.
 - ✓ **Language:** Written in Telugu language and script.
- **Administrative Insights (Tax Exemptions):**
 - ✓ The inscription records that the state collected taxes on various ritual practices. Emperor Sri Krishnadevaraya, recognizing the cultural importance, exempted levies on specific rituals including Rangam (oracle prediction), Kunamuggu, Gaddapattana, and Bonalu.
 - ✓ This indicates that Bonalu was not merely a folk event but a state-recognized festival with an organized administrative framework.
- **Royal Patronage:**

- ✓ **Land Grants:** The inscription mentions land grants given as Sarvamanyam (tax-free land) under the irrigation tanks of Pedacheruvu and Bollasamudram to support the festivities.
- ✓ **The Donor:** These orders were issued by Rayasam Kondamarasayya, a high-ranking official, and the commemorative pillar was erected by Parvatayya.

II. Significance of the Find:

- **Dispelling the "Plague Theory":**
 - ✓ Until now, the popular origin story linked Bonalu to 1813, when a Hyderabad military battalion stationed in Ujjain vowed to worship Goddess Mahakali to save the city from a plague.
 - ✓ This inscription proves that Bonalu, along with its specific rituals like Rangam, existed 300 years prior to the 1813 event, showcasing a deep "civilizational continuity."
- **Cultural Continuity:**
 - ✓ The specific mention of "Rangam" (foretelling the future) confirms that the unique oracle tradition, where a woman invokes the goddess to predict the year's events, has remained unchanged for five centuries.



4. Praja Vani: A Revolutionary Public Grievance Redressal Model in Telangana

Context: The government of Telangana recently commemorated the second anniversary of its premier public grievance redressal initiative, 'Praja Vani', at the Jyotirao Phule Praja Bhavan in Hyderabad. During the event held on December 19, 2025, Deputy Chief Minister Mallu Bhatti Vikramarka described the initiative as a "revolutionary programme" that is distinctive to Telangana, emphasizing a 74% resolution rate for the grievances addressed in the last two years.

I. Key Highlights of the Programme:

- **Operational Mechanism:**
 - ✓ **Schedule:** The programme is conducted twice a week, on Tuesdays and Fridays, allowing citizens to submit petitions directly to government officials.
 - ✓ **Venue:** It is held at the Jyotirao Phule Praja Bhavan (formerly Pragathi Bhavan) in Begumpet, symbolizing the "opening of gates" to the common public, a sharp contrast to the previous administration's restricted access policy.
 - ✓ **Technology:** A specialized grievance-tracking software has been developed with the support of the Centre for Good Governance (CGG). This system tracks petitions at both the state and district levels to ensuring accountability.

- **Performance Statistics (2-Year Report Card):**

- ✓ **Total Petitions:** The government received approximately 1,07,829 petitions.
- ✓ **Resolution Rate:** Of these, 64,623 grievances have been successfully resolved, translating to a 74% success rate (of the actionable grievances).
- ✓ **Pending Issues:** About 48,064 petitions are currently under process, with assurances that they will be addressed in due course.

II. Impact & Success Stories:

- **RTC Employees Reinstated:** A special committee formed under Praja Vani facilitated the reinstatement of 242 RTC employees who were removed from service during the previous regime.
- **Housing Solutions:** Issues related to 1,750 double-bedroom (2BHK) housing applicants were resolved, providing relief to long-pending beneficiaries.
- **Agrarian Relief:** The platform provided timely intervention for Dalit farmers in Adilabad and victims of Gulf migration fraud.

III. Governance Philosophy:

- **"Government for the People":** The Deputy CM emphasized that Praja Vani was a collective decision of the Cabinet to reaffirm that "governance exists solely to serve the people."
- **Decentralized Approach:** While the state-level event is prominent, the model encourages resolving issues at the district level, with the state forum acting as an appellate body for complex cases that district collectors cannot resolve.

5. Telangana's Tourism Footprint Expanding: From Eco-Circuits to Global Wellness Destinations

Context: A recent review of Union government investments has revealed a decisive transformation in Telangana's tourism sector. Moving beyond its initial focus on modest eco-tourism circuits, the state has now entered the league of large-scale, integrated national tourism planning. With record funding sanctions in the 2024-25 fiscal year under central schemes like Swadesh Darshan 2.0 and PRASHAD, Telangana is pivoting towards high-value "Experiential" and "Wellness" tourism, as highlighted in data recently placed before the Lok Sabha.

I. Key Highlights of the Transformation:

- **The Strategic Shift (2015-2025):**
 - ✓ **Phase 1 (Nature & Tribal):** The state's journey began in 2015-16 with simple eco-tourism circuits in Mahabubnagar and a Tribal Circuit (Mulugu-Laknavaram) in 2016-17.
 - ✓ **Phase 2 (Heritage & Urban):** By 2017-18, the focus shifted to urban heritage with the Qutb Shahi Heritage Park – Paigah Tombs circuit, positioning Hyderabad as a cultural hub.
 - ✓ **Phase 3 (Integrated & Wellness):** The latest phase (2024-25) marks the peak, with funding exceeding ₹280 crore in a single year—more than the combined allocations of the first five years. The new focus is on "Future-Ready Tourism" combining digital experiences with spiritual wellness.
- **Major Projects Sanctioned (2024-25):**
 - ✓ **Somasila Wellness Retreat:** Under the SASCI (Special Assistance to States for Capital Investment) scheme, ₹68.10 crore has been sanctioned for a "Wellness and Spiritual Retreat" at Somasila (Nagarokurnool), aiming to create a luxury river-front destination.
 - ✓ **Ramappa Sustainable Circuit:** A ₹73.74 crore project to develop a sustainable tourism ring around the UNESCO World Heritage site of Ramappa Temple.
 - ✓ **Bhongir Fort Experiential Zone:** Approved under Swadesh Darshan 2.0 for ₹56.82 crore, this project aims to turn the historic fort into an adventure and experiential hub.

- ✓ **Buddhavanam Digital Centre:** A ₹24.85 crore grant under the Challenge-Based Destination Development (CBDD) scheme to set up a "Digital Experience Centre" at the Buddhist heritage site in Nalgonda.

II. Significance:

- **National Visibility:** The inclusion of projects like the Ramappa Temple and Alampur Jogulamba (under PRASHAD) has integrated Telangana into the National Tourism Circuits, ending its earlier isolation from the central tourism map.
- **Diversification:** The portfolio has diversified from mere "sightseeing" to "Niche Tourism"—covering Wellness (Somasila), Adventure (Bhongir), and Digital Heritage (Buddhavanam).

6. Ancient Durga Idol Unearthed on Godavari Banks in Telangana

Context: In a significant discovery blending faith with archaeology, a centuries-old idol of Goddess Durga was recently unearthed from the banks of the Godavari River at Mulkala village (Hazipur Mandal) in the Mancherial district of Telangana. The excavation was initiated following the specific guidance of saints participating in the Godavari Parikrama Yatra, who predicted the presence of "divine energy" at the specific spot.



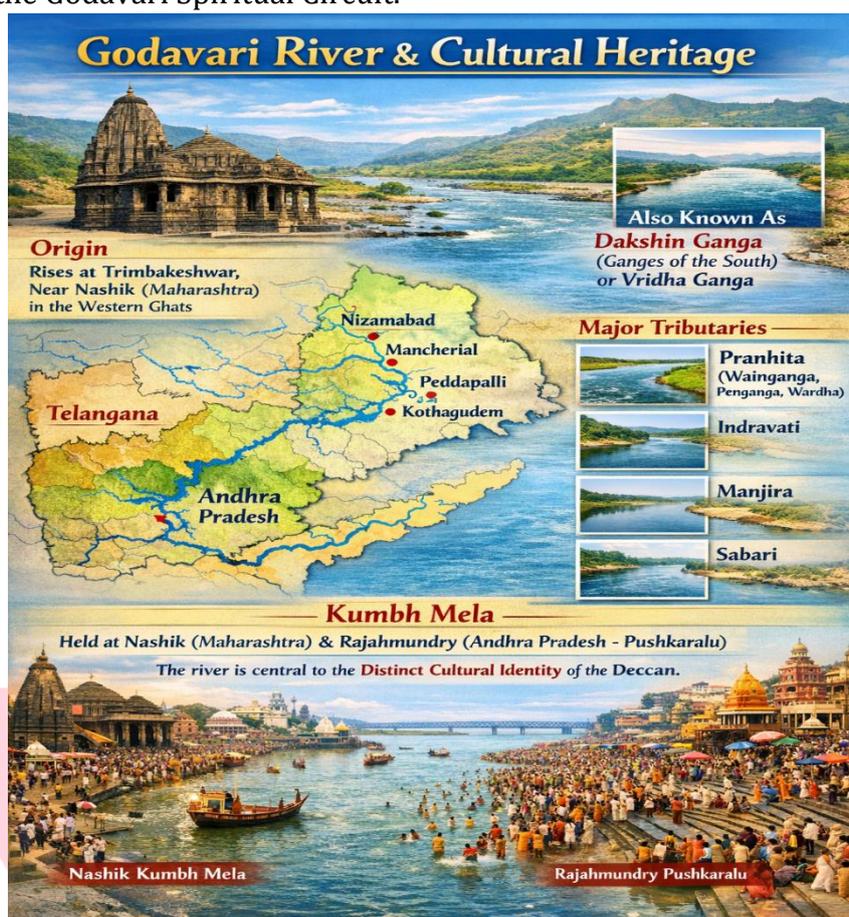
I. Key Highlights of the Discovery:

- **The Discovery Process:**
 - ✓ **Role of Godavari Parikrama:** A group of approximately 600 saints traveling from Nashik (Maharashtra) to Yanam (Andhra Pradesh) as part of the Godavari Parikrama Yatra halted at Mulkala. They identified a specific spot near the local Pochamma temple and advised villagers to excavate it.
 - ✓ **Excavation:** Following their departure, villagers and the landowner (K. Venkanna) conducted an excavation using earthmovers. At a depth of a few feet, they discovered a stone idol measuring approximately four feet in height.
- **Features of the Idol:**
 - ✓ The idol depicts Goddess Durga seated on a Lion (Simhavahini).
 - ✓ Initial visual inspection by locals suggests it is an ancient sculpture, though a formal dating by the Department of Heritage, Telangana is awaited to ascertain its exact era (likely Kakatiya or Post-Kakatiya period given the style prevalent in the region).
- **Cultural Impact:**
 - ✓ The discovery has triggered a massive influx of devotees from neighbouring districts (Adilabad, Karimnagar).
 - ✓ The saints reportedly drew parallels between this idol and the famous Kanaka Durga of Vijayawada, noting that its location on the riverbank enhances its Agamic (scriptural) significance.

II. Significance:

- **Archaeological Potential:** The Godavari valley is a treasure trove of Buddhist and Hindu antiquities (e.g., Kotilingala, Kaleshwaram). This find suggests that Mulkala might have been a significant site of Shakta worship (worship of the Mother Goddess) in medieval Telangana.

- **Religious Tourism:** The spontaneous discovery has already elevated Mulkala into a pilgrimage spot, with locals planning the construction of a permanent temple, potentially adding it to the Godavari Spiritual Circuit.



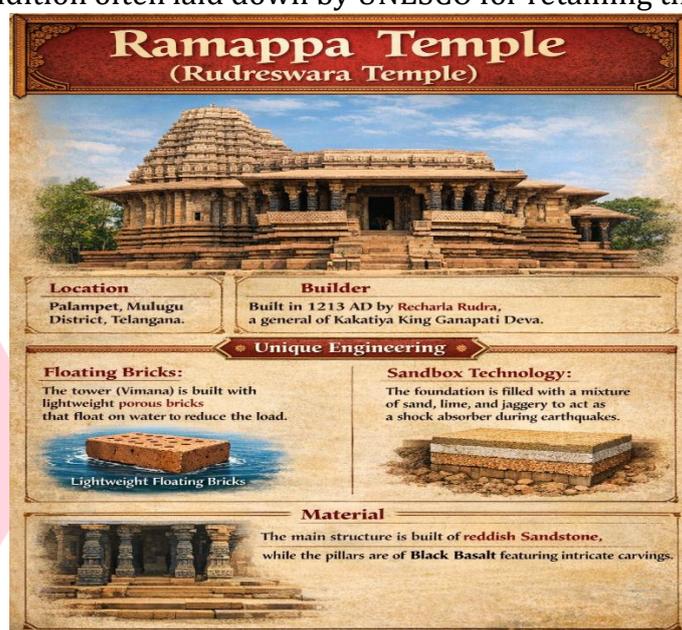
7. UNESCO Official Reviews Ramappa Temple Conservation; Deepavali Added to ICH List

Context: Vishal V. Sharma, the Indian Ambassador and Permanent Representative to UNESCO, visited the Ramappa (Rudreswara) Temple in Mulugu district, Telangana, to review its conservation status. His visit coincides with a major cultural milestone for India: the inscription of Deepavali on UNESCO's Representative List of the Intangible Cultural Heritage (ICH) of Humanity during the 20th session of the Intergovernmental Committee held recently at the Red Fort, New Delhi.

I. Key Highlights of the Visit:

- **Review of Conservation Works:**
 - ✓ **Purpose:** Mr. Sharma, who was in Hyderabad for an INCOIS (Indian National Centre for Ocean Information Services) programme, visited the site to assess the post-inscription preservation efforts undertaken by the Archaeological Survey of India (ASI) and the Telangana state government.
 - ✓ **Mandate:** As the current Chairman of UNESCO's World Heritage Committee (46th Session), his review holds significant weight for the continued status of the site. He emphasized strict adherence to UNESCO guidelines to maintain the temple's "Outstanding Universal Value" (OUV).
- **Deepavali Inscription (A New Milestone):**
 - ✓ During the visit, it was highlighted that Mr. Sharma recently chaired the 20th Session of the Intergovernmental Committee for Safeguarding the Intangible Cultural Heritage in New Delhi.

- ✓ **Outcome:** The session resulted in the historic inclusion of Deepavali (the Festival of Lights) in the UNESCO ICH list, recognizing it as a global celebration of the "triumph of light over darkness."
- **The Ramappa Connection:**
 - ✓ Mr. Sharma played a pivotal role during his tenure in 2021 when the Ramappa Temple was inscribed as a World Heritage Site, overcoming initial skepticism regarding its conservation.
- **Significance:**
 - ✓ **Dual Leadership:** India currently holds a unique position of influence, with its representative chairing the World Heritage Committee, allowing it to steer global discourse on heritage conservation towards the "Global South."
 - ✓ **Integrated Conservation:** The visit underscores the need to balance structural conservation (managed by ASI) with developmental pressures (managed by the State Govt), a condition often laid down by UNESCO for retaining the tag.



8. Underfunded & Overburdened: CESS Report on Telangana's Higher Education

Context: A comprehensive report titled "**Higher Education in Telangana: Facts and Figures**" was released on December 10, 2025, by the **Centre for Economic and Social Studies (CESS)**. The report, serving as a baseline assessment of the state's education system, highlights a critical paradox: while Telangana boasts a **high Gross Enrolment Ratio (GER)**, the sector is plagued by low public spending, severe faculty shortages, and widening inequality due to rampant privatization.

Higher education Institutions in Telangana registered in AISHE 2025	
Universities	No. of varsities
State public universities	17
Central universities	8
Private & deemed-to-be universities	16
Total	41
COLLEGES & CENTRES	
	No. of Institutions
Constituent colleges	62
Autonomous colleges	32
Affiliated colleges	2,089
PG centres/off-campus centres	12
Recognised centres	3
Total	2,198



EDUCATION EXPENDITURE IN TG AS % OF GDP	
Year	%
2014-15	2.2
2015-16	2.6
2016-17	2.8
2017-18	2.5
2018-19	2.2
2019-20	1.8
2020-21	2.1

Key Findings of the Report:

- The Financial Crunch (Low Budgetary Support):**
 - ✓ **GDP Share:** The state spends only about 2% of its GSDP on education, which is significantly lower than the national average norm of 3% maintained by many other states.
 - ✓ **Budget Allocation:** While most states allocate around 20% of their total budget to education, Telangana's allocation stands at under 15%.
 - ✓ **Impact:** Despite having a high per capita GSDP, the per capita education expenditure in Telangana is among the lowest in India, forcing students to rely on expensive private institutions.
- The "Privatization" Trap & Inequality:**
 - ✓ **Highest Privatization:** The report notes that Telangana has one of the highest shares of privately managed colleges in the country.
 - ✓ **Widening Gap:** This has led to "exclusionary" growth. While scholarships and fee reimbursements exist, they are insufficient to cover the rising costs, effectively denying quality education to the poor and widening the rich-poor divide.
- Quality & Accreditation Deficit:**
 - ✓ **NAAC Status:** A glaring quality deficit is visible, with fewer than 15% of colleges in the state possessing NAAC accreditation.
 - ✓ **Grading:** Among the accredited ones, only 141 have an 'A' Grade. The report warns that without immediate intervention, the quality of degrees will deteriorate further.
- The Faculty Crisis (Vacancies):**
 - ✓ **State Universities:** Public universities are functioning with skeletal staff.
 - ✓ **Osmania University:** 891 out of 1,264 sanctioned posts are vacant.
 - ✓ **Kakatiya University:** 323 out of 409 posts are vacant.
 - ✓ **Newer Universities:** Institutions like Satavahana and Palamuru Universities have 70-80% of their teaching positions lying vacant, impacting research and mentorship.
- Skewed Enrolment Pattern:**
 - ✓ **While the Gross Enrolment Ratio (GER)** is high at 40% (National Avg is ~27%), the distribution is heavily skewed.
 - ✓ **STEM Obsession:** Less than 5% of students in Telangana pursue Arts and Social Sciences, compared to the national average of 33%. This imbalance limits the development of critical thinking and holistic policy perspectives in the workforce.



- **Way Forward (Report Recommendations):**

- ✓ **Consolidation (MERUs):** The state should move away from small, single-discipline colleges and establish large Multi-disciplinary Education and Research Universities (MERUs) as envisaged in NEP 2020 to pool resources and improve quality.
- ✓ **Structural Reform:** Urgent recruitment of faculty in state universities and a "mission mode" drive to get NAAC accreditation for government colleges are essential to restore credibility.

9. Sleeker, Hypersonic BrahMos & Telangana's Aerospace Leap

Context: At the **Telangana Rising Global Summit 2025**, specifically during the panel discussion titled "Telangana Flying High: The Rise of Aerospace & Defence," Dr. Jaiteerth Raghavendra Joshi (Chairman & MD, BrahMos Aerospace) unveiled significant advancements in India's premier missile program. He announced that BrahMos Aerospace is actively developing a "Sleeker" Next-Generation (NG) version for Light Combat Aircraft (LCA) and a Hypersonic variant, marking a generational leap in indigenous missile technology.

Key Developments Announced:

- **BrahMos-NG (Next Generation):**
 - ✓ **Objective:** To create a lighter, compact version capable of being integrated with smaller fighters like the LCA Tejas.
 - ✓ **Specifications:** The new missile will be significantly lighter (approx. 1.5 tonnes compared to the 2.5-tonne current air version) and have a reduced diameter.
 - ✓ **Capability:** This size reduction allows the LCA Tejas to carry two missiles, while the Su-30MKI could potentially carry up to four, vastly increasing the Indian Air Force's strike volume.
- **Hypersonic Version (BrahMos-II):**
 - ✓ Dr. Joshi confirmed work on a Hypersonic variant, which is expected to exceed speeds of Mach 5 (potentially Mach 7-8), making it virtually impossible to intercept by current air defence systems.
 - ✓ This builds upon recent successful tests of Scramjet engine technology by DRDO.
- **Submarine-Launch Capability:**
 - ✓ A major engineering challenge being tackled is reducing the missile's diameter to fit into the standard torpedo tubes of submarines, enabling underwater launches without needing vertical launch silos.

II. Telangana's Role & The "Innovation" Shift:

- **Aerospace Hub:** The panel, moderated by Dr. G. Satheesh Reddy (former DRDO Chairman), highlighted Hyderabad's status as India's defence manufacturing capital.
- **From Components to Systems:** Naga Bharat Daka (Co-founder, Skyroot Aerospace) emphasized that Telangana must transition from merely manufacturing components to "Design and End-to-End System Development" to capture the global space economy.
- **Skill Gap Concern:** Dr. Joshi raised a critical concern regarding the shortage of quality engineers in core branches like Metallurgy, Mechanical, and Aerospace, which are essential for such deep-tech projects.
- **ISNT Initiative:** It was revealed that efforts are on to bring the Indian Society for Non-destructive Testing (ISNT) to Hyderabad to boost quality assurance standards.

III. Industry Perspectives (The Panel):

- **Bharat Dynamics Ltd (BDL):** CMD Commodore A. Madhav Rao noted that the next decade will be defined by "High-Volume Missile Production" and export readiness, urging for more testing facilities to reduce dependence on DRDO labs.
- **Government Support:** State Minister N. Uttam Kumar Reddy assured that the government would act as a catalyst for innovation-led private ventures in the space and defence sectors.



10. December 9 Celebrated as 'Telangana Talli Avatarana Dinotsavam'

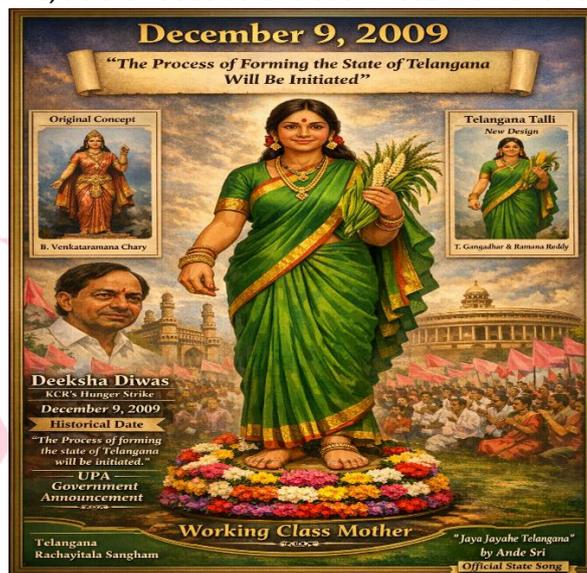
Context: On December 9, 2025, the Telangana government officially celebrated 'Telangana Talli Avatarana Dinotsavam' (Telangana Talli Appearance Day). Chief Minister A. Revanth Reddy, virtually addressing the state from the Telangana Rising Global Summit venue at Bharat Future City, unveiled Telangana Talli statues across all district collectorates. The Chief Minister vowed to uphold the vision of Congress Parliamentary Party (CPP) leader Sonia Gandhi and former Prime Minister Dr. Manmohan Singh, whose decisions were pivotal in the state's formation.

Key Highlights of the Event:

- **State-wide Statue Unveiling:**
 - ✓ Statues of Telangana Talli were unveiled simultaneously in all district headquarters to mark the occasion.
 - ✓ **Symbolism:** The Chief Minister stated that the statue represents the aspirations of the people, especially SC, ST, BC, and Minorities, and stands as a symbol of "self-respect" and "cultural identity."
 - ✓ **Design:** The new official statue (first unveiled at the Secretariat in Dec 2024) depicts a rural woman farmer holding maize, corn, and foxtail millet (representing the agrarian

soul), adorned with traditional ornaments like clay bangles and a nose stud, marking a shift from the earlier aristocratic representation.

- **Historical Significance of December 9:** The government has institutionalized December 9 as a state celebration to commemorate two major events:
 - ✓ **December 9, 2009:** The historic announcement by then Union Home Minister P. Chidambaram, initiating the process for the formation of a separate Telangana state.
 - ✓ **Sonia Gandhi's Birthday:** The date coincides with the birthday of Sonia Gandhi, whom the CM credited with overcoming political obstacles to fulfill the promise she made in Karimnagar in 2004.
- **Administrative Vision:**
 - ✓ Revanth Reddy emphasized that the current "People's Government" (Praja Palana) draws inspiration from the "Mother" (Telangana Talli) to implement welfare programs.
 - ✓ He reiterated the state's goal to become a \$3 Trillion economy by 2047, outlined during the Global Summit, as a tribute to the sacrifices made for statehood.



11. T-SAT Seeks Inclusion in Telangana Education Policy for Digital Learning Support

Context: Telangana Skills, Academics and Training (T-SAT), the state's satellite-based education network, has formally submitted a representation to the state government requesting its services be integrated into the upcoming **Telangana Education Policy (TEP)**. With the new policy placing a heavy emphasis on digital transformation, T-SAT has prepared a "**Tentative Plan**" to act as a key execution partner, aiming to bridge the digital divide in government institutions.

●●● PLAN HIGHLIGHTS ●●●		
PRE-PRIMARY <ul style="list-style-type: none"> ● Listening and speaking skill videos ● Curricular + co-curricular activity videos 	PRIMARY <ul style="list-style-type: none"> ● Foundational competencies ● Activity-based, joyful learning ● General aptitude content ● Calligraphy classes ● Field visit exposure videos 	SECONDARY <ul style="list-style-type: none"> ● Curriculum design content ● Exam-orientation videos ● Formative and Summative assessments ● SSC Board focus ● Telugu/English/Urdu mediums ● Exposure to diverse fields via new initiatives
INTERMEDIATE + HIGHER/PROFESSIONAL <ul style="list-style-type: none"> ● Academic and skill-oriented video content ● Competitive exam aspirants ● Subject-wise preparation support 		

Key Proposals by Educational Segment: T-SAT has outlined a department-tailored strategy to maximize its platform's utility across five major educational portfolios:

- **Pre-Primary Education (Nursery, PP1, PP2):**
 - ✓ **Focus:** Developing listening and speaking skills.
 - ✓ **Content:** Creation of video content for curricular and co-curricular activities to foster early childhood engagement.
- **Primary Education (Classes 1-5):**
 - ✓ **Focus:** Foundational Competencies (FLN) and joyful learning.
 - ✓ **New Initiatives:** Introduction of Calligraphy classes to improve handwriting and Virtual Field Visits to provide outdoor exposure to students in remote areas.
 - ✓ **Approach:** Activity-based learning modules designed to be "child-friendly."
- **Secondary Education (Classes 6-10):**
 - ✓ **Focus:** Exam orientation and conceptual clarity.
 - ✓ **Content:** Production of videos for Formative and Summative Assessments and SSC Board Exam preparation.
 - ✓ **Medium:** Content will be available in Telugu, English, and Urdu mediums to ensure inclusivity.
- **Higher & Competitive Education:**
 - ✓ **Focus:** Career guidance and employability.
 - ✓ **Content:** Specialized coaching content for students appearing for competitive examinations (Groups, Police, etc.) and professional course supplements.
- **Broader Strategic Scope:**
 - ✓ **Cross-Departmental Collaboration:** Beyond education, the proposal outlines a strategy to use the T-SAT platform for multiple government departments, including Health, Women and Child Welfare, Agriculture, and Panchayat Raj.
 - ✓ **Objective:** To create a unified digital dissemination channel for government schemes and training modules, maximizing the state's existing satellite infrastructure.

T-SAT (Telangana Skills, Academics and Training)
Telangana Skills, Academics and Training

Origin
Originally known as MANA TV (under undivided AP).
Rebranded as T-SAT after the formation of Telangana.

Nodal Agency
Functions under the Department of ITE&C (Information Technology, Electronics & Communications), Govt of Telangana.

Channels

- T-SAT Vidya:** Focuses on School and Higher Education Curriculum.
- T-SAT Nipuna:** Focuses on Skill Development, Competitive Exams, and Career Guidance.

Technology
Uses Satellite Communications (ISRO satellites) to broadcast content to Receive-Only Terminals (ROTs) in Schools & Colleges, alongside an App-Based Digital Presence.

Way Forward:

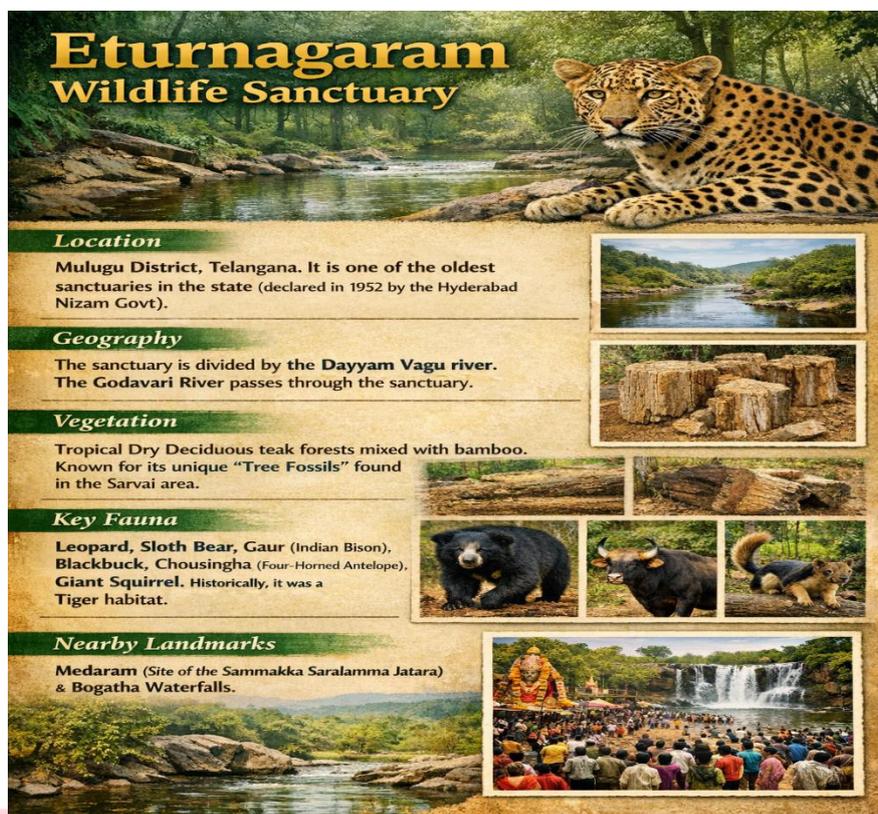
- **Infrastructure Upgrade:** For T-SAT's plan to succeed, the Telangana Digital Shala initiative must ensure that all government schools are equipped with functional digital classrooms and reliable internet/satellite receivers to access this content.
- **Two-Way Interactivity:** Moving beyond one-way broadcasting, T-SAT should integrate AI-based feedback mechanisms in its app to track student learning outcomes in real-time, as proposed in the broader EdTech roadmap of the TEP.

12. Safari Services to Begin at Eturnagaram Wildlife Sanctuary

Context: In a significant push to boost eco-tourism in the eastern belt of the state, the Telangana Forest Department has finalized arrangements to roll out safari services for the first time at the Eturnagaram Wildlife Sanctuary in Mulugu district. This initiative aims to transform the sanctuary into a major destination for adventure lovers and nature enthusiasts, complementing the existing pilgrimage and heritage circuits in the region.

Key Highlights of the Initiative:

- **The Safari Experience:**
 - ✓ **Route:** An 18-km safari route has been carved out deep within the sanctuary to offer visitors a guided journey through the diverse flora and wildlife of the region.
 - ✓ **Target Audience:** The service is primarily aimed at school students and eco-tourists to raise awareness about biodiversity conservation.
- **Infrastructure & Procurement:**
 - ✓ **Vehicles:** Two specialized safari vehicles have been procured from Mumbai.
 - ✓ **GeM Compliance:** Notably, the procurement was done through the Government e-Marketplace (GeM) portal, ensuring transparency and adherence to government norms.
- **Integrated Tourism Model (Stay + Safari):**
 - ✓ **Tadvai Huts:** To create a complete tourism package, the forest department is reopening the Tadvai Huts, a popular eco-accommodation facility.
 - ✓ **Objective:** The combination of "Stay and Safari" is designed to increase tourist footfall and retention time in Mulugu district.
- **Community Empowerment:**
 - ✓ The project is designed to generate employment opportunities for local tribal communities, who will likely be engaged as guides, drivers, and hospitality staff, aligning with the concept of Community-Based Eco-Tourism (CBET).
- **Significance:**
 - ✓ **Untapped Potential:** Unlike Amrabad or Kawal Tiger Reserves, Eturnagaram has remained relatively unexplored despite being one of the oldest sanctuaries in the state. This initiative marks its formal entry into the state's eco-tourism map.
 - ✓ **Economic Boost:** It will create an economic multiplier effect for the local economy in Mulugu, which is already a hub for tribal culture (Sammakka Saralamma Jatara).



AP REGIONAL CURRENT ISSUES

1. Biggest Wildlife Survey AITE-2026 Commences; Focus on NSTR Ecosystem

Context: The All India Tiger Estimation (AITE)-2026, recognized as the world's largest wildlife survey effort, officially commenced in Andhra Pradesh on December 1, 2025. This quadrennial exercise, often dubbed a "mega-census," is not merely a tiger headcount but a sweeping ecological health check-up of India's forests. In Andhra Pradesh, the spotlight is on the Nagarjunasagar Srisailem Tiger Reserve (NSTR), where officials aim to document a potential rise in the tiger population to near 95.

I. Key Highlights of AITE-2026:

- **Phased Implementation:**
 - ✓ **Phase I (Dec 1 – Dec 8, 2025):** The "Sign Survey." Over 5,000 personnel across 1,256 forest beats (covering ~36,914 sq km) are conducting foot patrols to log direct signs (sightings) and indirect signs (pugmarks, scats, rake marks) of carnivores and herbivores.
 - ✓ **Phase II (Jan 3 – May 30, 2026):** The "Camera Trap" phase. A massive network of 12,886 infrared-enabled camera traps will be deployed across 6,443 grids. These cameras will operate 24/7 for 45–60 days to capture photographic evidence.
- **Technological Integration:**
 - ✓ **MSTriPES App:** The survey relies heavily on the M-STriPES (Monitoring System for Tigers: Intensive Protection and Ecological Status) mobile app. It ensures real-time, geo-tagged data collection, eliminating the errors of manual entry.
 - ✓ **Pattern Recognition:** The captured images will be analyzed using specialized software that identifies individual tigers by their unique stripe patterns, similar to human fingerprints.

II. Andhra Pradesh Specifics (NSTR Focus):

- **Population Trends:**
 - ✓ **Previous Count:** According to State Nodal Officer B. Vijaya Kumar, the previous assessment (2022-23 cycle) estimated 87 tigers in Andhra Pradesh.
 - ✓ **2026 Projection:** With improved habitat protection and prey base management, officials project the number could touch 95 in the current cycle.
 - ✓ **Leopards:** The state is also home to over 600 leopards, a healthy sign of predator density.
- **Holistic Ecological Mapping:**
 - ✓ Unlike earlier censuses, AITE-2026 places equal emphasis on prey base density (herbivores per hectare) and vegetation health.
 - ✓ Current data indicates an average of three herbivores per 100 hectares in AP forests, a metric crucial for sustaining the tiger population.
 - ✓ The survey also assesses human impact factors like grazing pressure, wood extraction, and developmental encroachment.

Way Forward:

- **Report Timeline:** The consolidated national report, which serves as the "Report Card" of India's forest health, is expected to be released by the Prime Minister in March 2027.
- **Corridor Connectivity:** The data from this survey will be critical for the AP Forest Department to identify and legally protect tiger corridors linking NSTR with the Seshachalam forests and the adjacent Amrabad Tiger Reserve in Telangana.



2. Four Hatcheries to Come Up Along Visakhapatnam Coast to Protect Olive Ridleys

Context: Ahead of the peak nesting season, the **Andhra Pradesh Forest Department** has announced the establishment of four dedicated hatcheries along the Visakhapatnam coast to protect **Olive Ridley turtles**. The decision comes in the wake of a concerning rise in **turtle mortality**, with dozens of carcasses washing ashore between the **Coastal Battery and Bheemunipatnam** stretch in recent weeks, primarily due to entanglement in fishing nets.

Key Highlights of the Conservation Plan:

- **Hatchery Establishment:**
 - ✓ **Collaboration:** The Forest Department is collaborating with The Tree Foundation, a conservation NGO, to operate these hatcheries starting in January.
 - ✓ **Objective:** To collect eggs from vulnerable nests along the beach and incubate them in safe, enclosed environments to ensure a higher survival rate of hatchlings.
- **Mortality Crisis (The "Ghost Net" Threat):**
 - ✓ **Cause of Death:** Preliminary necropsies indicate that most turtles drowned after getting entangled in fishing nets (gill nets or trawl nets). Since turtles are reptiles, they must surface every 40–45 minutes to breathe; entanglement prevents this, leading to asphyxiation.
 - ✓ **Gender Imbalance:** Forest officials noted a high number of male carcasses, suggesting that male turtles waiting in offshore waters for mating are becoming victims of fishing activity during their migration.
- **Visakha Utsav Precautions:**
 - ✓ With the Visakha Utsav 2025 scheduled for January 23–31 along the beach front, specific protocols are being put in place to prevent disturbance.
 - ✓ **Measures:** Increased vigilance by forest guards and restrictions on beach activities near identified nesting sites to prevent trampling of nests by tourists.
- **Ecological Challenges Identified:**
 - ✓ **Light Pollution:** Conservationists have flagged artificial lighting near RK Beach as a major deterrent. Female turtles prefer dark stretches for nesting, and hatchlings often get disoriented by city lights, moving towards the road instead of the sea.
 - ✓ **Migratory Corridor:** The AP coast acts as a critical migratory corridor for turtles moving towards the mass nesting (Arribada) sites in Odisha (Gahirmatha and Rushikulya). Any disruption in AP waters directly impacts the breeding population of Odisha.

Olive Ridley Turtles & Protection Status

Scientific Name: *Lepidochelys olivacea*. They are the smallest and most abundant of all sea turtles found in the world.

Conservation Status:

- **IUCN** IUCN Red List: Vulnerable
- **WPA, 1972:** Schedule I (Highest Protection)
- **CITES:** Appendix I

Arribada

- A unique phenomenon of "Mass Nesting" where thousands of females come together on the same beach to lay eggs. Major global sites:
 - Mexico, Costa Rica, Odisha (India).
- Key districts →
 - Srikakulam,
 - Visakhapatnam, Kakinada (Hope Island),
 - Krishna (Diviseema),

AP Marine Fishing Regulation Act

- Mandates the use of Turtle Excluder Devices (TEDs) in trawl nets and prohibits mechanized fishing within 8 km of the shoreline to protect marine life.

Way Forward:

- **TED Enforcement:** Strict enforcement of Turtle Excluder Devices (TEDs) in fishing trawlers is non-negotiable. The Fisheries Department must link fuel subsidies to the usage of TEDs to ensure compliance.
- **Dark Sky Initiatives:** The municipal corporation should consider installing "Turtle-Friendly Lighting" (red or amber lights) along the beach promenade during the nesting season (Dec-April) to prevent hatchling disorientation.

3. Andhra Pradesh CM Launches 'Mustabu' Initiative to Promote Student Hygiene

Context: Andhra Pradesh Chief Minister N. Chandrababu Naidu officially launched the 'Mustabu' (Grooming/Getting Ready) programme at the Social Welfare Residential School in Tallapalem, Anakapalle district. Initially implemented as a pilot project in Parvathipuram Manyam district, the initiative yielded positive results and has now been extended across the entire State to foster a culture of hygiene and discipline among students.

I. Key Highlights of the Initiative:

- **Objective:** To promote personal hygiene, health awareness, and discipline among approximately 75 lakh students studying in government and private schools (from Class 1 to Intermediate) across Andhra Pradesh.
- **The Concept of 'Mustabu':**
 - ✓ The term implies "getting ready" or "grooming."
 - ✓ It encourages simple yet effective daily habits such as washing hands before meals, wearing clean uniforms, trimming nails, properly combing hair, and maintaining general personal cleanliness.
- **Origin:** The programme was conceptualized based on the successful pilot implementation by the Parvathipuram Manyam District Collector, N. Prabhakar Reddy. The Chief Minister cited this as an example of how "small ideas can lead to meaningful development" without requiring massive funding.
- **Zero-Cost Innovation:** The CM emphasized that innovative ideas do not always require additional financial burdens. 'Mustabu' relies on behavioral change and awareness rather than infrastructure spending.
- **Implementation:**
 - ✓ Hygiene practices will be monitored daily in schools.
 - ✓ Student leaders and teachers will play a key role in ensuring peer adherence to these norms, thereby instilling leadership qualities.

II. Significance:

- **Health Outcomes:** By focusing on basic hygiene (like handwashing), the initiative aims to reduce the burden of communicable diseases among school-going children.
- **Psychological Impact:** A neat appearance (clean uniform, groomed hair) is linked to improved self-confidence, attentiveness in class, and overall self-esteem.
- **Holistic Education:** It marks a shift from purely academic learning to holistic development, integrating life skills and discipline into the school curriculum.

III. Related Educational Welfare Schemes in AP:

- **Talliki Vandanam:** A financial assistance scheme providing ₹15,000 annually to mothers/guardians to support their children's education. It aims to reduce dropout rates and empower mothers.
- **Gorumudda (Mid-Day Meal):** Provides free, nutritious meals to students to address malnutrition and improve attendance.

- **Free Supply:** The government ensures the free distribution of textbooks, uniforms, and other essential learning materials to reduce the financial burden on parents.

IV. Way Forward:

- **Integration with Health Camps:** To maximize impact, the 'Mustabu' initiative should be synchronized with regular health screening camps (for eye/dental checks) in schools.
- **WASH Compliance:** The success of personal hygiene depends on the availability of water and sanitation infrastructure. The government must ensure that all schools comply with WASH (Water, Sanitation and Hygiene) norms under the Swachh Vidyalaya initiative.

4. Andhra Pradesh Targets 100% Rooftop Solar Coverage by 2029

Context: The Andhra Pradesh government has unveiled an ambitious roadmap to ensure that every household in the state is equipped **with a rooftop solar system by 2029**. This declaration was made during the **inauguration of the three-day Solar Renewable Energy Expo organized** by the Andhra Pradesh Solar Energy Association in Vijayawada. The initiative marks a significant step towards energy self-sufficiency and aligns with the state's broader power sector reforms.



I. Key Highlights of the Announcement:

- **The 'Vision 2029' Goal:**
 - ✓ **Universal Coverage:** The state government aims to saturate the residential sector with rooftop solar installations within the next four years.
 - ✓ **Targeted Subsidies:** To ensure inclusivity, special subsidies and incentives are being rolled out for SC, ST, and BC communities, making the transition to green energy affordable for marginalized sections.
- **Synergy with Central Schemes:**
 - ✓ The state initiative will be integrated with the PM Surya Ghar: Muft Bijli Yojana.
 - ✓ **Incentives:** Apart from central subsidies, local associations announced promotional offers like free service for five years to encourage early adoption during the expo.
- **Economic & Employment Impact:**
 - ✓ **Job Creation:** According to NREDCAP (New and Renewable Energy Development Corporation of Andhra Pradesh), the massive scaling of solar infrastructure is projected to generate employment for nearly 20 lakh people, including technicians, installers, and maintenance staff.
 - ✓ **Farmer Benefits:** The push includes expanding solar-powered motors for agriculture, reducing the subsidy burden on the state exchequer for free agricultural power.

II. Significance:

- **Power Sector Reforms 2.0:** The initiative is framed as a successor to the landmark power reforms introduced by Chief Minister N. Chandrababu Naidu in 1995, which revolutionized electricity generation and distribution in India.
- **Grid Load Reduction:** With power demand rising annually, decentralized rooftop generation is essential to reduce the load on the central grid and cut down Transmission and Distribution (T&D) losses.

III. Solar Energy Landscape in AP:

- **Nodal Agency:** NREDCAP (New and Renewable Energy Development Corporation of Andhra Pradesh). It implements renewable energy programmes in the state.
- **PM Surya Ghar Yojana:** A Central scheme launched to provide free electricity (up to 300 units per month) to 1 crore households via rooftop solar. It provides a subsidy of up to ₹78,000.
- **AP Solar Potential:** Andhra Pradesh has a high solar potential due to its geographical location, with over 300 sunny days a year. Major solar parks include Kurnool Ultra Mega Solar Park (1000 MW).
- **Net Metering:** A billing mechanism that credits solar energy system owners for the electricity they add to the grid.

III. Way Forward:

- **Grid Modernization:** To handle the influx of decentralized power from millions of homes, the state DISCOMs (APSPDCL, APEPDCL, APCPDCL) must urgently upgrade to Smart Grids to manage voltage fluctuations.
- **Vendor Ecosystem:** The government must empanel more local vendors and streamline the subsidy disbursement process to prevent bottlenecks, ensuring the 2029 target is met without administrative delays.

5. INSWAREB Pitches Advanced Nano Concrete to Boost Nuclear Plant Durability

Context: The Institute of Solid Waste Research and Ecological Balance (INSWAREB), a Visakhapatnam-based research organization, has submitted a proposal to the Prime Minister's Office (PMO) and the Department of Atomic Energy (DAE) regarding the use of Advanced Nano Concrete and Irradiated Complementary Cement Materials (ICCMs). The proposal aims to address critical durability and safety concerns in nuclear infrastructure caused by prolonged radiation exposure.

Key Highlights of the Proposal:

- **The Problem (Radiation & Concrete Decay):**
 - ✓ **Quartz Alteration:** INSWAREB scientists (N. Kalidas and N. Bhanumathidas) highlighted that radiation alters the crystalline structure of quartz present in concrete aggregates. This leads to volume expansion, cracking, and a loss of structural strength, a phenomenon confirmed by studies from the University of Tokyo.
 - ✓ **Modern Cement Issues:** Post-World War II manufacturing practices favor "high early-strength cements" which release heat and lime rapidly. This quick reaction often results in early-age thermal cracks, compromising long-term durability compared to pre-war slow-setting cements.
- **The Solution (Nano Concrete & ICCMs):**
 - ✓ **Material Composition:** The institute proposes using Complementary Cement Materials (CCMs) such as Fly Ash, Silica Fume, Metakaolin, Slag, and Rice Husk Ash.
 - ✓ **Mechanism:** When blended with ordinary cement, these materials react with the excess lime (calcium hydroxide) released during hydration. This secondary reaction creates a denser microstructure, significantly improving strength and impermeability.
 - ✓ **Nano Concrete:** Specifically proposed for radiation-resistant shield walls, nano concrete utilizes a high content of fly ash and ultra-fine particles to create a compact,

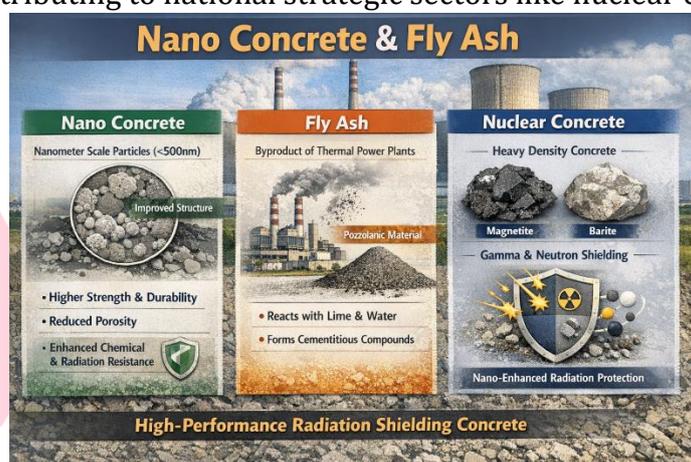
void-free structure that blocks radiation leaks more effectively than conventional concrete.

- **Research & Collaboration:**

- ✓ **Irradiation Studies:** The core of the research involves examining whether irradiation can convert raw materials (like quartz and rice husk ash) into ICCMs that are inherently stable in nuclear environments.
- ✓ **Partnerships:** Preliminary discussions have been held with the Bhabha Atomic Research Centre (BARC) and the Nuclear Power Corporation of India Limited (NPCIL).
- ✓ **Global Testing:** Since domestic reactors have limited capacity for material irradiation testing, INSWAREB is exploring collaborations with overseas facilities like the Advanced Test Reactor in the US to obtain larger test samples.

Significance:

- **Sustainability:** Extending the service life of concrete structures reduces the need for frequent repairs and reconstruction, thereby conserving natural mineral resources (limestone, aggregates) and lowering the carbon footprint of the cement industry.
- **Indigenous Innovation:** This initiative highlights the role of Andhra Pradesh-based scientific institutions in contributing to national strategic sectors like nuclear energy.



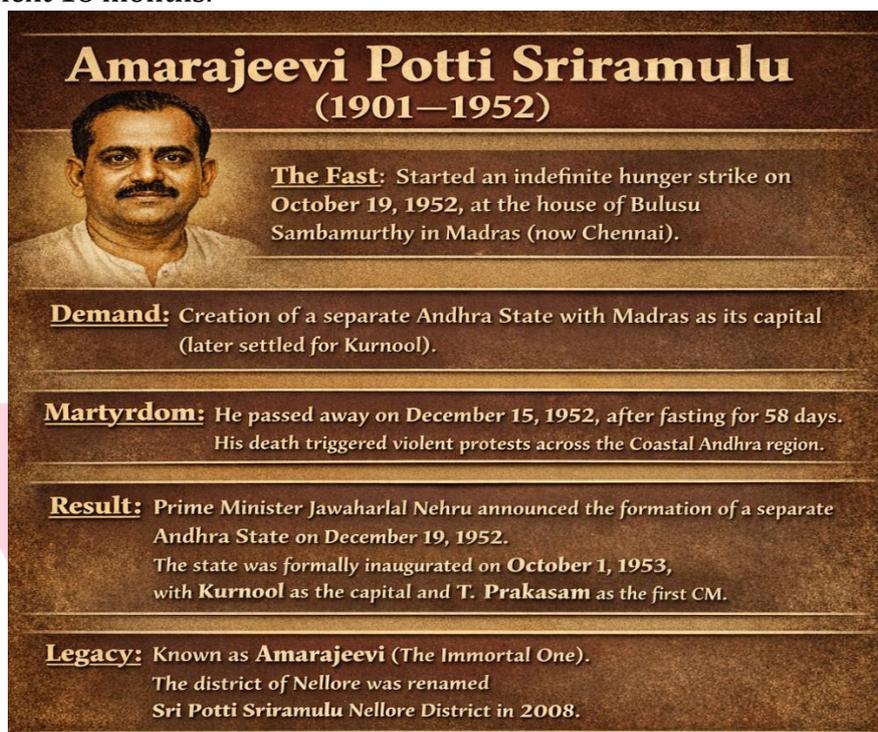
6. 'Statue of Sacrifice': 58-ft Memorial for Potti Sriramulu in Amaravati

Context: On the occasion of the Death Anniversary (Atmarpana Dinam) of Amarajeevi Potti Sriramulu (December 15), Chief Minister N. Chandrababu Naidu announced the construction of a 58-foot statue in Amaravati to honor his supreme sacrifice for the formation of the Andhra State. The CM also unveiled a series of cultural and administrative decisions during the event held at Tummalapalli Kalakshetram, Vijayawada.

Key Highlights of the Announcements:

- **The 'Statue of Sacrifice':**
 - ✓ **Height:** A 58-foot tall statue will be erected in the capital city, Amaravati.
 - ✓ **Symbolism:** The height of 58 feet symbolizes the 58 days of fasting Potti Sriramulu undertook before breathing his last on December 15, 1952.
 - ✓ **Memorial Park:** A memorial park spanning 6.5 acres will be developed around the statue.
 - ✓ **Designation:** December 15 will officially be observed as the 'Day of Sacrifice' by the state government.
- **Cultural Renaming & Decisions:**
 - ✓ **Vasavi Penugonda:** The government has decided to rename Penugonda (West Godavari district), the birthplace of Goddess Vasavi Kanyakaparameswari, as 'Vasavi Penugonda'. A grand temple will also be developed there.

- ✓ **Caste Certificates:** In a move to address community requests, caste certificates for the Vysya community will henceforth be issued under the name 'Arya Vysya'.
- ✓ **Other Memorials:** The building in Chennai where Potti Sriramulu fasted and his residence in Nellore will be developed as protected memorials.
- **State Development Indicators (RBI Report):**
 - ✓ During the address, the CM cited a recent Reserve Bank of India (RBI) report highlighting Andhra Pradesh's dominance in the primary sector.
 - ✓ Rank 1: AP stands first in the country in the production of Fruits and Fish.
 - ✓ Investment Target: The government aims to attract investments worth ₹21 lakh crore in the next 18 months.



7. 2025: A Landmark Year for Andhra Pradesh's Investment Journey

Context: As 2025 concludes, the Andhra Pradesh government has declared it a "breakthrough year" for the state's economy. Under the leadership of Chief Minister N. Chandrababu Naidu, the state has firmly re-entered the global investment landscape, attracting commitments worth nearly ₹20 lakh crore. This renewed momentum is credited to the coalition government's "Speed of Doing Business" policy and sustained efforts to rebuild the state's brand image after years of uncertainty.

I. Key Highlights of the Investment Surge:

- **The Turning Point (CII Partnership Summit):**
 - ✓ Held in Visakhapatnam in November 2025, the 30th CII Partnership Summit was a watershed moment.
 - ✓ Outcome: Against a target of ₹10 lakh crore, the state secured ₹13.25 lakh crore through 613 MoUs.
 - ✓ Sectoral Dominance: The proposals were dominated by Energy (Green Hydrogen/Solar), IT & Electronics, Tourism, and Manufacturing.
- **Major Global & Domestic Commitments:**
 - ✓ **Google:** A historic \$15 billion commitment to establish its largest AI Hub outside the US in Visakhapatnam.

- ✓ **ArcelorMittal Nippon Steel (AM/NS):** Committed ₹1.4 lakh crore for a massive greenfield integrated steel plant in Anakapalli district, which is expected to be a game-changer for North Andhra.
- ✓ **Reliance Industries:** Its JV, Digital Connexion, plans to invest ₹98,000 crore to develop 1 GW of data center capacity.
- **IT Majors:**
 - ✓ TCS: Investing ₹1,370 crore for a campus creating 12,000 jobs.
 - ✓ Cognizant: Investing ₹1,583 crore for an 8,000-seat campus at Kapuluppada IT Hills.
 - ✓ Sify: ₹1,500 crore for an AI-powered data center.
 - ✓ From MoUs to Reality (SIPB Actions):
 - ✓ Unlike previous phases where MoUs often remained on paper, the State Investment Promotion Board (SIPB) has already approved proposals worth ₹8.29 lakh crore (over 50% of total MoUs).
 - ✓ These approved projects alone have the potential to create 7.62 lakh jobs.
 - ✓ CM's Directive: The government has mandated district administrations to secure statutory clearances swiftly to ensure projects are grounded within 45 days of approval.
- **Key Drivers of Success:**
 - ✓ **Leadership Role:** IT Minister Nara Lokesh led the charge with international roadshows, engaging global tech giants. He heads the Cabinet sub-committee tasked with facilitating 20 lakh jobs over five years.
 - ✓ **Policy Shift:** The government moved from "Ease of Doing Business" to "Speed of Doing Business," featuring real-time grievance redressal by the CM and a robust single-window system.

II. About State Investment Promotion Board (SIPB):

- **Chairperson:** Chief Minister of Andhra Pradesh.
- **Function:** It is the highest body for approving investment proposals in the state. It reviews applications, grants incentives (like tax breaks, land allotment), and ensures inter-departmental coordination.
- **Key Members:** Includes Ministers of Finance, Industries, IT, Energy, and top bureaucrats like the Chief Secretary.
- **Single Desk Portal:** AP operates a Single Desk Portal where investors can apply for all clearances online, with statutory time limits for approvals (deemed approval if deadlines are missed).

8. Srikalahasti Temple Tops Pilgrim Satisfaction Survey; Eyes AI Integration

Context: The **Srikalahasteeswara Swamy Temple** in **Tirupati** district has secured the first rank in the state's latest "Temple Performance Feedback Survey" conducted by the Endowments Department (excluding Tirumala, which is managed independently). With a pilgrim satisfaction score of 72.7%, the temple, known as 'Dakshina Kashi', has set a benchmark for efficient temple management in Andhra Pradesh.

I. Key Highlights of the Survey:

- **Top Performers:**
 - ✓ Srikalahasti: Ranked 1st (72.7%).
 - ✓ Dwaraka Tirumala: Ranked 2nd (71.5%).
 - ✓ Srisailam: Ranked 3rd (70.4%).
- **Reasons for Success:**

- **Transparent Ticketing:** The introduction of a transparent ₹500 ticket system allowing direct entry into the inner sanctum was hailed as a major reform, effectively eliminating the menace of brokers/middlemen.
- **Queue Management:** Pilgrims appreciated the quicker darshan process and the "courteous behavior" of the staff, a parameter often neglected in public services.
- **Sanitation:** The maintenance of the temple premises, improved drinking water facilities, and uninterrupted prasadam distribution contributed significantly to the high score.
- **Political Credit:** The turnaround is attributed to strict monitoring by the local MLA Bojjala Sudheer Reddy, who focused on restoring the temple's hundi income (which has reportedly tripled) and operational transparency.
- **Technological Leap (AI Integration):**
 - ✓ **Google Collaboration:** The temple administration is exploring the introduction of Artificial Intelligence (AI) for crowd management. Local MLA Sudheer Reddy recently held discussions with Google Vice President Thota Chandu regarding this.
 - ✓ **The Model:** The proposed system aims to replicate the AI model currently being tested at Tirumala, which uses computer vision to:
 - Monitor crowd density in real-time.
 - Predict wait times accurately for devotees.
 - Prevent stampedes by alerting officials about "red zones" (high congestion areas).

II. Dravidian Architecture: Key Features

The Dravidian style is the distinct temple architecture of South India, which evolved under the Pallavas and Cholas and reached its zenith under the Vijayanagara Empire. Unlike the Nagara style of the North (curvilinear towers), Dravidian architecture is known for its pyramidal towers and immense gateways.

- **Gopuram (The Gateway Tower)**
 - ✓ **Feature:** The most prominent feature of the Dravidian style is the Gopuram—a massive, pyramidal gateway tower at the entrance of the temple complex. It is often taller than the main sanctum tower.
 - ✓ **In Srikalahasti:**
 - The temple is famous for its Rajagopuram (King's Tower), originally built by the Vijayanagara Emperor Sri Krishnadevaraya in 1516 AD.
 - It stands as a testament to the Vijayanagara style of adding massive scale to temple entrances. The current structure is a 144-foot reconstructed tower (after the 2010 collapse) that retains the original architectural integrity.
- **Vimana (Tower over Sanctum)**
 - ✓ **Feature:** The Vimana is the tower built directly above the Garbhagriha (inner sanctum). In Dravidian architecture, the Vimana is usually shorter than the Gopuram and has a stepped-pyramidal shape.
 - ✓ **In Srikalahasti:**
 - The Vimana over the main deity (Vayu Linga) is gold-plated and follows the traditional Chola-era design, being relatively modest compared to the towering Rajagopuram.
- **Mandapa (Pillared Halls)**
 - ✓ **Feature:** Dravidian temples feature expansive open pavilions or halls known as Mandapas, supported by intricately carved pillars. These were used for weddings, dance, or congregational worship.

- ✓ **In Srikalahasti:**
 - **100-Pillared Mandapam:** Built by Krishnadevaraya, this hall is a masterpiece of the Vijayanagara style.
 - **Signature Carvings:** The pillars feature Yali (mythical lion-horse creatures) and intricate floral motifs, which are hallmarks of the 16th-century Vijayanagara school of art.
- **Garbhagriha (Sanctum Sanctorum)**
 - ✓ **Feature:** The innermost sanctum housing the main deity. In Dravidian tradition, the entrance is guarded by fierce doorkeepers called Dwarapalas.
 - ✓ **In Srikalahasti:**
 - The sanctum houses the Vayu Linga (Air Linga). Uniquely, the lamp inside flickers even when the doors are shut, symbolizing the presence of the Wind God (Vayu).
 - The sanctum faces West, whereas most Hindu temples face East.

III. Temple Layout & Evolution

- **Feature:** Dravidian temples are enclosed within high boundary walls (Prakaras) and often contain a water tank (Pushkarini).
- **Evolution at Srikalahasti:**
 - ✓ **Pallava Period (7th C):** Laid the foundation (rock-cut style).
 - ✓ **Chola Period (11th C):** Expanded the main structure and Vimana.
 - ✓ **Vijayanagara Period (16th C):** Added the massive Gopurams and Mandapas, giving it the grand look seen today.



9. Andhra Pradesh Records Steady Rise in Cancer Burden: A Decade-Long Analysis

Context: According to recent data presented in the Lok Sabha by the **Ministry of Health and Family Welfare, Andhra Pradesh** has witnessed a consistent and worrying upward trend in the estimated incidence of **cancer cases over the last decade (2015–2024)**. The data highlights the growing challenge of **Non-Communicable Diseases (NCDs)** in the state, necessitating urgent policy interventions.

I. Key Findings of the Report:

- **Rising Trajectory:**
 - ✓ The state recorded an estimated 76,708 new cancer cases in 2024.
 - ✓ This is a significant jump from 55,776 cases in 2015, showing a steady annual increase.
 - ✓ **Recent Trend:** 75,086 (2023) → 73,536 (2022) → 71,970 (2021).

- **Global & National Context:**

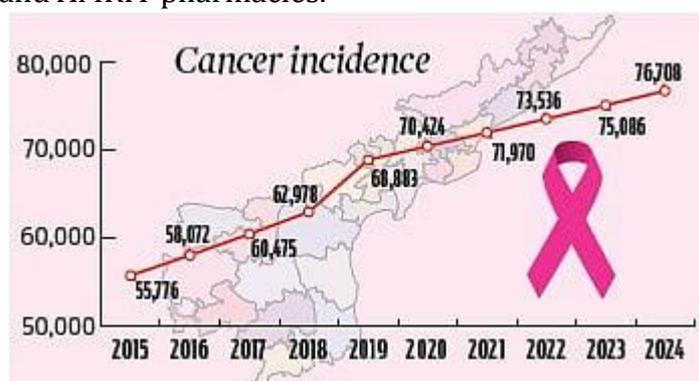
- ✓ **India's Rank:** According to the Global Cancer Observatory (IARC), India ranks third globally in estimated cancer cases (14.13 lakh cases), following China (1st) and the USA (2nd).
- ✓ **Rate:** India's incidence rate is roughly 98.5 per 1,00,000 population.

II. Reasons for the Surge: Health experts and officials attribute this rising burden to a mix of demographic, environmental, and lifestyle factors:

- **Demographic Transition:** Increased life expectancy means a larger aging population, which is naturally more prone to malignancies.
- **Lifestyle Shifts:** Rapid urbanization in cities like Visakhapatnam and Vijayawada has led to sedentary lifestyles and changing dietary habits (higher consumption of processed foods).
- **Environmental Factors:** Rising pollution levels in industrial pockets and urban centers are significant contributors to lung and other cancers.
- **Improved Detection:** On a positive note, the rise in numbers is also partly due to better screening and reporting mechanisms, meaning cases that previously went undiagnosed are now being recorded.

III. Government Interventions (State & Central):

- **NP-NCD Implementation:** The government has expanded services under the National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD).
- **Infrastructure:** Establishment of NCD Clinics at the District and Community Health Centre (CHC) levels.
- **Primary Screening:** Screening for common cancers—Oral, Breast, and Cervical—has been strengthened at the grassroots level through Ayushman Arogya Mandirs (formerly HWCs).
- **Infrastructure Boost:**
 - ✓ Establishment of State Cancer Institutes (SCI) and Tertiary Care Cancer Centres (TCCCs).
 - ✓ Sanctioning of 297 District Day Care Cancer Centres for 2025-26 to provide chemotherapy and palliative care closer to home.
- **Financial & Drug Support:**
 - ✓ **Treatment Aid:** Coverage under Ayushman Bharat-PMJAY and the Health Minister's Cancer Patient Fund.
 - ✓ **Affordable Medicine:** Availability of subsidized cancer drugs through PMBJP (Jan Aushadhi) and AMRIT pharmacies.



IV. Way Forward:

- **Preventive Oncology:** The state government should launch a massive "Preventive Oncology" campaign focusing on tobacco control (a major cause of oral/lung cancer) and promoting vaccinations (HPV vaccine for cervical cancer).
- **Industrial Regulation:** Stricter enforcement of environmental norms in industrial corridors (like Visakhapatnam-Kakinada) is crucial to curb carcinogenic pollution.

- **Hub-and-Spoke Model:** Fully operationalize the Cancer Care Grid in AP, linking primary screening centers with tertiary care hospitals like Tirupati's SVIMS and Vizag's Cancer Institute for seamless referrals.

10. 13th-Century Kayastha Chief Pillar Inscription Discovered in Prakasam District

Context: A significant historical discovery was made in **Prakasam district**, where a **13th-century Telugu pillar** inscription belonging to the **Kayastha chief Gangaya Sahini** was unearthed. The pillar was found standing in front of the **Vinutala KatamaRaju** temple in Gundamcherla village of Peddaraveedu mandal. The inscription has been decoded and confirmed by the Archaeological Survey of India (ASI), Mysore.



I. Key Findings from the Pillar:

- **Dating:** The inscription is dated Saka 1180, Kalayukti year, Sravana Suddha 1, Thursday. This corresponds precisely to 1258 CE.
- **Language & Script:** It is written in Telugu, highlighting the administrative language preference of the era.
- **Content:**
 - ✓ **Eulogy:** It provides a eulogy (praise) of Gangaya Sahini, describing his valor and titles.
 - ✓ **Donation:** It records the gift of a village named "Maraduru" and additional lands for conducting services (rituals/offerings) to the deity Sringa Devara.

II. Historical Significance (Kayasthas & Gangaya Sahini):

- **The Kayastha Chiefs:** They were a powerful line of feudatories who served the Kakatiyas. Originally from Western India (possibly Maharashtra/Karnataka region), they migrated to Andhra and rose to prominence as warriors.
- **Gangaya Sahini (r. ~1239–1257/62 CE):**
 - ✓ He was a Mahamandaleswara (Great Provincial Governor) and a trusted cavalry commander (Sahini denotes Master of Stables/Cavalry) under the Kakatiya Emperor Ganapati Deva.
 - ✓ **Capital:** He ruled from Vallur (in modern-day YSR Kadapa district).
 - ✓ **Territory:** His dominion was vast, stretching from Panugallu (Nalgonda) to Marjavadi (Cuddapah/Kurnool region).
 - ✓ **Role:** He played a crucial role in consolidating Kakatiya power in southern Andhra, checking the expansion of the Pandyas and Telugu Chodas.

III. About The Kakatiya Dynasty:

- **Period:** Ruled from 12th to 14th Century CE (approx. 1163–1323 AD).
- **Capital:** Orugallu (Warangal). Earlier capital was Hanamkonda.
- **Key Rulers**
 - ✓ **Ganapati Deva (1199–1262):** Greatest ruler; unified Telugu lands; patron of trade (Motupalli Abhayashasana).

- ✓ **Rudrama Devi (1262–1289):** One of the few female monarchs in Indian history; defended against Yadavas.
- ✓ **Pratapa Rudra II (1289–1323):** Last ruler; defeated by the Tughlaqs (Ulugh Khan/Md Bin Tughlaq).
- **Administration:** Known for the Nayankara System (military feudalism) where land was granted to Nayakas in exchange for military service.
- **Architecture:** Famous for Trikuta temples (e.g., Thousand Pillar Temple), Ramappa Temple (UNESCO site), and the Warangal Fort with its iconic Kirti Thoranas (Gateways).
- **Irrigation:** Built a massive network of Tanks (e.g., Ramappa Lake, Pakhal Lake) interconnected by canals, which is the basis for the modern "Mission Kakatiya."

11. Major Panchayat Raj Reforms in Andhra Pradesh: Cluster System Scrapped, VDOs Introduced

Context: Andhra Pradesh Deputy Chief Minister and Panchayat Raj & Rural Development Minister Pawan Kalyan has announced a series of structural reforms aimed at strengthening rural governance. Addressing officials at the 'Mata Manthi' interactive programme, he outlined a roadmap to decentralize administration and improve service delivery at the grassroots level, marking a shift from the previous administrative setup.

I. Key Governance Reforms Announced:

- **Scrapping of Cluster System:**
 - ✓ The state government has officially scrapped the 'Cluster System' (which grouped panchayats for administrative convenience).
 - ✓ **Impact:** This move paves the way for 13,350 Gram Panchayats to function as independent administrative units, restoring their autonomy and accountability.
- **Redesignation of Officials (Secretary to VDO):**
 - ✓ Every Panchayat will now have a dedicated officer. The designation of Panchayat Secretary has been changed to Village Development Officer (VDO).
 - ✓ **Role:** VDOs will have enhanced responsibilities to drive local development projects, ensuring a dedicated focus on each village's specific needs.
- **Concept of 'Rurban' Panchayats:**
 - ✓ **Criteria:** Large Panchayats with a population exceeding 10,000 have been categorized as 'Rurban Panchayats'.
 - ✓ **Administration:** Gazetted Officers will be appointed to head these units.
 - ✓ **Objective:** To provide urban-grade infrastructure and development standards in these large rural bodies, bridging the rural-urban divide.
- **Administrative Decentralization (New DDO Offices):**
 - ✓ To take governance closer to the people, 77 new Divisional Development Officer (DDO) offices have been established across the state.
 - ✓ **Constitutional Spirit:** This measure is aligned with the spirit of the 73rd Constitutional Amendment, ensuring that divisional-level officials are accessible for timely service delivery and grievance redressal.

II. Employee Welfare & Transparency:

- **Merit-Based Promotions:** The Deputy CM highlighted that over 10,000 employees in the PR & RD wings received promotions in the last 18 months, an unprecedented scale in the state's history.
- **Career Progression:** Clear pathways have been created for career advancement, allowing Mandal Parishad Development Officers (MPDOs) to rise to the rank of District Panchayat Chief Executive Officers (CEOs).

- **Zero-Corruption Policy:** The Minister emphasized that promotions were based strictly on seniority and sincerity, eliminating the alleged "rate card" culture of the past.

III. About 73rd Constitutional Amendment Act, 1992:

- **Objective:** Gave Constitutional Status to Panchayati Raj Institutions (PRIs).
- **Part & Schedule:** Added Part IX ("The Panchayats") and Schedule 11 (containing 29 functional items) to the Constitution.
- **Three-Tier System:** Mandates a 3-tier structure:
 - ✓ Gram Panchayat (Village level).
 - ✓ Mandal/Block Parishad (Intermediate level).
 - ✓ Zilla Parishad (District level).
- **Gram Sabha:** The foundation of the PRI system (Article 243A). It consists of all registered voters in the village and exercises powers as decided by the State Legislature.
- **Reservation:** Mandates reservation for SCs/STs (population-based) and Women (minimum 1/3rd) in seats and chairperson positions.



PRACTICE MCQs

1. With reference to the PM-WANI scheme, consider the following statements:

1. A Public Data Office (PDO) requires a mandatory license from the Department of Telecommunications to operate.
2. The Central Registry for the scheme is maintained by the Centre for Development of Telematics (C-DOT).
3. Recent reforms allow PDOs to use regular retail FTTH broadband connections to provide public Wi-Fi services.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Answer: (b)

2. With reference to 'Masala Bonds' (Rupee-Denominated Bonds) issued by Indian entities, consider the following statements:

1. Unlike External Commercial Borrowings (ECBs), the currency risk in Masala Bonds is borne by the obligor (issuer) rather than the investor.
2. Real Estate Investment Trusts (REITs) and Infrastructure Investment Trusts (InvITs) are eligible to issue these bonds in the overseas market.
3. The capital gains arising from the appreciation of the Indian Rupee against the foreign currency at the time of redemption are exempted from tax for the non-resident investor.
4. The proceeds from these bonds can be used for the purchase of land for affordable housing projects.

How many of the statements given above are correct?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

Answer: (b)

3. With reference to the 'National Critical Mineral Mission (NCMM)' and the associated policy framework in India, consider the following statements:

1. The mission operates under the administrative control of the Ministry of Earth Sciences, given its mandate for deep-seated mineral exploration.
2. The mission provides for a mechanism to extend financial grants to private sector entities for the acquisition of critical mineral assets in foreign jurisdictions.
3. The 'National Critical Mineral Stockpile' envisaged under the mission is designed to be utilized exclusively for the requirements of the Defence and Aerospace sectors during emergencies.

How many of the statements given above are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Answer: (a)

4. With reference to the 'Pink Economy' and related economic concepts, consider the following statements:

1. It refers to the integration of the 'Care Economy' into the mainstream GDP, focusing on the unpaid labor of women in households.
2. The term encompasses the purchasing power and the market generated by the LGBTQIA+ community.
3. The 'Pink Tax' is a fiscal instrument used by the government to levy higher taxes on luxury goods consumed by the 'Pink Economy' participants to fund social welfare schemes.

How many of the statements given above are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Answer: (a)

5. With reference to the engineering standards and modifications for the 'Human-Rated LVM3 (HLVM3)' under the Gaganyaan mission, consider the following statements:

1. To meet international human-rating standards, the launch system is mandated to be "Single Fault Tolerant," ensuring it can function safely even if one major component fails.
2. The S200 solid rocket boosters have been upgraded with enhanced safety margins to specifically handle higher vibration and acoustic loads without compromising the crew module.
3. The Crew Escape System (CES) utilizes high-thrust solid motors to pull the Crew Module away from the rocket in the event of a malfunction during the launch or ascent phase.

How many of the statements given above are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Answer: (c)

6. With reference to 'Open Market Operations' (OMO) conducted by the Reserve Bank of India (RBI), consider the following statements:

1. When the RBI purchases Government Securities (G-Secs) from the market, it decreases the aggregate liquidity in the banking system.
2. The sale of Government Securities by the RBI acts as a measure to control inflation.
3. Open Market Operations are classified as a quantitative instrument of monetary policy.

How many of the statements given above are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Answer: (b)

7. With reference to the geography of Jordan, consider the following statements:

1. It shares land borders with five nations: Syria, Iraq, Saudi Arabia, Israel, and Lebanon.
2. The country is completely landlocked, with the Dead Sea being its only major water body.
3. The Jordan River flows southward through the Great Rift Valley and drains into the Mediterranean Sea.

How many of the statements given above are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Answer: (d)

8. With reference to the National Commission for Backward Classes (NCBC), consider the following statements:

1. The 102nd Constitutional Amendment Act conferred constitutional status on the National Commission for Backward Classes.
2. The conditions of service and tenure of office of the Chairperson, Vice-Chairperson and other Members is determined by the Parliament by law.
3. The Commission has all the powers of a civil court while investigating any matter or inquiring into any complaint.

How many of the statements given above are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Answer: (b)

9. With reference to the 'Poshan Abhiyaan' (National Nutrition Mission) and its subsequent evolution into 'Mission Poshan 2.0', consider the following statements:

1. The mission is a flagship programme of the Ministry of Women and Child Development aimed at improving nutritional outcomes for children, pregnant women, and lactating mothers.
2. The mission has set specific targets to reduce stunting, under-nutrition, and low birth weight by 2% per annum, and anemia by 3% per annum.

3. Mission Poshan 2.0 helps in content, delivery, outreach, and outcomes by subsuming the Supplementary Nutrition Programme (SNP) and the Poshan Abhiyaan into a single integrated programme.

How many of the statements given above are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Answer: (c)

10. With reference to Glacial Lake Outburst Floods (GLOFs), consider the following statements:

1. A GLOF is a type of flood that occurs when water dammed by a glacier or a moraine is released suddenly.
2. The National Disaster Management Authority (NDMA) has formulated specific guidelines to deal with the mitigation and management of GLOFs.
3. In India, the vulnerability to GLOFs is restricted exclusively to the Western Himalayan region (Ladakh and Himachal Pradesh).

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Answer: (a)

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