



SHAPING TALENT SINCE 2009

MONTHLY CURRENT AFFAIRS

FOR UPSC CIVIL SERVICE EXAMINATION

APRIL 2025



$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

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Mahabodhi Temple Complex

Demand for Full Control of Mahabodhi Temple by Buddhist Groups

Buddhist groups are demanding exclusive control over the Mahabodhi Temple, opposing Hindu involvement in its management.

The issue stems from the Bodh Gaya Temple Act, 1949, which provides for joint administration by both Hindus and Buddhists.

About Mahabodhi Temple Complex:

- One of the four major Buddhist pilgrimage sites, marking the place where Prince Siddhartha attained enlightenment and became the Buddha.
- Location: Gaya district, Bihar, near the Niranjana (Phalgu) River.
- UNESCO World Heritage Site since 2002 for its religious and architectural importance.

Other Key Sites in Buddha's Life:

1. Lumbini (Nepal) - Birthplace of Buddha
2. Sarnath (U.P.) - Site of first sermon
3. Kushinagar (U.P.) - Place of Mahaparinirvana (death)

Architectural Highlights:

- Among the earliest brick-built Buddhist temples.
- Distinctive pyramidal shikhara, ornamental arches, and carvings.
- Surrounded by four corner towers, each with dome-shaped canopies.

SHAPING TALENT SINCE 2009

Jaya Sri Maha Bodhi

PM Modi Visits Sacred Bodhi Tree in Sri Lanka

During his recent Sri Lanka visit, PM Narendra Modi paid respects to the Jaya Sri Maha Bodhi tree in Anuradhapura, calling it a “living symbol of peace, enlightenment, and spiritual continuity.”



About Jaya Sri Maha Bodhi Tree:

- A sacred fig tree (Pipal) believed to have grown from a branch of the original Bodhi Tree in Bodhgaya, where Buddha attained enlightenment.
- The branch was brought to Sri Lanka by Sanghamitta, daughter of Emperor Ashoka and a Buddhist nun.

Cultural Significance:

- Arrival of the tree is celebrated as Uduvapa Poya festival every December.
- Anuradhapura, where the tree is located, is a UNESCO World Heritage Site and a historic Buddhist center.

Sanghamitta's Role:

- Sent to Sri Lanka by Ashoka after the Third Buddhist Council to spread Buddhism.
- Her brother Mahinda converted King Devanampiya Tissa, paving the way for Sanghamitta to ordain women into the Buddhist monastic order.

The Bodhi Tree in Bodhgaya:

- The original Bodhi tree was destroyed multiple times—possibly first by Tishyarakshita, Ashoka's wife.
- The current tree is believed to be the fifth-generation successor, grown from a sapling of the original.

Rare Copper Plates of Devaraya I's Coronation Unveiled

Rare 15th-Century Copper Plates Unveiled in Bengaluru

Rare copper plates from the 15th century, detailing the coronation of Devaraya I of the Sangama Dynasty (Vijayanagara Empire), were recently showcased by the Falcon Coins Gallery and Archaeological Survey of India (ASI) in Bengaluru.



Key Features of the Copper Plates:

- Languages Used: Sanskrit and Kannada, written in Nagari script.
- Unique Seal: Features Vamana (an avatar of Vishnu), instead of the usual Varaha (boar) emblem of the Vijayanagara Empire.
- Historical Date: Dated Saka 1328 (November 5, 1406 CE) — the exact date of Devaraya I's coronation.

About the Sangama Dynasty:

- First ruling dynasty of the Vijayanagara Empire.
- Founded in 1336 CE by Harihara I and Bukka Raya I.
- Capital: Vijayanagara, located on the southern bank of the Tungabhadra River.
- Devaraya I: A prominent ruler known for territorial expansion and administrative reforms.

Declaration of Protected Harappan Sites

Two Harappan Sites in Haryana Declared Protected

The Haryana government has declared two 4,400-year-old Harappan sites in Bhiwani district—Tighrana and Mitathal—as protected archaeological sites.



Key Measures:

- Sites to be secured under the Haryana Ancient and Historical Monuments Act, 1964.
- Protection will include fencing and deployment of security guards.

Mitathal Site Highlights:

- Discovered in 1913 (Samudra Gupta coins found).
- Major excavations: 1965–68 and later in 2016, 2020, 2021, and 2024.
- Spread over 10 acres.
- Revealed evidence of Harappan town planning, architecture, and art.
- Artifacts: Beads, copper tools, terracotta, shell, ivory, bone items.
- Pottery: Red ware painted with pipal leaf, fish scale, and geometric designs.

Tighrana Site Highlights:

- Shows post-Harappan continuity of human settlement.
- Settled around 2400 BCE by Chalcolithic Sothian communities.
- Inhabitants lived in mud-brick houses with thatched roofs.
- Economy: Agriculture and animal domestication.
- Pottery: Wheel-made with black-and-white designs.
- Represents Pre-Siswal, Pre-Harappan, and Post-Harappan layers.
- Industry: Beads and green carnelian bangles suggest advanced bead-making and jewellery craft.

Kokborok Language

Context: The Kokborok Sahitya Parishad, a tribal literary body in Tripura, has urged the central government to include Kokborok in the Eighth Schedule of the Constitution.

About Kokborok Language:

- **Meaning:**
 - Kok = speech/verbal
 - Borok = people/human
 - → Together means "language of the people."
- **Spoken By:**
 - Widely spoken by Tripuri (Borok) people.
 - Acts as lingua franca for several tribal communities: Debbarma, Reang, Jamatia, Noatia, Kalai, Rupini, Murasing, Uchoi.
- **Language Family:**
 - Belongs to the Tibeto-Burman group.
- **State Language:**
 - Officially recognised in Tripura.
- **Scripts Used:**
 - Traditionally written in Bengali script.
 - Devanagari and Roman scripts are also in use.
- **UNESCO Status:**
 - Listed as 'Vulnerable' in the UNESCO Atlas of the World's Languages in Danger.



Related Constitutional Provisions:

- Article 344: Formation of the Official Language Commission.
- Article 351: Directive for the promotion of the Hindi language.

Global Recognition of Bhagavad Gita and Natyashastra

Context: UNESCO has recently inscribed the Bhagavad Gita and Natyashastra into its Memory of the World Register, recognizing their global documentary value.

- **About UNESCO's Memory of the World Register:**
- Initiated in 1992 by UNESCO.
- Aims to preserve and provide access to the world's valuable documentary heritage.
- Protects documents from threats such as war, neglect, and natural disasters.



Bhagavad Gita Highlights:

- A spiritual and philosophical text embedded in the Mahabharata (Bhīṣmaparva, chapters 23–40).
- Contains 700 verses in 18 chapters.
- Presented as a dialogue between Lord Krishna and Arjuna on the battlefield of Kurukshetra.
- Integrates Vedic, Buddhist, Jain, and materialist ideas.
- Core themes: Dharma (duty), devotion, detachment, and spiritual wisdom.

Natyashastra Highlights:

- Authored by Bharat Muni, it is the foundational text on Indian performing arts.
- Also called Nāṭyaveda or Gāndharvaveda.
- Likely compiled around the 2nd century BCE.
- Preserved at the Bhandarkar Oriental Research Institute.
- Comprises around 36,000 verses.
- Covers drama, music, dance, rasa (aesthetics), bhāva (emotions), and abhinaya (performance techniques).
- Famous for the Rasa Theory: "No meaning can blossom without rasa."

Sentinelese Tribe

Context: A 24-year-old US citizen, Mykhailo Viktorovych Polyakov, was arrested for illegally entering North Sentinel Island, home to one of the world's last uncontacted tribes.

About North Sentinel Island:

- Part of the Andaman and Nicobar Islands, located in the Bay of Bengal.
- Considered one of the most isolated regions on Earth.
- Home to the Sentinelese tribe, who live in complete voluntary isolation.



About the Sentinelese Tribe:

- A pre-Neolithic, hunter-gatherer tribe classified under Negrito racial group.
- Live in small groups and avoid all contact with the outside world.
- Known for aggressively defending their territory.
- Protection Status:
 - Covered under the Andaman and Nicobar Islands (Protection of Aboriginal Tribes) Regulation, 1956.
 - Recognised as a Particularly Vulnerable Tribal Group (PVTG) by the Government of India.



Ernakulam Declared First Fully Digital Literate District in Kerala

Ernakulam Becomes Kerala's First Fully Digital Literate District

Ernakulam district has been declared the first fully digital literate district in Kerala, under the Digi Keralam initiative.

What is Digital Literacy?

- It refers to the ability to use digital technologies—like computers, smartphones, and the internet—effectively and critically.
- Involves skills such as accessing, evaluating, creating, and communicating information using digital tools.



About Digi Keralam Project:

- A state initiative to achieve complete digital literacy, similar to Kerala's 1991 total literacy campaign.
- Led by: Local Self Government Department.
- Target Group: Individuals aged 14 to 65 years.
- Goal: Empower citizens to navigate the digital world for education, communication, and services.

Flash Flood, Landslide, and Cloudburst

Massive Cloudburst Triggers Flash Floods in Ramban, J&K (April 2025)

On April 20, 2025, cloudbursts in Ramban district, Jammu & Kashmir, led to severe flash floods and landslides.

What is a Cloudburst?

- Definition: Sudden, very heavy rainfall (10+ cm in an hour) over a small area (~10 km²).
- Cause: Mainly due to orographic lift in hilly areas - rising moist air cools and condenses suddenly, releasing intense rain.
- Impact: Sudden downpours can trigger flash floods, landslides, and infrastructural damage.
- Occurrence: Common in Himalayas, Western Ghats, NE India, during the monsoon (May-Sept).



Example: 2005 Mumbai cloudburst - 944 mm rainfall in 24 hrs, over 1,000 deaths.



Flash Floods

- Definition (IMD): Rapid flooding within <6 hours of heavy rainfall or other sudden water discharges.
- Causes:
 - Cloudbursts (e.g., Amarnath Yatra 2022, 13 deaths)
 - Dam breaches (e.g., Teesta flood, Sikkim)
 - Melting glaciers and GLOFs (e.g., Kedarnath 2013)
 - Landslides, urbanisation (e.g., Delhi 2023 floods)
 - Deforestation and climate change-driven erratic rainfall

Landslides

- Definition (NDMA): Downward movement of rock, earth, or debris under gravity.
- Causes:
 - Natural: Heavy rain, earthquakes, snowmelt, slope undercutting
 - Human-made: Deforestation, construction, hill-cutting, overgrazing, unregulated development
 - Exceeding carrying capacity of mountainous terrains

India's Landslide Vulnerability:

- One of the top 5 landslide-prone countries.
- 13% of landmass (~0.42 million km²) across 15 states + 4 UTs at risk (GSI).
- Risk concentrated in hilly regions with poor regulations and unsustainable development.

ICIMOD Report On The Hindu Kush Himalaya

Hindu Kush Himalaya (HKH) Snow Decline: ICIMOD Report 2025

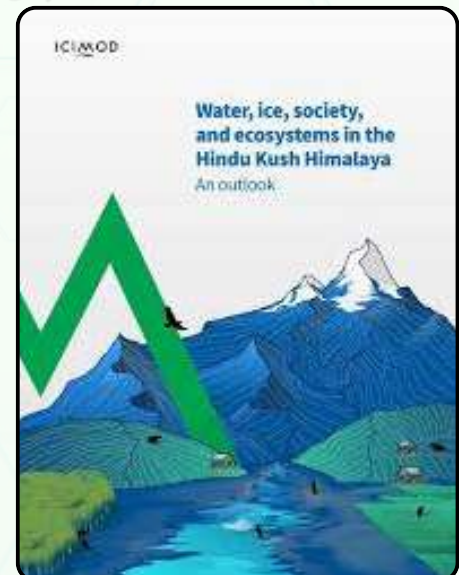
A recent ICIMOD report reveals a historic drop in snow persistence across the Hindu Kush Himalaya (HKH) region.

About the Report

- Data Period: 2003–2025 (23 years of satellite data)
- Coverage: 12 major river basins across the HKH region
- Finding: Snow persistence in 2025 was 23.6% below normal – lowest in 23 years

Key River Basin Impacts

- Ganga Basin: 24.1% below normal
- Indus Basin: 24.5% below normal (was 19.5% above normal in 2020!)
- Brahmaputra Basin: Significantly reduced
- Mekong & Salween Basins: Fell by 51.9% and 48.3% respectively



About ICIMOD (International Centre for Integrated Mountain Development)

- Type: Intergovernmental knowledge centre
- HQ: Kathmandu, Nepal
- Members: Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, Pakistan
- Focus: Sustainable development and mountain resilience in the HKH region

About the Hindu Kush Himalaya (HKH) Region

- Geography: Spans 3,500 km across 8 countries
- Importance:
 - “Third Pole” – largest ice volume outside Arctic & Antarctica
 - “Water Tower of Asia” – source of 12 major Asian rivers
 - Supports 1/3 of the world’s population with freshwater
 - 85% of mountain communities depend on its ecosystems
- Biodiversity Hotspot:
 - 4 of 36 global biodiversity hotspots
 - 2 of global 200 ecoregions
 - 575 protected areas
 - 335 Important Bird Areas (IBAs)

Harmattan Wind

Harmattan Winds and Health Impact in West Africa

From December to April, Harmattan winds carry dust and disease-causing microbes from the Sahara Desert, increasing respiratory infections and tuberculosis in West Africa.



What is the Harmattan?

- A cool, dry wind that blows from the Sahara across West Africa
- Active during the dry season: December to April
- Name origin: “Haramata” – from the Fanti language of Ghana

Features of Harmattan

- Carries fine dust particles across long distances
- Transports microbes and parasites → causes respiratory issues, asthma, TB, and infections
- Its intensity varies with global weather patterns like El Niño-Southern Oscillation (ENSO)



Pink Moon

Context:

The Pink Moon was visible on April 12, 2025. Despite the name, it does not appear pink—it usually has a soft white or golden hue.



What is a Pink Moon?

- It is April's full moon and was a Micromoon this year—meaning it appeared smaller and dimmer because it was at its farthest point (apogee) from Earth.

Micromoon vs. Supermoon

- Micromoon: Full moon at apogee; smaller and less bright.
- Supermoon: Full moon at closest point (perigee); appears larger and brighter.

Other Full Moons and Names

- Cold Moon (Dec): Symbolizes winter.
- Flower Moon (May): Linked to spring blossoms.
- Strawberry Moon (June): Marks the strawberry harvest.
- Blue Moon: Second full moon in a month (rare event).
- Blood Moon: A total lunar eclipse with a reddish tint.

Waqf (Amendment) Act 2025

Waqf (Amendment) Act, 2025: Key Reforms & Concerns

President Droupadi Murmu has given assent to the Waqf (Amendment) Bill, 2025, which updates the Waqf Act, 1995. The revised version is also called the UMEED Bill (Unified Waqf Management Empowerment, Efficiency and Development Bill).



Key Features of the Amendment

- Inclusive Waqf Boards
 - At least 2 non-Muslim members and 2 Muslim women in State Waqf Boards.
 - Centre can nominate non-Muslim MPs to the Central Waqf Council.
- Waqf Creation Rules
 - Only practising Muslims (for at least 5 years) can create Waqf.
 - "Waqf by user" abolished — properties used over time won't automatically be treated as Waqf unless registered.



- **Property Verification**
 - District Collectors will verify Waqf properties (replacing Survey Commissioners).
 - If confirmed as Waqf, land ownership shifts to the government.
- **Dispute Resolution**
 - Tribunal will have a judicial + government officer (no longer needs a Muslim law expert).
 - High Courts can now review tribunal decisions (removes finality).
- **Transparency & Audits**
 - Mandatory registration of all Waqf properties within 6 months.
 - Institutions earning over ₹1 lakh annually must face state audits.
- **Limitation on Claims**
 - Applies the Limitation Act, 1963—12-year cap on reclaiming encroached Waqf land.

What is Waqf?

Waqf is the permanent dedication of property for religious or charitable purposes in Islam. Once declared, the property cannot be sold or inherited, and must benefit the public (e.g. mosques, schools, hospitals).

Significance of the Bill

- Promotes inclusive governance by ensuring diverse board representation.
- Prevents misuse of public land and unverified Waqf claims.
- Improves property verification and reduces fraud.
- Makes dispute resolution more accessible through judicial review.
- Enhances financial accountability with audits and mandatory registration.
- Ensures timely resolution of disputes using the 12-year limit.

Key Concerns

- **Violation of Article 26:** Non-Muslim inclusion in Waqf Boards may infringe on Muslims' right to manage religious affairs.
- **Reduced Community Control:** Nomination of members (instead of elections) could lead to political interference.
- **Threat to Existing Waqf Assets:** Undocumented sites like old mosques may lose Waqf status.
- **Excessive Bureaucratic Power:** District Collectors can override Waqf Boards in land decisions.
- **Lack of Islamic Expertise in Tribunals:** May lead to misapplication of Sharia law.
- **5-Year Rule:** Bars recent converts from donating property—potential violation of Article 14 (equality).
- **Privacy Concerns:** Centralized asset data may risk targeting Waqf properties.

Way Forward

- Ensure balanced representation without undermining Muslim authority.
- Include Islamic law experts in tribunals to ensure fair rulings.
- Conduct a nationwide audit to protect legitimate Waqf sites.
- Use digital tools for transparency while ensuring data security.
- Avoid political interference in board appointments.
- Train stakeholders and officials on new legal provisions.
- Apply uniform reforms across all religious trusts to avoid discrimination.

Conclusion:

The Waqf (Amendment) Act 2025 aims to modernize Waqf governance, enhance transparency, and prevent misuse. Its success will depend on collaboration between the government and Muslim community leaders.

SC Prescribes Time Limits For Governors To Act On Bills

Context:

- Supreme Court prescribed time limits for Governors and the President to act on Bills.
- Used Article 142 (extraordinary powers) to ensure justice.

Background:

- Tamil Nadu Governor delayed assent to 10 Bills.
- TN Govt accused him of "pocket veto"—withholding assent indefinitely.
- SC heard the matter after the State challenged this delay.

Court's prescription

SC observed that Governor is "playing with fire" by holding back crucial Bills

- Governor cannot sit on Bills claiming the House passed them in an invalid session convened after adjourning sine die without prorogation
- Speaker is within jurisdiction in adjourning the House sine die
- Any attempt to cast doubt on the session of the Legislature is fraught with grave perils to democracy

 The Governor, as an appointee of the President, is a titular head of the State
SUPREME COURT BENCH



Governor's Powers Clarified:

- Must act on advice of Council of Ministers (Article 163).
- Cannot use discretion or pocket veto except in rare cases.
- Must act promptly—no indefinite delay allowed.

Judicial Review Allowed:

- Governor's actions on Bills can be reviewed by courts if arbitrary or unconstitutional.

Governor as a Constitutional Head:

- Should act as friend, philosopher, guide—not a political agent.
- Must facilitate governance, not block it.

Pending TN Bills Deemed Passed:

- SC, using Article 142, held that the 10 delayed Bills had effectively become law due to excessive delay.

Issues with Governors in India:

- Pocket Veto delays lawmaking (e.g., in TN, Kerala).
- Seen as agents of Centre in Opposition-ruled states.
- No removal mechanism or accountability.
- Discretionary powers misused—especially in bill reservation, cabinet decisions.
- Weakening of elected governments' mandate.



Way Forward:

Time-bound Action:

- Constitution should clearly mention timelines for Governors.

Reform Governor's Appointment:

- Involve CM in appointment.
- Choose from apolitical backgrounds (Sarkaria & Punchhi Commissions).

Ensure Accountability:

- Fixed tenure; prevent arbitrary removal.
- Consider Code of Conduct or even censure/impeachment options.

Limit Discretionary Powers:

- Define clearly; allow judicial review.
- Follow rulings in Shamsher Singh (1974), Nabam Rebia (2016).

Establish Dispute Mechanism:

- Create grievance redressal platforms like an ombudsman or Inter-State Council panel.

Conclusion:

The Supreme Court's 2025 judgment marks a crucial step to protect federalism. By curbing delays and discretionary misuse, it upholds the democratic will and ensures that Governors act within constitutional limits, supporting — not obstructing — elected state governments.

Anti-Defection Law

Context:

- Supreme Court clarified it is not powerless if a Speaker delays action on anti-defection cases.
- Warned it can use Article 142 to ensure timely decisions.



What the Court Said:

- A Speaker cannot delay indefinitely and thereby undermine the Tenth Schedule (Anti-Defection Law).
- SC can direct the Speaker to act within a reasonable time.
- If ignored, SC can enforce compliance using extraordinary powers under Article 142.

About the Anti-Defection Law (Tenth Schedule):

Introduced by:

- 52nd Constitutional Amendment Act, 1985

Objective:

- Prevent political instability due to defections.

Grounds for Disqualification:

- Voluntarily giving up party membership.
- Voting/abstaining against party direction (without permission).

- Independent MLAs/MPs joining a party after election.
- Nominated members joining a party after 6 months.
- Violating party discipline (e.g., anti-party activities).

Exceptions:

- Merger supported by two-thirds of party members.
- Presiding officers rejoining party after their tenure ends.

Speaker's Role in ADL:

- Speaker (or Chairperson in Rajya Sabha) decides on disqualification.
- No specific deadline is given in the Constitution.
- Delays have become a tool to bypass justice.

Supreme Court's Previous Rulings:

1. Kihoto Hollohan (1993):
 - Speaker's decision is subject to judicial review.
2. Keisham Meghachandra (2020):
 - Speaker must decide within 3 months.
 - Suggested creation of an independent tribunal instead of Speaker to handle ADL cases.

Why It Matters:

- Delayed decisions harm democratic ethics and public trust.
- Used as a tactic to protect defectors or destabilize elected governments.

Conclusion:

The Supreme Court has reinforced that delay by Speakers in anti-defection matters is unacceptable. It signals a stronger judiciary role in upholding constitutional morality and ensuring timely, impartial justice under the Anti-Defection Law.

Use of Urdu Language

Context:

- SC upheld the use of Urdu on a municipal signboard in Patur, Maharashtra.
- The case reaffirmed India's linguistic diversity and constitutional protection of minority rights.

Supreme Court's Key Observations:

Urdu is an Indian Language:

- Urdu is not foreign to India; it's an Indo-Aryan language, like Hindi and Marathi.
- Prejudice against Urdu due to false assumptions must be rejected.



Language ≠ Religion:

- Language has no religion.
- It reflects culture, community, and region, not faith.

Linguistic Diversity is a Constitutional Right:

- Use of Urdu upholds Articles 29 and 30:
 - Article 29: Minorities can preserve their language, script, and culture.
 - Article 30: Minorities can run educational institutions in their language.

Urdu's Role in Indian Legal System:

- Urdu terms like *adalat*, *halafnama*, *vakalatnama*, *dasti* are part of legal vocabulary.
- Though English is the official language (Article 348), Urdu persists in practice.

Cultural Significance of Urdu:

- Urdu is a symbol of Ganga-Jamuni Tehzeeb — the composite Indo-Islamic culture of North India.
- It evolved from Persian, Arabic, Turkish, and local dialects.

Conclusion:

The Supreme Court's ruling affirms that language is a tool of inclusion, not division. By recognizing Urdu's rightful place, the Court strengthened cultural harmony, minority rights, and linguistic pluralism—pillars of India's secular and federal Constitution.

Panchayat Advancement Index (PAI)

Context:

The Ministry of Panchayati Raj launched the Panchayat Advancement Index (PAI) to assess the performance of Gram Panchayats (GPs) using data-driven methods.



What is PAI?

- PAI is a composite index evaluating GPs on 9 themes aligned with Localized Sustainable Development Goals (LSDGs).
- First-of-its-kind tool to assess and boost development in 2.5 lakh+ GPs across India.



Structure of the Index:

- Based on 435 indicators:
 - 331 mandatory
 - 104 optional
- Total: 566 data points
- Aligned with National Indicator Framework (NIF) of MoSPI for uniformity.

State-Wise Highlights (No official inter-state comparison, but data trends observed):

- Gujarat: 346 Front Runners, 13,781 Performers
- Telangana: 270 Front Runners, 10,099 Performers
- Maharashtra: 12,242 Performers
- Madhya Pradesh: 7,912 Performers
- Uttar Pradesh: 6,593 Performers
- Bihar, Chhattisgarh, Andhra Pradesh: High number of Aspirants → need focused development.

Significance of PAI:

- Encourages evidence-based planning at grassroots.
- Promotes competitive and cooperative federalism.
- Supports targeted policy intervention in lagging Panchayats.
- Enhances transparency and localized implementation of SDGs.

Conclusion:

The PAI initiative marks a major step toward empowering Gram Panchayats through performance benchmarking. It helps bridge regional disparities, accelerate rural development, and strengthen decentralized governance in line with Agenda 2030.

Permanent Lok Adalats

Context:

Kerala becomes the first Indian state to offer online filing and hearing for Permanent Lok Adalats—a step toward digitizing Alternative Dispute Resolution (ADR) mechanisms.

What are Lok Adalats?

- Lok Adalat = People's Court.
- Part of ADR system in India.
- Offers amicable, non-adversarial, and low-cost dispute resolution.



Origin & Legal Backing:

- First held in 1982, Junagadh (Gujarat).
- Gained statutory status under Legal Services Authorities Act, 1987.

Working Mechanism:

- Presided over by a judicial officer + two panel members.
- Deals with:
 - Civil disputes
 - Matrimonial issues
 - Land and labor cases
 - Compoundable criminal cases
- Cannot hear non-compoundable offences.

Nature of Judgements:

- Binding and final.
- Treated as civil court decrees.
- No appeal allowed → ensures faster resolution.

Kerala's Innovation:

- Online facilities for:
 - Filing cases
 - Participating in hearings
- Promotes digital justice, accessibility, and speedy disposal of disputes.

Significance:

- Boosts legal access in rural and remote areas.
- Reduces pendency in courts.
- Supports paperless and tech-enabled justice.
- Aligns with Digital India and ease of doing justice goals.

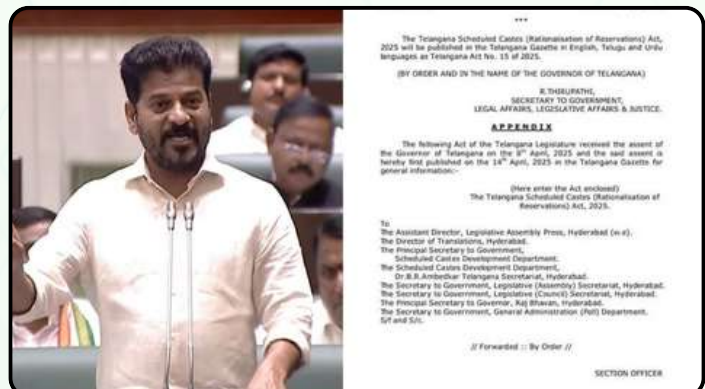
Conclusion:

Kerala's step to digitize Permanent Lok Adalats can serve as a model for other states, transforming ADR mechanisms into efficient and inclusive platforms for justice delivery.

Sub-Categorisation of Scheduled Caste (SC)

Context:

Telangana becomes the first Indian state to implement sub-categorisation of Scheduled Castes (SCs) to ensure fairer distribution of reservation benefits.



Who Are Scheduled Castes (SCs)?

- Communities that faced untouchability and historical social discrimination.
- Article 341(1): President notifies SCs for each State/UT, in consultation with the Governor.

What is Sub-Categorisation?

- It refers to dividing a reserved category (e.g., SCs) into sub-groups.
- Purpose: Ensure equitable distribution of reservation benefits among all sub-castes, especially the most disadvantaged.

Why Is It Needed?

- Benefits often concentrated among relatively better-off SC sub-castes.
- Leaves marginalized sub-castes behind.
- Similar approach used in OBCs through the Creamy Layer concept (rich OBCs excluded from reservation).

Significance:

- Promotes intra-group equity.
- Aligns with social justice principles.
- May set precedent for other states to adopt similar targeted reservation models.

Constitutional & Legal Angle:

- The Supreme Court in various judgments has debated the validity of sub-categorization within SCs.
- Issue remains legally sensitive and could lead to judicial scrutiny.

52nd Chief Justice of India

Chief Justice of India Recommends Successor

Chief Justice of India, Sanjiv Khanna, has recommended Justice B.R. Gavai as his successor.

Role of the Chief Justice of India (CJI):

- The CJI is the head of the Supreme Court and the Indian judiciary, appointed under Article 124 of the Constitution.
- The President of India appoints the CJI, based on the recommendation of the senior-most Supreme Court judge.

Appointment Process:

- Typically, the senior-most judge of the Supreme Court is appointed as CJI, with the outgoing CJI recommending their successor.
- The President administers the oath of office, committing the CJI to uphold the Constitution and judicial integrity.



Eligibility Criteria for Becoming CJI:

- While the Constitution doesn't specify exact criteria for CJI, it defines qualifications for Supreme Court judges:
 - Must be an Indian citizen.
 - Must have served as a High Court judge for at least 5 years or practiced as an advocate in a High Court for at least 10 years.
- In practice, the senior-most judge of the Supreme Court is selected for the position.

6th BIMSTEC Summit

Context:

Prime Minister Narendra Modi attended the 6th BIMSTEC Summit hosted by Thailand under the theme "BIMSTEC: Prosperous, Resilient, and Open". He proposed a 21-point action plan for enhanced cooperation among BIMSTEC nations, covering various sectors from business to disaster management.



Key Initiatives Announced:

- Business: Establishment of a BIMSTEC Chamber of Commerce and annual Business Summits.
- Information Technology (IT): A pilot study to share digital public infrastructure experiences and integrate UPI with regional payment systems.
- Disaster Management: Establishing the BIMSTEC Centre of Excellence for Disaster Management in India.
- Capacity Building: Launch of "BODHI" to train 300 youth annually from BIMSTEC nations.
- Sports and Culture: Hosting of the BIMSTEC Athletics Meet and Traditional Music Festival, along with the first BIMSTEC Games in 2027.

Agreements and Documents:

- Summit Declaration & BIMSTEC Vision 2030: Focus on trade, poverty alleviation, sustainable development, and public health.
- BIMSTEC Maritime Transport Cooperation Agreement: To improve cargo and passenger movement across the Bay of Bengal.
- MoUs with International Organizations: Expanded cooperation with IORA and UNODC.



Challenges:

- **Slow Project Implementation:** Delays in key initiatives like the Free Trade Agreement (FTA) and transport connectivity.
- **Weak Institutional Capacity:** Insufficient staff and funding for the BIMSTEC Secretariat.
- **Political Differences:** Member countries' political instability and bilateral tensions hinder cohesion.
- **Limited Trade and Awareness:** Intra-regional trade remains low, and BIMSTEC lacks visibility compared to other platforms like ASEAN.

Way Forward for BIMSTEC:

- **Accelerate Implementation:** Expedite agreements and adopt binding timelines.
- **Strengthen Institutions:** Increase capacity and funding for the BIMSTEC Secretariat.
- **Enhance Connectivity:** Implement the Master Plan for Transport Connectivity and integrate digital infrastructure.
- **Foster Regional Identity:** Promote cultural, educational, and sports exchanges to build people-to-people links.

Conclusion:

The 6th BIMSTEC Summit marks India's active role in promoting regional integration, focusing on shared prosperity, security, and sustainable growth in the Indo-Pacific region.

India - Sri Lanka Relations

Context:

Prime Minister Narendra Modi visited Sri Lanka, becoming the first foreign leader welcomed by the new Dissanayake government. The visit reaffirmed India's commitment to its "Neighbourhood First" and SAGAR (Security and Growth for All in the Region) policies.



Key Agreements and Outcomes:

- **Defence Cooperation:**
 - India and Sri Lanka signed a defence pact under the Colombo Security Conclave to boost security in the Indian Ocean Region.
- **Strategic Assurances:**
 - Sri Lanka assured that its territory won't be used against India's interests.
- **Railway Modernisation Projects:**
 - India funded refurbishment of the 128 km Maho-Omanthai line and signalling upgrades from Maho to Anuradhapura.
- **Energy Ties:**
 - Trincomalee Energy Hub to be jointly developed.
 - Grid interconnectivity signed for electricity trade.
 - Sampur Solar Power Project virtually inaugurated.

Debt Relief:

- India restructured over \$100 million in Sri Lankan loans, converting some into grants and reducing interest rates.

Digital and Development Aid:

- ₹300 crore grant for Sri Lanka's Digital ID Project.
- ₹66 crore aid package for the Eastern Province.

Cultural Diplomacy:

- PM Modi visited the Jaya Sri Maha Bodhi shrine and was awarded the Mitra Vibhushana – Sri Lanka's highest civilian award for a foreign leader.

Fishermen's Issue:

- Both nations agreed on a humane approach to arrests. Sri Lanka sought India's help to end bottom-trawling.

Why Sri Lanka Matters to India:

Strategic Location:

- Proximity to India's southern coast and crucial sea lanes makes Sri Lanka vital for maritime security.

Cultural Ties:

- Shared historical, religious, and cultural bonds enhance people-to-people connections.

Energy and Connectivity:

- Important for regional power grids, clean energy cooperation, and digital infrastructure.

Regional Stability:

- As a key South Asian player, Sri Lanka's cooperation helps ensure peace and growth in the region.

Key Challenges:

Fisheries Conflict:

- Ongoing tensions over Indian bottom-trawling harming Sri Lankan marine ecosystems.

Tamil Political Settlement:

- India has long supported devolution of power through the 13th Amendment to address Tamil grievances.

Chinese Debt Diplomacy:

- Sri Lanka's Chinese-funded infrastructure projects (e.g., Hambantota Port) pose strategic concerns for India.

Maritime Disputes:

- The Katchatheevu island remains a sensitive issue between both nations.

Conclusion:

India-Sri Lanka ties are evolving into a comprehensive partnership shaped by mutual trust, shared heritage, and strategic interests. Strengthening this bond will help maintain peace and prosperity in South Asia and the wider Indo-Pacific.



India - Pakistan Relations

Context:

India has unveiled MAHASAGAR (2025)—Mutual and Holistic Advancement for Security and Growth Across Regions, expanding upon its earlier SAGAR (2015) initiative to deepen maritime cooperation across the Global South.



Action Plan Highlights:

- Targeting Pakistan's Infrastructure and support systems used by terror groups.
- Curtailing Diplomatic Presence: Downgraded diplomatic ties with Islamabad.
- Tightened Border Controls: Increased surveillance and restrictions across the LoC.
- Review of Water Sharing: Indus Waters Treaty now under scrutiny.
- Global Outreach: Engaging international partners to isolate Pakistan diplomatically.

Pakistan's Reaction:

- Suspension of Simla Agreement (1972) - A key pact that guided peaceful dispute resolution.
- Threat over Indus Waters: Declared diversion of its water share as an "act of war."

Key Challenges in India-Pakistan Relations:

Kashmir Dispute:

- Rooted in 1947, unresolved territorial claims persist, with Pakistan demanding a plebiscite under UN resolution.

Cross-Border Terrorism:

- Terror outfits like Lashkar-e-Taiba and Jaish-e-Mohammad, supported by Pakistan, continue to sabotage peace efforts.

Breakdown of Dialogue:

- Peace initiatives (Lahore Declaration, Agra Summit, CBD) collapsed post terror attacks (e.g., Pathankot 2016, Pulwama 2019).

Indus Water Treaty Strains:

- Pakistan opposes Indian hydro projects; India alleges misuse of arbitration mechanisms.

Militarized Borders:

- Tense standoffs at LoC and Siachen, with past betrayals like Kargil after the 1999 Lahore goodwill visit.

China-Pakistan Axis:

- CPEC runs through Pakistan-occupied Kashmir, violating Indian sovereignty and increasing strategic pressure.

Trade & Transit Disruptions:

- Trade ties remain suspended; MFN status revoked post-Pulwama.
- Other Border Disputes:
 - Sir Creek: A 96-km estuary where both countries differ on demarcation.
 - Siachen Glacier: India holds strategic ridges; Pakistan contests its presence.

Way Forward: Strategic Engagement with Caution

Terror and Talks Can't Coexist:

- Dialogue must depend on Pakistan taking verifiable action against terror groups.

Rebuild Structured Dialogue (if conditions improve):

- Reviving Comprehensive Bilateral Dialogue or technical-level talks (e.g., water sharing, trade) through Track-II diplomacy.

People-to-People Contacts:

- Promote cultural ties, religious pilgrimages, student exchanges to humanize relations.

Review Indus Waters Treaty Transparently:

- Explore treaty amendments via mutual consultation, focus on climate adaptation and water cooperation.

Border Confidence-Building Measures (CBMs):

- Advance communication on military exercises, regular hotlines, and ceasefire commitments.

Leverage Multilateral Platforms:

- Engage via SAARC, SCO, UN to keep communication channels open under neutral settings.

Encourage Civilian Governance in Pakistan:

- Long-term peace depends on reducing military's grip on foreign policy and fostering democratic accountability.

Conclusion:

The Pahalgam attack has prompted a decisive recalibration of India's approach towards Pakistan. With security and accountability as new red lines, India is signaling that future engagement must be free of terrorism and grounded in mutual respect. While peace remains the goal, zero tolerance for terror is now the foundation of India's Pakistan policy.

India - Chile Bilateral Talks

Context:

President of Chile, H.E. Mr. Gabriel Boric Font, visited India from April 1-5, 2025, marking 76 years of diplomatic relations between the two nations.



Key Outcomes of the Visit:

Antarctica Cooperation:

- A Letter of Intent was signed, with Chile offering itself as a gateway to Antarctica for India's scientific missions and research.

Cultural Diplomacy:

- Chile declared November 4 as its 'National Yoga Day', recognizing India's soft power and cultural outreach.
- Launch of a Cultural Exchange Programme to boost people-to-people ties.

Disaster Management Cooperation:

- A MoU between NDMA (India) and SENAPRED (Chile) aims to strengthen cooperation in disaster risk reduction and emergency response.

Mining Collaboration:

- Agreement signed between CODELCO (Chile's state-run copper company) and Hindustan Copper Limited to enhance cooperation and exchange of information in the mining sector.

Economic Engagement:

- Both sides agreed to begin negotiations on a Comprehensive Economic Partnership Agreement (CEPA) to deepen trade and investment flows.

Strategic Importance of India-Chile Relations:

Mining & Energy Security:

- India can benefit from Chile's abundant copper and lithium reserves, critical for electric vehicles, batteries, and renewable energy technologies.

Gateway to Latin America & Antarctica:

- Chile serves as a natural entry point for India into South American markets and as a scientific hub for Antarctica expeditions.

Multilateral Cooperation:

- Collaboration in forums like BRICS+, ISA (International Solar Alliance), and UN platforms to tackle global challenges like climate change, sustainable development, and disaster resilience.

Conclusion:

India and Chile's partnership reflects growing South-South cooperation. As both nations deepen collaboration in science, culture, economy, and sustainability, their relationship promises to become a model for intercontinental strategic engagement.

Mauritius CPF with ISA

Context:

Mauritius has become the first African country and the fourth globally (after Bangladesh, Bhutan, and Cuba) to sign the Country Partnership Framework (CPF) with the International Solar Alliance (ISA).



What is the Country Partnership Framework (CPF)?

- A strategic initiative by ISA for long- and medium-term cooperation with its member countries.
- Aims to accelerate clean energy transitions through joint solar energy projects tailored to individual country needs.
- Enables access to technical support, financial resources, and capacity building to scale solar deployment.



Significance of Mauritius-ISA Partnership:

- Strengthens Africa-India collaboration on sustainable energy goals.
- Supports Mauritius's transition toward renewable energy and climate resilience.
- Enhances Mauritius's role in promoting clean energy leadership in Africa.

Conclusion:

This CPF agreement highlights the ISA's growing global relevance and India's leadership in fostering a green energy transition through inclusive, international cooperation. It also sets a precedent for other African nations to join the global solar revolution.

India's Deep Tech Startup Ecosystem

Context:

At the Startup Mahakumbh 2025, Commerce Minister Piyush Goyal criticized the focus on low-value ventures (e.g., food delivery) and urged startups to shift towards deep-tech sectors like semiconductors, robotics, and AI—crucial for national security and competitiveness.



What is a Deep-Tech Startup?

- Focuses on cutting-edge science and engineering.
- Aims to solve real-world problems using original technological innovation (not just business model tweaks).
- Examples: Quantum computing, semiconductors, biotechnology, advanced materials.



Key Takeaways

- Platform for interaction among leaders, diplomats, scholars, and strategic thinkers from across the globe.
- Discusses themes such as emerging technologies, regional security, multilateralism, energy transitions, and global order.
- Reinforces India's role as a thought leader in global affairs and diplomacy.

Challenges in India's Deep-Tech Ecosystem:

1. **Low R&D Spending**
 - India's R&D = <0.7% of GDP (vs. China's 2.4%, US 3.5%).
 - Ranked 40th in the Global Innovation Index 2023.
2. **Funding Deficit**
 - From 2014-24: India invested \$160 billion vs. China's \$845 billion.
 - Lack of patient capital—deep-tech needs 5-10 years to mature.
3. **Weak IP Framework**
 - Patent delays, software/algorithm patenting unclear.
 - Low commercialization of patents despite high filings.
4. **Infrastructure Gaps**
 - Lack of access to labs, simulation tools, testbeds.
 - High import duties on scientific equipment.
 - Public labs not easily accessible to startups.
5. **Talent Shortage**
 - India: 255 researchers/million (vs. 1,200 in China, 4,000+ in developed nations).
 - Poor academia-industry linkage; PhDs remain disconnected from market needs.
6. **Policy Fragmentation**
 - Multiple ministries (DST, MeitY, DRDO, etc.) run overlapping schemes.
 - No centralized deep-tech coordination body.

Conclusion:

India has the intellectual potential and market scale to lead the global deep-tech revolution. Strategic reforms in R&D, infrastructure, funding, and governance can transform India from a software powerhouse into a scientific innovation hub—crucial for economic growth, technological sovereignty, and societal progress.

India's Bioeconomy

Context:

Bioeconomy refers to the production and use of biological resources (plants, animals, microbes) along with science and technology to create sustainable products and services across sectors.



Key Scientific Breakthroughs:

- **GenomeIndia Project:** Sequenced genomes of 10,074 individuals from 99 Indian communities.
- **Qartemi:** India's 1st indigenous CAR-T Cell therapy for cancer (B-cell Non-Hodgkin lymphoma).
- **Nafithromycin:** India's 1st home-grown antibiotic against antimicrobial resistance (AMR).
- **PneumoShield 14:** Advanced 14-strain pneumococcal vaccine for children.
- **Ethanol Blending:** Achieved 15% ethanol blending in 2024 (target 20% by 2025).
- **Bt Cotton:** Makes up 76% of India's \$10.3 bn BioAgri sector.
- **Biofertilizers/Biopesticides:** \$1.6 bn market in 2024, reducing chemical usage.
- **Shashthi IVF Media:** Cuts dairy farming IVF costs by 33%.
- **Global Biofuel Alliance (GBA):** India co-leads with US and Brazil to promote sustainable biofuels.



Why India Needs a Strong Bioeconomy?

- **Sustainable Growth:** Reduces reliance on fossil fuels.
- **Energy Security:** Promotes biofuels (ethanol, biodiesel).
- **Innovation Boost:** Supports biotechnology, synthetic biology, and diagnostics.
- **Job Creation:** Expected to employ 35 million people by 2030.
- **Food Security:** Increases agri-productivity using GM crops, bio-inputs.
- **Environmental Benefits:** Supports waste-to-energy, pollution reduction, and climate resilience.
- **Global Leadership:** Enhances India's standing in biotech and bio-manufacturing.

Conclusion:

India's bioeconomy has the potential to touch \$1 trillion by 2047. To reach this goal, India must:

- Resolve regulatory bottlenecks
- Boost R&D funding
- Enable policy support
- Scale up commercialization
- This will drive sustainable growth, innovation, employment, and help India emerge as a global leader in biotechnology.

India Becomes World's 2nd-Largest Exporter of Tea in 2024

Context:

As per the Tea Board of India, India has overtaken Sri Lanka to become the second-largest tea exporter in the world (after China).



What is Tea?

- Tea is a beverage made from the leaves of *Camellia sinensis*.
- Origin: Believed to have originated in ancient China, northeastern India, and northern Myanmar.



Major Tea-Producing Areas in India

- Assam: Largest producer (55% of total), includes Assam Valley and Cachar.
- West Bengal: Important regions – Darjeeling, Dooars, Terai.
- Southern States (17% share): Includes Tamil Nadu, Kerala, Karnataka.

GI-Tagged Teas of India

- Darjeeling Tea – First Indian product to get a Geographical Indication (GI) tag; known as the "Champagne of Teas" for its floral aroma.
- Darjeeling Green Tea and White Tea – Also GI-tagged.

India's Position in Tea Production

- 2nd largest tea producer globally (after China).
- Top producer of black tea in the world.
- High domestic consumption: About 80% of India's tea is consumed within the country.

Prelims Pointers

- Darjeeling Tea = First GI-tagged product in India
- Tea Board HQ = Kolkata
- India = Largest black tea producer, 2nd in total production
- Main Tea States = Assam, West Bengal, Tamil Nadu

One State-One RRB

Context:

The Finance Ministry has announced the merger of 15 Regional Rural Banks (RRBs) across 11 states to form one RRB per state.



What is the One State-One RRB Policy?

- Initiative by: Department of Financial Services (under the Finance Ministry).
- Goal: Merge all RRBs within a state into a single RRB to improve:
 - Efficiency
 - Cost-effectiveness
 - Service delivery in rural areas
- Legal Backing: Section 23A(1) of the RRB Act, 1976 allows such mergers in public interest.

Historical Background

- Narasimham Committee (1975): Recommended the creation of RRBs.
- Vyas Committee (2001): Suggested merging RRBs within a state to boost operational efficiency.

Benefits of Consolidation

- Reduced duplication of operations
- Better use of resources and manpower
- Enhanced financial services in rural areas
- Easier adoption of technology and innovation

Prelims Pointers

- RRB Act Enacted: 1976
- Sponsor Banks: Usually public sector banks like SBI, PNB, etc.
- Ownership Structure: 50:35:15 (Centre:Sponsor:State)
- One State-One RRB: Implemented through Section 23A(1)

Blue Category of Industries

Context:

The Central Pollution Control Board (CPCB) has introduced a new category called the 'Blue Category' under its industrial classification system.

What are Essential Environmental Services (EES)?

These are services essential for controlling and reducing pollution from domestic and industrial sources.

Key Highlights:

- Waste-to-Energy (WTE) incineration has been reclassified from Red (highly polluting) to the Blue Category, as it provides essential pollution control services.
- The Blue Category is part of the revised industrial classification in CPCB's 2025 report.



Why the Reclassification?

- Incentive: Blue category industries will now get 2 extra years of consent validity to operate.
- Basis: The classification is based on the "Precautionary Principle" and the Pollution Index of industries.

Pollution Index Categories:

- ● Red: PI > 80 (Highly Polluting)
- ● Orange: PI 55-80
- ● Green: PI 25-55
- ● White: PI < 25 (Non-polluting)

Industries in the Blue Category (EES):

- Compressed Biogas (CBG) Plants using municipal waste, agro-residue, etc.
- (CBG from industrial waste still in Red category)
- Composting units
- Biogas plants
- Material Recovery Facilities
- Waste-to-Energy Plants
- Sewage Treatment Plants

International Big Cat Alliance (IBCA)

What is IBCA?

IBCA is a treaty-based intergovernmental organisation focused on the global conservation of big cats. It became operational after 5 countries, including India, ratified the agreement.

Launch:

- Date: April 2023
- Occasion: 50th Anniversary of Project Tiger

Founding Members:

India, Liberia, Eswatini, Somalia, and Nicaragua

Objective:

Promote international cooperation for the conservation of seven big cats:

- Tiger
- Lion
- Leopard
- Snow Leopard
- Puma
- Jaguar
- Cheetah



Key Functions:

- Knowledge sharing
- Capacity building
- Networking
- Advocacy
- Financial and technical support

Operation Brahma

Context:

India launched Operation Brahma to provide humanitarian aid to Myanmar after an earthquake struck the Mandalay region.

Key Highlights:

Naval Support:

- INS Satpura and INS Savitri delivered 40 tonnes of relief materials to Yangon.

Air Support:

- IAF's C-130J aircraft transported emergency items like food, water, medicines, and tents.



India's Recent Humanitarian Missions:

Operation	Year	Purpose
Operation Ajay	2023	Evacuation from Israel during the Israel-Hamas conflict
Operation Kaveri	2023	Rescue of Indians from civil war-hit Sudan
Operation Ganga	2022	Evacuation from Ukraine during Russia-Ukraine war
Operation Maitri	2015	Assistance to Nepal after a major earthquake
Operation Safe Homecoming	2011	Evacuation from war-torn Libya

NITI NCAER States Economic Forum Portal

NITI NCAER States Economic Forum Portal Launched

Launched by: Union Finance Minister

Developed by: NITI Aayog & NCAER (National Council of Applied Economic Research)

What is it?

A digital repository of State-level financial data from 1990-91 to 2022-23, covering key social, economic, and fiscal indicators.

Purpose:

To provide easy access to 30 years of data and research on the finances of Indian States.



Key Components of the Portal:

- State Reports:
 - Summarises 28 States' macro and fiscal trends based on:
 - Demographics
 - Economic structure
 - Socio-economic & fiscal indicators
- Data Repository:
- Provides raw data across five verticals:
 - Demography
 - Economic Structure
 - Fiscal
 - Health
 - Education
- State Fiscal & Economic Dashboard:
 - Visual charts of key indicators over time
 - Includes raw data & summary tables
- Research & Commentary:
 - Expert analysis on State finances and fiscal policies
 - Research reports & policy papers

Ningaloo Reef

Context:

An unprecedented coral bleaching event has been recorded at the Ningaloo Reef, located off Australia's west coast.



About Ningaloo Reef:

- One of the largest fringing reefs in the world
- Located near Coral Bay, Western Australia
- Not part of the Great Barrier Reef



What is Coral Bleaching?

Coral bleaching occurs when corals expel the algae (zooxanthellae) living in their tissues due to stress, often from rising sea temperatures, turning them white and fragile.

Nilgiri Tahr

Synchronized Census of Nilgiri Tahr (April 24-27, 2025)

States Involved: Kerala & Tamil Nadu

Purpose: Joint survey to count the endangered Nilgiri Tahr population.

About Nilgiri Tahr:

- Only Caprinae species (goat family) in tropical mountains of southern India
- State animal of Tamil Nadu
- Known for climbing steep, rocky terrain
- Endemic to the Western Ghats, mainly in high-altitude grasslands



Unique Features:

Adult males develop a grey patch on the back, called a “saddle” Hence called “Saddlebacks”

Protection Status:

- Endangered – IUCN Red List
- Listed under Schedule I of the Wildlife (Protection) Act, 1972

New Damselfly Species

Context:

Researchers have discovered a new species of damselfly in the Wayanad region of the Western Ghats.

About the Species:

- Scientific Name: *Euphaea wayanadensis*
- Family: Euphaeidae
- Region: Endemic to Wayanad, Kerala



Significance:

- 191st odonate species recorded in Kerala
- 223rd odonate species recorded in the Western Ghats

About Damselflies:

- Belong to the suborder Zygoptera in the order Odonata
- Closely related to dragonflies
- Smaller and slimmer in structure
- Odonata includes both dragonflies and damselflies, and is one of the oldest insect groups

Green Grabbing

Context:

An ADB-funded solar park in Assam is facing opposition from local communities, accusing it of 'green grabbing'—the takeover of indigenous land in the name of clean energy.

What is Green Grabbing?

Definition:

- Green grabbing refers to the appropriation of land for environmental purposes such as:
 - Carbon offsetting
 - Biodiversity conservation
 - Afforestation
 - Renewable energy (like solar parks)



Origin of Term:

- Coined by John Vidal, a journalist with The Guardian.

Why It's a Concern:

- Displaces indigenous/local communities
- Threatens livelihoods and food security
- Undermines traditional knowledge and agrobiodiversity
- Often done coercively under the guise of sustainability

Guindy National Park

Context:

The Polo Ground—a neglected grassland inside Guindy National Park, Chennai—is being restored to support the blackbuck population.



About Guindy National Park:

- Location: Chennai, Tamil Nadu
- Wildlife: Home to blackbucks, spotted deer, jackals, pangolins, and 130+ bird species
- Acts as a green lung for Chennai, conserving urban biodiversity



About Blackbuck (*Antelope cervicapra*):

- Native to India and Nepal
- Diurnal (active during the day)
- Prefers grasslands and open forests with water availability

Protection Status:

- IUCN Red List: Least Concern
- Wildlife (Protection) Act, 1972: Schedule I (highest protection)

‘Blindsight’ Chip

What is Blindsight?

Blindsight is an experimental visual prosthesis chip designed to restore vision by directly stimulating the brain’s visual cortex, bypassing the need for eyes or optic nerves.



How Does It Work?

- The chip contains a microelectrode array implanted in the visual cortex (brain region that processes visual information).
- It receives signals from a camera and stimulates neurons in the brain to create visual perception.

Purpose and Impact:

- Designed for people with permanent blindness who have lost their eyes and optic nerves, but whose visual cortex is intact.
- Can potentially help those blind from birth to see for the first time.

Technology Behind It:

- Based on Brain-Computer Interface (BCI) technology.
- Aims to build a universal brain interface to improve independence for people with serious medical conditions.



Mineral Siderite found on Mars

Context:

NASA's Curiosity Rover has discovered the mineral siderite in abundance inside Gale Crater on Mars.

Significance of the Discovery:

- Indicates that Mars once had a dense CO₂-rich atmosphere.
- Shows that carbon may have been trapped in rocks as siderite when Mars lost its atmospheric CO₂.
- Supports the theory that Mars had liquid water in the past.
- Helps understand the ancient carbon cycle on Mars.



About Siderite:

- Also called chalybite, it is an iron carbonate mineral (FeCO₃).
- Found in sedimentary rocks and hydrothermal veins.
- Uses:
 - Iron ore for smelting
 - Pigments
 - Water purification
 - Battery technology
- Contains 48% iron with no sulfur or phosphorus, making it a clean source of iron.

SHAPING TALENT SINCE 2009

National Zero MeaslesRubella Elimination Campaign

National Zero Measles-Rubella Elimination Campaign (2025-26)

- Launched by: Union Health Minister (virtually)
- Nodal Ministry: Ministry of Health and Family Welfare



About Measles & Rubella:

- Rubella (German measles): A mild viral disease caused by the Rubella virus.
- Spread: Through air droplets from coughing or sneezing.
- Highly contagious and can lead to serious complications, especially in children and pregnant women.



Significance of the Campaign:

- Safeguards children's health and reduces child mortality.
- Integrated under India's Universal Immunization Programme, which protects against 12 vaccine-preventable diseases annually.

Vitamin D Deficiency

1 in 5 Indians Deficient in Vitamin D: ICRIER Report

- Published by: Indian Council for Research on International Economic Relations (ICRIER)
- Focus: Widespread Vitamin D deficiency across India



About Vitamin D:

- Known as the “sunshine vitamin” - produced in the body when exposed to sunlight
- Essential for:
 - Calcium absorption
 - Bone health
 - Muscle strength
 - Immunity and mental well-being
- Deficiency linked to:
 - Fatigue, muscle weakness, depression
 - Risk of cardiovascular diseases, type 2 diabetes, and cancers

Key Findings of the Report:

- Children (0-10 years):
 - 46% suffer from rickets (soft/weak bones)
- Elderly (60+ years):
 - 80-90% at risk of osteoporosis, fractures, and long-term disability
- Highest deficiency in Eastern India: ~39% population affected
- Gender disparity: Women more vulnerable than men across all age groups

About ICRIER:

A leading policy think tank working on research and advocacy to support India's development goals



Project Varsha

Project Varsha: India's Strategic Naval Base

- Location: Rambilli village, ~50 km from Visakhapatnam, Andhra Pradesh
- Purpose: To house nuclear submarines and warships for enhanced maritime capability



Key Features:

- Underground tunnels & submarine pens – for stealth operations
- Capacity for up to 12 nuclear submarines
- Shielded from aerial and satellite surveillance
- Proximity to BARC Atchutapuram – access to nuclear infrastructure
- Quick access to vital sea lanes, including the Strait of Malacca

Strategic Significance:

- Boosts India's maritime dominance in the Bay of Bengal & Indian Ocean Region (IOR)
- Counters China's influence via its dual-use naval bases like:
 - Hambantota (Sri Lanka)
 - BNS Sheikh Hasina (Bangladesh)

Operation Chakra V

Operation Chakra V: Crackdown on Cybercrime

- Launched by: Central Bureau of Investigation (CBI)
- Focus: Busting cyber fraud networks, especially 'Digital Arrest' scams



What is a 'Digital Arrest' Scam?

- Fake Law Enforcement Calls: Scammers pose as police or government officials.
- Threat of Arrest: Victims are falsely told they are under investigation.
- Extortion: They are asked to pay money to avoid arrest—completely illegal.
- Reality Check: No legal authority in India conducts arrests digitally or demands money over calls.



Significance of Operation Chakra V

- Tackles growing cybercrime threats in India.
- Involves international coordination and tech-based investigations.
- Demonstrates proactive CBI role in safeguarding citizens from digital fraud.

Dr . B.R Ambedkar

Dr. B.R. Ambedkar: Architect of Social Justice & Modern India

135th Birth Anniversary (2025)

Prime Minister Narendra Modi paid tribute to Bharat Ratna Dr. B.R. Ambedkar, the chief architect of the Indian Constitution and a pioneer of social justice, equality, and human dignity.

Key Contributions to the Indian Constitution

- Principal Architect of the Indian Constitution.
- Championed Fundamental Rights, Minority Protection, and a Strong Central Government.
- Called Article 32 (Right to Constitutional Remedies) the "soul of the Constitution."
- Advocated that political equality (one man, one vote) must be backed by social and economic justice.



Political Journey

- Attended all Three Round Table Conferences (1930–32) advocating for Depressed Classes.
- Poona Pact (1932): Withdrew demand for separate electorates after Gandhi's fast; secured reserved seats instead.
- Founded Independent Labour Party (1936); elected to Bombay Legislative Assembly; fought for workers' rights and abolition of Jagirdari.
- Supported India's war effort in WWII to oppose fascism and Nazism.

Major Social Reform Initiatives

- Bahishkrit Hitkarini Sabha (1923): Promoted education among the marginalized.
- Mahad Satyagraha (1927): Asserted right of untouchables to access public water (Chavdar Tale).
- Temple Entry Movement (1930): Fought for lower caste access to Kalaram Temple, Nashik.
- 20th March celebrated as Social Empowerment Day.



Philosophy & Vision

- Swaraj with Social Liberation
 - Swaraj wasn't just political freedom, but freedom from caste oppression.
 - Emphasized Dalit-Bahujan-Adivasi consciousness and unity.
- Social Justice
 - Saw caste as hereditary, oppressive, and enforced through endogamy and Manusmriti.
 - "Annihilation of Caste" (1936): Called for rejection of caste-based Hindu scriptures.
 - Advocated distributive justice through State intervention.
- Reservation as Reparative Justice
 - Supported reservations under Article 16 as a temporary corrective measure.
 - Initially demanded separate electorates but compromised through Poona Pact.

Education & Empowerment

- Education was the key to emancipation.
- Founded People's Education Society (1945) – e.g., Siddharth College, Mumbai.

Religious Conversion & Resistance

- Embraced Buddhism (1956) as an egalitarian alternative to caste-based Hinduism.
- At Deekshabhoomi, Nagpur, 500,000 Dalits converted with him.

Women's Rights

- Advocated the Hindu Code Bill (1951) to ensure women's inheritance rights.
- Linked gender justice with caste abolition.

Legacy:

Dr. Ambedkar's vision laid the foundation of Constitutional Democracy rooted in equality, liberty, and fraternity. Despite legal safeguards, caste-based discrimination persists — making his ideas ever more relevant today.

Mahatma Jyotiba Phule

Mahatma Jyotiba Phule: Pioneer of Social Reform and Equality

199th Birth Anniversary – April 11, 2025

India commemorated the 199th birth anniversary of Jyotirao Govindrao Phule, a visionary reformer and tireless advocate for social justice, education, and equality.



Early Life and Influences

- Born: 11 April 1827, Pune, Maharashtra.
- Marriage: Married Savitribai Phule at age 13, who later became India's first female teacher.
- Education: Studied at Scottish Mission High School, Pune.
- Influenced by Western thinkers like Thomas Paine and John Stuart Mill.
- A personal experience of caste discrimination (1848) ignited his mission against caste oppression.

Ideology & Vision

- Equality & Social Justice: Fought caste and gender-based hierarchies.
- Rationalism: Opposed Brahmanical dominance, superstitions, and religious orthodoxy.
- Education for All: Saw education as the tool to dismantle caste and gender barriers.

Title of 'Mahatma' conferred in 1888 by V.K. Vandekar.

Major Contributions

Women & Girl Child Empowerment

- 1848: Along with Savitribai, established India's first school for girls.
- Advocated widow remarriage and women's education.
- Pioneered night schools for workers and women.

Dalit & Lower Caste Upliftment

- Founded Satyashodhak Samaj (1873):
 - Aimed at social equality, rejecting caste hierarchy and priestly authority.
 - Provided a non-Brahmanical reform space, unlike Brahmo, Arya or Prarthana Samaj.
- Opened schools for Dalits and backward castes.
- Condemned Manusmriti and caste-based scriptural discrimination.

Critique of Brahmanical Nationalism

- Challenged prominent Brahmin leaders like Tilak and Chiplunkar.
- Believed British rule could be used as a tool for social reform, though not endorsing colonialism.

Legacy

Mahatma Phule's work laid the foundation for anti-caste movements, universal education, and women's rights in India. His legacy continues through Bahujan movements and social justice policies.

Mata Karma

Mata Karma: Saint, Reformer & Symbol of Devotion

Commemorative Stamp Released - 1009th Birth Anniversary

The Department of Posts, Government of India, released a postage stamp to honour Mata Karma, a revered saint, reformer, and devotee of Lord Krishna.



About Mata Karma

- Era & Birthplace: Born in 11th century, in present-day Chhattisgarh.
- Devotion: Known for her deep spiritual devotion to Lord Krishna.
- Stamp Depiction: Shows her offering khichdi to Krishna with the Jagannath Temple in the background — symbolizing service, faith, and humility.



Contributions as a Social Reformer

- Fought untouchability and social orthodoxy.
- Advocated women's empowerment and social harmony.
- Promoted inclusive devotion, cutting across caste and gender boundaries.

Legacy

Mata Karma is remembered not only for her spiritual strength but also for her progressive social ideals. She continues to inspire movements for equality, devotion, and service.

Vibe Coding

What is Vibe Coding?

- Coined by: Andrej Karpathy, OpenAI co-founder & former Tesla engineer.
- Definition: A new programming style where AI does most of the coding, while the developer gives high-level instructions.



How It Works

- Driven by Generative AI: Programmers type simple text prompts to describe the code they want.
- AI Role: The LLM (Large Language Model) understands the prompt and generates functional code.
- Human Role: The developer ensures the software matches the desired "vibe" or purpose, rather than writing every line of code manually.

Why It Matters

- Speeds up development time.
- Lowers entry barriers for non-coders.
- Revolutionizes how software is created — from syntax-heavy to idea-driven development.

Pamban Rail Bridge

Pamban Rail Bridge Inaugurated by PM Modi on Ram Navami

- Location: Connects Rameswaram Island to mainland India in Tamil Nadu.
- Historical Significance: Originally opened in 1914, it was India's first sea bridge.
- Also known as Rameswaram Bridge.



New Pamban Rail Bridge - Key Highlights

- India's 1st vertical-lift railway sea bridge.
- Length: 2.08 km with:
 - 99 fixed spans.
 - One 72.5 m lift span - allows ships to pass underneath.
- Built by: Rail Vikas Nigam Limited (RVNL).
- Cost: Over ₹550 crore.

Importance

- Boosts rail connectivity to the pilgrimage town of Rameswaram.
- Enhances tourism, trade, and strategic movement in the region.

'Sahkar' Taxi service

'Sahkar' App-Based Taxi Service Launched

- Launched by: Indian Union Home & Cooperation Minister.
- Model: Cooperative-based ride-hailing platform, similar to Ola/Uber.

Key Features

- Stakeholder Model: Drivers are not just service providers but profit-sharing members.
- Types of Vehicles: Two-wheelers, auto-rickshaws, and four-wheeler cabs.
- Direct Profits: Earnings go directly to the drivers—no commission cuts by private operators.



Objective

- To empower drivers financially and promote cooperative entrepreneurship.
- Supports the 'Sahkar se Samriddhi' (Prosperity through Cooperation) mission.



ESA's Biomass Mission

About the Mission

- Launched by: European Space Agency (ESA)
- Launch Site: Europe's Spaceport, French Guiana
- Orbit: Sun-synchronous orbit at ~666 km altitude Ensures consistent lighting for accurate forest monitoring



Objectives

- Map & monitor global forest coverage
- Track above-ground biomass and forest height
- Assess forests' role in the carbon cycle
- Monitor deforestation impact on carbon storage
- Generate 3D images of forests (canopy to ground)

Unique Technology

- First satellite to carry a P-band Synthetic Aperture Radar (SAR)
 - Long-wavelength radar (70 cm) can detect tree trunks and forest floor
- 12-metre deployable antenna for wide surface coverage
- Forest weighing from space—calculates biomass levels remotely

Significance

- Fills data gaps on global forest biomass
- Helps in climate change studies and carbon budgeting
- Supports sustainable forest management worldwide

Bullseye Galaxy

Bullseye Galaxy: A Rare Galactic Wonder

- First-ever galaxy found with 9 visible rings Most ringed galaxies have just 2 or 3 rings
- Discovery was accidental ("serendipitous") and is considered highly rare



About the Bullseye Galaxy

- Scientific Name: LEDA 1313424
- Size: About 2.5 times the Milky Way
- Spans nearly 250,000 light-years

How Was It Formed?

- Origin: Collision with a blue dwarf galaxy ~50 million years ago
- The dwarf galaxy passed through its center, creating ripple-like waves of gas
Triggered star formation in concentric rings
- The dwarf galaxy still remains nearby (~130,000 light-years away), connected by a thin gas trail

Temporary Beauty

The rings are not permanent

- Expected to fade over billions of years
- Galaxy may eventually evolve into a different structure

Significance

- Offers new insight into galaxy formation and evolution
- Helps understand cosmic collisions and their role in triggering star birth

Aryabhata: India's First Indigenous Satellite

Context

April 19, 2025 marked the 50th anniversary of the launch of Aryabhata, India's first indigenously built satellite.

About Aryabhata Satellite

- Developed by: ISRO
- Named after: Ancient Indian astronomer Aryabhata I (476–550 CE)
- Launched on: April 19, 1975

Launch Details

- Launch Vehicle: Soviet Kosmos-3M rocket
- Launch Site: Kapustin Yar, USSR (now Russia)
- Support: Foreign launch assistance, but satellite was fully designed and built in India

Scientific Objectives

- X-ray Astronomy
- Solar Neutron & Gamma Ray Detection
- Upper Atmospheric Studies

Significance

- Marked India's entry into space research and satellite technology
- Laid the foundation for future ISRO missions like INSAT, IRS, and Chandrayaan



QpiAI-Indus and Q-Shield

Context

- On World Quantum Day (14 April 2025), Bengaluru-based startup QpiAI launched one of India's most powerful quantum computers, QpiAI-Indus.
- QNu Labs, another quantum-tech startup, launched Q-Shield, a platform for quantum-safe cryptography.

About QpiAI-Indus

- Developer: QpiAI (part of 8 startups under National Quantum Mission)
- Type: Full-stack quantum computing system
- Features:
 - 25 superconducting qubits
 - Integrates Quantum-HPC and AI-driven hybrid computing
- Applications:
 - Life sciences
 - Drug discovery
 - Materials science
 - Mobility & logistics
 - Climate action & sustainability



About Q-Shield (by QNu Labs)

- World's first unified platform for quantum-safe cryptographic management
- Protects critical infrastructure with post-quantum encryption

Key Offerings:

- Qosmos - Secure quantum key generation
- QConnect - Safe data connectivity
- QVerse - Encrypted user-system collaboration

🇮🇳 National Quantum Mission (NQM)

- Approved: 2023 | Budget: ₹6003.65 crore (2023-2031)
- Aim:
 - Build a robust R&D ecosystem in Quantum Technology (QT)
 - Make India a global leader in Quantum Technologies & Applications

World Quantum Day

- Date: 14 April (annually)
- Promotes awareness of quantum science & tech
- 2025 declared as the International Year of Quantum Science & Technology (100 years of quantum mechanics)



Wet-Bulb Temperature

Context

Harvard researchers now suggest the human survival limit for wet-bulb temperature (WBT) may be $\sim 31^{\circ}\text{C}$, not 35°C as previously believed.

Background

- Old Limit (35°C): Based on a 2010 study by Sherwood & Huber.
- Predicted heat stroke within 6 hours of exposure at this level.
- New Findings: Severe health impacts can begin at $\sim 31^{\circ}\text{C}$, especially in humid environments.



What is Wet-Bulb Temperature (WBT)?

- Definition: The lowest temperature a surface can cool to through evaporation.
- Measurement: A thermometer bulb is wrapped in wet cloth; evaporation cools it.
- Importance: Shows how effectively the human body can cool itself by sweating.

Humidity Link

- At 100% humidity, WBT = air temperature
- At lower humidity, WBT is always lower than air temperature

India-Specific Concern

The India Meteorological Department (IMD) does not consider WBT in defining heatwaves, even though it's crucial for assessing health risks.

Vehicle-to-Grid (V2G) Technology

Context

- Kerala State Electricity Board (KSEB), in partnership with IIT Bombay, has launched a pilot project to test Vehicle-to-Grid (V2G) technology.
- Aim: To assess if Electric Vehicles (EVs) can support the power grid by feeding electricity back when not in use.



What is Vehicle-to-Grid (V2G) Technology?

- A system that allows two-way flow of electricity between EVs and the grid.
- EVs act like mobile batteries, helping balance electricity demand and supply.

Key Features

- Bidirectional Power Flow
 - EVs discharge power to the grid during high demand.
 - Recharge during low demand or high renewable availability.
- Smart Charging & Demand Response
 - Uses Time-of-Use (ToU) pricing and smart charging algorithms.
 - Helps in load balancing and integration of renewables.
- Multiple Applications
 - V2G: EV to Grid (primary use).
 - V2H: EV to Home — power backup.
 - V2V: Vehicle to Vehicle energy sharing.

Significance

- Promotes grid stability, energy efficiency, and renewable integration.
- Helps in building a smart and decentralized power system.

Type 5 Diabetes

Context

At the IDF World Diabetes Congress 2025 in Bangkok, a Type 5 Diabetes Working Group was launched to raise awareness and improve treatment strategies.

What is Diabetes?

- A chronic condition where the body fails to properly produce or use insulin, leading to high blood sugar levels.
- Types vary based on causes like genetics, lifestyle, or age.



What is Type 5 Diabetes?

- Also known as malnutrition-related diabetes or “lean diabetes.”
- Cause: Undernutrition and low BMI — unlike other forms linked to obesity.
- First described: Jamaica (1955) as J-type diabetes.
- WHO status:
 - 1985: Recognized as “Malnutrition-related Diabetes Mellitus.”
 - 1999: Classification removed due to limited evidence.
- Current Concern: Affects 25+ million globally, especially in India, Sri Lanka, Bangladesh, Ethiopia, Uganda.



Type	Cause	Common Features
Type 1	Autoimmune destruction of insulin cells	Occurs in youth; insulin-dependent
Type 2	Lifestyle (obesity, inactivity)	Most common; managed by diet, exercise, medication
Type 3	Insulin resistance in the brain	Linked to Alzheimer's; under study
Type 4	Age-related insulin resistance	Found in elderly individuals
Type 5	Early-life undernutrition, low BMI	"Lean diabetes"; less responsive to standard treatment

Significance

- The recognition of Type 5 Diabetes is crucial for developing countries, where malnutrition remains prevalent.
- Requires tailored diagnosis and management, different from obesity-linked types.

Terrorism in India

Context

In May 2025, multiple tourists were killed in a terrorist attack in Pahalgam, J&K, carried out by The Resistance Front (TRF), a proxy of Lashkar-e-Taiba (LeT).

What is Terrorism?

- Origin: The term comes from the French "Reign of Terror" (1793-94).
- No universal definition, but widely seen as acts intended to spread fear or coerce governments/populations.



Key Definitions

- UN Crime Branch (1992): Terrorism = Peacetime equivalent of war crimes.
- League of Nations (1937): Criminal acts intended to create terror in the public or group.
- CCIT Proposal: Terrorism involves acts causing death/injury or destruction, intended to intimidate or coerce.
- India's Legal Position:
 - Not defined under IPC.
 - Defined under UAPA and Bharatiya Nyaya Sanhita (BNS), 2023.
 - BNS Sec. 113: Terrorism includes acts threatening India's unity, integrity, sovereignty, or economy through violence or disruption.

Region	Nature of Terrorism
Jammu & Kashmir	Pakistan-backed groups (LeT, JeM, TRF); cross-border infiltration
North-East	Ethno-nationalist insurgencies (e.g., ULFA, NSCN)
Red Corridor	Maoist insurgency (LWE) in central India
Urban India	Bombings by Indian Mujahideen, SIMI
Punjab (historical)	Khalistani terrorism (1980s–90s); occasional revival

Causes of Terrorism in India

- State Sponsorship (esp. by Pakistan)
- Ideological Extremism (Left- & Right-wing)
- Ethno-nationalist Movements
- Radicalisation & Online Propaganda
- Organised Crime & Narco-Terrorism
- Youth Unemployment & Poverty
- Tech & Globalisation (encrypted apps, drone use)

Conclusion

Terrorism in India stems from a mix of external sponsorship, internal vulnerabilities, and ideological extremism. Tackling it requires a multi-pronged approach—strong laws, advanced technology, inclusive governance, and international cooperation—while safeguarding civil liberties.



Digital Threat Report 2024

Context

The Government of India has launched the Digital Threat Report 2024 to enhance cybersecurity in the BFSI (Banking, Financial Services, and Insurance) sector.

About the Report

- First dedicated cybersecurity report for India's BFSI sector.
- Published by:
 - CERT-In (Indian Computer Emergency Response Team)
 - CSIRT-Fin (Financial Sector Incident Response Team)
 - SISA (Cybersecurity solutions provider)



Focus Area	Description
Holistic Threat Analysis	Integrates forensic data, regulatory insights, and real-world incident response.
Emerging Threats	Warns of AI-driven attacks, advanced fraud tactics, and system vulnerabilities.
Vulnerability Mapping	Identifies common cyber gaps across the BFSI ecosystem.
Actionable Steps	Recommends improvements in people, processes, and technology controls.

Why It Matters

- Aims to strengthen cyber resilience of critical financial infrastructure.
- Supports secure growth of India's digital economy.

Global Risks Report 2025

Context

The World Economic Forum's (WEF) Global Risks Report 2025 ranks misinformation and disinformation as the top short-term global threat (next 2 years).

Context

The Government of India has launched the Digital Threat Report 2024 to enhance cybersecurity in the BFSI (Banking, Financial Services, and Insurance) sector.

Drivers of Disinformation:

- AI-generated content
- Algorithmic echo chambers
- Societal polarisation

About WEF Global Risks Report

- Published by: World Economic Forum (WEF)
- Scope: Identifies global risks over:
 - Short-term: Next 2 years
 - Long-term: Next 10 years



Term	Meaning
Misinformation	False information shared without intent to deceive. ✦ E.g., <i>Unknowingly forwarding a fake weather alert.</i>
Disinformation	Deliberately false information meant to mislead . ✦ E.g., <i>Creating fake political content to influence elections.</i>

Significance

- Highlights how digital manipulation threatens democracies, public trust, and social cohesion.
- Urges global cooperation to regulate AI, social media platforms, and digital literacy.

SHAPING TALENT SINCE 2009

Changing Family Values

Context

In a recent property dispute case (Samtola Devi vs. Krishna Kumar), the Supreme Court observed that Indian families are moving towards a “one person, one family” model, reflecting the erosion of traditional family structures.



Case Background

- Parents (Samtola Devi, 68) sought eviction of their son under the Maintenance and Welfare of Parents and Senior Citizens Act, 2007.
- SC's Ruling:
 - No legal right to evict as the father had already transferred the property.
 - Maintenance under the Act is allowed, but eviction is not a guaranteed legal remedy.
 - Sons/daughters have implied residence rights unless explicitly evicted.

What is a Family?

- A social unit bound by blood, marriage, or adoption, living together and supporting one another.
- Murdock (1949): Family includes cohabiting adults and children with economic cooperation and reproduction.

Changing Family Trends in India

- Joint → Nuclear Families: NFHS-5 (2019–21) – 58.2% nuclear households.
- Weakening Patriarchy: Rise in female education and property rights.
- Rise of Love Marriages: Increasing inter-caste unions.
- New Structures Emerging: LGBTQ+ families, live-in relationships, single-parent homes.
- Elderly Care Laws: Senior Citizens Act (2007) addresses gaps in traditional support systems.

Consequences

- Social Fragmentation: Weakens support systems and empathy.
- Mental Health Decline: Isolation of children and elderly.
- Rise in Old-Age Homes: Reflects neglect and abandonment.
- Crisis Insecurity: Nuclear families lack fallback networks.
- Fragile Marriages: Higher divorce rates, reduced compromise.
- Moral Decline: Rise in selfishness, loss of ethical values.
- Loss of Tradition: Rituals and heritage fading in urban homes.
- Poor Child Development: Lack of guidance affects emotional growth.

Conclusion

Restoring family values is crucial for social stability. A balanced approach—modern lifestyles with rooted traditions—can strengthen emotional and social cohesion. Policy support, judicial sensitivity, and social awareness are key.



Chlorpyrifos Pesticide – Call for Ban

Context: Ahead of a global chemical safety summit in Geneva, Indian experts are urging an immediate ban on chlorpyrifos.

What is Chlorpyrifos?

- A widely used organophosphate pesticide to control crop pests.
- Classified as ‘moderately hazardous’ by WHO.

Status in India:

- Still in use across various crops, raising concerns over health and environmental safety.

Global Scenario:

- Banned or restricted in over 40 countries, including the US, EU, and China.

Health Hazards:

Linked to:

- Brain development issues in children (e.g., reduced IQ, autism, ADHD)
- Harm to unborn babies
- Hormonal imbalances
- Breathing problems and reproductive disorders

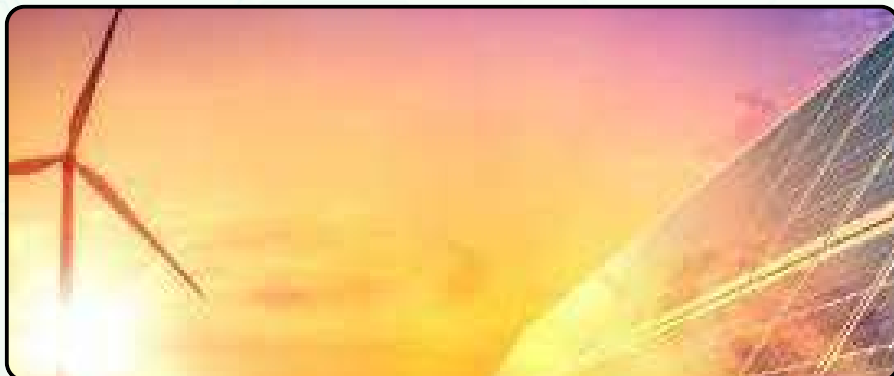
Environmental Impact:

- Highly toxic to birds, bees, aquatic life, and useful insects.



India Becomes 3rd-Largest Wind and Solar Power Generator

Context: Ahead of a global chemical safety summit in Geneva, Indian experts are urging an immediate ban on chlorpyrifos.



Global Electricity Trends (2024)

- Wind + solar = 15% of global electricity.
- Low-carbon sources (renewables + nuclear) = 40.9% of global electricity – first time above 40% since the 1940s.
- Solar:
 - Largest new electricity source for 3rd straight year (added 474 TWh).
 - Fastest-growing for 20 years.
 - Share doubled to 6.9% in 3 years.

India's Performance

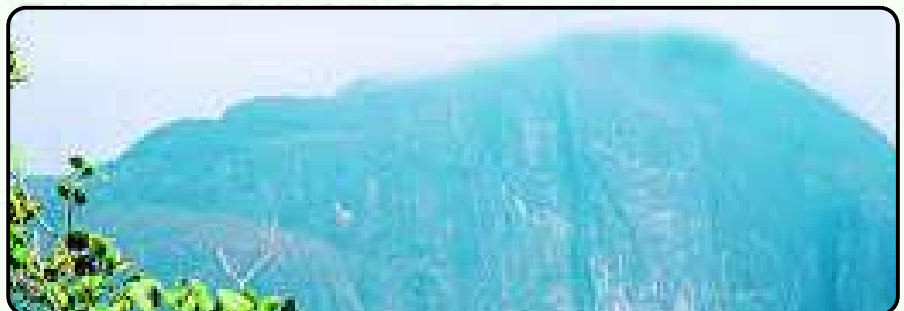
- 10% of India's electricity came from wind + solar.
- Total clean energy (including hydro) = 22%; hydropower alone = 8%.
- Solar share doubled since 2021, now 7% of India's electricity.
- 24 GW solar capacity added in 2024 (2x compared to 2023).
- Now 3rd-largest solar market (after China and US).
- 4th-largest increase in solar generation globally (+20 TWh).

India's Climate Goals

- NDC Target (2022): 50% of installed capacity from non-fossil sources by 2030.
- National Goal (2021): 500 GW non-fossil capacity by 2030 (referenced in planning docs like the 14th National Electricity Plan).

Agasthyamalai Landscape – SC Orders Survey

Context: The Supreme Court has asked the Central Empowered Committee (CEC) to conduct a detailed survey of the Agasthyamalai landscape to identify illegal, non-forest activities.



Central Empowered Committee (CEC)

- Formed by the Supreme Court in 2002 (reconstituted in 2008).
- Advises on forest and wildlife matters, especially violations.
- Reports to the Environment Ministry.

About Agasthyamalai Landscape

- A UNESCO-recognised biosphere reserve (3,500 sq. km) across Tamil Nadu and Kerala.
- Contains 3 wildlife sanctuaries: Shendurney, Peppara, Neyyar, and the Kalakad-Mundanthurai Tiger Reserve.

Biodiversity Highlights

- 2,254 plant species, including 400 endemics.
- Notable plants:
 - Arogyapacha (“Plant of Eternal Health”)
 - Neelakurinji (blooms once every 12 years)
- Rich wildlife: Bengal Tiger, Lion-Tailed Macaque, Nilgiri Tahr, Nilgiri Marten, Great Pied Hornbill, Gaur, Sloth Bear, and more.

Indigenous People

- Home to tribal groups, especially the Kani tribe, who have deep traditional knowledge of the forest.

Kasampatty Sacred Grove – Tamil Nadu’s New Biodiversity Heritage Site

Context:

Kasampatty Sacred Grove in Dindigul district has been declared Tamil Nadu’s second Biodiversity Heritage Site (BHS) under the Biological Diversity Act, 2002.



What are Biodiversity Heritage Sites (BHS)?

- Ecologically rich areas with unique flora, fauna, or cultural value.
- Often protected by local communities.
- Aim: Conservation + improving local quality of life.
- First BHS in India: Nallur Tamarind Grove, Karnataka (2007).

Criteria for Declaration:

- Rich species diversity or endemism.
- Presence of rare or sacred species.
- Cultural or religious importance.
- Ecological corridors for threatened species.

About Kasampatty Sacred Grove (Veera Kovil Grove)

- Location: Near Alagarmalai Reserve Forest, Dindigul, Tamil Nadu.
- Role: Boosts pollination, soil fertility, and wildlife movement in nearby mango plantations.
- Helps regulate local climate.



Cultural Significance

- Home to Veeranan Temple, worshipped by locals.
- Protected by community efforts via the Reddiyapatty Panchayat.

What are Sacred Groves?

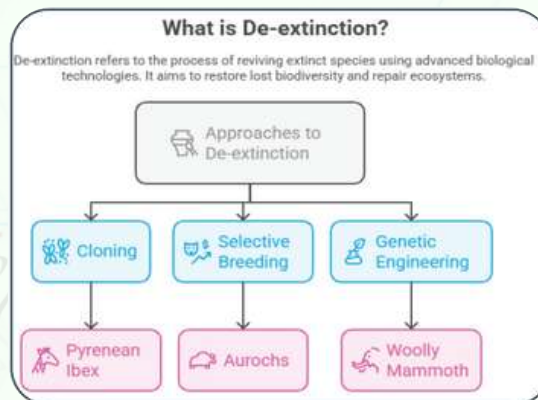
- Community-preserved forest patches with ecological and religious value.
- Conserved through traditional beliefs.
- Serve as biodiversity hotspots and groundwater recharge zones.

De-Extinction of the Dire Wolf – A Genetic Breakthrough

Context: U.S.-based company Colossal Biosciences has announced the birth of three genetically modified wolf pups, claimed to be "functional copies" of the extinct dire wolf.

About the Dire Wolf

- Species: *Aenocyon dirus*
- Lived in North America, extinct around 13,000 years ago.
- Larger and stronger than modern grey wolves.
- Hunted large mammals like bison, horses, and possibly mammoths.



De-Extinction Process – Key Technologies

1. Ancient DNA Recovery
 - DNA extracted from fossil bones (13,000-year-old tooth, 72,000-year-old skull).
 - Inner ear bone (petrous) used for better DNA preservation.
2. Genome Sequencing
 - Complete dire wolf genomes reconstructed.
 - Compared with modern canids (grey wolves, coyotes, etc.).
 - Found 99.5% genetic similarity with grey wolves.
3. Gene Editing
 - 20 specific gene edits made to grey wolf DNA.
 - Traits re-created:
 - Light-colored fur
 - Longer, patterned coat
 - Larger body size
 - Stronger muscles
4. Surrogacy and Birth
 - Edited embryos implanted into domestic dog mothers.
 - Three pups born: Romulus, Remus, and Khaleesi.

Asiatic Lion Census 2024 – Gujarat Begins 16th Count

Context: The 16th Asiatic Lion Census is being held from May 10–13, 2024 by the Gujarat Forest Department.

About the Census

- **First census:** Conducted in 1936 by the Nawab of Junagadh.
- **Coverage:** Spread across 11 districts in the Saurashtra region – including Junagadh, Gir-Somnath, Rajkot, Amreli, Bhavnagar, and others.
- **Method:** Uses Direct Beat Verification – tracking lions based on direct sightings.

Key Data Collected:

- Time, location, movement direction, age, sex, distinct marks, group size, photograph, and GPS location.

Tech Integration:

- Real-time data collected via the e-GujForest mobile app.

About Asiatic Lions

- **Scientific name:** *Panthera leo leo*
- **IUCN Status:** Vulnerable
- **Habitat:** Forests, grasslands, scrublands, and dry deserts.
- **Natural Range:** Only found in Gir Forest, Gujarat, India.

Last Census (2020) – Population: 674

- 260 females
- 161 males
- 93 sub-adults
- 137 cubs



UNESCO Adds 16 New Global Geoparks – India Still Awaits Entry

Context: UNESCO has added 16 new Global Geoparks in 2024, across 11 countries, marking the 10th anniversary of the Global Geoparks Network.



Key Highlights

- First-time entries: North Korea and Saudi Arabia.
- Kanbula (China): Located on the Qinghai-Tibet Plateau; features Maixiu volcanoes and Yellow River landscapes.
- Other countries with new sites: Ecuador, Indonesia, Italy, Norway, South Korea, Spain, UK, Vietnam.
- Total Geoparks now: 229 sites in 50 countries.
- Total area covered: ~8.55 lakh sq. km (similar to Namibia).
- India's Status: No site from India listed as a UNESCO Global Geopark (as of July 2024).

What are UNESCO Global Geoparks?

- **Established** - 2015 under UNESCO's International Geosciences and Geoparks Programme
- **Purpose** - To protect and promote areas of geological importance
- **Key Functions** - Conservation, education, community involvement, eco-tourism
- **Reassessment** - Status reviewed every 4 years
- **Difference from WH Sites** - Focuses specifically on geological heritage, unlike World Heritage Sites

Space Tourism in News – Katy Perry Joins the Journey Beyond Earth

Context: Pop star Katy Perry recently took a sub-orbital space flight on Blue Origin's New Shepard rocket, drawing attention to the rising trend of space tourism.

Key Highlights

- Duration: ~11 minutes
- Altitude: Crossed the Kármán line (100 km above Earth)
- Experience: Brief weightlessness before return
- Crew: First all-women crew in space since 1963

What is Space Tourism?

Definition: Commercial space travel for recreation, leisure, or business.

Types:

1. Sub-Orbital:
 - Crosses the Kármán line
 - Few minutes in space
 - Quick return to Earth
2. Orbital:
 - Much higher and longer journey
 - Stay in space for days to a week
 - Up to 1.3 million feet altitude



Key Players in Space Tourism

- Blue Origin (New Shepard)
- Virgin Galactic
- SpaceX

All launched their first missions in 2021, marking the rise of private space travel.

Kármán Line - Where Space Begins

- Located at 100 km above sea level
- Internationally accepted boundary between Earth's atmosphere and outer space

ChaSTE: India Probes the Moon's South Pole

Context: India's ChaSTE (Chandra's Surface Thermophysical Experiment) became the first instrument to probe the lunar soil near the Moon's south pole, confirming a higher-than-expected presence of water ice.

What is ChaSTE?

Mission - Part of Chandrayaan-3 (onboard Vikram lander)

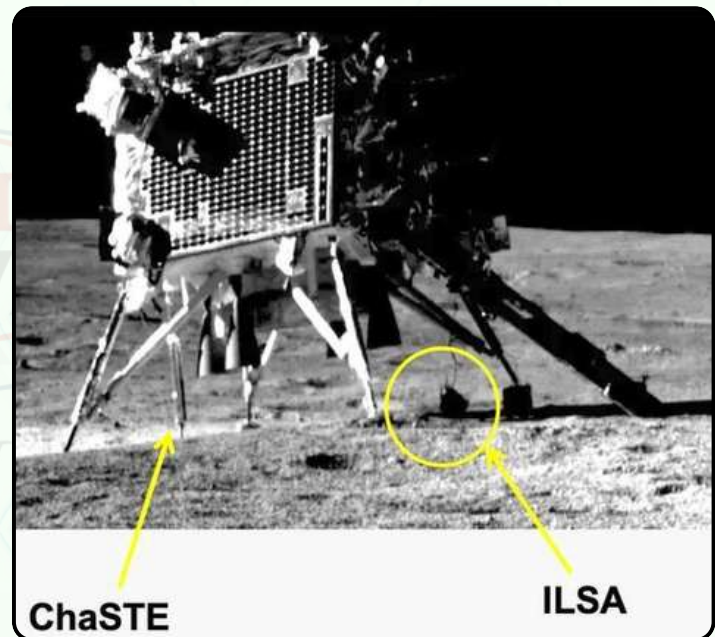
Developed by - Space Physics Lab (VSSC) + PRL Ahmedabad

Function - Measures temperature by inserting a probe into the lunar soil

Depth Reached - 10 cm

Duration - Aug 23 to Sept 2, 2023

Sensors - 10 thermal sensors at 1 cm intervals



Key Findings

- First temperature profile from the Moon's south pole
- Lunar soil offers thermal resistance, affecting heat transfer
- Data confirms more water ice than earlier believed

Why is the Moon's South Pole Important?

- **Water Ice Reserves:** Found in shadowed craters, vital for drinking, oxygen, and fuel
- **Scientific Value:** Preserves ancient cosmic records in untouched soil
- **Future Missions:** Ideal for solar power and building a lunar base
- **Strategic Location:** Offers both sunlight and resources—key for deep space exploration

