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CURRENT AFFAIRS

Adivani App

Context

In September 2025, the Ministry of Tribal Affairs launched the **Adivani App** to translate tribal languages into Hindi and English, promoting inclusion, accessibility, and bridging communication gaps.

About the Adivani App

The app was created with the objective of:

- Facilitating communication between tribal populations and government or social services
- Preserving and promoting tribal languages and culture
- Enabling better access to education, healthcare, and government schemes

It leverages language data from the **2011 Census** to prioritize the most widely spoken tribal languages for initial coverage.

Phase 1 Languages

The first phase of the app includes six prominent tribal languages:

- Bheli Spoken in Rajasthan, Gujarat, Madhya Pradesh, and Maharashtra
- Santhali Predominant in Jharkhand, Odisha, and West Bengal
- Gondi Spoken across Madhya Pradesh, Chhattisgarh, Telangana, and Maharashtra
- 4. **Mundari** Found in Jharkhand, Odisha, and West Bengal
- 5. **Kui** Previously featured in UPSC-related discussions
- 6. **Garo** Spoken in parts of northeastern India

Additional languages are expected to be incorporated in **future phases**.

Significance of the App

- Enhanced Communication: Reduces language barriers for social, educational, and administrative interactions
- Preservation of Languages: Helps protect tribal languages and maintain cultural identity
- Access to Government Schemes: Enables communities to understand and utilize schemes delivered in Hindi or English
- **Educational Support:** Promotes mother tongue-based learning and digital literacy
- Healthcare Facilitation: Improves communication between healthcare providers and tribal populations
- Cultural Empowerment: Strengthens a sense of pride and inclusion for tribal communities

Linkage with National Policies

- National Education Policy (NEP 2020):
 Encourages mother tongue education
- Digital India Mission: Expands digital access and literacy
- UNESCO Decade of Indigenous Languages: Supports global efforts to preserve linguistic diversity

Challenges in Implementation

- Oral Traditions: Many tribal languages are primarily spoken, complicating digitization
- Risk of Misinterpretation: Potential for inaccurate or partial translations
- Limited Expertise: Scarcity of linguists and local contributors hampers development



 Digital Divide: Poor connectivity and limited device access in tribal regions reduce the app's reach

Conclusion

The **Adivani App** represents a major step toward **inclusive development**, linguistic preservation, and digital empowerment for India's tribal communities. By breaking communication barriers and fostering cultural pride, it strengthens access to education, healthcare, and government services while contributing to the protection of India's rich tribal heritage.

UDISE+ Report

Context

The UDISE+ 2024–25 report, released by the Ministry of Education, highlights persistent gaps in school infrastructure, digital access, teacher availability, and health facilities across India, emphasizing challenges to inclusive and quality education.

About UDISE+ 2024-25

Unified District Information System for Education Plus (UDISE+) is an annual national database covering school education from Grades I–XII. It collects data on:

- Infrastructure and facilities
- Enrolment and student demographics
- Teacher strength and training
- Digital readiness and ICT access
- Health and sanitation facilities
- Learning environment in government, aided, and private schools

Key Trends (2024-25)

Digital Divide

- 65% of schools have computers; only
 58% functional
- Internet access: 63% overall; government schools 58.6%, private schools 77.1%

Infrastructure

• Toilets: 98.6%

Hand-wash stations: 95.9%

Drinking water: 99%

Over 25,000 schools lack functional electricity

Enrolment Concerns

- **5.1% of schools** have fewer than 10 students
- Zero-enrolment schools prominent in:

Ladakh: 32.2%

Arunachal Pradesh & Uttarakhand:22%

Teacher Shortages

- Primary level PTR acceptable at 20:1
- Higher classes show shortages:

Jharkhand: 47:1

Maharashtra & Odisha: 37:1

• RTE norm: 30:1; NEP recommendation: 20–25:1

Teacher Training

National average: ~91% trained

 Lowest coverage: Meghalaya (Primary 72%, Upper-primary 80%)

Regional Variation

- South (Kerala, Tamil Nadu): near universal coverage of toilets and internet
- Eastern & NE states lag: West Bengal (18.6% internet), Meghalaya (26.4%)

Health Support

- Medical check-ups in 75.5% schools
- Low coverage: Bihar (32.7%), Nagaland (44.9%)

Conclusion

The UDISE+ 2024–25 report underscores that while India has made significant progress in school infrastructure and enrolment, critical regional disparities, digital gaps, and teacher shortages persist. Targeted interventions are essential to ensure equitable and quality education for all children.



Regulating Commercial Free Speech

Context

In August, 2025, the Supreme Court of India directed the Union government to frame guidelines for regulating social media, with a focus on commercialisation of free speech by influencers while safeguarding individual dignity and rights.

About the News

Background:

A non-profit organisation supporting **Spinal Muscular Atrophy (SMA)** patients filed an intervention application alleging that comedians on social media (including Samay Raina, Vipul Goyal, Balraj Paramjeet Singh Ghai, Sonali Thakkar, and Nishant Jagdish Tanwar) made **derogatory comments about SMA patients**.

Court Observations:

- Commercialisation of speech must not harm or demean vulnerable groups
- Guidelines should be developed in consultation with the National Broadcasters and Digital Association (NBDA)
- Regulations must address technological and communication evolution, not just isolated incidents
- Immediate action: Comedians were instructed to issue public apologies on YouTube and other platforms

Constitutional Framework on Free Speech

Article 19(1)(a): Guarantees the right to freedom of speech and expression
Article 19(2): Allows reasonable restrictions only on specific grounds:

- 1. Sovereignty and integrity of India
- 2. Security of the state
- 3. Friendly relations with foreign states
- 4. Public order
- 5. Decency or morality
- 6. Contempt of court
- 7. Defamation

8. Incitement to offences

Judicial Precedents:

- Shreya Singhal v. Union of India (2015):
 Section 66A struck down; annoyance or insult alone cannot criminalise speech
- Kaushal Kishore v. State of UP (2023): Article 19(2) grounds are exhaustive
- Imran Pratapgadhi Case (2025): Speech causing discomfort remains protected if Article 19(2) is not violated

Commercial Speech: Legal Evolution

- Hamdard Dawakhana v. Union of India (1959): Purely commercial advertisements are not protected under free speech
- Tata Press v. MTNL (1995): Commercial speech serving public interest may receive constitutional protection
- Suresh v. State of Tamil Nadu (1997):
 Commercial expression must balance
 private interests and societal welfare

Current Perspective:

 Distinguishes between speech advancing public interest versus speech serving only private gain

Challenges

- Current Framework: IT (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 under the IT Act, 2000
- Obligations: Platforms must prevent obscene, pornographic, or harmful content; influencers are subject to criminal laws
- Supreme Court Caution: Regulations must not infringe fundamental freedoms and should be carefully drafted
- Polyvocality Issue: Conflicting judicial interpretations create "patchwork jurisprudence", leaving discretionary power with judges (Gautam Bhatia)

Way Forward

Guidelines Drafting:

 Include stakeholders, digital media experts, civil society, and broadcasters



 Prevent commercial abuse of speech while protecting genuine expression

Awareness and Ethics:

Sensitise influencers about vulnerable groups and responsible communication

Technology Measures:

 Platforms can adopt Al-based content moderation, transparent grievance redressal, and user reporting mechanisms

Judicial Oversight:

 Courts must ensure regulations are reasonable under Article 19(2) and avoid arbitrary restrictions on free speech

Conclusion

The Supreme Court's intervention emphasises the balance between protecting vulnerable groups and safeguarding free expression. Developing robust, consultative guidelines will ensure responsible social media use without curtailing constitutional rights.

Telangana Reservation

Context

The **Telangana Assembly** has passed legislation providing **42% reservation for Backward Classes (BCs)** in local-body elections. Related Bills and an ordinance with similar provisions are currently **awaiting Presidential assent**.

Legislative Development

- Bills Passed:
 - Telangana Municipalities (Third Amendment) Bill, 2025
 - Telangana Panchayat Raj (Third Amendment) Act, 2025
- Purpose: Implement 42% reservation for BCs in local-body elections
- Pending Assent: Earlier Bills and ordinances with similar provisions remain under Presidential consideration

Constitutional and Judicial Context

• Indra Sawhney v. Union of India (1992):

- Total reservation for SCs, STs, and OBCs capped at 50%, except in extraordinary cases supported by scientific data
- Introduced the creamy layer principle for OBCs
- Implication for Telangana:
 - Reservation exceeding 50% may face judicial scrutiny

Basis for Reservation

- Telangana government relies on the Socio-Economic, Educational, Employment, Political, and Caste (SEEPC) Survey covering all households
- Survey intended to provide a scientific justification for increasing BC reservation

Procedural Aspect

- Article 200: Governor may reserve a State Bill for President's consideration
- Some Telangana Bills and an ordinance are pending Presidential approval
- Not all state laws require Presidential assent — only those reserved by the Governor

Conclusion

Telangana's legislation aims to **enhance BC representation** in local bodies, backed by
scientific surveys. However, the move surpasses
the **50% reservation ceiling**, making it potentially **subject to judicial review**.

Health Insurance in India

Context

Debate on India's Universal Health Care intensifies; Pradhan Mantri Jan Arogya Yojana and State Health Insurance Programs expand coverage, but critics warn of profit-driven care neglecting public health infrastructure.

Background

 Universal Health Care (UHC) was recommended by the Bhore Committee in 1946 but remains largely unrealised in India.



- 2. PMJAY and SHIPs have extended coverage to over 80% of the population.
- 3. Questions remain about the sustainability and long-term impact of these programs.
- 4. Equity and strength of India's public health system continue to be major concerns.

Growth of Health Insurance in India

- PMJAY (2018): Provides annual inpatient coverage of ₹5 lakh per household, reaching nearly 59 crore individuals in 2023–24.
- State Schemes (SHIPs): Parallel programs in most states cover a similar population with a combined budget of around ₹16,000 crore.
- Total Expenditure: Around ₹28,000 crore annually, growing at 8–25% in real terms between 2018–2024.
- Coverage vs Utilisation: Only about 35% of insured hospital patients actually used these schemes (HCES 2022–23).

Key Challenges in Health Insurance

Challenges in Health Insurance

- For-Profit Bias: ~2/3 of PMJAY funds go to private hospitals; weak regulation causes overcharging and unnecessary procedures.
- Neglect of Primary Care: Schemes focus on hospitalisation, diverting resources from rural clinics and preventive services.
- Utilisation Barriers: Beneficiaries often unaware of coverage; low reimbursements discourage private hospitals; marginalised groups face extra hurdles.
- Discrimination in Care: Public hospitals favour insured patients; private hospitals may prefer uninsured patients, creating inequities.
- Financial Strains & Provider Exit:

 Pending reimbursements exceed ₹12,000 crore; 600+ hospitals have exited due to delayed payments.

Structural Risks for UHC

Underfunded Public Health:
 Government health spending is just 1.3%

- of GDP (2022), compared to the global average of 6.1%.
- Profit-Driven System: Insurance programs strengthen private sector dominance without addressing quality gaps.
- Exclusionary Tendencies: Despite high coverage, out-of-pocket expenditure remains among the highest globally.

International Comparisons

- Thailand and Canada: Social health insurance is part of UHC but relies on non-profit providers, universal access, and strong regulation.
- India's Approach: Insurance is largely targeted, profit-oriented, and poorly regulated, unlike successful international models.

Policy Way Forward

- Strengthen Public Health
 Infrastructure: Expand primary health
 centres, diagnostics, outpatient services,
 and rural health workforce; prioritise
 preventive care.
- Regulate Private Sector: Implement standard treatment protocols, price caps, and strict monitoring of empanelled hospitals.
- Improve Utilisation & Awareness:
 Conduct community outreach, digital literacy campaigns, and simplify claims and grievance redressal.
- Ensure Financial Sustainability:
 Guarantee timely reimbursements and consider direct public funding instead of relying solely on insurance intermediaries.

Move Toward True UHC

- Increase public health spending to 2.5% of GDP (National Health Policy 2017 target).
- Transition from insurance-driven patchwork to publicly funded, universally accessible healthcare.

Conclusion

While PMJAY and SHIPs provide immediate relief to millions, they risk institutionalising a profit-



driven, hospitalisation-heavy system. Achieving true Universal Health Coverage requires substantial investment in primary care, stricter regulation of private providers, and equity-focused reforms. Without these, health insurance acts as a temporary solution rather than a long-term cure for India's healthcare challenges.

Women Judges in the Supreme Court

Context

As of August 2025, India's Supreme Court has only one woman judge out of 34; historically 11 women appointed, with no long-term Chief Justice, and limited caste and religious diversity.

About the Issue

The underrepresentation of women in the Supreme Court has multiple dimensions:

- Gender Imbalance and Lack of Diversity: Limits perspectives and inclusiveness in judicial decision-making.
- Opaque Collegium System:
 - Judicial appointments are made by the Collegium (CJI and four seniormost judges).
 - The process lacks transparency, with no public disclosure of criteria, leading to accusations of favouritism.
- Scant Appointments: Women are rarely appointed directly from the Bar, and male advocates are often prioritised.
- Late Appointments: Women are often elevated at older ages, resulting in shorter tenures and fewer opportunities to become Chief Justice.

Why More Women Judges are Needed

- Fairness and Diversity: Increases inclusivity and enhances the quality of justice.
- **Public Trust**: A diverse judiciary boosts societal confidence in the court system.
- Gender-Sensitive Judgments: Women judges bring perspectives that improve rulings in cases involving gender, family, and labour laws.

 Inspiration: Presence of women judges motivates other women to pursue legal careers.

Proposed Solutions

- Gender Quota: Implement formal criteria for gender representation in judicial appointments.
- Transparent Collegium Process: Make appointment procedures publicly accessible and clearly defined.
- Direct Elevations: Promote qualified women lawyers directly from the Bar to higher judicial positions.
- Retention Policy: Develop comprehensive strategies to retain and advance women within the judiciary.
- National Judicial Appointments
 Commission (NJAC): Previous attempts
 to include government and opposition
 representation were struck down as
 unconstitutional, but the need for balanced
 input remains.

Significance

Increasing women's representation in the Supreme Court:

- Improves decision-making and judicial quality.
- Enhances fairness and equity in the legal system.
- Strengthens public confidence in the judiciary.
- Encourages gender-sensitive and inclusive judgments.
- Serves as a role model for aspiring women lawyers.

Challenges

- **Collegium System:** Non-transparent and criticised for favouritism.
- Low Appointment Rates: Women face slower career progression and short tenures.
- Lack of Diversity: Minimal representation of SC/ST and minority women.

Conclusion



Addressing the low representation of women in India's Supreme Court is crucial for fairness, inclusivity, and public trust. Transparent appointment processes, targeted policies, and active promotion of women from the Bar can strengthen diversity and ensure that the judiciary better reflects society.

Coral Reefs

Context

A recent study in the Maldives, using coral microatolls, has traced sea-level changes over the past 90 years. The research shows that sea levels in the Indian Ocean began rising in the late 1950s, much earlier than previously documented.

Key Aspects of the Issue

Sea-Level Rise in the Indian Ocean

- Current Trend: Average rise of approximately 3.3 mm per year, above the global mean.
- **Half-Century Increase:** Sea levels have risen by 30–40 cm over the last 50 years.
- Rate Acceleration:
 - 1930–1959: 1–1.84 mm/year
 - 1960–1992: 2.76–4.12 mm/year
 - 1990–2019: 3.91–4.87 mm/year

Coral Reefs and Their Vulnerability

- Light Dependence: Rising seas reduce light availability, causing stress to corals and triggering bleaching events.
- Environmental Pressures: Ocean warming, acidification, coastal erosion, and changing tidal patterns.
- Climatic Links: Coral bleaching often coincides with El Niño events and negative phases of the Indian Ocean Dipole.

Coral Microatolls in Research

- Definition: Flat, disk-shaped corals that grow sideways when vertical expansion is limited by tides.
- Function: Act as natural recorders of historical sea-level changes.

- Methodology: Uranium-thorium dating combined with growth band analysis (similar to tree rings) provides precise, long-term records.
- **Benefit:** Deliver high-resolution sea-level data in geologically stable regions.

Findings from the Study

- Sea-level rise started decades before tidegauge records indicated.
- Regional Variation:
 - Central Indian Ocean: Rise began earlier with stronger acceleration.
 - Coastal Indian Ocean:
 Acceleration observed more recently.
- Drivers: Changes in oceanic and atmospheric circulation, including intensified westerlies in the Southern Hemisphere, increased ocean heat absorption, and shifts in the Intertropical Convergence Zone (ITCZ).

Implications for Island Nations

- High-Risk Areas: Maldives, Lakshadweep, and the Chagos Archipelago.
- Threats: Land submergence, biodiversity loss, infrastructure damage, and potential displacement of populations.
- Value of Historical Data: Helps governments plan effective climate adaptation measures.

Way Forward

- Expand coral microatoll monitoring across the Indian Ocean to improve long-term sea-level understanding.
- Strengthen adaptation strategies for island nations, including coastal protection and strategic relocation planning.
- Enhance international collaboration on climate finance, technology transfer, and resilience-building initiatives.
- Incorporate regional sea-level histories into global climate models, such as IPCC projections, to improve accuracy.



Rising sea levels threaten coral reefs and island nations. Understanding historical trends through coral microatolls is vital for effective adaptation, resilience planning, and safeguarding ecosystems and vulnerable coastal communities.

Education Exemption for Minority Schools

Context

The Supreme Court is reconsidering the 2014 Pramati judgment, which exempted minority schools from RTE provisions, highlighting the tension between minority autonomy and children's right to inclusive, equitable education.

Background

- Right to Education Act (2009):
 Operationalizes Article 21A, ensuring free and compulsory education for children aged 6–14.
- Government schools: Free education for all children.
- Aided schools: Must provide free seats proportional to government aid.
- Private unaided schools: Required to reserve 25% of entry-level seats for disadvantaged children (Section 12(1)(c)).
- Sets norms for pupil-teacher ratios, infrastructure, teacher eligibility, and prohibits corporal punishment and capitation fees.
- Designed to promote equality, social justice, and inclusive classrooms.
- 2014 Pramati Judgment: Constitution
 Bench exempted minority institutions from
 RTE provisions, citing Article 30(1). This
 granted aided and unaided minority
 schools complete immunity, weakening
 the inclusion mandate of RTE.

Challenges from the Exemption

- 1. Misuse of minority status by private schools to bypass RTE rules
- Example: Several unaided private schools in Maharashtra and Karnataka obtained minority status primarily to avoid reserving

- 25% of seats for disadvantaged children, limiting inclusivity.
- 2. Reduced access for disadvantaged children to quality education
- Example: In cities like Bengaluru and Pune, economically weaker students struggle to gain admission to reputed minority-run schools, despite RTE mandates, restricting access to better resources.
- 3. Regulatory loopholes undermining Article 21A's universal character
- Example: Schools claiming minority status often escape inspections and enforcement of RTE norms, as seen in some Delhi and Hyderabad schools, weakening the right to free and compulsory education.

About Supreme Court recent observations

- A two-judge bench led by Justice Dipankar Datta noted that Pramati "went too far" in granting blanket immunity.
- Emphasized that Articles 21A and 30 must coexist, and children's rights cannot be compromised.
- Suggested a **case-by-case approach** for the 25% quota in minority schools.
- Warned that blanket exemptions erode inclusivity and weaken RTE's intent.

Way Forward

- **Judicial Rebalancing:** Larger bench to harmonize Articles 21A and 30; clarify that autonomy does not mean exemption.
- Policy Measures: Ensure minimum teacher qualifications and infrastructure norms across all institutions; adapt quotas to prioritize disadvantaged children.
- Strengthen Public Education: Invest in quality government schools to reduce over-reliance on minority/private institutions.
- Promote Diversity: Encourage socioeconomic mixing, democratic classroom culture, and public awareness campaigns.

Conclusion

Exemption of minority schools from RTE is a



critical test of India's constitutional morality.
Ensuring **inclusive**, **equitable education** must take precedence over institutional privileges. The Supreme Court has an opportunity to reaffirm that education is a **universal right**, harmonizing minority autonomy with the child's right to learn.

Green Energy Paradox

Context

India faces a "green energy paradox": despite having 44 GW of renewable energy (RE) ready for deployment, weak demand, lack of Power Purchase Agreements (PPAs), and systemic barriers leave it underutilised.

About the Paradox

The paradox arises when RE capacity exists but cannot be absorbed due to financial, policy, or grid-related constraints.

Current Status:

- Coal Dependency: Coal and lignite still supply ~79% of energy (FY23).
- Low RE Share: Excluding large hydro, renewables contribute just 3.8% of domestic production.
- **Import Dependence:** India imports over 85% of oil and 50% of gas.
- Idle RE Capacity: 44 GW renewable projects ready but stranded without PPAs.
- Reliability Deficit: SAIDI ~600 mins/year vs. Thailand (35) and Malaysia (46).

Dimensions of the Paradox

1. Supply-Side Readiness

- 44 GW RE projects built but underutilised due to missing PPAs.
- Global solar/wind costs are declining, but India's tariffs remain high due to policy and financing barriers.
- Government incentives: PLI (Production-Linked Incentive) and VGF (Viability Gap Funding).
- Storage-backed RE (battery/pumped hydro) costly: ₹6.6–₹9/unit.

2. Demand-Side Weaknesses

- Discoms prefer coal PPAs for cost predictability.
- Grid integration costs for variable RE are high.
- Smart meters and demand-response systems largely absent.
- Slow electrification of EVs, cooking, and industrial processes limits RE demand.

Barriers to RE Integration

- Structural: Weak discom finances, no nationwide smart grids.
- **Environmental:** Coal lock-in, idle RE delays emission reductions.
- **Economic:** High capital costs, costly storage, reliance on imports.

Initiatives Taken

- National Solar Mission & Hybrid Policy: Expand solar and wind-solar blending.
- PLI for Batteries & India
 Semiconductor Mission: Promote domestic storage and electronics.
- Renewable Purchase Obligations (RPOs) & Green Open Access Rules
 2022: Mandate renewable procurement, allow direct industrial access.
- National Green Hydrogen Mission: Hydrogen as clean fuel and long-term storage.

Way Forward

- Enhance Storage Ecosystem: Scale VGF, encourage pumped hydro and domestic batteries.
- Accelerate Demand Electrification: Promote EVs, electric cooking, and industrial electrification.
- Smart Grid & Market Reforms: Deploy smart meters, adopt market-based RE dispatch.
- Discom Reform: Financial restructuring, cost-reflective tariffs, reduce political interference.
- Differentiated RPO Trajectories: Statespecific targets aligned with grid and resource capacity.



India's green energy paradox shows that generation alone is insufficient. RE utilisation requires storage, flexible grids, demand-side adoption, and discom reforms. Aligning green growth with affordability, reliability, and climate goals is critical for a sustainable energy transition.

Vulture Conservation

Context

Vultures, once abundant in India, are rapidly declining. As key scavengers, they prevent disease spread by consuming carcasses, but face threats from veterinary drugs, habitat loss, and food scarcity despite conservation efforts.

Ecological Importance of Vultures

- Called "giddh" in Hindi, vultures act as nature's clean-up crew by quickly removing dead animal remains.
- This service minimizes the risk of diseases such as anthrax, rabies, and plague, which can spread when carcasses decay openly.
- A decline in vulture numbers slows carcass decomposition, increases disease outbreaks, and heightens conflicts between humans and other scavengers like stray dogs.

IUCN Red List Status

- Critically Endangered: White-rumped Vulture, Indian Long-billed Vulture, Slender-billed Vulture, Red-headed Vulture.
- Endangered: Egyptian Vulture.
- Near Threatened: Himalayan Griffon.
- Least Concern: Indian Griffon.

India's Only Vulture Sanctuary

 Ramadevarabetta Vulture Sanctuary, Karnataka – the country's first and only dedicated sanctuary for vulture protection.

Population Decline in India

India is home to nine species of vultures.

- Populations have plummeted sharply: from about 40 million in the 1990s to a reduction of around 99% by the early 2000s.
- By 2015, the population had fallen below 20,000, with states like Rajasthan reporting massive losses.
- Current figures suggest the decline is still continuing.

Causes of Decline

- 1. Veterinary Medicines
 - Drugs such as diclofenac, aceclofenac, nimesulide, and ketoprofen, used for livestock treatment, remain the biggest threat.
 - Vultures feeding on treated carcasses ingest these residues. Diclofenac in particular causes kidney failure and death within hours.

2. Other Threats

- Loss of nesting sites due to deforestation and habitat change.
- Electrocution and collisions with hightension power lines.
- Decline in availability of safe food sources.

Awareness Initiatives

 International Vulture Awareness Day – observed on the first Saturday of September every year to stress the importance of vulture conservation.

Conservation Efforts in India

- Vulture Conservation and Breeding Centres: Set up in Haryana, West Bengal, Madhya Pradesh, and Assam.
- Ban on Diclofenac (2006): Alternative drugs like *meloxicam* promoted as safe options.
- Vulture Safe Zones (VSZs): Established in states like Assam, MP, and UP, focusing on reducing drug use and creating safe habitats.
- Vulture Conservation Portal (Assam):
 Platform developed by Vulture Foundation



- India for collaboration among researchers and conservationists.
- National Action Plan (till 2025): Emphasizes creation of safe zones, captive breeding, and awareness campaigns.

Strengthening conservation through safe drug alternatives, habitat protection, awareness, and breeding programmes is essential to revive vulture populations, ensuring ecological balance, public health security, and the preservation of India's natural scavengers.

GST Reforms 2025

Context

India introduced GST in 2017 to unify multiple indirect taxes under "One Nation, One Tax." New reforms from September 2025 further streamline GST, enhancing simplicity, efficiency, and fairness in the tax system.

GST Evolution and Structure

- Pre-GST Scenario:
 - India's tax regime was fragmented, with various indirect taxes complicating compliance for businesses and customers.
- Launch of GST (2017):
- GST unified taxes nationally, initially using five major slabs: 0%, 5%, 12%, 18%, and 28%.
- Necessities (e.g., milk, salt) fell in the 0% category; luxury products (cars, air conditioners) attracted the highest rate (28%).

New Rates (from September 2025):

- Approved in the 56th GST Council meeting.
- The revised GST structure centers on two key rates—5% and 18%.
- The 12% and 28% slabs are discontinued.
- 0% is retained for tax-exempt items.

 A new 40% rate is introduced for top-end luxury products (like elite vehicles, helicopters); inclusion of tobacco and pan masala is under review.

Functioning of the GST Council

- The GST Council operates under Article 279A, led by the Union Finance Minister (currently Nirmala Sitharaman).
- State finance ministers also participate, ensuring that decisions reflect consensus through a voting mechanism.
- The Central Government holds one-third of voting power; states together hold two-thirds.
- This reflects the weighted voting system in the GST Council, requiring at least 75% majority of weighted votes to pass decisions.

Highlights of Rate Adjustments

Essentials:

- Personal care products (hair oil, toothpaste, shampoo, etc.) are now taxed at 5%, down from 18%.
- Dairy items such as butter, cheese, and ghee moved from 12% to 5%.

Agriculture:

• Inputs and parts for tractors, as well as irrigation equipment, now taxed at 5%.

Healthcare:

- Health insurance, study materials (books, maps, pencils, etc.) are now tax-free (0%).
- Thermometers and medical oxygen dropped to 5%.

• Vehicles & Appliances:

- Hybrid and petrol/diesel vehicles move to 18% (from 28%).
- Electric vehicles stay at 5%.
- Cement, TVs, ACs, and LCD/LED screens now at 18%.

Infrastructure:



 Cement's GST reduced from 28% to 18%.

Revenue Implications

- The government projects a reduction in tax collections by ₹48,000 crore due to lowered rates.
- Increased consumer spending, stemming from lower prices (Buoyancy Effect), may compensate for potential revenue gaps.

Drivers of Reform

- Simplification: Fewer slabs make GST easier to administer and understand.
- Ease for Consumers: Commodities and necessities become more affordable or fully tax-exempt.
- Sectoral Growth: Sectors such as agriculture, infrastructure, and consumer goods may see increased activity due to lower input costs.
- Luxury Taxation: The new 40% slab targets high-end goods for additional revenue.

Potential Issues

- Fiscal Strain: Lower GST collections may pressure the fiscal deficit.
- State Revenues: Phasing out the compensation cess could pinch state budgets.
- Business Adaptation: Enterprises require time to update systems and adapt to new rates.
- Zero-Rating Concerns: Extensive zerorating (taxing many items at 0%) could further challenge revenue collection.
- Risk of Illicit Trade: High rates on select luxury goods may incentivize black market activity.
- Administration: Defining and regulating the 40% premium slab could be complicated.

Conclusion

The 2025 GST reforms aim to simplify taxation, support consumers, and boost industries, but careful management is crucial to address revenue

challenges and ensure smooth implementation across all sectors for balanced growth.

Election Commission of India (ECI)

Context

The Supreme Court recently directed the Election Commission of India (ECI) to allow Aadhaar as the 12th "indicative" document for identity proof during the special revision of electoral rolls in Bihar, highlighting ongoing electoral reforms.

Constitutional Status and Authority

- The Election Commission of India (ECI) is a permanent and autonomous constitutional authority.
- It is established under Articles 324 to 329 of the Indian Constitution.

The ECI is responsible for conducting free and fair elections for:

- Parliament (Lok Sabha and Rajya Sabha)
 - State Legislatures
 - President and Vice President of India

Note: Elections for local bodies (municipalities and panchayats) are conducted by separate State Election Commissions.

Key Constitutional Provisions

- Article 324 grants the ECI power to oversee the preparation of electoral rolls and conduct of elections.
- Article 325 prohibits discrimination in electoral inclusion on the basis of religion, race, caste, or sex.
- Article 326 establishes adult suffrage for elections to Lok Sabha and State Assemblies.
- Articles 327 and 328 empower Parliament and State legislatures respectively to enact laws on electoral matters.
- Article 329 bars courts from intervening in electoral proceedings, ensuring smooth election conduct.

Functions of ECI

The ECI has Advisory, Quasi-Judicial, and Administrative roles:



- Advisory role involves guiding the President or Governors on disqualification of elected members found guilty of corrupt practices.
- Quasi-Judicial powers include disqualification of candidates failing to file expense reports, recognition and derecognition of parties, and enforcing the Model Code of Conduct.
- Administrative responsibilities encompass delimiting constituencies, updating voter lists, announcing election schedules, scrutinizing nominations, managing polling, and ensuring free and fair elections.

Composition

Initially 1 member, now **3 members** (CEC + 2 Election Commissioners).

- Appointments by President, tenure like Supreme Court judges, decisions by majority vote.
- CEC removal follows parliamentary procedure like Supreme Court judges.

Conclusion

The Election Commission of India, as the sentinel of electoral integrity, plays an indispensable role in nurturing democracy by ensuring that elections are conducted fairly, impartially, and inclusively, thus upholding the constitutional mandate and sustaining the true spirit of India's sovereign democratic republic.

Maternal Mortality Rate (MMR)

Context

Kerala's maternal mortality ratio (MMR) has shown a concerning rise from 18 to 30 deaths per 100,000 live births during 2021-2023, according to the latest Sample Registration System bulletin.

Definition

MMR measures the number of maternal deaths per 100,000 live births due to pregnancy-related complications.

Recent trend

The Maternal Mortality Ratio (MMR) in India declined to 93 per lakh live births in 2019-21 from 97 in 2018-20, and 103 in 2017-2019, according to the latest data released by the Office of the

Registrar General and Census Commissioner of India.

Current Trends and Regional Disparities

Despite the overall decline in India's MMR, certain states continue to report alarmingly high maternal death rates. The highest MMR figures were recorded in:

Madhya Pradesh: 175

• Assam: 167

Uttar Pradesh: 151

Odisha: 135

Chhattisgarh: 132West Bengal: 109

Haryana: 106

Major Causes of Maternal Death

- Global maternal deaths: Over 700 women/day due to preventable pregnancy and childbirth causes (WHO, 2023).
- Frequency: Nearly every 2 minutes a maternal death occurs worldwide.

Key factors in India:

- Pregnancy and childbirth complications
- Unsafe abortions
- Delayed or lack of medical care
- Limited access to skilled healthcare professionals

High-risk regions: Low- and lower-middle-income countries, including parts of India, account for >90% of maternal deaths.

Government Initiatives

www.raceias.com

- India's progress in reducing MMR can be attributed to various flagship programs and healthcare initiatives, including:
- Pradhan Mantri Surakshit Matritva
 Abhiyan (PMSMA): Providing quality
 antenatal care to pregnant women on a
 fixed day every month.
- Janani Suraksha Yojana (JSY): Promoting institutional deliveries to ensure safe childbirth.



- Ayushman Bharat Health and Wellness Centres: Providing comprehensive primary healthcare services, including maternal and child health services.
- POSHAN Abhiyaan: Focused on improving nutritional outcomes for pregnant women and children.

Addressing maternal mortality remains vital for societal progress. Integrated healthcare access, community engagement, and aligned public policies will pave the way for safer motherhood, contributing to healthier future generations and sustainable national development.

Foreign Portfolio Investment (FPI)

Context

India remains the world's fastest-growing major economy, posting robust GDP growth of 7.4% and 7.8% in early 2025. However, foreign capital inflows, particularly through Foreign Portfolio Investments (FPI), have not fully reflected this economic momentum.

Definition and Features

FPIs are investments by foreign individuals or entities in the financial assets of a country such as stocks, bonds, mutual funds, and other securities without gaining control over the companies invested in. They seek short- to medium-term capital gains and returns.

Distinction from Foreign Direct Investment (FDI)

- FPIs are passive investors concerned with financial returns, lacking management control, and are more volatile, often called "hot money."
- FDIs involve acquiring lasting business interests, establishing operations, or exerting managerial control, making them stable and long-term commitments.

Regulation

Regulators: India regulates Foreign Portfolio Investors (FPIs) through **SEBI** and **RBI**.

 SEBI's role: Governs registration, investment limits, reporting, and

- compliance under FPI Regulations, 2019.
- RBI's role: Monitors foreign exchange and capital movement related to FPIs.

Significance

- Market Impact: FPIs enhance liquidity and deepen capital markets, aiding domestic firms and governments in raising funds
- Foreign Exchange: They bring foreign capital inflows, signaling global confidence in India's economy.
- Risks: FPIs' volatile investments can trigger sudden stock market and currency fluctuations
- Long-term Investment Potential: FPIs can encourage structural reforms and better corporate governance in Indian companies due to their focus on sustainable returns and adherence to global investment standards.

Conclusion

Foreign Portfolio Investment is a vital but volatile capital source that enhances market efficiency and global integration. Sound regulation and macroeconomic stability are essential for maximizing benefits while mitigating risks from sudden capital flow reversals, ensuring sustainable economic growth.

National Human Rights Commission (NHRC)

Context

The National Human Rights Commission (NHRC) recently issued a notice to the Madhya Pradesh government following the deaths of two infants from rat bites at Indore's government-run hospital, underscoring its role in safeguarding human rights.

Establishment and Legal Status

- Purpose: Formed to implement commitments from the Vienna Declaration.
- The NHRC was set up in 1993 under the Protection of Human Rights Act, 1993.



- Nature: It is a statutory and autonomous body.
- Function: Works to protect and promote human rights across India.
- Jurisdiction: Operates at both central and state levels.

Composition

- Chairperson (usually a retired Chief
 Justice of India or Supreme Court Judge)
 and up to four members.
- Members: Include retired judges and experts in human rights.
- Appointment: Done by the President of India to ensure credibility, expertise, and impartiality.

Appointment Process

- Selection Committee: Chaired by the Prime Minister.
- Members: Include Speaker of Lok Sabha, Home Minister, and Leaders of Opposition.
- Purpose: Ensures bipartisan representation and transparent appointments.

Tenure and Conditions

- Tenure: Chairperson and members serve for 3 years or until 70 years of age, whichever comes first.
- Reappointment: Eligible for reappointment after term completion.
- Post-tenure restriction: Cannot take further employment with Central or State governments.

NHRC Performance

The NHRC has actively engaged in addressing a wide range of human rights issues across India. Its efforts aim to promote and protect the rights of various marginalized groups and ensure adherence to human rights standards. Some notable issues taken up by the Commission include:

- Abolition of Bonded Labour
- Abolition of Child Labour
- Rights of the Disabled Persons

- Rights of Persons Affected by HIV / AIDS
- Steps to Check Custodial Deaths, Rape and Torture, etc.

NHRC Challenges:

- Delayed Appointments: Late appointment of Chairperson and members hampers timely action.
- Accreditation Issues: GANHRI deferred NHRC's accreditation due to lack of transparency and poor representation of women and minorities.
- Non-Binding Recommendations: NHRC can only recommend actions; it cannot enforce them.
- No Punitive Power: Cannot punish violators or directly provide relief to victims.
- Limited Investigative Authority: Relies on state and central agencies, risking bias in cases involving government actors.

Way Forward:

- Grant Enforcement Powers: Empower NHRC to enforce its recommendations for better compliance.
- Expand Investigative Authority: Allow independent investigation of cases involving armed forces and non-state actors.
- Time-bound Investigations: Set deadlines for investigations to ensure swift justice.
- Increase Financial Autonomy: Provide a dedicated budget independent of government control.
- Diverse Composition: Include civil society members, human rights activists, and experts to improve credibility.

Conclusion

The NHRC stands as a vital guardian of human rights in India, balancing investigative powers and advocacy amidst limitations. Strengthening its capabilities and public outreach is essential for ensuring justice, dignity, and protection for all citizens, reinforcing the democratic fabric.



VICE PRESIDENT OF INDIA

Context

Maharashtra Governor **C.P. Radhakrishnan** was elected the 17th Vice-President of India by a margin of **152 votes**. About **98.2% of the total electorate**, consisting of members of both Houses of Parliament, participated in the election. The Opposition fell short of its expected tally.

Vice President of India

The Vice President is the **second-highest constitutional authority** in India after the President. The position plays a key role in **legislative functioning and governance**.

Key Roles:

- Serves as Chairperson of the Rajya Sabha (Council of States), presiding over its sessions.
- Maintains order, decorum, and decides points of order in the House.
- Acts as President in case of resignation, death, removal, or inability of the President to discharge duties.

Election Process:

- Elected by an electoral college consisting of members of both Houses of Parliament through proportional representation with a single transferable vote.
- Members of State Legislative
 Assemblies do not participate in this election.

Eligibility Criteria:

- Must be a citizen of India.
- Must be 35 years or older.
- Should be eligible for Rajya Sabha membership.
- Cannot hold **any office of profit** under the central, state, or local governments.

Procedure for Removal of Vice-President

 The Vice President's powers are derived from Article 63 of the Constitution, while Article 64 establishes the ex-officio role as Chairperson of the Rajya Sabha.

- Article 67 outlines the removal procedure:
 - Can resign by submitting a resignation to the President.
 - Can be removed by a resolution passed by a majority in the Rajya Sabha, followed by approval in the Lok Sabha.
 - A 14-day prior notice is required before moving such a resolution.

No-Confidence Motion Context:

- Improbable during short parliamentary sessions (e.g., Winter Session ending Dec 20).
- Historical precedent: In 2020, a motion against the Deputy Chairperson was rejected due to inadequate notice.
- Even if moved, opposition lacks sufficient numbers to pass such motions.
- Constitutional resolution does not lapse with prorogation; it can be taken up in the next session.

Vice President's Role in Motion Proceedings

- The Vice President cannot preside over a motion concerning their own removal.
- In such cases, the Deputy Chairperson presides.
- If the Deputy Chairperson is unavailable, another member designated under Rajya Sabha rules may preside.
- Ensures impartiality and fairness in the process.

Constitutional Provisions of the Vice President

Article	Provision	Details
63	Office of the Vice President	Establishes the position of Vice President
64	Ex-officio Chairperson of Rajya Sabha	Presides over Rajya Sabha; votes only in case of a tie
		D 46 - (70

RACE IAS

65	Acting as President	Assumes President's duties temporarily; cannot serve as Chairperson during this period
66	Election of Vice President	Elected by members of both Houses through secret ballot and proportional representation

term; can resign

Term and Removal

term; can resign or be removed by a resolution of both Houses

Serves five-year

Eligibility Recap:

67

- Citizen of India
- Minimum 35 years old
- Eligible for Rajya Sabha membership
- Cannot hold any office of profit under the government

GREAT NICOBAR ISLAND PROJECT

Context

The Union government requested a factual report from Andaman and Nicobar administration after the Tribal Council alleged 13,000 hectares were diverted for the ₹81,000-crore Great Nicobar Island Project without settled forest rights.

The Great Nicobar Island Project

The Great Nicobar Island Project is a **major infrastructure development initiative** aimed at transforming Great Nicobar Island into a **strategic and economic hub** in the Indian Ocean.

Key Components:

Deep-draft International Container
 Transshipment Terminal at Galathea
 Bay to facilitate global trade and reduce dependency on foreign ports.

- International Airport capable of handling wide-bodied aircraft to boost tourism and strategic connectivity.
- Gas- and Solar-based Power Plant providing sustainable and reliable energy for growing infrastructure needs.
- Modern Township with residential, commercial, and recreational facilities to accommodate the workforce and population influx.

Strategic and Economic Importance:

- Located near the Malacca Strait, one of the world's busiest shipping lanes, enhancing India's strategic presence in the Indian Ocean.
- Expected to stimulate the local economy, create jobs, attract investments, and promote tourism.
- Improved connectivity through the port and airport will integrate Great Nicobar into regional and global trade networks.

Environmental and Social Considerations:

- Concerns over impact on biodiversity, including endangered species unique to the island.
- Potential effects on indigenous communities, primarily the Nicobarese and Shompen tribes, whose rights and livelihoods require protection.
- Emphasis on renewable energy and ecofriendly practices to balance development and conservation.

About Great Nicobar

Great Nicobar is the **largest island** of the Nicobar Islands, part of the Union Territory of Andaman and Nicobar Islands. It is located near the **western entrance of the Malacca Strait**, a vital maritime route for international trade.

Key Features:

- Situated at the southern end of the Nicobar Islands, approximately 1,280 km from mainland India.
- Diverse landscapes: dense tropical rainforests, hilly terrain, and coastal



- **areas**, with Mount Thullier as the highest point (642 m).
- Rich biodiversity under the Great
 Nicobar Biosphere Reserve, hosting
 endemic and endangered species like the
 Nicobar megapode, Nicobar tree shrew,
 and saltwater crocodile.
- **Sparsely populated** by indigenous tribes (Nicobarese and Shompen) and settlers.
- Strategic location enhances India's maritime security, with Indian military installations monitoring the Indian Ocean Region.

Strategic Importance

- The Bay of Bengal and Indian Ocean are crucial for India's security and maritime interests, particularly amid Chinese naval expansion.
- Concerns over Chinese activities in key Indo-Pacific chokepoints (Malacca, Sunda, Lombok) and construction on Coco Islands, Myanmar.
- Military upgrades on Andaman & Nicobar Islands include modern airfields, jetties, logistics facilities, and surveillance systems.
- Ensures deployment readiness of warships, aircraft, missile batteries, and troops, maintaining surveillance and strategic control over the region.

Environmental Concerns

- Opposition exists due to potential ecological threats, including deforestation of nearly 1 million trees, coral reef damage, and threats to species like Nicobar Megapode and leatherback turtles.
- Impacts on Shompen tribe, a vulnerable tribal group with a population of a few hundred individuals.
- Seismic risks highlighted: The area experienced 15 feet subsidence during the 2004 tsunami.
- Tribal council withdrew no-objection certificate for 160 sq km forest diversion, citing inadequate consultation.

 National Green Tribunal (NGT) formed a high-power committee to review clearances; report submission remains unclear.

Conclusion

The Great Nicobar Island Project, while strategically and economically significant, must balance development with environmental protection and tribal rights, ensuring sustainable growth, biodiversity conservation, and the well-being of indigenous communities.

India, Iran and Global Order

Context

Amid the weakening of Western-led dominance, discussions on multipolarity emphasise the civilisational roles of India and Iran in promoting a just and equitable global order, particularly for the Global South.

Crisis in the Global Order

- Decline of Western Dominance: Longstanding hegemony based on financial systems, technological monopoly, and control over global institutions is losing effectiveness.
- Indicators of Crisis: Violations of international law, frequent trade wars, weakening multilateralism, and ecological degradation reflect systemic instability.
- Role of Emerging Powers: Global South countries are asserting independence by developing indigenous models, advancing self-reliance in science and defence, and resisting external domination.

Civilisational Role of India and Iran

- Shared Heritage: India, the world's oldest continuous civilisation, and Iran, with its rich cultural legacy, historically promoted peace, diversity, and resilience against aggression.
- Modern Contributions: India's leadership in the Non-Aligned Movement and Iran's oil nationalisation and revolution exemplify resistance to external control and defence of sovereignty.



 Common Values: Peace, spirituality, and respect for nature remain guiding principles to address contemporary structural violence, social collapse, and environmental crises.

Pathways for Cooperation

- Strategic Projects: The International North-South Transport Corridor (INSTC) acts as a civilisational bridge linking Eurasia, India, Africa, and West Asia, enhancing connectivity and stability.
- Multilateral Platforms: Frameworks like BRICS offer opportunities for dedollarisation, equitable trade, and alternatives to sanctions, strengthening South-South cooperation.
- Towards a Just Order: By advocating international law, resisting unilateral interventions, and supporting sovereignty movements such as Palestine, India and Iran can help build a participatory and humane global order.

Conclusion

India and Iran, leveraging their civilisational heritage and strategic cooperation, can guide the Global South towards a multipolar, just, and resilient world order, balancing sovereignty, development, and environmental stewardship.

The 130th Amendment Bill

Context

The 130th Amendment Bill mandates automatic removal of Ministers, including PM/CMs, after 30 days' custody for serious offences, raising debates on accountability, constitutional overreach, due process, and political misuse risks.

Key Features of the 130th Amendment Bill

- Ministers at the Central and State levels, including the Prime Minister, Chief Ministers, and Union/State Ministers, will be removed automatically after being in custody continuously for 30 days.
- The provisions apply uniformly across the Centre, States, Delhi, Puducherry, and Jammu & Kashmir.

• Removal procedure:

- Union Ministers can be removed by the President on the advice of the Prime Minister.
- State Ministers can be removed by the Governor on the advice of the Chief Minister.
- Delhi Ministers can be removed by the President on the advice of the Chief Minister.
- The Prime Minister and Chief Ministers themselves must resign by the 31st day of continuous custody or will be deemed to have ceased holding office.
- This does not impose permanent disqualification; reappointment is allowed after release from custody.

Grounds for Removal

- Applies only to serious offences punishable with imprisonment of five years or more.
- Continuous detention for 30 days triggers removal.

Constitutional and Legal Concerns

- Basic Structure Doctrine: The amendment could affect the parliamentary system and rule of law principles as upheld in Kesavananda Bharati (1973).
- Conflict with Existing Laws: The Representation of the People Act, 1951 only disqualifies elected officials postconviction, not during custody or arrest.
- Right to Life and Personal Liberty (Article 21): Equating mere custody with guilt undermines fair trial rights as interpreted in Maneka Gandhi (1978) and A.R. Antulay (1988).
- Cabinet Responsibility: Concentrating removal decision-making power on the PM/CM undermines the collective responsibility principle (S.R. Bommai, 1994).
- Potential for Political Abuse: Agencies like the Enforcement Directorate (ED) and Central Bureau of Investigation (CBI) could be misused, since custody often



extends beyond 30 days under strict bail laws.

Impacts

- Risk of governance instability due to frequent removal of Ministers.
- Political opponents may be jailed strategically to force removals without reaching court verdicts.
- The public's electoral choices may be undermined.
- Increased burden on courts through challenges to removals.
- Voluntary political accountability may decline if replaced by automatic legal compulsion.

Way Forward

- Link ministerial removal to formal framing of charges rather than mere custody.
- Provide for judicial review of removal orders within a strict timeframe.
- Ensure that removal decisions are made collectively by the Cabinet rather than unilaterally by the PM or CM.
- Introduce independent oversight, such as by a Lokpal or Ethics Commission, to prevent political vendetta.
- Encourage the tradition of voluntary resignations to uphold moral politics, inspired by examples like Lal Bahadur Shastri's resignation in 1956.

Conclusion

The 130th Amendment Bill seeks to strengthen political accountability by disallowing Ministers facing serious charges to remain in power. However, treating custody as equivalent to guilt could lead to executive misuse, violate constitutional rights, and destabilize governance. Balanced reforms with judicial safeguards and respect for due process are critical to safeguard both accountability and democratic values.

Himalayan Fragility and Unsustainable Development

Context:

Recent floods and landslides across northern Himalayan states expose dangers of deforestation and unregulated construction. Experts and the Supreme Court warn unchecked development threatens fragile ecosystems, risking irreversible ecological collapse.

About the Himalayas:

- The Himalayas are the youngest and highest fold mountain range in the world.
- Stretching approximately 2,400 km across India, Nepal, Bhutan, China, and Pakistan.
- They form the northern boundary of the Indian subcontinent and act as a climatic, cultural, and ecological divide.
- Home to the tallest peaks, including Mount Everest (8,849 m) and Kanchenjunga (8,586 m).

Formation:

- Around 200 million years ago, the supercontinent Pangaea split into Laurasia (north) and Gondwana (south).
- Between these landmasses lay the shallow Tethys Sea, where millions of years of sediment deposition occurred.
- About 140 million years ago, the Indian plate separated from Gondwana and drifted northwards, eventually colliding with the Eurasian plate around 50 million years ago.
- This collision caused the uplift of sediments and gave rise to the Himalayas, which continue to rise at approximately 5 mm per year.

Fragility of the Himalayas:

- Being geologically young, the Himalayas are unstable and prone to seismic activity and landslides.
- Warming in the region exceeds global averages, causing glacier retreat and irregular rainfall.
- Steep slopes and fast-flowing rivers increase risks of floods and soil erosion.



- Over 25,000 glacial lakes pose threats of sudden glacial lake outburst floods (GLOFs).
- The region is a biodiversity hotspot, harboring unique species and ecosystems, all threatened by degradation.

Drivers of Degradation:

- Unregulated infrastructure projects like highways, tunnels, and hydropower dams destabilize slopes via blasting and excavation.
- Large-scale deforestation removes soilbinding trees like deodar, especially for tourism and urban expansion.
- Weak or bypassed Environmental Impact Assessments (EIA) lead to increased ecological risks.
- Growing tourism demand strains land resources and accelerates erosion.

Consequences:

- Human loss due to disasters like Kedarnath (2013) and Chamoli (2021).
- Soil erosion, biodiversity loss, and forest degradation reduce the region's resilience.
- Poorly planned development converts heavy rainfall events into catastrophic floods and landslides.
- Economic loss occurs from infrastructure damage, disrupted agriculture, and loss of tourism revenue.
- Social trust in governance diminishes when people are not consulted and their safety is compromised.

Way Forward:

- Develop distinct, mountain-specific development models based on regional carrying capacity.
- Ensure strict and independent ecological and disaster impact assessments prior to project approval.
- Promote nature-based solutions such as afforestation, slope stabilization, and watershed management.

- Strengthen climate literacy, encourage eco-tourism, and empower local governance for resilience.
- Reduce dependency on hydropower by shifting toward solar, wind, and decentralized energy sources.

Conclusion:

The Himalayas stand at a tipping point where unchecked development, combined with climate change, threatens their long-term viability. Sustainable development models that respect ecological balance, support local communities, and balance growth are essential to preserving these "living mountains" for future generations.

Iran–IAEA Nuclear Monitoring Agreement, 2025

Context:

The IAEA (International Atomic Energy Agency) and Iran reached a key deal allowing inspectors to resume monitoring nuclear facilities, including those damaged in recent Israeli and U.S. strikes, marking a critical step for transparency.

Key Features of the Agreement:

- IAEA inspectors will regain access to all nuclear facilities and installations across Iran.
- Inspections will cover sites targeted in earlier attacks, ensuring monitoring of nuclear materials at these locations.
- The agreement complies with Iran's commitments under the Nuclear Non-Proliferation Treaty (NPT) Comprehensive Safeguards Agreement.
- Egypt played a critical role as a mediator in brokering the deal.
- Implementation is conditional on the absence of new hostile actions or sanctions against Iran.

About IAEA

- 1. Established in 1957 following Eisenhower's "Atoms for Peace" speech.
- 2. Headquarters located in Vienna, Austria, with regional offices worldwide.



- Enforces Nuclear Non-Proliferation
 Treaty compliance through inspections and safeguards.
- 4. Supports peaceful nuclear technology use in medicine, energy, and agriculture.
- 5. Reports annually to the UN General Assembly and Security Council.

Institutional Structure of the IAEA

1. General Conference:

All member states form the General Conference, meeting yearly to approve budgets and set overall policies.

2. Board of Governors:

Consists of 35 members; meets around five times annually to approve safeguards and appoint the Director General.

3. Secretariat:

Led by the Director General, the Secretariat manages the day-to-day operations of the IAEA.

Functions of the IAEA

4. Peaceful Use Promotion:

The IAEA ensures nuclear technology is used only for peaceful purposes, avoiding military applications.

5. Nuclear Safeguards:

Implements safeguards through monitoring, on-site inspections, information analysis, and other methods to verify compliance.

Significance:

- The deal prevents the immediate reimposition of UN sanctions on Iran.
- It revives diplomatic efforts aimed at nuclear non-proliferation amid ongoing regional tensions.
- Assures the international community that Iran remains part of the NPT framework and has not abandoned its obligations.

Conclusion:

This agreement is seen as a crucial step toward stabilizing nuclear diplomacy at a time of heightened regional conflict and serves as an

example of multilateral efforts to uphold nonproliferation objectives while respecting national sovereignty.

Aspergillus Section Nigri

Context

Scientists at MACS-Agharkar Research Institute, Pune, under India's Department of Science & Technology, discovered two new species of Aspergillus section Nigri from Western Ghats soil samples.

Key Details

- New species named Aspergillus dhakephalkarii and Aspergillus patriciawiltshireae.
- A. dhakephalkarii grows quickly, produces smooth oval spores, and orange resting sclerotia.
- A. patriciawiltshireae also grows rapidly with spiny spores and abundant sclerotia.
- Two more species, A. aculeatinus and A. brunneoviolaceus, recorded for the first time in India.

Significance

- Black aspergilli are industrially important for citric acid production, fermentation, and agriculture.
- Discovery highlights vast, hidden fungal diversity in the Western Ghats region.
- Boosts India's contributions in fungal taxonomy, ecology, and biotechnology research.

Conclusion

This breakthrough expands understanding of fungal biodiversity in the ecologically sensitive Western Ghats, supporting future industrial and agricultural biotechnologies.

India-Mauritius Special Economic Package

Context

During the visit of Mauritius Prime Minister **Navinchandra Ramgoolam** to Varanasi, India announced a **USD 680 million Special**



Economic Package aimed at strengthening cooperation in health, infrastructure, education, and maritime security.

About the Package

Development & Economic Cooperation

- Financial Support: USD 680 million through grants and credit for developmental projects.
- Healthcare: Construction of a new national hospital, setting up the first Jan Aushadhi Kendra outside India, and establishment of an AYUSH Centre of Excellence.
- Education & Research: Agreements between Indian institutes (IIT-Madras, IIPM-Bengaluru) and University of Mauritius to promote research and skill development.
- Infrastructure: Expansion of road networks (Motorway M4, Ring Road Phase II), modernization of air traffic control, and procurement of port equipment.

Maritime & Strategic Cooperation

- Port Development: Joint redevelopment of Port Louis to enhance Mauritius' role as a regional maritime hub.
- **Blue Economy:** Collaboration on ocean mapping and marine conservation.
- **Defence Support:** Supply of helicopters, training, and security cooperation.

Cultural & Civilisational Links

- Over two-thirds of Mauritian population traces its origin to India, creating strong people-to-people bonds.
- Symbolic gestures, including hosting the Mauritian PM in Varanasi and participation in the Ganga Aarti, reinforced cultural affinity.

Strategic Importance

Geopolitical Value

 Mauritius' location near major sea lanes of communication makes it vital for India's maritime strategy and for

- countering external influences in the Indian Ocean.
- Acts as a bridge to Africa and supports India in forums like IORA, Commonwealth, and Indian Ocean Commission.

Economic Significance

- Serves as a major FDI route to India due to taxation agreements.
- Port development aligns with India's Sagarmala vision and regional connectivity goals.

Soft Power Diplomacy

- Indian diaspora builds trust and ensures Mauritius remains India's closest partner in the region.
- Cooperation in AYUSH and civil services training boosts India's global soft power profile.

Challenges

- **Strategic Competition:** Rising Chinese presence in the Indian Ocean.
- Climate Risks: Vulnerability to cyclones, sea-level rise, and erosion.
- **Economic Dependence:** Heavy reliance on tourism and financial services.
- Implementation Delays: Previous Indiafunded projects faced bureaucratic and logistical hurdles.
- **Maritime Threats:** Issues like piracy, illegal fishing, and misuse of EEZ.

Way Forward

- Strengthen Maritime Cooperation: Expand surveillance, ocean mapping, and coast guard training under SAGAR.
- Build Climate-Resilient Infrastructure:
 Use renewable energy, cyclone-proof technology, and ecological restoration.
- Ensure Timely Execution: Adopt digital monitoring, single-window clearance, and private sector support.
- Diversify Economy: Collaborate in fintech, digital infrastructure (UPI, RuPay), and green hydrogen.



 Promote Cultural Diplomacy: Increase scholarships, exchanges, and heritage tourism links (Varanasi–Mauritius circuit).

Conclusion

The India–Mauritius partnership is transforming into a **broad-based strategic alliance**. By focusing on health, education, infrastructure, and maritime cooperation, the partnership reflects India's **Neighbourhood First policy** and reinforces its role as a trusted partner in the Indian Ocean.

Two-State Solution

Context

Recently, Spain, Ireland, and Norway formally recognized Palestine as a state, intensifying debates over the Two-State Solution. France expressed readiness to recognize Palestine at an "appropriate moment." This highlights growing global political and moral pressures in the Israel-Palestine conflict.

What is the Two-State Solution

The **Two-State Solution** proposes the creation of two independent nations—**Israel and Palestine**, living side by side with mutually agreed borders.

Main Components:

- Borders: Negotiated boundaries, often based on the *pre-1967 lines* with possible land exchanges.
- Jerusalem: Shared capital, with East Jerusalem envisioned as Palestine's capital.
- Security: Demilitarisation arrangements, border management, and counterterrorism cooperation.
- Refugees: Addressing Palestinian refugee rights through resettlement, compensation, or return options.
- **Settlements:** Deciding the fate of Israeli settlements in occupied Palestinian lands.

Historical Background

• **1936–37:** The British set up the *Peel Commission*, recommending division of

- Palestine into separate Jewish and Arab states. Arabs rejected it.
- 1947: The UN Partition Plan (Resolution 181) proposed Jewish, Arab, and international zones. It was accepted by Jewish leaders but opposed by Arab states.
- 1948: Establishment of Israel led to the first Arab–Israeli war; Israel gained more land than the UN had allocated.
- 1967: After the Six-Day War, Israel occupied West Bank, Gaza, East Jerusalem, Sinai, and Golan Heights.
- 1993–95: The Oslo Accords created the Palestinian Authority and international recognition of the PLO, laying groundwork for a two-state framework.

International Legitimacy

- UN Resolution 242 (1967): Called for Israeli withdrawal from occupied territories.
- Camp David Accords (1978): Israel agreed to limited Palestinian autonomy.
- Oslo Process (1990s): Recognised PLO as the representative of Palestinians and envisioned two sovereign states.
 Despite these frameworks, implementation has stalled, leaving the vision unfulfilled.

Challenges to the Two-State Solution

- Undefined Borders: Expansion of Israeli settlements makes drawing borders difficult.
- Jerusalem Dispute: Both sides claim it as their capital.
- Refugee Issue: Millions of Palestinians displaced since 1948 demand recognition of their right to return, which Israel resists.
- Political Divisions: Rise of hardline groups in both Israel and Palestine has weakened peace efforts.
- **Security Concerns:** Trust deficit and recurring violence undermine negotiations.

Way Forward



- Genuine dialogue backed by international mediation.
- Freeze and gradual rollback of settlements.
- Mutually acceptable formula on Jerusalem.
- Fair resolution of the refugee question with compensation and limited return.
- Confidence-building through economic cooperation and people-to-people exchanges.

The Two-State Solution remains the most widely supported approach for resolving the Israeli—Palestinian conflict. However, political stalemates over borders, refugees, and Jerusalem, combined with entrenched leadership stances, have stalled its progress. Without compromise, peaceful coexistence seems distant.

Swadeshi Solar Cells

Context

The Union Minister for New and Renewable Energy announced India's plan to achieve a **fully indigenous solar manufacturing ecosystem by 2028**, covering modules, cells, wafers, and ingots, reducing dependence on imports.

What is the Initiative?

It is a **national strategy** aimed at developing an end-to-end domestic solar value chain.

- Supported by MNRE schemes,
 Production-Linked Incentive (PLI), GST cuts, and policy reforms.
- Seeks to transform India into a selfreliant solar manufacturing hub.

Objectives

- Reduce Import Dependence: Cut reliance on Chinese solar components for energy security.
- Make in India: Build India's position as a global solar leader.
- Employment Generation: Create largescale direct and indirect jobs.

Boost Investment: Encourage private investment and FDI through PLI support.

Key Features

- 100 GW Module Capacity: Already achieved; expansion targeted for wafers and ingots.
- PLI Scheme Impact: ₹50,000 crore investment; 12,600+ direct jobs created.
- Surya Ghar Muft Bijli Yojana: 2 million households benefitted; nearly 50% report zero electricity bills.
- PM-KUSUM Scheme: 1.6 million solar pumps deployed/solarised, saving 1.3 billion litres of diesel annually.
- Policy Support: GST cut (12% → 5%), faster approvals, and land clearances for ease of project execution.

Significance

- Strengthens **energy security** by reducing external dependence.
- Contributes to India's net-zero 2070 target.
- Promotes green jobs and rural income growth through decentralised solar use.
- Enhances India's role in the global renewable energy supply chain.

Challenges

- Technology Gaps: India still lacks advanced know-how for high-efficiency wafers and ingots.
- Import Dependence: Despite progress, over 70% of cells and wafers are imported from China.
- High Initial Costs: Domestic production is costlier compared to cheaper Chinese imports.
- Land & Infrastructure Issues: Delays in land allotment, logistics, and power evacuation networks.
- Supply Chain Risks: Dependence on imported raw materials like polysilicon.
- Skilled Workforce Shortage: Limited trained manpower in advanced solar manufacturing.



India's push for Swadeshi Solar Cells by 2028 is a critical step towards Atmanirbhar Bharat in renewable energy. While challenges like cost competitiveness, raw material supply, and technology transfer remain, timely policy support and private sector participation can make India a global leader in solar manufacturing. This mission will not only secure India's energy future but also strengthen its climate commitments and economic resilience.

Unlawful Activities (Prevention) Act (UAPA)

Context

The Delhi High Court recently denied bail to several accused in the February 2020 Delhi riots case, stating the violence was a "premeditated conspiracy." The accused were charged under provisions of the Unlawful Activities (Prevention) Act (UAPA), 1967, including Section 16, which prescribes the death penalty for committing a terrorist act.

About UAPA

The **UAPA**, **enacted in 1967**, is India's principal anti-terror law aimed at safeguarding sovereignty and integrity against unlawful and terrorist activities.

Key Provisions:

- **Objective:** Empower agencies to act against threats to national security.
- Unlawful Activities Defined: Includes actions supporting secession, territorial disintegration, or undermining India's sovereignty.
- Designation Powers: Government can declare organisations and individuals as terrorists.
- **Arrest & Detention:** Allows preventive detention to curb potential threats.

UAPA and Human Rights

The Act's stringency has raised **human rights** concerns:

 Preventive Detention: May compromise liberty and the presumption of innocence.

- Confessions to Police: Risk of coercion undermines fair trial principles.
- Freedom of Association: Proscription of organisations without transparent due process.
- Expression & Dissent: Potential misuse to silence critics and activists.
- **Privacy Concerns:** Surveillance powers risk overreach.
- Proportionality: Critics argue UAPA's wide scope may restrict rights disproportionately.

UAPA and Constitution

Article 22 provides safeguards for arrested or detained persons, which often come into tension with UAPA provisions:

- Right to be Informed (Art. 22(1)): Must know reasons for arrest.
- Right to Counsel (Art. 22(1)): Access to legal assistance ensured.
- Preventive Detention (Art. 22(4)):
 Permissible only under strict conditions, with advisory board review within 3 months.
- Production before Magistrate (Art. 22(2)): Within 24 hours of arrest.
- Representation Against Detention:
 Detainees must be allowed to challenge detention.

Challenges

- Stringent Bail Provisions: Courts have termed bail under UAPA as nearly impossible, leading to prolonged incarceration.
- Scope for Misuse: Critics point to targeting of dissenters, students, and activists.
- Judicial Backlog: Slow trials lead to justice delayed.
- Lack of Transparency: Terrorist designations made without detailed reasoning or timely review.
- Civil Liberties: Strain between national security and constitutional freedoms.



The UAPA remains a **critical legal instrument** for India's fight against terrorism but has also sparked debates about **liberty vs. security**. A balance is needed—ensuring effective anti-terror mechanisms while **upholding constitutional rights, judicial oversight, and due process**. Reforming safeguards, ensuring proportionality, and reducing misuse risks are essential to align UAPA with both national security imperatives and democratic values.

RETAIL INFLATION

Context

Retail inflation in India reversed its nine-month declining trend in **August 2025**, rising to **2.1%** from **1.55% in July 2025**, as per official data. Though still within the **RBI's tolerance band of 2–6%**, the increase signals pressure on household budgets and policy management.

What is Inflation?

Inflation is the sustained rise in the general price level of goods and services, which reduces the purchasing power of money. In India, it is tracked by the Ministry of Statistics and Programme Implementation (MoSPI).

 Causes include: demand-supply imbalance, rising input costs, wage hikes, excess money circulation, currency devaluation, and supply chain disruptions.

Retail Inflation (CPI-Based)

- Retail inflation is measured through the Consumer Price Index (CPI), which reflects price rise at the consumer level.
- Unlike WPI, CPI covers both goods and services, making it a better indicator of cost of living.
- It is also used to calculate **Dearness** Allowance (DA) for government employees.

Measuring Inflation

 CPI (Consumer Price Index): Captures prices of goods/services directly consumed (food, healthcare, education, etc.). WPI (Wholesale Price Index): Tracks
 prices at wholesale level, i.e., goods sold
 between businesses.
 Both indices together help in
 understanding price trends in the
 economy.

Inflation Targeting in India

- Under Section 45ZA of the RBI Act, the Central Government, in consultation with RBI, sets the inflation target for five years.
- Current target (2021–2026): 4% CPI inflation with a tolerance band of 2–6%.
- The Monetary Policy Committee (MPC), formed under Section 45ZB, decides interest rates to achieve this target.

Monetary Policy Committee (MPC)

- Established in 2016 for transparency and accountability.
- Composition: 6 members (3 from RBI including Governor as Chairperson + 3 nominated by the Government).
- Mandate: maintain price stability while supporting growth.

Factors Behind Recent Inflation Trends

- Rise in Food Prices: Vegetables, pulses, and edible oils often drive CPI inflation due to their high weight (~46%).
- Global Commodity Prices: Cooling of crude oil and metals reduced wholesale inflation earlier.
- Trade & Tariff Policies: Adjustments in import duties on edible oils/pulses, restrictions on rice and wheat exports.
- Base Effect: Previous year's high/low inflation numbers affect the current percentage change.

Government Measures

- Rationalization of tariffs on edible oils and pulses.
- Maintenance of stock limits to prevent hoarding.



 Export controls on essential food items (like rice, wheat) to stabilize domestic supply.

Challenges in Controlling Retail Inflation

- High food price volatility due to dependence on monsoons and climate shocks.
- **Imported inflation** from rising global crude and commodity prices.
- **Structural issues** like supply chain inefficiencies and storage losses.
- Policy trade-off: Excessive tightening to curb inflation may slow economic growth.
- Regional disparities: Different states experience varied inflationary pressures depending on local production and consumption.

Conclusion

Retail inflation in India remains a **critical macroeconomic challenge**, directly affecting households and influencing monetary policy decisions. While current levels are within the RBI's band, sustained vigilance is needed due to risks from global commodity markets, food supply shocks, and currency fluctuations. Effective coordination between fiscal and monetary policy, alongside structural reforms in agriculture and logistics, will be key to ensuring **price stability with inclusive growth**.

INDIA-NEPAL RELATIONS

Context

Nepal's recent political developments highlight how internal socio-economic churnings in South Asia often have a deeper impact on regional stability than external influences. For India, Nepal remains a key neighbour with strategic, cultural, and geopolitical significance.

India-Nepal Bilateral Relations

- Historical & Cultural Links: Ancient ties through Hinduism, Buddhism, trade, and people-to-people exchanges.
- Treaty of Sugauli (1816): Signed after the Anglo-Nepalese War, demarcating boundaries.

- Treaty of Peace & Friendship (1950):
 Basis of modern bilateral relations;
 enabled free movement of people and goods, and close security cooperation.
- Economic & Developmental Cooperation: India is Nepal's largest trade partner and developmental aid provider.
- Defence Cooperation: Joint exercises (e.g., Surya Kiran), training support, disaster relief, and honorary military titles.
- Cultural Ties: Shared religious sites like Pashupatinath and Lumbini strengthen people-to-people connect.

India-Nepal Border Dispute

Origins: Treaty of Sugauli ambiguities.

Contested Areas:

- Kalapani Valley claimed by both as lying on their side of River Kali.
- Lipulekh Pass India's road construction in 2020 escalated tensions.
- Susta Area shifting Gandak River course created overlapping claims.
- Impacts: Strained ties, security risks, stalled projects, and local livelihood disruptions.
- Efforts at Resolution: Joint Boundary Working Group since 1980s; diplomatic talks continue but remain inconclusive.

Why Nepal is Important for India

- Strategic Geography: Buffer state between India and China.
- Cultural & Religious Connect: Hindu and Buddhist heritage sites.
- Economic & Trade Links: Open borders facilitate trade and labor migration.
- Water Resources: Nepal's rivers crucial for irrigation, hydropower, and flood control in India.

China-India-Nepal Trilateral Dynamics

 Balancing Act: Nepal navigates ties between India and China.



- China's Role: Increasing investment through Belt & Road Initiative (BRI), raising concerns in India.
- Regional Security: Stability in Nepal affects both Indian and Chinese interests in the Himalayas.

India's Neighbourhood First Policy & Nepal

- Objective: Prioritize ties with immediate neighbours through trade, connectivity, culture, and security cooperation.
- Engagement with Nepal:
 - Development projects, energy cooperation, and cross-border infrastructure.
 - Cultural exchanges and people-topeople connect.
 - Security collaboration on terrorism, disaster management, and border management.

Challenges

- Border Disputes: Unresolved Kalapani-Lipulekh-Susta tensions.
- Trust Deficit: Perception in Nepal of Indian interference in domestic affairs.
- Chinese Influence: Growing Chinese presence in infrastructure and investment.
- **Trade Imbalances:** Heavy Nepalese reliance on India for imports.

Way Forward

- Diplomatic Engagement: Revive highlevel dialogues to resolve border disputes.
- Balanced Developmental Aid: Focus on inclusive, transparent projects addressing Nepal's priorities.
- **Cultural Diplomacy:** Leverage religious and cultural heritage to strengthen ties.
- Economic Diversification: Expand cooperation in hydropower, connectivity, and digital infrastructure.

Conclusion

India–Nepal relations are deeply rooted in history, culture, and geography. While challenges like border disputes and external influences

complicate the ties, their interdependence ensures that cooperation is not optional but essential. A balanced approach, rooted in **mutual trust, respect, and shared prosperity**, will define the future trajectory of the India–Nepal partnership.

National Policy on Geothermal Energy 2025

Context

In September 2025, the Government of India notified its first National Policy on Geothermal Energy, marking a decisive step to diversify the renewable energy portfolio. The policy seeks to harness untapped geothermal resources, support the 2070 Net Zero goal, and strengthen energy security by introducing an always-available, clean baseload power source.

About the Policy

- Exploration & Development: MNRE-led framework; 5 pilots (Barmer oil fields, Tawang heating, shallow demo, cooling, solar–geothermal hybrid).
- Applications: Power, heating/cooling, farming, aquaculture, food processing, desalination, storage, tourism.
- Technology & Innovation: Hybrid models, reuse of wells, EGS/AGS systems.
- Regulatory & Fiscal Support: VGF, R&D incentives, tax breaks, 100% FDI, GST/duty exemptions, carbon credits; global collaborations (U.S., Iceland, Norway).

Significance

- 1. Energy Security
- Provides stable, year-round baseload power, complementing variable solar and wind.
- Reduces dependency on imported hydrocarbons, insulating the economy from price shocks.
- 2. Rural & Industrial Benefits



- Geothermal heating/cooling aids agriculture, aquaculture, cold storage, and food processing.
- Supports rural livelihoods and enhances climate resilience.

Geopolitical & Technological Implications

- Positions India among leading geothermal nations, advancing energy sovereignty.
- Aligns with SDG 7 (Clean Energy) and SDG 13 (Climate Action).
- Promotes technology transfer, skill development, and R&D partnerships.
- State energy boards, oil companies, and global agencies to build a domestic ecosystem.

Challenges

- Limited domestic expertise and **data gaps** in geothermal potential.
- High upfront exploration and drilling costs.
- Environmental risks (micro-seismicity, water use, land subsidence).
- Need for skilled manpower and adaptive regulation.

Way Forward

- Continuous monitoring of pilot projects for scalability and viability.
- Establish robust data repositories and knowledge-sharing networks.
- Train human resources and integrate global best practices.
- Strengthen inter-ministerial and centerstate collaboration.
- Responsive fiscal and regulatory support to attract investment.

Conclusion

The National Policy on Geothermal Energy 2025 is a transformative milestone, integrating clean baseload power into India's mainstream energy planning. By combining innovation, international cooperation, and rural development opportunities, the policy promises to boost energy resilience, rural prosperity, and technological advancement, while reinforcing India's climate commitments.

16th Combined Commanders' Conference (CCC) 2025

Context

The 16th Combined Commanders' Conference (Sep 15–17, 2025, Kolkata) focused on the "Year of Reforms," emphasizing military modernization, advanced technologies, and tri-services integration to counter evolving security challenges.

Key Highlights & Reforms

- Joint War Rooms & Stations in major cities to boost interoperability.
- Tri-Services Education Corps for unified training and doctrine.
- First Joint Military Space Doctrine recognizing space as a defence domain.
- Focus on advanced technologies: air defence, counter-drones, cyber, and indigenous production.
- Procurement reforms: simplified acquisitions, greater financial powers, transparency.
- Operation Sindoor review to enhance preparedness.
- Commitment to **continuous**, **adaptive reforms** for agility and self-reliance.

Significance

- Reforms aim to create a **responsive**, interoperable, and tech-savvy force.
- Increased focus on domestic defence manufacturing reduces import reliance and supports Atmanirbhar Bharat.
- Enhances India's role as a regional security provider in the Indo-Pacific.

Geopolitical & Institutional Impact

- Reflects India's determination to counter evolving conventional and nonconventional threats.
- Integrated commands and joint stations align India's military with global best practices.



 Unified education and doctrine contribute to a cohesive, modernized armed forces structure.

Way Forward

- **Timely implementation** of reforms and expansion of joint operational structures.
- Regular doctrinal updates and adoption of global innovations.
- Greater investment in skilled personnel, digital infrastructure, and indigenous R&D.
- Strengthening civil-military synergy for effective defence preparedness.

Conclusion

The 16th Combined Commanders' Conference (2025) is a landmark in India's military transformation journey. By advancing integration, technological adoption, and reform-driven modernization, it reaffirms India's resolve to build a future-ready, self-reliant, and globally competitive defence force, capable of meeting challenges across multiple domains.

Fentanyl Crisis and India's Role

Context

The United States is grappling with a severe opioid overdose crisis, with fentanyl as the major driver. India faces scrutiny over alleged supply of precursor chemicals used in fentanyl production, illegally reaching the US.

Key Details

- Fentanyl: A synthetic opioid, medically useful but widely abused, causing thousands of deaths annually in the US.
- Visa Revocations: Several Indian executives implicated in illegal chemical shipments had their US visas revoked.
- Smuggling Routes: Primarily from China and Mexico, with India emerging as a growing source.
- Public Health Challenge: The US opioid epidemic remains a significant and persistent crisis.

Implications for India

- Regulatory Pressure: Need to tighten chemical export regulations and strengthen monitoring systems.
- Reputation Risks: Threat to India's image as the "Pharmacy of the World."
- Global Cooperation: Necessity for international collaboration to curb synthetic opioid trafficking.

Conclusion

India's association with the fentanyl crisis underscores the urgency of stronger regulation, global cooperation, and reputational safeguards to balance public health responsibility with its role as the "Pharmacy of the World."

National Commission for Scheduled Tribes (NCST) Oversight and Reform

Context

The National Commission for Scheduled Tribes (NCST), established through a constitutional amendment in 2003, is mandated to protect and promote the rights and welfare of Scheduled Tribe communities in India. However, in 2025, concerns were raised about the effectiveness of the Commission. To address these issues, the government formed three internal panels to monitor and improve NCST's functioning and ensure fulfillment of its statutory duties.

Key Details

www.raceias.com

- The NCST safeguards tribal rights related to land, minerals, water, forest produce, livelihood strategies, and protection from displacement. It also monitors implementation of laws and policies benefiting tribal populations.
- Despite the mandate, the NCST has faced chronic challenges including severe staffing shortages, funding constraints, and limited operational capacity, impacting its ability to execute its duties effectively over the past two decades.
- In 2025, three sub-committees—named after their chairs (Jatot Hussain Panel, Asha Lakra Panel, and Nirupam Chakmakma Panel) were constituted to oversee core functional areas:



- Jatot Hussain Panel: Focuses on livelihood and mineral rights of tribals
- Asha Lakra Panel: Addresses land alienation, displacement, and resettlement issues
- Nirupam Chakmakma Panel: Monitors
 Panchayati Raj access and forest
 protection benefits for tribal communities.

Importance of these Panels

- These panels aim to increase transparency, accountability, and responsiveness within NCST.
- Their work is expected to bridge gaps in enforcement and policy implementation, amplifying the voices and safeguarding the rights of tribal populations.
- The restructure addresses systemic deficiencies to make the Commission more effective in protecting marginalized communities.

Challenges

- Funding and resource shortfalls remain obstacles that need urgent resolution for NCST's successful functioning.
- Administrative reform is at an early stage, and sustained political will along with community engagement will be critical to deliver tangible improvements.
- Monitoring mechanisms and periodic reporting standards are to be strengthened further.

Conclusion

The 2025 reform initiative for the National Commission for Scheduled Tribes marks an important step toward revitalizing this key constitutional body. It holds promise to enhance protection and welfare measures for Scheduled Tribes by institutionalizing accountability and targeted oversight. This aligns with India's commitment to social justice and inclusive development.

H-1B Visa Controversy

Context

RACE IAS

The H-1B visa program has repeatedly sparked debates in the United States and India, with major discussions in January and June highlighting its economic, social, and political implications. Recently, a sharp fee hike and restrictive policies have renewed controversy, raising concerns about foreign worker opportunities, US labor market dynamics, and India's dependence on the program.

Definition and Purpose

The H-1B visa is a **non-immigrant work visa** issued by the US government, allowing American employers to hire foreign professionals in specialized fields.

Key Features:

- Designed for roles requiring highly specialized knowledge, particularly in technology, finance, engineering, architecture, medicine, and research.
- Aimed at filling skill shortages in the US labor market, though critics argue it enables companies to reduce costs by hiring cheaper foreign labor.
- Employers sometimes claim that qualified American workers are unavailable, making foreign recruitment essential.

Eligibility, Limits, and Selection

The H-1B visa operates under strict eligibility criteria and numerical limits.

Key Aspects:

- Eligibility: Applicants must have at least a Bachelor's degree or equivalent in a specialized field.
- Annual Limit: About 85,000 visas are issued each year.
 - 65,000 under the regular quota.
 - 20,000 reserved for applicants with advanced US degrees (Master's or PhD).
- Selection Process: Given oversubscription, the system relies on a random lottery draw.
- Validity: Issued for 3 years, renewable for another 3 years, making a maximum stay of 6 years. Many holders pursue a Green Card during this period.

 Past Policies: The Trump administration required employers to prove that no qualified US worker was available before hiring a foreign worker.

India's Role and Impact

India has emerged as the **largest beneficiary** of the H-1B visa program.

Key Insights:

- Indian Dominance: Nearly 70% of H-1B visas are held by Indians, followed by Chinese professionals.
- Economic Impact: Indian workers in the US send significant remittances back home, supporting India's economy and contributing to its GDP.
- Skilled Workforce: The program has enabled Indian IT and engineering talent to gain global exposure and experience, strengthening India's image as a knowledge hub.

The Fee Hike Controversy

A major turning point came when the US government, under President Trump, drastically increased H-1B visa fees.

Details:

- Previous Fee: \$2,000-\$5,000.
- New Fee: \$100,000 (₹90 lakh), applied as a one-time payment per worker.
- Burden on Employers: The cost must be borne by US companies hiring foreign employees, discouraging them from hiring unless the candidate is exceptionally skilled.
- Impact on Indians: This significantly reduces job opportunities for highly skilled Indian workers, as employers may prefer American citizens to avoid the financial strain.

Strategic and Economic Implications

The H-1B visa debate extends beyond individual workers and companies to broader economic and political concerns.

Key Dimensions:

 For the US: Aims to protect domestic jobs and wages but risks losing access to top global talent.

- For India: Could reduce brain drain, but raises the challenge of providing adequate jobs, salaries, and research opportunities at home.
- Global Migration Trends: Restrictions may push skilled workers to explore opportunities in Europe, Canada, or West Asia, reshaping international labor flows.

Challenges and Criticisms

The H-1B visa system has drawn criticism from multiple stakeholders.

Concerns:

- Exploitation Risks: Some foreign workers face wage suppression and limited mobility.
- **Equity Issues:** The lottery-based allocation can exclude highly qualified professionals.
- Economic Dependence: India's heavy reliance on the H-1B program exposes vulnerabilities in its domestic job creation capacity.
- Policy Instability: Frequent changes in US visa rules create uncertainty for applicants and companies alike.

Conclusion

The **H-1B visa controversy** reflects the tension between economic globalization and domestic labor protection. For India, the policy shifts highlight the urgent need to create robust local opportunities to retain its skilled workforce. For the US, striking a balance between **protecting domestic workers** and **attracting global talent** is crucial to sustaining innovation and competitiveness. The debate will likely remain central to Indo-US relations and global workforce mobility in the coming years.

Uranium

Context

The uranium mining debate in Meghalaya pits India's energy needs against indigenous tribal rights, with recent policy changes sparking Khasi protests over environmental and constitutional concerns.

Uranium: Uses and Refinement



Uranium is a **dual-use resource**, capable of powering nuclear reactors for clean energy or being refined for nuclear weapons.

Key Points:

• Forms of Uranium:

Natural uranium is composed of 99% non-fissile Uranium-238 and only
 0.7% fissile Uranium-235, which is essential for chain reactions.

Enrichment Levels:

- 3%–20% U-235: Required for nuclear power reactors.
- ~90% U-235: Needed for nuclear weapons.

Energy Context:

- Currently, over 60% of India's electricity comes from coal-based thermal plants, which generate high carbon emissions.
- Nuclear energy, using uranium, is seen as a cleaner alternative to meet India's climate goals and rising energy demand.

Global and Indian Reserves

Uranium availability is a global strategic concern, and India has limited reserves compared to other nations.

Key Details:

Global Reserves (2023):

- Kazakhstan largest producer, accounting for ~40% of global supply.
- 2. Namibia.
- 3. Canada high-grade deposits in the Athabasca Basin.
- 4. Australia one of the largest reserve holders.
- India's Reserves: Found in Jharkhand, Telangana, Rajasthan, and Meghalaya, but remain limited. India largely depends on imports from Kazakhstan, Canada, Australia, and Russia.
- Meghalaya Specific Sites: Uranium deposits are identified in Domiasiat and

Wahkaji, proposed for mining development.

The Conflict in Meghalaya

Plans for uranium extraction in Meghalaya have sparked strong opposition from **Khasi tribal communities**.

Concerns:

- Displacement and Health Risks: Locals fear radiation exposure, loss of livelihood, and inadequate rehabilitation measures.
- Historical Precedent: Singhbhum in Jharkhand witnessed radiation leaks, environmental degradation, and long-term protests due to uranium mining.

Constitutional Safeguards:

- Meghalaya falls under the Sixth Schedule of the Constitution, ensuring autonomous governance through the Khasi Hills Autonomous District Council (KHADC).
- Lack of consultation is seen as a violation of tribal autonomy and rights.
- Catalyst for Protests: The Union Environment Ministry's Office Memorandum (OM) removed the mandatory requirement for public consultation in uranium mining, intensifying unrest.

Strategic and Developmental Importance

Despite opposition, the central government views uranium mining in Meghalaya as crucial for India's energy and security interests.

Key Aspects:

- Energy Security: Uranium mining could reduce reliance on imports and strengthen India's nuclear energy program.
- Strategic Value: Enhances India's nuclear independence amid geopolitical tensions.
- Economic Potential: Mining could generate local jobs and infrastructure, though the benefits remain disputed by tribal groups.

Environmental and Social Concerns



The ecological and cultural costs of uranium mining are central to the protests.

Issues Raised:

- Biodiversity Loss: Mining threatens
 Meghalaya's fragile ecosystems, rich in
 forests and unique species.
- Health Hazards: Radiation exposure risks for miners and nearby communities.
- Tribal Rights: Khasi protests emphasize that mining violates their land ownership, cultural identity, and constitutional protections.
- Legal Precedents: The Niyamgiri judgment (2013) upheld tribal Gram Sabha rights over land, cited as a precedent for Meghalaya's case.

Way Forward

Balancing energy security with constitutional and ecological responsibilities requires careful policy reforms.

Recommendations:

- Withdraw the OM: Reinstate public consultation as a mandatory part of mining approvals.
- Free, Prior, and Informed Consent (FPIC): Ensure tribal communities are adequately informed and consulted before project clearance.
- Investment in Renewables: Expand solar, wind, and hydropower to reduce dependency on uranium.
- Legal Redressal: Allow affected communities to approach courts, invoking the Fifth and Sixth Schedule protections.
- Rehabilitation Clarity: Provide transparent, detailed rehabilitation and compensation plans for displaced communities.

Conclusion

The uranium conflict in Meghalaya underscores the tension between India's nuclear goals and indigenous tribal rights. Balancing cleaner energy benefits with environmental protection and tribal safeguards under the Sixth Schedule is essential for a responsible resolution.

Domestic Economy and Trade

Context

India's domestic economy and trade policies are currently shaped by three critical dimensions, Outward Foreign Direct Investment (FDI) trends, the Production Linked Incentive (PLI) scheme, and Goods and Services Tax (GST) challenges. Together, these highlight the interplay of global integration, industrial growth, and taxation bottlenecks in India's economic development.

Outward Foreign Direct Investment (FDI) and Tax Havens

Data from the **Reserve Bank of India (RBI)** reveals a growing trend of Indian investments being routed through **tax havens**. Key Insights:

- Key Finding: Over 60% of India's outward FDI goes to tax haven countries.
- Data (2024–25): Outward FDI stood at ₹3,488 crore, with 56% routed through tax havens.
- Top Destinations:

Singapore: 22%

Mauritius: 10%

UAE: 9%

- Definition: A Tax Haven is a country with low or negligible taxes, making it attractive for investors.
- Motivation: Indian investors seek tax relief, easier fund transfers, and reduced compliance burden, avoiding India's complex tax structure.
- Mechanism: Investments are often routed through tax havens using Double Taxation Avoidance Agreements (DTAAs), which minimize the overall tax liability.
- Investment Types:
 - Outward FDI: Indian residents investing abroad.
 - Inward FDI: Foreign investments in India, typically long-term with at least



- 10% ownership in assets/companies.
- FPI (Foreign Portfolio Investment):
 Investment in stocks with less than
 10% ownership, generally short-term in nature.

Production Linked Incentive (PLI) Scheme

The **PLI scheme** remains central to India's push for self-reliance and manufacturing growth. Key Aspects:

- Recent Development: The government has reopened applications for PLI in the white goods sector (LEDs, airconditioners, refrigerators, televisions).
- Launch and Purpose: Introduced in March 2020 to promote manufacturing and reduce import dependency.
- Mechanism: Companies receive financial incentives based on incremental sales compared to previous years.
- Coverage: Now extended to 14 key sectors, including electronics, pharma, automobiles, textiles, and renewable energy.
- Benefits:
 - Boosts domestic production.
 - Encourages global and local companies to manufacture in India.
 - Generates employment.
 - Reduces import dependency.
- Success Story: In mobile manufacturing, exports surged from \$34 million to \$11 billion, largely credited to the PLI scheme.
- Eligibility: Both domestic and foreign companies operating in India qualify for the incentives.

GST Challenge and Inverted Duty Structure

India's tax framework under the **Goods and Services Tax (GST)** continues to face structural issues.

Key Problem:

- Context: With changes effective
 September 22, finished textiles attract 5%
 GST, while raw materials (inputs like PTA,
 MEG, PET for manmade fibers) are taxed
 at 18% GST.
- Definition: An Inverted Duty Structure
 (IDS) occurs when the tax rate on inputs is
 higher than the tax on the finished
 product.

• Impact on Industry:

- Manufacturers face increased input costs.
- Profit margins shrink, discouraging competitiveness.
- Exporters struggle with refunds and working capital blockages.
- Sector Affected: The manmade fiber industry, crucial for India's textile exports, suffers heavily due to this tax anomaly.

Conclusion

India's domestic economy and trade dynamics reflect both progress and persistent challenges. While outward FDI to tax havens reveals loopholes in taxation and regulatory compliance, the PLI scheme demonstrates the potential of policy-driven industrial transformation. However, issues like the inverted duty structure in GST underline the urgent need for structural reforms. To sustain growth, India must ensure a balance between investment incentives, fair taxation, and global competitiveness.

Health and Welfare

Context

India's healthcare and welfare challenges reflect a mix of emerging medical threats and pharmaceutical developments. Two pressing issues dominate recent discussions: the rise of Anti-Microbial Resistance (AMR), a global health crisis, and the inclusion of GLP-1 drugs in the World Health Organization's (WHO) Essential Medicine List, aiming to improve access to life-saving and life-improving medicines.



Anti-Microbial Resistance (AMR)

AMR is one of the most critical global health challenges of the 21st century.

- Key Insights:
 - Definition: AMR occurs when antibiotics are misused or overused, allowing bacteria to adapt and develop resistance, making standard treatments ineffective.
 - Global Threat: WHO ranks AMR among the 10 greatest global health threats.
 - Impact: Annually, AMR is responsible for 5 million deaths worldwide.
 - Indian Context:
 - India prescribes over 500 million antibiotic doses annually.
 - In 70% of childhood diarrhea cases, antibiotics are inappropriately given, despite viral origins requiring no antibiotics.
 - Cause: A significant knowledge and awareness gap persists in India regarding the proper use of antibiotics.

GLP-1 Drugs and WHO Essential MedicineList

The WHO's decision to include **GLP-1 drugs** in its **Essential Medicine List** marks a milestone for global healthcare accessibility.

- Key Aspects:
 - Purpose of Listing: To make these drugs affordable and widely available, especially in countries like India where they are currently very costly.
 - Examples of Drugs:
 - Semaglutide
 - Dulaglutide
 - Liraglutide
 - Tirzepatide
 - Medical Use:
 - Control blood sugar levels in Type 2
 Diabetes patients.
 - Reduce body weight.
 - o Improve cardiometabolic health.
 - Mechanism of Action:

- Mimic two natural gut hormones: GLP-1 (Glucagon-like peptide 1) and GIP (Glucose-dependent Insulinotropic Polypeptide).
- These hormones regulate digestion, blood sugar, and appetite.
- The drugs send signals to the brain that the stomach is full, thereby reducing food intake, controlling blood sugar spikes, and aiding weight loss.

Conclusion

India's health and welfare sector faces a dual challenge: managing public health threats like AMR, which demand stricter antibiotic stewardship, and ensuring equitable access to breakthrough medicines like GLP-1 drugs. Addressing these issues requires a mix of public awareness campaigns, policy interventions, and global cooperation to protect populations from preventable deaths while expanding access to advanced medical treatments.

STATE FINANCES PUBLICATION 2025

Context

The Comptroller and Auditor General (CAG) released the *State Finances Publication 2025*, highlighting key fiscal trends across Indian states. The report revealed that salary expenditure of states has multiplied 2.5 times in a decade to ₹16.6 lakh crore, while public debt surged 3.4 times, reaching ₹59.6 lakh crore, raising concerns over fiscal sustainability.

About State Finances Publication 2025 by CAG

The State Finances Publication is an annual exercise by the CAG to evaluate the fiscal health of all 28 states. It provides data-driven insights on revenues, debt, expenditure priorities, and compliance with fiscal responsibility norms.

Key Features:

- Offers a holistic assessment of state-level finances for policymakers, researchers, and civil society.
- Tracks trends in public debt, subsidies, committed expenditure, and fiscal management.



 Acts as a reference for measuring states' adherence to sustainable finance practices.

Provision	Description
Article 148	Deals with the appointment, oath, and conditions of service of the CAG of India.
Article 149	Specifies the duties and powers of the CAG of India.
Article 150	States that Union and State accounts are kept in a form prescribed by the President on CAG's advice.
Article 151	Requires CAG's Union reports to be submitted to the President for Parliament, and State reports to the Governor for State Legislature.
Article 279	Provides that CAG certifies the calculation of "net proceeds," and such certificate is final.
Third Schedule	Section IV prescribes the oath or affirmation to be made by Supreme Court Judges and the CAG on assuming office.
Sixth Schedule	Accounts of District or Regional Councils kept as prescribed by CAG and audited, with reports submitted to the Governor for the Council.

Key Findings from the 2025 Report

Salary Bills

- Salary outgo grew 2.5 times between 2013–14 and 2022–23, amounting to ₹16.6 lakh crore.
- Salaries form the largest portion of committed expenditure, limiting fiscal flexibility for developmental spending.

Subsidy Burden



- Subsidy bills **tripled** to ₹3.09 lakh crore in a decade.
- Punjab recorded the highest reliance, spending 17% of its total expenditure on subsidies.
- Rising subsidies indicate growing fiscal stress amid populist measures.

Committed Expenditure

- Nearly 43.5% of states' revenue expenditure was locked in committed liabilities (salaries, pensions, and interest payments).
- Highest levels were reported in Nagaland (74%) and Kerala (63%), leaving limited space for capital investment.

Rising Public Debt

- Public debt expanded 3.4 times to ₹59.6 lakh crore, forming about 23% of combined GSDP.
- This trajectory signals a medium-term fiscal risk if revenue growth does not keep pace.

Union Tax Devolution

- On average, around 27% of central taxes were devolved to states.
- Five states—Uttar Pradesh, Bihar,
 Madhya Pradesh, West Bengal, and
 Maharashtra—together received 50% of devolved resources.
- Fiscal devolution remains a critical lifeline for poorer states.

Strategic and Policy Relevance

- For States: Data underscores the need to balance welfare commitments with fiscal discipline.
- For Centre: Highlights the importance of stable and predictable transfers under Finance Commission awards.
- For Investors & Analysts: Provides a realistic picture of states' creditworthiness and fiscal space.

Challenges

 Rising Debt: Escalating liabilities may crowd out developmental spending.

- Limited Flexibility: High committed expenditure leaves little room for infrastructure investments.
- **Subsidy Pressure:** Populist measures risk undermining fiscal sustainability.
- Regional Disparities: Dependence on Union tax transfers is uneven, with poorer states more reliant.

Conclusion

The State Finances Publication 2025 by CAG serves as a critical reminder that fiscal prudence is as important as welfare spending. While states must invest in salaries, subsidies, and social commitments, they must also adopt reforms to improve revenue mobilization, control debt, and prioritize productive capital expenditure. Sustainable fiscal management is vital to ensure both economic growth and intergenerational equity.

LOGISTICS EASE ACROSS DIFFERENT STATES (LEADS) 2025

Context

The Union Minister of Commerce and Industry launched the *Logistics Ease Across Different States (LEADS) 2025* in New Delhi during the *Make in India* decade-long celebrations. The index aims to strengthen India's logistics ecosystem by ranking states and UTs based on performance, efficiency, and industry perception.

About LEADS 2025

What It Is:

LEADS is a national index and survey that measures the logistics performance of Indian States and Union Territories. It helps identify infrastructural gaps, bottlenecks, and best practices to enhance supply chain competitiveness.

Ministry Responsible:

Released by the Ministry of Commerce and Industry, through the Department for Promotion of Industry and Internal Trade (DPIIT).

Objectives:

 Benchmark logistics performance across States/UTs.

- Guide governments in policy reforms, infrastructure investment, and capacity building.
- Reduce logistics costs and boost supply chain efficiency.

Assessment Framework

The ranking is based on a multi-dimensional evaluation:

- Infrastructure Quality: Roads, multimodal transport hubs, warehousing, cold storage, and port access.
- Services: Availability, affordability, and reliability of logistics providers.
- Efficiency Metrics: Truck turnaround times, journey speed, clearance processes, and timeliness.
- Policy Support: Ease of approvals, grievance redressal, and logistics-friendly policies.
- Stakeholder Perception: Feedback from industry stakeholders on cost, reliability, and overall logistics environment.

Key Features of LEADS 2025

- Corridor Performance Tracking:
 Measures efficiency of 5–7 major national
 corridors using travel time, truck speed,
 and delays.
- API-Enabled Data Systems: Real-time monitoring of speed and waiting time on road corridors for sharper decisionmaking.
- Ranking Categories: States and UTs are grouped into Leaders, Achievers, and Aspirers to foster healthy competition.
- Policy Recommendations: Tailored, state-specific interventions suggested to overcome identified challenges.
- Digital Dashboard: An interactive platform for continuous performance monitoring by States and UTs.

Strategic and Economic Importance

 For States/UTs: Helps identify priority areas in logistics planning and attract private investment.



- For Industry: Reduces costs, improves supply chain reliability, and enhances competitiveness in both domestic and export markets.
- For National Economy: Supports the target of reducing logistics costs from ~14% of GDP to near global benchmarks of 8–9%.
- For Trade Facilitation: Strengthens India's position in global value chains by ensuring faster and more reliable movement of goods.

Conclusion

The LEADS 2025 Index provides an evidence-based roadmap for improving India's logistics ecosystem. By integrating technology, tracking corridor performance, and benchmarking states, the initiative will help lower logistics costs, boost trade competitiveness, and strengthen India's vision of becoming a global manufacturing and supply chain hub under Make in India.

KURMIS

Context

The Kurmi community in West Bengal,
Jharkhand, and Odisha has revived its agitation
demanding recognition as a Scheduled Tribe
(ST) and the inclusion of the Kurmali language
in the Eighth Schedule of the Constitution.

About Kurmis

Who They Are:

- The Kurmi/Kudmi community is a historically agrarian and peasant group, currently classified as Other Backward Classes (OBCs) in most states.
- Their demands include ST status and formal recognition of their Sarna (natureworshipping) faith.

Regions of Settlement:

- West Bengal: Jhargram, Bankura, Paschim Medinipur, Purulia (Junglemahal region).
- Jharkhand: Palamu, Kolhan, North and South Chotanagpur divisions.

- Odisha: Mayurbhanj and adjoining districts.
- **Bihar:** Purnia, Katihar, Araria districts (Kurmis as OBCs).

Historical Background

- 1931 Census: Classified Kurmis as "Scheduled Tribes."
- Post-Independence (1950): Excluded from the ST list without formal notification.
- Freedom Struggle: Significant role in uprisings like Chuar Rebellion, Indigo Rebellion, Santhal Uprising, and Quit India Movement (leaders like Raghunath Mahato and Gopal Mahato).
- British Recognition: Gazette
 notifications (1913 & 1931) identified them
 as a "Notified Tribe," acknowledging
 distinct inheritance and customary
 practices.

Process of inclusion in the ST list:

- The respective State government sends a proposal to include a community in the ST list.
- The Ministry of Tribal Affairs examines the recommendation submitted by the State government.
- The proposal is forwarded to the Registrar General of India for scrutiny and approval.
- After this, it is reviewed by the National Commission for Scheduled Tribes.
- Finally, the Union Cabinet takes the decision and approves the inclusion.

Status of Scheduled Tribes in India:

- In Census 1931, Scheduled Tribes were termed backward tribes in Excluded/Partially Excluded areas.
- The Constitution does not define criteria;
 Article 366(25) links ST status to Article
 342
- Article 342(1): President specifies STs for



States/UTs after governor's consultation.

- Fifth Schedule: Administration of Scheduled Areas and STs (except Assam, Meghalaya, Tripura, Mizoram).
- Sixth Schedule: Governance of tribal areas in Assam, Meghalaya, Tripura, and Mizoram.
- Key legal protections: PCR Act 1955, SC/ST Atrocities Act 1989, PESA Act 1996, FRA 2006.
- Major initiatives: TRIFED, Digital Tribal Schools, PVTG Development, PM Van Dhan Yojana.
- Committees: Lokur Committee (1965), Bhuria Commission (2002–04), Xaxa Committee (2013).

Key Features of the Community

- Agrarian Base: Traditionally cultivators and land-clearers, often referred to as skilled market gardeners.
- Religious Beliefs: Practice Sarna, a faith rooted in nature worship, hills, groves, and trees, projecting cultural continuity with tribal traditions.
- Totemic Practices: Use clan-based totems and rituals linking them to tribal identity.
- Distinct Identity:
 - Reject association with Kshatriya Kurmis of North India.
 - Claim **Dravidian/tribal roots** instead of mainstream caste lineage.

Present Status

- Classified as OBCs under laws like the Chotanagpur Tenancy (CNT) Act, 1908.
- Actively demanding:
 - Re-inclusion in the Scheduled Tribes list.
 - Recognition of Kurmali language in the Eighth Schedule of the Constitution.
 - Codification of Sarna religion for cultural and religious identity.

The Kurmi community's long-standing demand for **ST status** reflects their assertion of a distinct cultural, historical, and tribal identity. Recognition of their **language and religion**, along with policy reclassification, will have major implications for their **political representation**, **social mobility**, **and welfare entitlements**, making it a significant issue in the tribal politics of eastern India.

India's Energy Efficiency Targets and COP 30

Context

India is preparing to present its updated climate action commitments at the 30th Conference of Parties (COP 30) scheduled in Belém, Brazil, on November 10.

Conference of Parties (COP 30)

COP is the annual climate conference under the UNFCCC framework where countries discuss global warming, pollution control, and sustainable growth strategies. The upcoming COP 30 in Brazil will focus on reviewing and enhancing Nationally Determined Contributions (NDCs) and financing mechanisms for developing nations.

Nationally Determined Contributions (NDCs)

- Definition: NDCs represent each country's climate action plan aimed at reducing emissions and adapting to climate impacts.
- Origin: The concept was formalized under the 2015 Paris Agreement, with the objective of restricting global warming to well below 2°C.
- Timeline: NDCs are reviewed and updated every five years to reflect progress and ambition.
- Evolution: Initially called Intended Nationally Determined Contributions (INDCs), the term became NDCs once the Paris Agreement was adopted.

India's Updated NDC Commitments (2030 Targets)

India has pledged ambitious goals that balance economic development with sustainability.

Key Commitments:





1. Emission Intensity Reduction

- Target: Reduce emission intensity of GDP by 45% compared to 2005 levels.
- Progress: Achieved a 33% reduction by 2019, showing significant early gains.

2. Non-Fossil Fuel Power Capacity

- Target: Ensure 50% of total installed power capacity comes from non-fossil sources by 2030.
- Progress: India has already reached around 50% installed capacity from solar, wind, hydro, and nuclear sources.

3. Carbon Sink Creation

- Target: Expand forest cover and afforestation efforts to create additional carbon sinks.
- Method: Large-scale tree plantation and restoration programs aimed at absorbing emissions through carbon sequestration.

UNFCCC(United Nations Framework Convention on Climate Change):

- The UNFCCC was signed at the 1992 United Nations Conference on Environment and Development, known as Rio Earth Summit.
- Its main goal is to stabilize greenhouse gas concentrations and prevent dangerous climate system interference.
- The Convention introduced the principle of "common but differentiated responsibilities" among developed and developing nations.
- It provided the foundation for major agreements like the Kyoto Protocol (1997) and Paris Agreement (2015).
- Nearly every country is a member, with 198 parties including the European Union as of 2025.
- The UNFCCC secretariat headquarters is

located in Bonn, Germany, serving as the main administrative centre

Global Context and Challenges

 Major Emitters: China, USA, India, and the EU lead global greenhouse gas emissions.

• Unequal Commitments:

- The USA exited the Paris Agreement temporarily.
- China is yet to submit a robust updated plan.
- The EU has announced long-term Net Zero by 2050 but lacks clarity on medium-term 2035 goals.

Developing Countries' Concerns:

- Developed nations historically emitted the most while industrializing.
- They now expect emerging economies to reduce emissions despite ongoing development needs.
- Calls for climate finance remain largely unmet, slowing technology adoption in developing nations.

India's Partnerships and the Carbon Market

 India–Japan Joint Crediting Mechanism (JCM):

Designed to exchange carbon credits, enabling both countries to achieve their targets more efficiently by funding cleaner technologies.

Carbon Market Framework:

India plans to operationalize its carbon market by 2026.

- Mechanism: Companies receive emission allowances. If they pollute less, they can trade surplus credits to others exceeding limits.
- Benefit: Encourages industry to innovate while creating financial incentives for emission reduction.

Strategic Importance for India

 Strengthens India's global position as a responsible climate actor despite its developmental challenges.



- Builds pressure on developed countries to fulfill climate finance promises.
- Promotes energy transition, reduces fossil fuel dependence, and boosts renewable energy innovation.

Conclusion

India's updated NDC targets demonstrate its commitment to balancing sustainable development with climate responsibility. With progress already visible in reducing emission intensity and expanding renewable energy, India enters COP 30 as a key player. However, global success depends on equitable responsibility, stronger commitments from major polluters, and the long-awaited fulfillment of climate finance pledges by developed nations.

Indian Tea Sector

Context

India is the world's second-largest producer of tea and a major player in the global tea trade. While domestic consumption remains strong, challenges of export competitiveness, pricing, and quality continue to influence the sector's global standing.

Global Production and Export Status

- Largest Producer: China remains the world's leading producer of tea.
- India's Position: India ranks second in production and is also among the top exporters, recently surpassing Sri Lanka to become the third-largest exporter (after China and Kenya).
- Consumption Pattern: Over half of India's tea production is consumed domestically, which reduces the quantity available for export.
- Export Data: India exported nearly 255 million kilograms of tea in recent years.
- Kenya's Role: Kenya leads as the world's largest exporter of tea, highlighting India's competition in the global market.

Price and Quality Challenges

 Revenue Disparity: India exported a higher volume (255 million kg) but earned

- only about USD 800 million, whereas Sri Lanka earned around USD 1.4 billion from 245 million kg.
- Reason: India emphasizes bulk exports and quantity, while Sri Lanka focuses on premium quality and branding.
- **Way Forward**: For better global competitiveness, India needs to:
 - Strengthen branding of specialty teas (Darjeeling, Assam, Nilgiri).
 - Improve quality assurance and marketing.
 - Focus on value-added exports instead of raw bulk tea.

Tea Basics and Major Producing Areas

- Botanical Name: Camellia sinensis.
- Origin: Ancient China, where tea culture first evolved.
- International Recognition: International Tea Day is celebrated on May 21.

Major Tea Producing States in India:

- Assam: Contributes about 55% of national output, known for strong-flavored teas from the Assam Valley and Cachar Valley.
- West Bengal: Renowned for Darjeeling Tea, India's first Geographical Indication (GI) product. Varieties include Darjeeling Green Tea and White Tea.
- 3. **Southern India**: Tea cultivation in Tamil Nadu, Kerala, and Karnataka produces Nilgiri and Anamalai teas.

The Tea Board of India

- **Nature**: A statutory body established under the Tea Act.
- Ministry: Functions under the Ministry of Commerce.
- **Composition**: Includes 32 members, with a Chairman and Deputy Chairman.
- Headquarters: Based in Kolkata, the hub of India's tea trade.
- Global Presence: Maintains two



overseas offices in Dubai and Moscow to promote exports.

Importance of the Sector

- Provides direct and indirect employment to over a million workers, especially women.
- Supports rural economies in Assam, West Bengal, and the Nilgiris.
- Enhances India's soft power through cultural recognition of Darjeeling and Assam teas globally.

Conclusion

India's tea sector is vital to its economy, offering both domestic consumption strength and export potential. However, to increase global market share and revenue, India must shift focus from volume-driven strategies to quality enhancement, premium branding, and international marketing. By doing so, Indian teas can command higher prices and greater prestige in world markets, similar to Sri Lanka's success with premium teas.

CPCB Report on Polluted River Sites (2023)

Context

The Central Pollution Control Board (CPCB) released its 2023 report on polluted river sites in India. The findings indicate a slight improvement, with the total number of polluted sites falling to 807 in 2023 from 815 in 2022. The report also shows a reduction in the most critically polluted "Priority-1" stretches, signaling progress in water quality management.

About the CPCB Report

- Nature of Report: A nationwide assessment conducted by the CPCB to evaluate the health of rivers and aquatic ecosystems.
- Pollution Indicator: Uses Biological Oxygen Demand (BOD) as the key parameter for assessing organic pollution levels.
 - BOD > 3 mg/L: Water is unfit for bathing.

- BOD > 30 mg/L: Classified as Priority-1, the most polluted category.
- Monitoring Network: Covers 4,736 monitoring locations across rivers, lakes, canals, and drains.

Trends in 2023 Findings

- 1. Polluted Sites
 - o 2022: 815 sites.
 - 2023: 807 sites (marginal improvement).

2. Polluted River Stretches (PRS)

- 2022: 311 PRS across 279 rivers.
- o 2023: 296 PRS across 271 rivers.

3. Priority-1 Stretches

 Declined from 45 in 2022 to 37 in 2023, showing fewer critically polluted stretches.

State-wise Distribution of Polluted Stretches

- Maharashtra: 54 stretches (highest in the country).
- Kerala: 31 stretches.
- Madhya Pradesh & Manipur: 18 stretches each.
- Karnataka: 14 stretches.

These states represent the regions facing significant water quality stress due to urbanization, industrialization, and inadequate wastewater management.

Significance of the Report

- Policy Relevance: Provides baseline data for water quality improvement programs under the National Mission for Clean Ganga and other state initiatives.
- Environmental Health: Helps identify hotspots where pollution poses risks to aquatic biodiversity and human health.
- Accountability Tool: Offers benchmarks for states to take corrective measures, improve sewage treatment, and strengthen enforcement of pollution control norms.

Way Forward



- Expansion of sewage treatment infrastructure in urban and peri-urban areas.
- Adoption of eco-friendly technologies to treat industrial effluents.
- Community-led monitoring and awareness campaigns for river conservation.
- Strengthening state pollution control boards for stricter compliance and reporting.

Conclusion

The CPCB's 2023 assessment highlights a marginal decline in polluted river sites and critical stretches, reflecting some progress in water pollution management. However, the continued presence of over 800 polluted sites underlines the urgent need for sustainable river basin management, effective sewage treatment, and stricter enforcement to restore India's rivers to ecological health.

LADAKH PROTESTS

Context

Protests in Ladakh's Leh, led by climate activist Sonam Wangchuk, escalated into riots with vehicles torched and government offices targeted. About 30 security personnel were injured, prompting curfew, as authorities accused Wangchuk of invoking global protest movements.

The Ladakh Protests

The protests represent long-standing grievances of the people of Ladakh, who argue that promises made after the abrogation of Article 370 in 2019 remain unfulfilled.

Key Triggers:

- Hunger strike by Sonam Wangchuk to highlight regional demands.
- Participation of youth who targeted political party offices and the Ladakh Hill Council.
- Growing discontent over lack of autonomy and protection of local rights.

Core Demands of the People

The movement is built around three major demands:

- Statehood for Ladakh To provide full legislative authority and empower the region beyond its current Union Territory status.
- Inclusion in the Sixth Schedule To ensure constitutional protection for tribal communities through Autonomous District Councils (ADCs), granting the power to frame local laws and safeguard culture, land, and resources.
- 3. **Job Security** To guarantee employment opportunities for Ladakh residents and prevent large-scale inflow of outsiders into the local workforce.

Political Background: From Statehood to Union Territory

- 2019 Developments: With the abrogation of Article 370, the state of Jammu & Kashmir lost its special status and was split into two Union Territories: Jammu & Kashmir, and Ladakh.
- Governance Gap: Unlike J&K, Delhi, and Puducherry, which have legislatures, Ladakh was created without one, leaving it directly under the administration of a Lieutenant Governor.

• Local Concerns:

- Fear of demographic changes due to migration from other regions.
- Loss of control over land and natural resources.
- Threats to cultural identity, traditions, and tribal heritage.

Government Actions: June 2025 Reforms

To address public discontent, the central government introduced several regulations in mid-2025:

 Job Safeguards – Domicile-based recruitment requiring 15 years of residence in Ladakh or education qualifications from the region. Children of central employees posted in Ladakh for over a decade were also included.



- Education and Reservation –
 Amendments increased reservation in professional institutions from 50% to 85% (nearly 95% including the EWS quota).
- Language Recognition The Ladakh
 Official Language Regulation, 2025, listed
 English, Hindi, Urdu, Bhoti, and Purigi as
 official languages, while also safeguarding
 others such as Shaina, Balti, and Ladakhi.

The Sixth Schedule and Its Challenges

- What It Is: A constitutional provision aimed at protecting tribal populations in Assam, Tripura, Meghalaya, and Mizoram by enabling the creation of ADCs and Autonomous Regional Councils.
- Powers of ADCs: Authority over land, forests, inheritance, taxation, schools, healthcare, and infrastructure. Councils are composed of elected and nominated members.
- Historical Basis: The Sixth Schedule was enacted following the recommendations of the Bordoloi Committee to safeguard tribal interests in the Northeast.
- Ladakh's Challenge: Since the Sixth Schedule is restricted to Northeastern states, extending it to Ladakh would require a constitutional amendment. The Fifth Schedule, which protects Scheduled Tribes elsewhere in India, is considered an alternative, but Ladakhis argue it does not provide adequate autonomy.

Strategic and Cultural Importance of Ladakh

- Geopolitical Value: As a sensitive border region with China and Pakistan, Ladakh holds immense strategic importance for India's national security.
- Cultural Identity: Home to a predominantly tribal population, Ladakh's unique traditions, languages, and Buddhist heritage are central to its demand for greater autonomy.
- Demographic Concerns: Locals fear that without protective measures, an influx of non-residents will erode their cultural and demographic balance.

The Ladakh protests highlight discontent over political disempowerment and cultural fears since UT status in 2019. Despite reforms on jobs, reservations, and language, unresolved demands for statehood and Sixth Schedule inclusion require balancing security, constitutional limits, and tribal aspirations.

GLOBAL SOUTH COOPERATION

Context

At UNGA (United Nations General Assembly), S. Jaishankar emphasized Global South concerns, representing developing nations of Asia, Africa, and Latin America—85% of humanity. Coined in 1969, the term replaced the derogatory "Third World." The Brandt Line symbolizes Global North-South disparities.

Defining the Global North and South

- Global North: Advanced economies such as the United States, European Union nations, Australia, and New Zealand, which dominate world trade, finance, and governance.
- Global South: Developing or emerging economies located primarily in Asia, Africa, and South America, representing the demographic and cultural majority of the planet.

This dichotomy remains central to debates about fairness, representation, and equity in global governance.

Issues of Global Governance and Power Imbalance

- Dominance of Developed Nations
 International organizations (IOs) are heavily influenced by developed countries, creating an imbalance in decision-making.
- UN Security Council Representation
 Despite being home to the majority of the world's population, the Global South lacks permanent representation on the UNSC.
 Entire regions like Africa, and rising powers like India and Brazil, remain excluded from permanent membership.
- Climate Change Burden
 Developed nations, responsible for much

Conclusion



of the historical carbon emissions, now pressure developing countries to curb pollution without adequate support for their developmental needs.

4. Weakening of International Institutions
Bodies such as the United Nations and
the World Trade Organization (WTO) face
funding shortages, credibility crises, and
political roadblocks. For example, U.S.
obstruction has stalled appointments of
WTO judges, weakening the dispute
resolution system.

5. Disproportionate Impact of Global Crises

- COVID-19 Pandemic: Disrupted economies and exposed healthcare gaps in developing nations.
- Wars: The Russia-Ukraine conflict and the Gaza war disproportionately harmed food security, fuel prices, and supply chains in the Global South.
- Climate Change: Rising sea levels, floods, and extreme weather events hit developing nations hardest, despite their lower contribution to global emissions.

India's Leadership Role in the Global South

India has positioned itself as a **voice and bridge for the Global South**, often referred to as "Vishwa Mitra" (Friend of the World). Its diplomatic initiatives highlight solidarity among developing nations and demand greater equity in global institutions.

Key Initiatives:

- Voice of Global South Platform: India consistently advocates for the needs of developing countries in international forums, amplifying their concerns about climate finance, trade equity, and representation.
- Global South Summit: India hosted major summits in 2023 and 2024 alongside the UNGA, bringing together leaders from like-minded developing countries to discuss shared challenges and opportunities.

Representation at the Global South Summit

The summit highlighted cross-continental unity, with participation from:

- Asia (9 nations): Bahrain, Indonesia,
 Qatar, Singapore, Vietnam, and others.
- Africa (6 nations): Nigeria, Ghana,
 Morocco, Chad, Lesotho, and Somalia.
- Latin America and the Caribbean (5 nations): Cuba, Jamaica, Suriname, Trinidad and Tobago, and Saint Lucia.

This diverse representation underscored the shared aspiration for a fairer international order.

Strategic Importance of Global South Cooperation

- **Economic Solidarity:** Collective bargaining power in trade, energy, and technology.
- Political Influence: Pressure for reforms in the UNSC and other global governance systems.
- Climate Justice: Coordinated push for climate finance, adaptation technologies, and recognition of historical emissions responsibility.
- Cultural Bridge: Strengthening people-topeople ties, linguistic diversity, and shared development models rooted in local traditions.

Conclusion

Global South cooperation marks a shift toward equity and shared development in global politics. India, as a leading advocate, amplifies developing nations' voices for reforms in governance and climate, seeking recognition and equal participation in world affairs.

SALT & BURDEN OF NON-COMMUNICABLE DISEASES (NCDs)

Context

Salt is essential for the body but has become a hidden danger in India's health crisis. Unlike sugar and fat, excess salt intake is often overlooked. Indians consume 8 to 11 grams daily, exceeding the World Health Organization's recommended 5 grams, increasing the risk of Non-Communicable Diseases.



Sources of Excess Salt

- Home-cooked foods: Pickles, papads, chutnevs, and liberal use of salt in curries.
- Restaurant meals: Enhanced taste with butter, oil, and extra salt.
- Packaged and processed foods: Bread, biscuits, sauces, cakes, and ready-to-eat items, which contain large amounts of hidden or invisible salt.
- Common misconception: Alternatives like rock salt, pink salt, and black salt are not significantly healthier, as they contain similar sodium levels.

Health Impact: The Link with NCDs

Excessive salt intake is a major driver of **Non-Communicable Diseases**, which account for **60% of all deaths in India**.

Key conditions include:

- Hypertension (High Blood Pressure) –
 Affects nearly 28% of Indian adults and is directly linked to excessive sodium intake.
- Cardiovascular Diseases (CVDs) The leading cause of mortality in India, aggravated by high salt diets.
- Premature Deaths Hypertension and CVD are leading contributors to early mortality.
- Impact on Children Increased consumption of packaged foods is creating early dependence on high-salt diets, raising future risks of chronic illness.

Economic Costs and Potential Benefits

The financial implications of NCDs are enormous, straining both households and the healthcare system. However, salt reduction offers one of the highest health returns.

- WHO Estimate: Every \$1 invested in salt-reduction initiatives saves \$10 in future healthcare costs.
- Savings impact: Reduced burden of hospitalization, out-of-pocket expenses, and long-term treatment for chronic illnesses.

Challenges in Implementation:



- Cultural Practices Deep-rooted habits of consuming pickles, papads, and extra salt in meals.
- Food Industry Resistance –
 Dependence on high salt, sugar, and fat to make products more palatable.
- 3. **Awareness Gap** Public health messaging tends to prioritize sugar and fat, overshadowing salt-related risks.

Suggested Solutions and Strategies

To address this hidden health crisis, multi-level strategies are required:

- 1. Implement a national policy to reduce foods high in fat, salt, and sugar.
- 2. Launch public awareness campaigns encouraging less salt use and healthier substitutes like herbs and spices.
- Mandate front-of-package warning labels on packaged foods for informed consumer choices.
- 4. Reform restaurants by removing salt shakers from tables and providing salt only on request.

Conclusion

Salt reduction is crucial for India's health and economy, as excessive intake drives Non-Communicable Diseases. Coordinated action through regulation, industry responsibility, cultural change, transparent labeling, and global best practices can curb salt overload and improve public health.

VIKSIT BHARAT BUILDATHON 2025

Context

The Union Minister of Education launched the **Viksit Bharat Buildathon 2025**, marking India's largest-ever hackathon initiative for school students. The program seeks to channel young minds into solving local and national challenges through innovation, thereby fostering a culture of creativity, problem-solving, and self-reliance.

About Viksit Bharat Buildathon 2025

What It Is:

www.raceias.com

The Viksit Bharat Buildathon 2025 is a

nationwide school-level innovation movement, jointly organized by the Department of School Education & Literacy (DoSEL) under the Ministry of Education, Atal Innovation Mission (AIM), NITI Aayog, and the All India Council for Technical Education (AICTE).

Core Aim:

- Inspire grassroots innovation and design thinking among school students.
- Promote student-led solutions around four central themes:
 - 1. Vocal for Local
 - 2. Atmanirbhar Bharat (Self-reliant India)
 - 3. Swadeshi (Indigenous solutions)
 - 4. Samriddhi (Prosperity and growth)
- Strengthen India's positioning as a **global** hub for student-led innovation.

Key Features of the Buildathon

- Timeline: Runs from September 2025 to January 2026.
- Scale: India's largest school hackathon, engaging lakhs of students from across the country.
- Recognition and Incentives: Over 1,000 winners will be identified and supported.
 The recognition pathways include:
 - Patent facilitation.
 - Startup incubation.
 - Entrepreneurship mentorship and programmes.

Importance

- Grassroots Innovation: Encourages problem-solving starting from the school level, embedding creativity early in the education system.
- Nation-Building Themes: Directly connects students' innovation efforts with India's developmental vision of selfreliance, prosperity, and indigenous solutions.
- Future Workforce Development:
 Prepares students not just as learners but

as future entrepreneurs, innovators, and change-makers.

Conclusion

The Viksit Bharat Buildathon 2025 is more than just a hackathon, it is a national movement to nurture creativity at the school level and inspire solutions that are both local and globally competitive. By connecting innovation with India's developmental vision, it equips students to contribute meaningfully to the country's journey towards Viksit Bharat (Developed India).

EXERCISE COLD START

Context

In October 2025, India will conduct **Exercise Cold Start** in Madhya Pradesh, its largest-ever tri-service drone and counter-drone drill since **Operation Sindoor**. The exercise aims to test the country's preparedness against evolving aerial threats and strengthen inter-service cooperation in modern warfare.

About Exercise Cold Start

What It Is:

- A tri-service military exercise focused on the use of drones, UAVs, and counter-drone technologies.
- Simulates aerial threats and defence responses in a future-oriented battlefield environment.
- Scheduled for the first week of October 2025, hosted in Madhya Pradesh.

Organisations Involved:

- Indian Army, Navy, and Air Force (joint participation).
- Collaboration with industry partners, research & development agencies, and academic institutions for technology inputs.

Key Features

- **Live operational drills** with drones and counter-drone systems.
- Integration of GPS jamming, surveillance technologies, and electronic warfare systems.



- Inspired by the Sudarshan Chakra concept, designed for integrated defence against drones, UAVs, hypersonic missiles, and other aerial threats.
- Testing of indigenous defence technologies, developed jointly with industry and academia.

INDIA'S FIRST OVERSEAS DEFENCE MANUFACTURING FACILITY

Context

India's first overseas defence manufacturing facility was inaugurated at Berrechid, Morocco in 2025 by India's Defence Minister and his Moroccan counterpart Abdelatif Loudyi. The plant, set up by Tata Advanced Systems Limited (TASL) in collaboration with DRDO, will manufacture the indigenously developed Wheeled Armoured Platform (WhAP) for the Royal Moroccan Army.

What It Is

- A 20,000 sq. metre, state-of-the-art defence plant.
- Established by TASL (Indian private sector) in partnership with DRDO (public R&D agency).
- First-ever overseas defence facility set up by an Indian private company in Africa.
- Location: Berrechid, Morocco.

Aim

- Promote India's vision of Aatmanirbhar Bharat, Make with Friends, Make for the World.
- 2. Strengthen **India–Morocco defence ties** and regional security cooperation.
- 3. Enhance **defence exports** and project India as a reliable global defence partner.

Features

- Production Focus: WhAP 8×8 Modular Combat Platform.
- Variants: Infantry Fighting Vehicle, Armoured Personnel Carrier,

- Reconnaissance Vehicle, Command Post, Mortar Carrier, and Ambulance.
- Technology: Advanced mobility, high protection standards, remote weapon stations, and anti-tank guided missile options.

• Local Sourcing:

- One-third of components sourced from Morocco initially.
- To rise to 50% localisation in the future.

Importance

Strategic:

- Positions Morocco as an export hub for Africa and Europe.
- Reinforces India's role in global South— South defence cooperation.

Diplomatic:

 Deepens India–Morocco bilateral ties and showcases India's defence diplomacy.

Economic:

- Generates local employment in Morocco.
- Creates a supplier ecosystem and strengthens India's defence export profile.

Conclusion

The defence manufacturing facility in Morocco is a milestone in India's defence industrial outreach. It not only reflects India's capacity to build advanced platforms like the WhAP but also underlines the country's shift from being a major defence importer to an emerging global exporter and collaborator.

KERALA OIL SPILL CASE

Context

On May 25, 2025, a major oil spill incident occurred off the Kerala coast when a container vessel belonging to the Mediterranean Shipping Company (MSC) capsized, releasing large quantities of oil and plastic pellets into the sea. The disaster led to extensive environmental



damage, economic losses, and legal proceedings over compensation.

The Incident

The container vessel **MSC Elsa 3**, bound for Kerala, overturned in the sea, causing two types of pollution:

- Oil Spill large amounts of oil leaked into the coastal waters.
- Plastic Pollution nodules and other plastics carried by the vessel were discharged into the marine environment.

The Kerala government, facing escalating cleanup costs, launched operations to contain the spill and remove pollutants. The incident triggered widespread ecological concerns, given Kerala's fragile coastal ecosystem and dependence on fishing and tourism.

Impact and Cost of the Spill

The consequences of the oil spill were farreaching:

- Environmental Damage The spill harmed aquatic life, coral ecosystems, and seabirds, while plastics added a longlasting layer of marine pollution.
- High Cleanup Expenditure The state government incurred huge expenses in managing and containing the spread of oil.
- Ongoing Process Even months after the May incident, cleanup operations continued, highlighting the scale of the disaster.

Legal Proceedings and Compensation Dispute

Following the disaster, the Kerala government sought damages from the shipping company:

- Claim by Kerala The state demanded
 ₹9,531 crore in compensation for cleanup and environmental losses.
- Seizure of Vessel To enforce its claim, Kerala detained another MSC ship, the MSC Akikta 2, holding it under custody.
- High Court Verdict -
- The Kerala High Court agreed that the state was entitled to compensation but held that the ₹9,531 crore claim lacked sufficient evidence and was excessive.

 The court ordered the company to pay ₹1,227 crore, making it a condition for the release of the seized vessel.

This ruling set a precedent in balancing state claims with judicial scrutiny of evidence in environmental compensation cases.

Oil Spills: Causes and Risks

Oil spills occur worldwide, and their recurrence makes them a frequent subject in environmental law and civil services examinations.

Major Causes

- Shipping accidents collisions, groundings, or capsizing of vessels.
- Offshore drilling and pipelines leaks and blowouts.
- Illegal discharges deliberate dumping of oil waste at sea.
- Natural disasters storms or tsunamis damaging vessels or rigs.

Environmental and Human Impacts

- Marine Ecosystem Damage Oil forms a surface layer that blocks sunlight, disrupting photosynthesis in aquatic plants.
- 2. **Marine Animal Mortality** Fish, turtles, seabirds, and mammals suffer suffocation or hypothermia as oil coats their bodies.
- 3. **Human Health Risks** Exposure to contaminated water causes respiratory and skin ailments; seafood consumption poses additional hazards.
- 4. **Economic Losses** Fishing bans, reduced tourism, and costly cleanup efforts impact local livelihoods and government resources.

National and International Legal Framework

Oil spill responses are guided by both national agencies and global conventions:

- Indian Coast Guard (ICG) Primary authority for oil spill containment and rescue operations in Indian waters.
- International Conventions –



- MARPOL Convention (Annex I) governs prevention of oil pollution from ships.
- Oil Pollution Preparedness,
 Response and Co-operation (OPRC)
 Convention mandates global
 cooperation during major spills.
- Civil Liability Convention & Bunker Convention – provide legal mechanisms for compensation.
- Preparedness Exercise Net Polrex, a multinational exercise, ensures readiness for large-scale oil spill emergencies.

Cleanup and Mitigation Strategies

Various technologies are employed to remove or neutralize oil pollution in water:

Technique	Description	Key Features
Booms	Floating barriers confine oil to a specific area.	Often followed by recovery or controlled burning.
Skimmers	Machines mounted on vessels that collect oil or oil-water mixtures.	Effective for surface spills.
Sorbents	Materials that absorb oil.	Examples: volcanic ash, synthetic pads.
Dispersants	Chemicals that break oil into smaller droplets.	Promote natural biodegradatio n.
Bioremediati on	Microbes consume and degrade hydrocarbons.	Example: Olijepper developed by TERI & ONGC.

MOF Coton

Developed by IIT Guwahati.

A costeffective absorbent that soaks up oil.

These solutions highlight a combination of mechanical, chemical, and biological approaches for effective cleanup.

Conclusion

The Kerala oil spill highlights coastal fragility, cleanup burdens, and the High Court's compensation ruling emphasizing evidence. Strengthening prevention, preparedness, ecotechnologies, and strict maritime norms remain vital for accountability and protecting India's vulnerable marine ecosystems.

TEJAS LIGHT COMBAT AIRCRAFT (LCA)

Context

India's defence sector marked a major achievement as the Ministry of Defence signed a contract with Hindustan Aeronautics Limited for the indigenous LCA Tejas Mk1A, advancing self-reliance and Air Force modernization under the Aatmanirbhar Bharat initiative.

Contract

The agreement represents one of the largest defence procurement projects for indigenously built fighter aircraft:

- Parties Involved The Ministry of Defence (MoD) signed the contract with Hindustan Aeronautics Limited (HAL), the state-run aerospace and defence company.
- Number of Aircraft HAL will manufacture 97 Tejas Mk1A jets, comprising:
 - 68 single-seater fighter variants.
 - 29 twin-seater trainer variants.
- Delivery Schedule Deliveries will begin around 2027–2028 and continue for six years until the order is completed.
- Economic Impact The project is expected to generate over 11,000 jobs,



both direct and indirect, strengthening India's aerospace ecosystem.

Tejas Mk1A Features and Capabilities

The Tejas Mk1A is a **4.5th generation light multi-role fighter aircraft**, designed to replace outdated platforms in the IAF.

- Generation Classification Falls under the 4.5th Generation category.
 - India does not yet possess a 5thgeneration fighter aircraft.
 - The indigenous Advanced Medium Combat Aircraft (AMCA), India's planned 5th-gen jet, is expected only after 2035.
- Role To replace aging Soviet-origin aircraft such as the MiG-21 and MiG-29 fighters, ensuring modernization of the IAF fleet.
- Indigenous Content The indigenous components in Tejas have increased from 50% to 64%, advancing the Aatmanirbhar Bharat initiative.
- Key New Features (67 upgrades)
 - Uttam AESA radar (indigenously developed advanced radar).
 - Swayam Raksha Kavach (indigenous self-protection system for survivability).
 - Enhanced avionics, improved electronic warfare systems, and advanced weapon integration.

Significance

- Strengthening IAF Provides modern, agile, and combat-ready aircraft to replace obsolete fleets.
- Boost to Indigenization Reduces dependency on foreign suppliers, promotes Indian defence R&D, and strengthens domestic industry.
- Economic Benefits Supports job creation, skill development, and defence exports.
- Long-Term Vision Acts as a bridge to future indigenous platforms like AMCA and supports India's emergence as a global aerospace hub.

Conclusion

The Tejas LCA Mk1A deal boosts India's defence self-reliance and modernization, replacing older jets with advanced indigenous platforms, enhancing IAF's capabilities, and supporting local industry and employment, making India a key defence producer.

YELLOW PEAS (PEES)

Context

The Central Government's recent decision to allow the **duty-free import of yellow peas** has triggered discontent among Indian farmers. Yellow peas, a Rabi crop commonly used as a substitute for chickpeas, have become the subject of legal and economic debate:

- Government Decision Import of yellow peas without customs duty.
- Farmer Concerns Farmers fear that cheap imports will depress domestic market prices, causing losses to local producers.
- Legal Action The farmers' group Kisan
 Mahapanchayat filed a petition in the Supreme Court.
- Supreme Court Intervention The Court has sought a response from the Central Government regarding the policy decision.

This controversy reflects the tension between meeting consumer demand through imports and safeguarding farmer interests.

Agricultural and Nutritional Details

- Crop Type Yellow peas are a Rabi crop.
 - Sowing Period October to November.
 - Harvesting Season March to April.
- Soil Enrichment Yellow peas aid in nitrogen fixation, improving soil fertility and reducing the need for chemical fertilizers.
- Nutritional Value –



- Rich in protein (20–25%), carbohydrates, and fiber.
- Contains essential vitamins and minerals.
- Often used as a substitute for chickpeas (chana), especially when chana prices rise.

Global Trade and Indian Demand

- Largest Producer & Exporter Canada is the world's top producer and exporter of yellow peas.
- Other Exporters Russia, Ukraine, the USA, and Australia (regions with cold climates) are also major suppliers.
- India's Position -
 - India produces yellow peas, but domestic output is minimal.
 - With high domestic demand, India relies heavily on imports.
 - Between 2023 and 2024, India's imports of yellow peas reportedly doubled, showing growing dependency on foreign supply.

Conclusion

The Yellow Peas import controversy reveals the challenge of ensuring affordable food while protecting farmers, as cheaper imports benefit consumers but undercut domestic pulse growers. Supreme Court scrutiny will decide India's balance of food security, farmer welfare, and trade commitments.

THE HINDU SUCCESSION ACT, 1956

Context

The Supreme Court is cautiously examining petitions challenging Sections 15 and 16 of the Hindu Succession Act, 1956, balancing women's inheritance rights with preserving the traditional Hindu social structure, while encouraging mediation for amicable settlements.

About the Act

 Nature of the Law – A legislation that codifies and amends Hindu personal

- **law** relating to succession in cases where no will is made (intestate succession).
- Date of Enforcement Came into effect on 17 June 1956.
- **Territorial Extent** Applied across India except Jammu & Kashmir (at that time).
- Objective -
 - To introduce uniformity in succession rules among Hindus.
 - To reduce gender discrimination in inheritance.
 - To progressively enhance women's property rights.

Coverage

- Communities Included Hindus, Buddhists, Jains, and Sikhs.
- Excluded Groups Muslims, Christians, Parsis, and Jews (unless governed by Hindu law prior to the Act).
- Scheduled Tribes Exempted unless specifically brought under its purview by the Central Government.

Key Provisions

- Daughters are coparceners by birth, equal to sons in ancestral property rights and liabilities since 2005 amendment.
- Property of intestate Hindu males goes first to Class I heirs, then Class II, agnates, and cognates.
- Women own their property absolutely, overriding earlier limited ownership rules; can freely manage and dispose it.
- Intestate Hindu women's property devolves to their children, husband, and heirs of husband, father, and mother.
- Succession principles: full blood preferred; unborn child rights recognized; murderers and converts disqualified.
- If no heirs, property escheats to the government, which takes on associated property obligations.

Significance



- Established legal clarity and uniformity in Hindu succession laws.
- Strengthened women's property rights, especially after the 2005 amendment.
- Reduced ambiguities in cases of intestate succession across Hindu communities.
- Balanced traditional family structures with progressive gender equality reforms.

Conclusion

The Hindu Succession Act, 1956 is a landmark reform shaping inheritance rights, yet debates persist on women's succession. The Supreme Court's review may redefine the balance between gender equality and traditional family structures, evolving Indian succession law.

MAHENDRAGIRI HILLS

Context

Environmentalists have expressed alarm over rapid tourism expansion and construction projects in the Mahendragiri Hills of Odisha. Despite being declared a Biodiversity Heritage Site (BHS) in 2022.

About Mahendragiri Hills

What it is

- A prominent mountain range in the Eastern Ghats, celebrated for its mythological, cultural, and ecological importance.
- Recognized as a Biodiversity Heritage Site under the Biological Diversity Act, 2002, owing to its rich flora and fauna.

Location

- Situated in Gajapati district, Odisha, at an elevation of 1,501 meters (4,925 ft) above sea level.
- Approximately 175 km from Berhampur, lying at the heart of the Eastern Ghats.

Key Features

1. Hosts 1,348 plant species and 388 animals, many endemic or threatened;

- critical habitat for elephants and historically tigers.
- 2. Known as Mahendra Parvata in epics; significant in Ramayana, Mahabharata; Lord Parashurama's penance site.
- 3. Home to Panchpandava temples, Lord Shiva shrines; attracts thousands of pilgrims annually, especially during Maha Shivaratri.
- 4. Inhabited by Saora and Kondh tribes relying on forests for traditional livelihoods and sustenance.
- Fragile mountain ecosystems threatened by deforestation, unregulated tourism, habitat loss affecting elephant corridors, predators.
- Ecological balance is crucial for the region's climate control; ancient temples declared protected monuments drawing devotees.

Significance

- **Ecological** A biodiversity hotspot of the Eastern Ghats.
- Cultural A sacred landscape embedded in India's epic traditions.
- Tribal livelihoods Sustains traditional forest-dependent communities.
- Tourism potential A destination for eco-tourism and pilgrimage, requiring careful regulation.

Conclusion

The Mahendragiri Hills embody cultural reverence and biodiversity. Designated a Biodiversity Heritage Site, they face threats from unchecked tourism. Sustainable management should focus on eco-tourism, forest conservation, and tribal involvement to protect this unique fragile ecosystem.

SOILLIFICATION TECHNOLOGY

Context

Desertification is a major concern in India, especially in Rajasthan's Thar Desert, which threatens the NCR. To combat this, researchers



at Central University of Rajasthan developed Soillification Technology, turning desert sand into cultivable soil.

Thar Desert Expansion:

The **Thar Desert**, one of the world's largest arid regions, is steadily growing due to both natural and human-induced factors. Its expansion toward fertile areas threatens agriculture, livelihoods, and ecological balance.

Key Reasons for Expansion:

- Degradation of the Aravalli Hills, which act as a natural barrier to desert winds and sand movement.
- **Deforestation**, where the rate of tree cutting exceeds afforestation efforts.
- Shifts in rainfall patterns, leading to irregular monsoons and prolonged droughts.
- **Spread of sand dunes**, which cover once-productive land.

Consequences:

- Loss of fertile land, reducing cultivation and threatening food security.
- Decline in groundwater recharge and worsening water scarcity.
- Ecological imbalance, affecting biodiversity and local communities.
- Higher vulnerability to dust storms and climatic extremes.

One of the biggest challenges is that desert sand lacks the ability to retain water. Unlike fertile soil, which stores moisture and gradually releases it to plant roots, desert sand allows water to evaporate or drain away quickly, making farming almost impossible.

The Innovation: Soillification Technology

Definition: Soillification Technology is an innovative method developed to modify desert sand so that it behaves like fertile soil, capable of supporting agriculture.

Developers: Researchers from the **Central University of Rajasthan** pioneered this technique.

Core Components:

- Polymer Treatment: Binds loose sand, improves water retention like a sponge, reduces irrigation needs by half, and boosts crop productivity.
- Bioformulation with Microbes: Adds nitrogen-fixing microbes, enriching soil naturally for strong plant growth.

Testing and Early Results

The technology has been tested successfully under controlled conditions. Crops such as **millet** (**bajra**), **cluster bean (guar gum)**, and **chickpea** have been cultivated in treated sandy land.

Impact of Trials:

- The soil-like structure improved crop yield.
- Reduced water consumption made farming more sustainable.
- Farmers in desert-prone regions could potentially reclaim barren land for agriculture.

Strategic and Economic Importance

If widely implemented, Soillification Technology could become a **game-changer** for India's agricultural landscape and economy.

Potential Benefits:

- Prevents the desert from spreading into fertile zones like NCR.
- Converts unproductive desert land into farmland, improving food security.
- Strengthens the rural economy by enabling cultivation in arid regions.
- Reduces dependence on excessive irrigation, conserving groundwater.
- Aligns with India's climate resilience and sustainable farming goals.

Environmental and Social Considerations

While promising, the technology must be implemented responsibly to balance development and ecology.

Environmental Concerns:

- Large-scale use of polymers must be ecofriendly and non-toxic.
- Introduction of microbes should not disrupt existing desert ecosystems.



Long-term impacts on biodiversity need careful study.

Social Implications:

- Provides opportunities for farmers in drought-prone areas to revive livelihoods.
- Reduces migration caused by unproductive land and water scarcity.
- Encourages local participation in combating desertification.

About the Thar Desert

- The Thar Desert is spread across Rajasthan and extends into Haryana, Gujarat, and Punjab.
- It is bordered by the Aravalli Hills to the northeast and the Rann of Kutch to the southwest.
- Known for extreme temperatures, low rainfall, and shifting dunes.
- Despite harsh conditions, it supports unique biodiversity and human settlements.

Conclusion

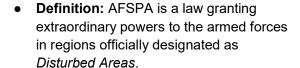
Soillification Technology combats desertification by binding sand, improving water retention, and enriching nutrients to make farmland. Its success depends on ecological safety, affordability, and community participation, potentially ensuring food security and environmental stability in India.

ARMED FORCES SPECIAL POWERS ACT (AFSPA)

Context

The Armed Forces Special Powers Act (AFSPA), enacted in 1958 to address insurgency in Northeast India, remains controversial. In September 2025, the Government extended AFSPA for six months—from October 2025 to March 2026—in parts of Manipur, Nagaland, and Arunachal Pradesh. Supporters cite its importance for law and order in disturbed areas, while critics argue it undermines human rights due to its sweeping powers and immunity for armed forces.

Background and Current Status



- Objective: To empower security forces in countering insurgency, militancy, and armed rebellion where ordinary law and order measures are inadequate.
- Enactment: First introduced in 1958 to address conflicts in the Northeast.
- Authority: Under Section 3 of the Act, the Central Government can declare any region as "disturbed."
- Review Mechanism: AFSPA is subject to review every six months to decide whether the disturbed area status should continue.

Current Coverage (as of October 2025):

- Manipur: Extended across the state except in 13 police station areas.
- **Nagaland:** In force across nine districts and 21 police stations.
- Arunachal Pradesh: Applicable in specific districts bordering Assam.

Regions where AFSPA has been revoked:

- Tripura (2015) fully withdrawn.
- Meghalaya (2018) completely lifted.

Special Powers Granted to Armed Forces

AFSPA equips the armed forces with sweeping powers to maintain control in disturbed regions:

- Shoot-to-Kill Authority: Security personnel can use force, including lethal force, against individuals violating prohibitory orders.
- Arrest Without Warrant: Armed forces may arrest any individual suspected of committing or about to commit a cognizable offense.
- 3. **Search Without Warrant:** Houses, buildings, or premises may be searched without prior judicial authorization.
- 4. **Immunity from Prosecution:** Personnel are shielded from prosecution without prior sanction of the central government, ensuring wide-ranging legal protection.



Criticism and Controversy

AFSPA has attracted consistent criticism from human rights activists, civil society groups, and international organizations.

Major Concerns:

- Human Rights Violations: Allegations of extrajudicial killings, fake encounters, custodial deaths, and misidentifications.
- Excessive Powers: Critics argue provisions under Section 4 (Clause A & C) and Section 6 provide near-absolute impunity.
- Public Protests: Notable long-term protests include Irom Sharmila's 16-year hunger strike in Manipur, demanding repeal of AFSPA.

Reform Recommendations

Several committees and commissions have reviewed AFSPA and suggested reforms:

- Justice Jeevan Reddy Committee
 (2005): Recommended repealing
 AFSPA, calling it a law with no place in a
 modern democracy. Suggested
 incorporating necessary provisions into
 the Unlawful Activities (Prevention) Act
 (UAPA).
- Second Administrative Reforms
 Commission (2007): Advocated replacing
 AFSPA with a more humane legal
 framework to balance security concerns
 with human rights.
- Supreme Court (2016 & later rulings):
 While upholding the Act's constitutionality, the Court mandated strict checks, directing that every use of force must be subject to judicial scrutiny, and that AFSPA must be reviewed every six months in consultation with states.

Arguments in Favor of AFSPA

Despite criticism, proponents stress that AFSPA plays a crucial role in counterinsurgency operations:

 Essential in Disturbed Areas: Where insurgency and militancy overwhelm state police, AFSPA ensures the armed forces can act swiftly.

- Temporary Measure: Advocates highlight that the law is not permanent but applicable only in notified disturbed regions.
- National Security Imperative: Helps the military secure border states like Nagaland and Manipur, which are prone to cross-border infiltration and militant activities.
- Operational Freedom: Provides armed forces the legal backing necessary to operate effectively in hostile and uncertain conditions.

Conclusion

The Armed Forces Special Powers Act (AFSPA) grants security forces in disturbed areas authority to use force, arrest without warrants, and search premises, with legal immunity. It is debated for balancing security and human rights in India.

MoSPI COMPREHENSIVE MODULAR SURVEY: EDUCATION 2025

Context

India has recorded a remarkable improvement in school retention, with dropout rates halving in just two years. According to the Comprehensive Modular Survey: Education 2025, conducted by the Ministry of Statistics and Programme Implementation (MoSPI), this achievement reflects the combined impact of government schemes, policy reforms, and community participation. If sustained, these gains could bring the country closer to achieving universal school completion within a decade.

About the Survey

- Conducted by: Ministry of Statistics & Programme Implementation (MoSPI).
- Timeline: April

 June 2025.
- Framework: Part of the 80th round of the National Sample Survey (NSS).
- Objective: To assess trends in school enrolment, dropout, expenditure, and equity in education.

Key Findings of the Survey

1. Dropout Decline



- Secondary Level: Dropped to 8.2% (2024–25) from 13.8% (2022–23).
- Middle Level: Declined to 3.5% from 8.1%.
- Preparatory Stage: Reduced to 2.3% from 8.7%.

This sharp turnaround indicates effective interventions at the foundational and middle-school levels.

2. Structural Turnaround

Several flagship programmes and policy measures are credited for this progress:

- Samagra Shiksha Abhiyan: Integrated approach to school education.
- Mid-Day Meal (PM POSHAN): Improved nutrition and attendance.
- **Scholarships & Incentives:** Encouraged participation of vulnerable groups.
- NEP 2020 Flexibility: Allowed multiple entry-exit points and skill-based learning, reducing academic pressure.

3. Affordability Challenge

Household expenditure on education continues to rise:

- Government Schools: ₹2,639 (rural) and ₹4,128 (urban).
- Private Unaided Schools: ₹19,554 (rural) and ₹31,782 (urban).
 The wide gap highlights growing concerns of affordability and equity.

4. Secondary Fragility

Despite improvements, dropout risks remain high among adolescents due to:

- Family income pressures and early entry into the workforce.
- Limited access to higher-secondary schools, especially in rural areas.
- Social barriers like child marriage and gender discrimination.

5. Long-Term Outlook

If affordability and access challenges are addressed, India could achieve universal school completion within the next decade, laying a strong foundation for human capital development.

Broader Significance

RACE IAS

For Social Justice:

- Demonstrates effectiveness of schemes like Samagra Shiksha Abhiyan and NEP 2020.
- Highlights continuing challenges in equity, especially for marginalized groups.

For Indian Society:

- Literacy growth strengthens social empowerment.
- Reduced dropouts among vulnerable groups can transform intergenerational opportunities.

For Economic Development:

- Improved retention contributes to human capital formation.
- Supports India's quest to harness its demographic dividend.
- Better-educated youth can contribute to higher productivity and innovation.

Conclusion

The MoSPI Comprehensive Modular Survey: Education 2025 underlines India's progress in curbing school dropouts through targeted schemes, policy innovation, and community efforts. However, the rising cost of education and persistent vulnerabilities in secondary schooling require urgent attention. Balancing access, affordability, and quality will be key to sustaining momentum and ensuring that India moves decisively toward universal school education in the coming decade.

ONE-HORNED RHINOCEROS

Context

The Greater One-Horned Rhinoceros, also known as the Indian Rhino, is one of the most iconic megafauna species of South Asia. Once widespread across the Indo-Gangetic plains, its population drastically declined due to hunting and habitat loss. However, through strong conservation measures in India and Nepal, the species has made a remarkable recovery, though it still faces threats of poaching and habitat degradation.

The Species and Its Distribution

Key Features:

- Found in the floodplains and grasslands of India and Nepal.
- India hosts 3,000–4,000 individuals, mainly in Assam (Kaziranga, Pobitora, Orang) and West Bengal (Jaldapara, Gorumara).
- Smaller populations live in Nepal's Chitwan and Bardia.
- Globally, it is one of five rhino species, along with White, Black, Javan, and Sumatran rhinos.

Protection Status

The species is legally and internationally recognized as threatened, ensuring strict conservation measures.

Status Highlights:

- IUCN Red List: Vulnerable, indicating a risk of moving towards endangerment without continued protection.
- CITES (Convention on International Trade in Endangered Species): Listed under Appendix I, banning commercial trade.
- Wildlife Protection Act, 1972 (India):
 Included in Schedule I, providing the highest degree of legal safeguard against hunting and poaching.

Conservation Initiatives

India and Nepal have undertaken multiple targeted programs to protect and restore rhino populations.

Major Efforts:

- Project Rhino (Assam): Focuses on antipoaching drives and habitat management in Assam's rhino-bearing areas.
- Indian Rhino Vision (IRV 2020):
 Launched in 2005, aimed to increase
 Assam's rhino population and spread them across seven protected areas to reduce vulnerability.
- Community Involvement: Local communities are encouraged to

participate in eco-tourism, awareness campaigns, and habitat restoration.

Ecological Significance

The one-horned rhino, as a mega-herbivore, maintains grasslands through grazing and seed dispersal.

Key Roles:

- Shapes habitats that support birds, deer, and insects.
- Functions as an umbrella species, with its conservation aiding many other species.

Threats and Challenges

Despite increasing populations, the species continues to face risks.

- Poaching: Horns are in demand for illegal trade, often linked to myths about medicinal and ornamental value.
- Habitat Loss: Encroachment, agriculture, and infrastructure projects reduce grassland areas and block migration corridors.
- Human-Wildlife Conflict: Crop raiding by rhinos often triggers clashes with local communities.
- Climate Vulnerability: Floods in Assam and changing rainfall patterns affect rhino habitats.

Conclusion

The Greater One-Horned Rhinoceros, once on the brink of extinction, symbolizes both India's conservation challenges and its achievements. Sustained efforts under legal protection, habitat conservation, and community participation have revived its population. However, continued vigilance is crucial to safeguard this species against poaching, habitat pressures, and climate risks, ensuring that the "armored giant of Asia" thrives for generations to come.



RISING CARDIOVASCULAR DISEASE (CVD) IN INDIAN YOUTH

Context

India's demographic dividend is under threat as Cardiovascular Disease (CVD) rises among young adults aged 20–40.

Key Point:

 Nearly 50% of heart attack patients in India are now aged 20–40, marking a major health concern with serious social and economic impacts.

Causes and Risk Factors

Medical experts point to **lifestyle choices** as the primary driver of early-onset heart diseases, with genetic predisposition further amplifying risks. When poor lifestyle habits combine with hereditary vulnerabilities, the likelihood of developing CVD rises by more than **70%**.

Major Risk Factors:

Young Indians face rising heart disease risk due to unhealthy lifestyles, including sedentary routines, reliance on junk foods, smoking, and alcohol.

Key Factors:

- Chronic stress from work and urban life.
- Sleep disorders, often caused by late digital use; 7–8 hours of good sleep is needed for heart health.
- Physical inactivity raises chances of obesity, diabetes, and hypertension.

Early Warning Signs

- Chest pain during exercise.
- Unexplained chest discomfort.
- Shortness of breath.
- Excessive sweating without exertion.
- Persistent fatigue in daily tasks.

Solutions and Preventive Measures

Tackling this crisis requires both **individual** responsibility and systemic intervention.

At the Individual Level:

 Adopting a balanced diet rich in fruits, vegetables, and whole grains.

- Engaging in at least 150 minutes of moderate physical activity weekly.
- Ensuring adequate and consistent sleep routines.
- Avoiding tobacco, alcohol, and excessive processed food intake.
- Undergoing regular health checkups and cardiac screenings.

At the Policy Level:

- Government programs like the National Program for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) and Ayushman Bharat aim to improve awareness, screening, and treatment access.
- However, data from 2024 shows that only 25% of Indians have correctly identified and addressed heart-related issues, highlighting the need for more intensive awareness campaigns.

Socio-Economic Implications

The rising incidence of cardiovascular disease among young Indians represents a major socio-economic setback.

- Loss of Workforce: Heart ailments in the 20–40 age group cut short the most productive years of life, undermining India's economic potential.
- Financial Strain: Medical costs and loss of income place heavy burdens on families, especially those in middle- and lower-income groups.
- National Impact: With a growing portion of its young population at risk, India's demographic dividend could become a demographic liability if urgent steps are not taken.

Conclusion

The rise in cardiovascular diseases among India's youth is a serious health and economic concern. With lifestyle changes, early detection, and robust government health programs, this trend can be reversed. Protecting heart health is crucial for individual well-being and sustaining the nation's growth and productivity.



ASTROSAT MISSION: INDIA'S FIRST SPACE OBSERVATORY

Context

AstroSat, India's first multi-wavelength space observatory, recently marked its **10th year of successful operation**. Launched in 2015, it was originally designed for a 5-year lifespan but continues to deliver valuable scientific data. Its success has established India as a global player in the field of space-based astronomy.

Mission Overview

AstroSat represents a significant leap for India in space research and astrophysics.

Key Details:

- Name & Status: AstroSat India's first dedicated space astronomy observatory.
- Purpose: To observe and analyze celestial phenomena across different wavelengths of the electromagnetic spectrum.
- Launch Information:
 - Date: September 28, 2015
 - Location: Satish Dhawan Space
 Centre, Sriharikota
 - Vehicle: PSLV-C30 (31st flight of PSLV series)
 - Mass: Approximately 1500 kg (not 2000 kg, as mentioned in a UPSC 2016 question).
- Lifespan: Designed for 5 years but has now exceeded 10 years in operation.
- Global Recognition: Placed India alongside the USA, European Union, and Japan, countries with operational space observatories.
- Collaboration:
 - National partners: ISRO and Indian research institutions.
 - International support: Canada and the UK contributed instruments and expertise.

AstroSat has significantly advanced our understanding of the universe through diverse observations.

- Provided key data on black holes, neutron stars, and galaxies.
- Studied Proxima Centauri, the closest star to Earth after the Sun.
- Detected Far Ultraviolet (FUV) photons from a galaxy nearly 9.3 billion lightyears away.
- Enhanced knowledge of the electromagnetic spectrum from various cosmic regions.
- Contributed to research on Gamma Ray Bursts, binary star systems, and supernovae.

Onboard Instruments

AstroSat was equipped with **five major instruments**, each serving specialized observational purposes:

- Ultraviolet Imaging Telescope (UVIT):
 Captures images in visible and ultraviolet light to study stars, galaxies, and starforming regions.
- Large Area X-ray Proportional Counter (LAXPC): Observes low-energy X-rays to study binary stars and black holes.
- 3. Cadmium Zinc Telluride Imager (CZTI): Detects Gamma Ray Bursts and analyzes hard X-rays.
- 4. Soft X-ray Telescope (SXT): Focuses on soft X-rays, important for supernova remnants and hot gas in galaxies.
- Scanning Sky Monitor (SSM):
 Continuously scans the sky for sudden X-ray outbursts like star explosions.

Strategic and Scientific Significance

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- Marked India's entry into the global league of nations with multi-wavelength space observatories.
- Enabled Indian scientists to access continuous, high-quality astronomical data without depending on foreign observatories.

Major Achievements and Discoveries



- Strengthened India's role in international collaborations in astrophysics.
- Provided a strong platform for training and inspiring a new generation of space scientists and astronomers.

Conclusion

The AstroSat mission is a **landmark in India's space research journey**, combining advanced technology with international cooperation. Its decade-long success showcases India's ability to operate sophisticated space observatories and contribute significantly to global astrophysics. Beyond its scientific achievements, AstroSat reflects the nation's growing capabilities in space exploration and research, laying the foundation for future deep-space missions.

MATERNITY REINTEGRATION IN INDIA

Context

A recent editorial underscores that true workplace inclusion for women in India goes beyond maternity leave. The real challenge lies in maternity reintegration, the seamless return of women employees to their professional roles after childbirth. While statutory leave provides temporary relief, the long-term test of inclusion is whether workplaces can support women in balancing caregiving responsibilities with career progression.

What is Maternity Reintegration?

Maternity reintegration refers to the process of integrating new mothers back into the workforce following maternity leave. Unlike maternity leave, which is legally mandated under the Maternity Benefit Act, 1961, reintegration involves a combination of supportive policies, workplace culture, and career continuity mechanisms.

It encompasses:

- Flexible work arrangements.
- On-site childcare and support systems.
- Managerial empathy and structured reentry programs.
- Long-term career support to prevent women from being sidelined.

Pressures Faced by New Mothers

Women returning from maternity leave in India often encounter multi-layered pressures:

1. Family Expectations:

- Caregiving is socially coded as a woman's duty, reinforcing stereotypes.
- Example: According to NSSO 2019, Indian women spend ~7 hours/day on unpaid care work, compared to men's 2.5 hours.

2. Societal Norms:

- Mothers are expected to prioritise family over work, leading to guilt and judgment.
- Example: The cultural perception persists that "a good mother sacrifices her career."

3. Inner Struggles:

- Emotional challenges like fatigue, selfdoubt, and post-maternity imposter syndrome.
- Example: Corporate surveys highlight rising cases of self-doubt among women post-reentry.

4. Organisational Systems:

- Rigid roles, absence of childcare support, and managerial apathy often push women out.
- Example: Deloitte (2022) reported the highest attrition among women postmaternity leave in Indian corporates.

Ripple Effects of Dropouts

On Organisations:

- Talent Attrition: Loss of experienced women professionals. Deloitte (2022) estimates attrition costs firms 150–200% of the employee's annual salary.
- Pipeline Disruption: Weakens leadership pipelines, as many women exit before reaching senior roles. Marching Sheep Inclusion Index (2025) notes 63% of listed firms lack women in Key Managerial Positions.
- Cultural Setback: Female exits create perceptions of unsupportive workplaces, lowering morale and hurting diversity



goals. *NASSCOM* (2023) found inclusivity to be a key retention driver.

On the Economy:

- Low Participation Rates: Female labour force participation in India is ~37% (PLFS 2024), among the lowest in G20.
- GDP Loss: McKinsey Global Institute projects that equal participation could boost GDP by 27% (~\$770 billion).
- Innovation Deficit: Fewer women in STEM and R&D reduces diversity of thought. World Bank (2022) found genderdiverse firms have 20% higher innovation revenues.

On Society:

- Reinforcing Stereotypes: Each dropout fuels the bias that women cannot manage careers and families. Pew (2021) reported 70% of Indians believe men are "better suited" for paid work.
- Gender Parity Delays: Reduces women's representation in decision-making, slowing progress on SDG-5 (Gender Equality).
 India ranks 127/146 in the Global Gender Gap Index 2024.
- Role Model Deficit: Fewer women in leadership weakens aspirational pathways for younger women. SEBI (2023) data shows only 18% of directors in NIFTY-500 firms are women.

Way Forward

- Policy Alignment: Expand the Maternity Benefit Act to include formal maternity reintegration norms.
- Institutional Support: Provide workplace crèches, subsidised childcare, and promote paternity leave for shared caregiving.
- Awareness Campaigns: Use CSR and media to normalize balancing motherhood and work roles.
- Data Monitoring: Mandate gender balance reporting in Key Managerial Positions.

 Global Best Practice: Introduce "returnship" programs with training and mentoring, as practiced in the UK and US.

Conclusion

Maternity reintegration is not an act of benevolence but a **strategic investment in human capital**. For India, where women's workforce participation remains among the lowest globally, retaining skilled mothers is vital for economic growth, gender parity, and social progress. A truly inclusive workplace is one where maternity is treated not as an exit point but as a **natural phase in a thriving career journey**.

INDEX OF INDUSTRIAL PRODUCTION (IIP)

Context

The Index of Industrial Production (IIP) tracks India's short-term industrial performance, covering mining, manufacturing, and electricity. August 2025 showed 4% growth, after July's 3.5%, indicating steady industrial momentum.

The Index of Industrial Production

The IIP is a composite index that tracks changes in the volume of production within the country's industrial sector.

Key Features:

- Purpose: It captures the output of industries and helps in understanding industrial cycles and economic progress.
- Measurement: By comparing monthly output, it indicates whether production is expanding or contracting.
- Significance: As a barometer of industrial health, it directly influences GDP growth assessments and policy-making.

Recent Data and Trends

Industrial output in India has shown steady but moderate improvement.

- August 2025 Growth: Recorded at 4%, reflecting a slight uptick in production.
- July 2025 Growth: Registered at 3.5%, showing consistency in growth but still below high expansion levels.



 Reporting Cycle: Monthly data is released with a one-month lag. For instance, August data is published in September, while September figures will be released in October.

This pattern allows policymakers, analysts, and businesses to track and respond to industrial dynamics in near real-time.

Calculation and Coverage

The IIP is prepared and released by the **Ministry** of Statistics and Programme Implementation (MoSPI).

Calculation Methods:

- Quantum Index: Production is measured in physical terms such as tonnes, kilowatthours, or units, rather than monetary values.
- Production Relatives: Calculated using a simple weighted arithmetic mean.
- Laspeyres Formula: The principal formula employed for IIP computation, enabling comparison with a fixed base year.

Sectors Covered:

- Mining Output of minerals and raw materials.
- Manufacturing Contribution from factories and industries, forming the largest share of IIP.
- 3. **Electricity** Generation and distribution, reflecting infrastructural strength.

Base Year and Statistical Revisions

- Current Base Year: The IIP is presently calculated using 2011–12 as the base year.
- Upcoming Change: From 2026, the base year will be revised to 2022–23, aligning IIP with updated GDP and CPI series for better accuracy.
- Purpose of Revision: Changing the base year ensures that the index reflects current industrial structures, technologies, and consumption patterns.

Role of MoSPI

The Ministry of Statistics and Programme Implementation (MoSPI) plays a central role in managing and disseminating official statistical data

Responsibilities Include:

- Collecting and releasing data on IIP, GDP, inflation, consumption, savings, and national income.
- Publishing the Consumer Price Index (CPI) alongside IIP for inflation analysis.
- Overseeing schemes such as the Member of Parliament Local Area Development Scheme (MPLADS) and monitoring the 20 Point Programme aimed at socio-economic development.

Economic Significance

The IIP is not merely a statistical tool but a vital policy instrument.

- Economic Indicator: It provides a snapshot of industrial health, guiding monetary and fiscal policies.
- Business Decisions: Industries and investors use IIP data to plan production, manage supply chains, and forecast demand.
- Policy Use: Government bodies utilize it for sectoral interventions, infrastructure planning, and growth strategies.

Conclusion

The Index of Industrial Production (IIP) tracks industrial activity in mining, manufacturing, and electricity. With upcoming base year revisions, it remains crucial for policy, business strategies, and measuring India's economic momentum.

SOUTH-SOUTH AND TRIANGULAR COOPERATION (SSTC)

Context

South-South and Triangular Cooperation (SSTC) enables developing nations to cooperate for mutual growth, sharing resources and expertise, with UN support; September 12 is celebrated as UN Day for South-South Cooperation.

Definition and Historical Background



South-South and Triangular Cooperation

involves two complementary streams of collaboration:

- South-South Cooperation (SSC):
 Partnerships among developing nations to share knowledge, resources, and technology for mutual benefit.
- Triangular Cooperation (TrC): Involves the participation of developed countries, international organizations, or multilateral agencies, such as the World Food Programme, to support SSC efforts.

The foundation of this cooperation can be traced back to the **Buenos Aires Plan of Action** (**BAPA**), 1978, which emphasized principles of solidarity, mutual respect, equality, and capacity building among developing nations.

Relevance and Goals of SSTC

SSTC has gained prominence due to shifting global development dynamics.

Key Drivers of Relevance:

- Decline of Northern Aid: With developed countries such as the US and EU reducing their aid budgets, SSTC fills the gap through collective action.
- Addressing Global Challenges: It focuses on tackling pressing issues like climate change, inequality, malnutrition, poverty, and food insecurity, aligning with the Sustainable Development Goals (SDGs).
- Philosophical Alignment: The framework resonates with India's ancient philosophy of Vasudhaiva Kutumbakam ("The world is one family"), emphasizing inclusivity and shared progress.

India's Role in SSTC

India has emerged as a **leading advocate of the Global South**, actively contributing to SouthSouth and Triangular Cooperation.

Major Contributions:

 G20 Presidency (2023): India played a crucial role in ensuring the African Union's permanent membership in the G20, amplifying the voice of developing countries.

- Indian Technical and Economic
 Cooperation (ITEC): Established as a
 flagship program, ITEC engages with over
 160 partner nations, focusing on
 technical training, capacity building, and
 institutional collaboration.
- India-UN Development Partnership
 Fund: Launched to support sustainable
 development projects, this fund has
 financed over 75 initiatives, particularly in
 Least Developed Countries (LDCs) and
 Small Island Developing States (SIDS).
- Digital Innovations: India has shared its Digital Public Infrastructure globally, including Aadhaar (digital identity) and the UPI (Unified Payments Interface) system, enabling financial inclusion and governance reforms.
- Food Security: India has maintained a
 partnership with the World Food
 Programme for more than six decades,
 contributing to global efforts in addressing
 hunger and nutrition challenges.

Strategic Importance of SSTC

- Empowering the Global South: It provides developing countries with collective bargaining power in global governance.
- Alternative Model of Development:
 Unlike donor-recipient models, SSTC is based on partnership, equality, and mutual learning.
- Geopolitical Relevance: With rising multipolarity, SSTC strengthens South-South solidarity against unilateral or protectionist approaches by developed economies.

Conclusion

South-South and Triangular Cooperation (SSTC) fosters solidarity and collaborative growth among developing nations, aligning with India's leadership goals and Vasudhaiva Kutumbakam ethos. SSTC offers a sustainable path to the 2030 SDGs as traditional aid declines.



STAMPEDES IN INDIA

Context

The Karur stampede at actor-politician Vijay's rally in Tamil Nadu caused multiple deaths, exposing India's ongoing vulnerability to such disasters and the persistent lack of effective preventive measures and governance reforms.

Constitutional and Legal Dimensions

- Article 21 (Right to Life): Places responsibility on the State to safeguard lives during public gatherings.
- Disaster Management Act, 2005:
 Classifies stampedes as man-made disasters, mandating preventive and mitigation frameworks.
- Supreme Court Directions (2009): In
 Destruction of Public & Private Properties
 v. State of A.P., the Court directed
 authorities to ensure accountability and
 better planning in handling large crowds.

Causes of Stampedes in India

- Overcrowding Beyond Capacity: Poor estimation of turnout at religious, political, and sports events.
 - Example: Kumbh Mela stampede, Prayagraj (2013).
- Trigger Events Leading to Panic: Falls, rumours, or collapse of structures spark sudden surges.
 - Example: Karur rally (2025), where people falling from trees caused panic.
- Weak Infrastructure and Bottlenecks:
 Narrow gates, poor barricading, absence of dispersal routes.
 - Example: New Delhi Railway Station FOB stampede (Feb 2025).
- Administrative Lapses: Lack of coordination, delayed response, and inadequate warning systems.
 - Example: RCB IPL victory parade in Bengaluru (2025).
- Sociocultural Factors: Religious fervour, emotional crowds at yatras, and political events often defy regulation.

Consequences of Stampedes

- Human Cost: Large-scale fatalities, crush injuries, and long-term psychological trauma.
- Governance Deficit: Repeated tragedies expose weak state capacity and erode public confidence.
- Economic Burden: Medical treatment, rescue, rehabilitation, and compensation strain state resources.
- International Image: Frequent crowd disasters portray India as ill-prepared for mass gatherings, denting global credibility.

Comparative Global Perspective

- South Korea (Halloween, 2022) and Germany (Love Parade, 2010): Tragic stampedes that led to systemic reforms.
- India: Unlike global counterparts, stampedes recur frequently, reflecting weak institutional memory and lack of reform implementation.

Challenges in Prevention

- Event Scale & Unpredictability:
 Pilgrimages, rallies, and sporting victories draw massive crowds, making precise control difficult.
- Poor Implementation of Safety Norms:
 NDMA's 2014 guidelines on crowd flow and exit routes are rarely enforced.
- Coordination Gaps: Police, civic agencies, and organisers often function in silos.
- Limited Technology Use: Al, drones, GIS mapping, and real-time monitoring remain underutilised.
- Public Behaviour: Panic, rumour-driven surges, and disregard for advisories exacerbate risks.

Way Forward

- Scientific Crowd Management:
 - Al-based predictive modelling, drone surveillance, real-time density monitoring.



 Dedicated Crowd Management Units in state police forces.

Infrastructure Redesign:

 Wider entry and exit routes, crash barriers, evacuation corridors, and overhead monitoring platforms.

Strict Accountability:

- Penal action under the Disaster Management Act for negligent organisers.
- Mandatory real-time safety audits of events.

Community Awareness:

- Public campaigns on safe crowd behaviour.
- Volunteer training in first aid and evacuation drills.

Technology Integration:

- Mobile-based alerts, geo-fencing, SMS advisories.
- Example: GIS-based crowd dispersal used at Kumbh Mela (2019).

Learning from Global Best Practices:

- Hajj Model (Saudi Arabia): One-way crowd flow design.
- Real-time digital ticketing for sports and cultural events to prevent oversubscription.

Conclusion

Stampedes are preventable tragedies, often arising from poor planning, weak administration, and unpredictable crowd behaviour. Given India's socio-political culture of large congregations, adopting a tech-driven, accountable, and community-oriented crowd management system is critical. As the country aspires for Viksit Bharat 2047, ensuring citizen safety in mass gatherings must be central to governance and the constitutional right to life.

COLD DESERT BIOSPHERE RESERVE

Context

At the 37th ICC-MAB session (2025), India's Cold

Desert Biosphere Reserve in Himachal Pradesh was added to the UNESCO World Network of Biosphere Reserves (WNBR). This makes it the country's first high-altitude cold desert ecosystem to gain global recognition under UNESCO's conservation framework.

What it is?

The Cold Desert Biosphere Reserve is a highaltitude conservation area spread over 7,770 sq km in Himachal Pradesh's Trans-Himalayan region. It integrates several ecologically important landscapes, including:

- Pin Valley National Park
- Kibber Wildlife Sanctuary
- Chandratal Wetland and adjoining habitats

Key Zonation:

- Core Zone: 2,665 sq km (strict conservation)
- **Buffer Zone:** 3,977 sq km (ecological research, controlled tourism)
- Transition Zone: 1,128 sq km (sustainable community livelihoods)

Location and Landscape

- State/District: Lahaul-Spiti, Himachal Pradesh
- Altitude: 3,300–6,600 metres above sea level
- Terrain: Rugged plateaus, glacial valleys, alpine lakes, and windswept cold desert habitats
- Climate: Extremely cold and dry, among the harshest ecosystems in UNESCO's biosphere reserve network

History and Recognition

- **2009**: Declared as a Cold Desert Biosphere Reserve by India
- 2025: Added to UNESCO's World Network of Biosphere Reserves (WNBR), marking its international recognition
- **Significance:** First *high-altitude cold* desert site from India in the global network

Biodiversity Features

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Flora:

- o 655 herbs, 41 shrubs, 17 tree species
- 14 endemic species
- 47 medicinal plants linked to the traditional Sowa Rigpa/Amchi healing system

• Fauna:

- 17 species of mammals and 119 bird species
- Flagship species: Snow Leopard,
 Himalayan Wolf, Tibetan Antelope,
 Himalayan Ibex

Communities and Livelihoods

- Population: Around 12,000 residents
- Livelihoods: Pastoralism, yak and goat herding, cultivation of barley and peas
- Cultural Heritage: Use of Tibetan medicine and traditional knowledge systems integrated into conservation practices

India and the UNESCO World Network of Biosphere Reserves

- India's Biosphere Reserves: 18 in total, of which 13 are now part of UNESCO's WNBR
- Global Context: WNBR has 785 sites across 142 countries
- 2025 Addition: UNESCO added 26 new sites to the network — the highest inclusion in two decades

Significance of the Recognition

- Global Recognition: Strengthens India's leadership in mountain ecosystem and biodiversity conservation
- Scientific Value: Functions as a "living laboratory" for international research on cold desert ecology, climate change, and sustainable livelihoods
- Community Benefits: Enhances ecotourism, traditional medicine promotion, and sustainable resource use for local populations

Conclusion

The inclusion of the **Cold Desert Biosphere Reserve** in UNESCO's World Network is a
milestone for India's conservation journey. It
highlights the ecological uniqueness of the TransHimalayan cold desert, strengthens global
scientific collaboration, and reinforces the balance
between biodiversity protection and community

TWO NEW RAMSAR SITES IN BIHAR

Context

well-being.

India has added two new Ramsar sites in Bihar, Gokul Jalashay and Udaipur Jheel, raising the national tally of wetlands of international importance to 93. With this, India has consolidated its position as the leading Asian nation in Ramsar sites and the third largest globally.

Gokul Jalashay (Buxar)

- Type: Oxbow lake on Ganga's southern edge
- Ecological Role: Natural flood buffer for nearby villages
- Biodiversity: Habitat for 50+ bird species
- Community Role: Supports fishing, farming, irrigation; hosts annual cleaning festival

Udaipur Jheel (West Champaran)

- Type: Oxbow lake surrounding a village
- Floral Diversity: 280+ plant species, including endemic Alysicarpus roxburghianus
- Avifauna: Wintering site for ~35 migratory birds, including vulnerable Common Pochard
- Livelihood: Provides fishing, farming, and water resources for locals.

Ramsar Sites: What They Are

- Definition: Wetlands of international importance, recognized under the Ramsar Convention (1971).
- Objective: Promote the conservation and sustainable use of wetlands as



- ecosystems crucial for biodiversity, water security, and livelihoods.
- Origin: Adopted in Ramsar, Iran (1971); entered into force in 1975 under UNESCO's framework.
- Key Features:
 - Offers a global platform for national action and international cooperation
 - Prioritizes wetlands essential for migratory birds, endangered species, fisheries, hydrological stability, and flood control

India and Ramsar Sites

- Current Total (Sept 2025): 93 wetlands, covering 13.6 lakh hectares
- Growth: From 26 sites (2012) to 93 sites (2025), with 51 additions since 2020
- Global Standing:
 - 3rd worldwide (after UK 176 sites, Mexico – 144 sites)
 - 1st in Asia for the number of Ramsar sites
- Bihar: Now has 5 Ramsar sites, strengthening its role in wetland conservation

Significance of the New Additions

- Biodiversity Conservation: Protects habitats for endemic plants and vulnerable migratory birds
- Disaster Mitigation: Acts as natural flood regulators in Ganga's floodplain landscape
- Livelihood Support: Ensures sustainable fishing, farming, and water availability for local communities
- Global Recognition: Enhances India's profile in international wetland governance and conservation efforts

Conclusion

The recognition of **Gokul Jalashay** and **Udaipur Jheel** as Ramsar sites underscores India's commitment to wetland conservation, ecological resilience, and community livelihoods. By

expanding its Ramsar footprint, India not only safeguards biodiversity but also strengthens disaster resilience and reinforces its global leadership in wetland protection.



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