

CURRENT AFFAIRS

OCTOBER 2025

Special Mention

The Weight of Morning

Costume Party

This life has never felt worse,
 Deep within, faking myself became a curse.
 Life feels like a costume party,
 As if the world has lost the touch of poetry.
 Who am I beneath this pressure to be perfect?
 I wake up each morning feeling torn and unrested.
 I put my makeup on, I step outside,
 Leaving the noise in my head unsaid, uncried.
 I remember a long-forgotten lullaby,
 From days I passed through life calmly, unnoticed by time.
 I feel their stares — they think I'm dumb,
 While I'm just processing emotions growing numb.
 Should I live like this forever?
 No — I save myself from this poisonous river.

By **Amulya Deepika**,
 Ignite Degree 2nd year

ఉదయపు భారం

ఈ జీవితం ఇంతకన్నా భారంగా ఎప్పుడూ అనిపించలేదు,
 లోలోపల నన్నే నకిలీగా మలుచుకోవడం శాపమై నిలిచింది.
 జీవితం ఒక వేషాల వేడుకలా మారింది,
 కవిత్వపు స్పర్శను ప్రపంచం కోల్పోయినట్టుంది.
 పరిపూర్ణంగా ఉండాలన్న ఒత్తిడిలో
 అసలు నేనెవరు? అని నన్ను నేనే ప్రశ్నించుకుంటాను.
 ప్రతి ఉదయం చీలిపోయిన మనసుతో, విశ్రాంతిలేని నిద్రతో మేల్కొంటాను.
 మేకప్ వేసుకుని బయటకు అడుగుపెడతాను,
 లోపలున్న గోల, గాయాలు - ఎవరికి చెప్పకుండా మింగేస్తాను.
 ఎప్పుడో మరిచిపోయిన లాలిపాట ఒకటి గుర్తొస్తుంది,
 కాలానికి తెలియకుండా, ప్రశాంతంగా జీవించిన రోజుల జ్ఞాపకంగా.
 వాళ్ల చూపులు నాకు తగులుతాయి- నన్ను అజ్ఞానిగా భావిస్తారు,
 కానీ లోపల నేను భావోద్వేగాలను జీర్ణించుకుంటూ నిస్సత్నంగా మారుతున్నాను.
 ఇలానే శాశ్వతంగా జీవించాలా?
 లేదు - ఈ విషపు నదిలో మునిగిపోకుండా నన్ను నేనే రక్షించుకుంటాను

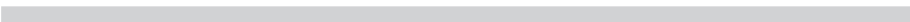
Translated by **N S Reddy**,
 Chief Mentor

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ART AND CULTURE

WHY HAVE SCHOLARS STRUGGLED TO DECIPHER HARAPPAN SCRIPT

First Global Conference on Manuscript Heritage

- ❖ India is set to host a landmark event dedicated to its vast literary and historical history. This conference serves as a platform for scholars worldwide to present new findings, including work on the enigmatic Harappan script.
 - **Host:** Ministry of Culture, Government of India.
 - **Dates:** 11 to 13 September.
 - **Venue:** Bharat Mandapam, New Delhi.
 - **Conference Title:** *Reclaiming India's Knowledge Legacy Through Manuscript Heritage.*
- ❖ **Key Objectives:** The primary goal is to bring global attention to India's diverse manuscript tradition. India is estimated to be home to over **10 million manuscripts** covering a wide range of subjects, including:
 - Philosophy and Rituals
 - Science and Mathematics
 - Medicine and Literature

Why Have Scholars Struggled to Decipher Harappan Script?

- ❖ One of the major topics at the conference is the script of the Indus Valley Civilization (c. 3300 BCE – 1300 BCE). Despite being discovered over a century ago by Sir John Marshall in 1924, the script remains unread. The provided text outlines the specific reasons for this struggle:

1. Absence of a “Rosetta Stone” (No Multilingual Inscriptions)

- ❖ The most reliable way to decipher an unknown script is to find a “bilingual” inscription—the same text written in both the unknown script and a known language (like the Rosetta Stone for Egyptian Hieroglyphs).
- ❖ **The Challenge:** Although Harappans traded extensively with Mesopotamia, **no multilingual inscriptions have ever been found.** Without a parallel text to use as a key, direct translation is nearly impossible.

2. An Unknown Language

- ❖ Decipherment is hardest when you have an unknown script written in an unknown language.
 - **The Challenge:** Scholars do not know what language the Harappans spoke.
 - **Competing Theories:** There are claims that it represents **Sanskrit, Proto-Dravidian,** or Munda languages like **Ho and Santali.** However, the text notes that these claims often lack sufficient evidence.

3. Extremely Short Inscriptions

- ❖ To analyze a language's grammar and syntax, linguists need long strings of text.
 - **The Challenge:** Harappan writing is found mostly on seals and is incredibly brief.
 - **Average length:** Only **5 characters.**
 - **Longest known text:** Only **26 characters.**
 - **Result:** There is not enough material to understand how sentences were formed.

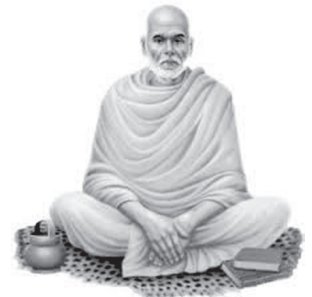
4. Unique Script Features

- ❖ The nature of the script itself adds to the complexity:
 - **Pictographic:** It is not a simple alphabet. It uses **250 to 400 signs**, where symbols represent sounds, ideas, or objects.

- **Boustrophedon:** The writing direction changes with every line. It is written from right to left on the first line, then left to right on the second line.

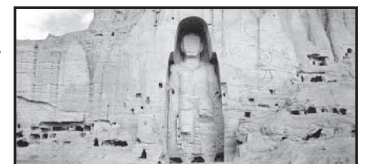
Sree Narayana Guru

- ❖ The President inaugurated the observance of the Mahasamadhi centenary of Sree Narayana Guru in Kerala.
- ❖ **Sree Narayana Guru (1856–1928)**, the influential philosopher and social reformer from Kerala.
- ❖ **Reform Action, Significance**
- ❖ **Aruvippuram Consecration (1888)**, "The first major public protest: Consecrated a Shiva idol at Aruvippuram, defying the Brahminical monopoly on temple worship and priesthood."
- ❖ **Temple Consecrations**, "Established over 40 temples open to all castes, including symbolic consecrations like a mirror (signifying the divine is within the devotee) and a slab inscribed with" "Truth, Ethics, Compassion, Love."
- ❖ **Focus on Education**, "Advocated that education and economic prosperity were the keys to liberation from social oppression. His slogan: ""Gain freedom through education. Gain strength through organization."""
- ❖ **SNDP Yogam (1903)**, Founded the Sree Narayana Dharma Paripalana Yogam to organize and uplift the backward Ezhava community and carry forward his social message.
- ❖ **Inter-Faith Dialogue**, "Convened the All-Region Conference at Aluva Advaita Ashram (1923), promoting religious harmony and the idea that all religions lead to the same truth."
- ❖ **Influence on Gandhi**, "His arguments against untouchability and emphasis on self-reliance significantly influenced Mahatma Gandhi's decision to intensify the focus on eradicating untouchability (e.g., renaming his paper Harijan)."



Bamiyan Buddhas

- ❖ **Background :** The Bamiyan Buddhas are an ongoing subject of news due to their destruction in 2001 and the current situation regarding their preservation and potential restoration under the Taliban regime in Afghanistan.



Category	Key Points
Identity & History	Two colossal 6th-century Buddhist reliefs (Salsal at 55m and Shahmama at 38m) carved into the sandstone cliffs of the Bamiyan Valley, Afghanistan.
Artistic Style	Exemplary of the Gandhara School of Art, which shows a unique synthesis of Indian, Persian, and Greco-Roman artistic influences.
Destruction	Systematically destroyed by the Taliban in March 2001 using explosives, after declaring them "idolatrous." The act was condemned globally as a "crime against humanity."
Current Status	The site, marked by the two empty niches in the cliff face, is a UNESCO World Heritage Site (since 2003) and remains on the List of World Heritage in Danger.

Nobel Peace Prize 2025: María Corina Machado

- ❖ The Nobel Peace Prize, based on the information you provided and the 2025 winner:
- ❖ **Nobel Peace Prize 2025: María Corina Machado**

- **Laureate:** María Corina Machado.
- **Country:** Venezuela.
- **Reason for Award:** Honored for her struggle to achieve a **just and peaceful transition from dictatorship to democracy** in Venezuela.

General Nobel Peace Prize Facts

- **Year Started:** The Peace Prize was first awarded in **1901**.
- **Post-WWII Focus Areas:** Since World War II, the prize has honored efforts in four main categories:
 1. **Arms Control and Disarmament**
 2. **Peace Negotiation**
 3. **Democracy and Human Rights** (The category under which Machado was recognized)
 4. **Work aimed at creating a better organized and more peaceful world**

Indian Citizens Who Won the Nobel Peace Prize

- **Mother Teresa** (1979)
- **Kailash Satyarthi** (2014)

The Nobel Prizes were first awarded on December 10, 1901, the fifth anniversary of the founder Alfred Nobel's death in 1896, fulfilling the terms of his 1895 will.

Relics:

Category	Area of Achievement	Awarding Institution	Location
Physics	Discoveries in the field of physics.	The Royal Swedish Academy of Sciences	Stockholm, Sweden
Chemistry	Advancements in chemical science.	The Royal Swedish Academy of Sciences	Stockholm, Sweden
Physiology or Medicine	Discoveries in life sciences and medicine.	The Nobel Assembly at Karolinska Institutet	Stockholm, Sweden
Literature	Outstanding work in an ideal direction in the field of literature.	The Swedish Academy	Stockholm, Sweden
Peace	Efforts toward promoting peace, arms control, human rights, or creating a better-organized, peaceful world.	The Norwegian Nobel Committee	Oslo, Norway
Economic Sciences	Contributions to economic sciences (established in memory of Alfred Nobel in 1968).	The Royal Swedish Academy of Sciences	Stockholm, Sweden

Mera Hou Chongba Festival

- ❖ The **Mera Hou Chongba Festival** of Manipur:
 1. **Purpose:** It is an annual festival celebrated to signify the **unity and brotherhood** between the people of the valley (Meitei) and the people of the hills (various tribal groups) of Manipur.
 2. **Timing:** It is traditionally held on the **15th day of the Mera month** of the Manipuri lunar calendar, usually falling in **October**.

- 3. Key Rituals:** The main event involves a **ritual exchange of gifts** (food items, handicrafts, clothing) and a communal feast between the hill and valley residents.
- 4. Cultural Exchange:** Tribal chiefs and representatives from the hills visit the royal palace in the valley, and a vibrant **cultural performance** showcasing the diverse traditions of both communities takes place.

Gyan Bharatam Mission:

- 1. Objective:** It is a major national initiative by the **Ministry of Culture** to **preserve, digitize, and disseminate** India's vast manuscript heritage (estimated at over 10 million texts).
- 2. Technology Integration:** The mission utilizes modern technology, including **AI-assisted Handwritten Text Recognition (HTR)**, for large-scale digitisation and to make ancient texts easily searchable.
- 3. Digital Repository:** A core aim is the creation of a **National Digital Repository (NDR)** to serve as a globally accessible, centralized platform for India's traditional knowledge systems.
- 4. Scope & Scale:** The mission, which revamps the earlier National Mission for Manuscripts (NMM), has a massive target: to survey, document, and conserve **over one crore (10 million)** manuscripts across the country.
- 5. Vision Alignment:** It links the preservation of India's civilizational roots (knowledge in philosophy, science, medicine) with the vision of a **Viksit Bharat by 2047**, promoting India as a *Vishwa Guru* (global intellectual leader).

ECONOMY

Multidimensional Poverty Index (MPI)

- ❖ The release of the **2025 Global Multidimensional Poverty Index (MPI)** by the United Nations Development Programme (UNDP) and the Oxford Poverty and Human Initiative (OPHI) highlights that poverty is a complex issue of overlapping deprivations, not just a lack of income.

I. Global Snapshot and India's Progress

Metric	Detail
Global Poor	1.1 billion people (18.3% of 6.3 billion across 109 countries) live in acute multidimensional poverty.
Poverty Hotspots	Almost half of the world's multidimensionally poor live in just six middle-income countries: Bangladesh, China, India, Nigeria, Pakistan, and Tanzania.
Children's Burden	27.8% of all children live in multidimensional poverty—more than double the rate among adults (13.5%).
India's Achievement	India reduced its MPI headcount from 55.1% (2005–2006) to 16.4% (2019–2021) , resulting in approximately 414 million people escaping poverty.

II. The Double Burden: Poverty and Climate Hazards

The 2025 report introduced a major theme: the compounding effect of poverty and climate vulnerability.

- **Massive Exposure:** Nearly **8 in 10** multidimensionally poor people globally (**887 million**) are directly exposed to at least one climate hazard (extreme heat, flooding, drought, or air pollution).
- **Triple/Quadruple Burden:** **309 million** poor people live in regions exposed to **three or four overlapping climate hazards**, coupled with acute poverty, minimal assets, and limited social protection.

- **Widespread Hazards:** The two most widespread hazards affecting poor people are **high heat (608 million)** and **air pollution (577 million)**.
- **Global Hotspots: Sub-Saharan Africa and South Asia** account for the largest numbers of poor people living in regions affected by climate hazards.

III. Methodology of the Global MPI

- ❖ The Global MPI uses the Alkire-Foster methodology, going beyond monetary measures by analyzing deprivations across three equally weighted dimensions and ten indicators.

A. Dimensions and Indicators

Dimension (1/3 Weight)	Indicators (Weight)	Deprived if living in a household where...
1. Health	Nutrition (1/6)	Any adult or child is undernourished.
	Child Mortality (1/6)	Any child under 18 has died in the family in the preceding five years.
2. Education	Years of Schooling (1/6)	No household member has completed at least six years of schooling.
	School Attendance (1/6)	Any school-aged child is not attending school up to the age of completing class eight.
3. Standard of Living	Cooking Fuel (1/18)	Household cooks with polluting fuels (dung, wood, charcoal, coal).
	Sanitation (1/18)	Facility is unimproved or improved but shared.
	Drinking Water (1/18)	Access is unimproved or 30-minute walk (round trip).
	Electricity (1/18)	The household has no electricity.
	Housing (1/18)	Roof, walls, and/or floor are made of natural or rudimentary materials.
	Assets (1/18)	The household owns minimal essential assets and no car/truck.

B. MPI Value Calculation

- **Identification:** A person is identified as **multidimensionally poor** if their total deprivation score is **one third (33.3%) or higher** of the weighted indicators.
- **Formula:** The final MPI value is the product of two measures:

$$MPI = H \times A$$
 - **H (Incidence/Headcount):** The **proportion** of the population living in multidimensional poverty.
 - **A (Intensity):** The **average deprivation score** among multidimensionally poor people (the extent of their deprivation).
- **Range:** MPI values range from 0 to 1; higher values imply higher poverty.

IV. India's National MPI (NITI Aayog)

- **Methodology:** Uses the same robust **Alkire-Foster methodology** as the Global MPI.
- **Indicators:** It retains the 10 Global MPI indicators but incorporates **two additional indicators** to suit national priorities, resulting in a total of **12 indicators**:
 - 1. Maternal Health** (added under Health)
 - Bank Accounts** (added under Standard of Living)

PM-SETU (Prime Minister’s Scheme for Socio-Economic Transformation through Upgraded ITIs)

PM-SETU Scheme: Skilling for a Future-Ready India

- ❖ The **PM-SETU Scheme** is a landmark, centrally sponsored initiative by the Government of India designed to fundamentally overhaul the country’s vocational training ecosystem by modernizing Industrial Training Institutes (ITIs).
- ❖ Its full form is: **Pradhan Mantri Skilling and Employability Transformation through Upgraded ITIs.**

I. Core Objectives and Financing

Component	Detail
Primary Aim	To transform 1,000 Government ITIs into modern, industry-aligned training institutions to meet current and future global skill demands.
Investment	Total outlay of Rs. 60,000 crore over the implementation period (2025–2030).
Funding Model	Centrally Sponsored Scheme with co-financing from World Bank and Asian Development Bank (ADB) , alongside contributions from the Centre, States, and Industry.
Nodal Ministry	Ministry of Skill Development and Entrepreneurship (MSDE).

II. Key Structural Features

- ❖ The scheme introduces a new structural and governance model to ensure training relevance:

A. Hub-and-Spoke Model

- ❖ PM-SETU is structured to scale quality training nationwide through a network system:
 - **200 Hub ITIs:** Developed as Centres of Excellence (CoEs), equipped with state-of-the-art infrastructure, innovation centres, incubation units, and placement services.
 - **800 Spoke ITIs:** These ITIs are linked to the Hubs to ensure the dissemination of advanced training, access, and resources, reaching youth in remote areas.

B. Governance and Industry Alignment

- ❖ The model shifts ITIs from purely government-run to a “Government-owned, **Industry-managed**” model.
 - **Anchor Industry Partners (AIPs):** Industry leaders will partner with ITIs to manage clusters through **Special Purpose Vehicles (SPVs)**. This ensures that the curriculum and training are outcome-based and directly align with current market demand.
 - **Curriculum Reform:** Focus is on introducing **new, demand-driven courses** in emerging technologies (like AI, Robotics, EV, and Green Energy) and revamping existing trades.

C. Capacity Building

- **CoE Strengthening:** The scheme includes strengthening **five National Skill Training Institutes (NSTIs)** as Centres of Excellence with global partnerships (e.g., in Bhubaneswar, Chennai, Hyderabad, Kanpur, and Ludhiana).
- **Early Skill Exposure:** The initiative also supports the establishment of **1,200 Vocational Skill Labs** in schools like Navodaya Vidyalayas and Eklavya Model Residential Schools to promote vocational education from an early stage.

III. Significance

1. **Enhances Employability:** Directly links training to job outcomes, reducing the perennial mismatch between skills taught and industry needs.

2. **Boosts Global Competitiveness:** Aligns India's workforce to international skill standards, supporting global labor mobility and the 'Make in India' initiative.
3. **Drives Industry 4.0 Readiness:** Modernizes infrastructure (AI labs, digital systems) to prepare youth for the Fourth Industrial Revolution

PM-MITRA Scheme: Weaving India's Textile Future

- ❖ The **PM-MITRA Scheme** (Pradhan Mantri Mega Integrated Textile Region and Apparel) is a major initiative by the Government of India's **Ministry of Textiles** aimed at establishing world-class, integrated textile manufacturing hubs.

I. Core Vision and Objective

- **Full Form:** Pradhan Mantri Mega Integrated Textile Region and Apparel (PM MITRA) Parks.
- **Vision:** The scheme is anchored in the **'5F' Formula** put forth by the Prime Minister: **Farm to Fibre to Factory to Fashion to Foreign**. This aims to integrate the entire textile value chain from raw material to international export.
- **Core Objective:** To create large-scale, world-class industrial infrastructure with **"plug-and-play"** facilities to:
 - o Reduce **logistics costs** (currently high in India).
 - o Improve the **competitiveness** of the Indian textile industry globally.
 - o Attract large-scale domestic and foreign **investment**.

II. Key Features and Implementation

A. Integrated Parks

- **Number:** The government has approved the establishment of **7 PM MITRA Parks** across the country.
- **Location:** Parks are being set up in states like Tamil Nadu, Telangana, Karnataka, Maharashtra, Gujarat, Madhya Pradesh, and Uttar Pradesh.
- **Scale:** Each park requires a minimum of **1000 acres** of contiguous, encumbrance-free land to ensure the achievement of economies of scale.
 - o These parks will host every activity of the textile sector in one location: spinning, weaving, processing, printing, and garment manufacturing.

B. Governance and Financing

- **Model:** The parks are developed under a **Public-Private Partnership (PPP)** model, often through a **Special Purpose Vehicle (SPV)** jointly owned by the Central Government (49% equity) and the respective State Government (51% equity).
- **Capital Support (DCS):** Financial support is provided for park development:
 - o **Greenfield Parks (new):** Up to ₹ 500 crore (30% of project cost).
 - o **Brownfield Parks (existing):** Up to ₹ 200 crore.
- **Competitive Incentive Support (CIS):** An additional incentive fund of up to **Rs. 300 crore per park** is provided to manufacturing units that set up early. This is usually paid out as a percentage of turnover.

III. Expected Benefits and Impact

- **Employment Generation:** The scheme is projected to create massive employment, with an estimated **1 lakh direct and 2 lakh indirect jobs** per park.

- **Investment Boost:** It is expected to attract total investments of around **Rs. 70,000 crore**.
- **Sustainability:** The parks incorporate green and sustainable features, including:
 - **Common Effluent Treatment Plants (CETP)** for pollution control.
 - **Zero Liquid Discharge (ZLD)** systems.
 - Integrated **renewable energy** (like solar power).
- **Global Positioning:** By reducing fragmentation and logistics costs, PM-MITRA aims to strengthen India’s global position and help it compete effectively with textile giants like China and Vietnam, realizing the vision of ‘**Atmanirbhar Bharat**’

Nobel Prize in Economic Sciences 2025: Innovation-Driven Growth

❖ The **Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2025** was jointly awarded to three scholars for their foundational work on the mechanisms behind sustained, innovation-driven economic growth.

I. Laureates and Core Contribution

Laureates	Affiliation (at time of award)	Prize Motivation
Joel Mokyr	Northwestern University, USA & Tel Aviv University, Israel	Awarded one half for identifying the prerequisites for sustained growth through technological progress.
Philippe Aghion	Collège de France & INSEAD, France	Shared the other half for the theory of sustained growth through creative destruction.
Peter Howitt	Brown University, USA	Shared the other half for the theory of sustained growth through creative destruction.

II. Significance of the Research

❖ The laureates’ work explains the fundamental question of why, after millennia of stagnation, the world has experienced unprecedented and sustained economic growth over the last two centuries, significantly improving global living standards.

A. Joel Mokyr: Historical Prerequisites

- **Focus:** Used economic history to identify the conditions necessary for continuous growth.
- **Key Insight:** Sustained growth requires a self-generating process where **scientific principles and practical applications mutually enhance each other**.
 - He distinguished between:
 - § **Propositional Knowledge:** Scientific understanding of *why* something works (theory).
 - § **Prescriptive Knowledge:** Practical instructions or *know-how* (application).
- **Conclusion:** Before the Industrial Revolution, these two types of knowledge were isolated; their eventual synergistic evolution was crucial.

B. Aghion & Howitt: The Engine of Creative Destruction

- **Focus:** Developed a formal **mathematical model** to describe how growth perpetuates itself.
- **Key Insight:** Growth is driven by the process of **Creative Destruction** (a concept popularized by Joseph Schumpeter).

- o This is the cycle where **new innovations and products replace older technologies**, disrupting existing firms and jobs but propelling overall economic expansion (e.g., smartphones displacing film cameras).
- **Policy Relevance:** Their model demonstrates that the prospect of **temporary monopoly power** (often through patents) is essential, as it incentivizes firms to invest in Research and Development (R&D) and drive innovation.

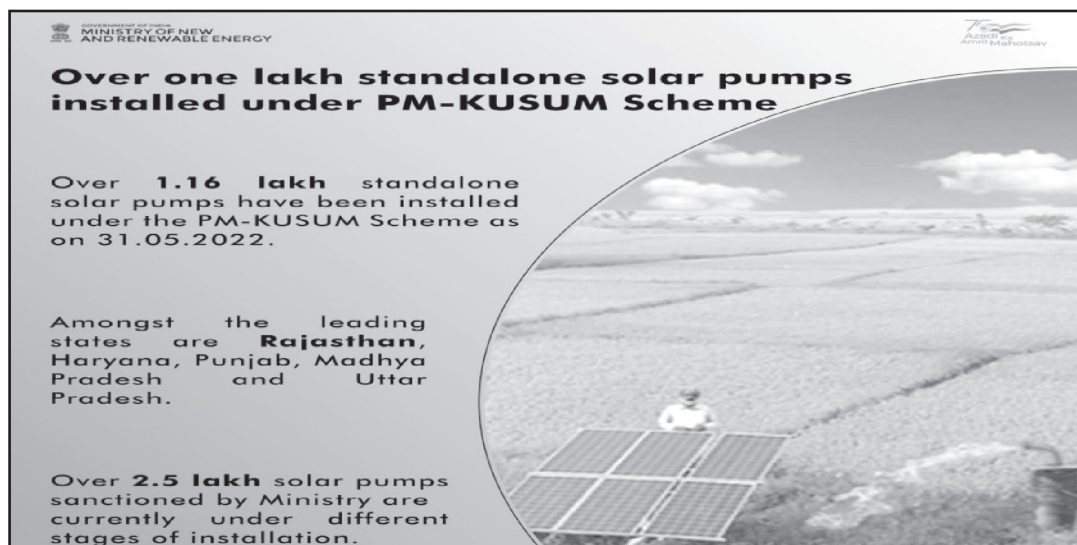
III. Contextual Note

- ❖ The prize is officially known as the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel and was established by Sweden's central bank in 1968.

PM-KUSUM (Pradhan Mantri Kisan Urja Suraksha evam Utthan Mahabhiyan) scheme is a flagship

PM-KUSUM Scheme: Powering Farmers, Expanding Globally

- ❖ The **PM-KUSUM (Pradhan Mantri Kisan Urja Suraksha evam Utthan Mahabhiyan)** scheme is a flagship Indian initiative focused on boosting farmers' income, decentralizing solar power production, and promoting clean energy.



I. Core Objectives of PM-KUSUM

1. **Decentralized Solar Power Generation:** Promote solar power generation in rural areas.
2. **Farmers' Income Enhancement:** Provide farmers with an additional source of income by allowing them to sell surplus solar power to the grid.
3. **Reduced Diesel Dependency:** Decrease the reliance of farmers on diesel pumps for irrigation, thus cutting down cultivation costs and reducing pollution.
4. **Energy Security:** Provide reliable day-time power for irrigation, enhancing crop productivity.

II. Scheme Components

- ❖ PM-KUSUM has three main components, each designed to support farmers in adopting solar energy solutions:
 - **Component A:** Setting up **10,000 MW of decentralized ground-mounted grid-connected solar power plants** of individual capacity up to 2 MW. Farmers or cooperatives can set up these plants and sell power to DISCOMs.
 - **Component B:** Installation of **20 lakh (2 million) stand-alone solar-powered agricultural pumps**. These pumps replace existing diesel pumps, providing off-grid irrigation.

- **Component C:** Solarization of **15 lakh (1.5 million) existing grid-connected agricultural pumps**. Farmers can use the solar power for irrigation and sell surplus electricity to the grid.

III. Global Expansion via International Solar Alliance (ISA)

A. Why in the News?

- ❖ The Union government is now looking to **scale up the PM-KUSUM programme to several African countries and island nations through the International Solar Alliance (ISA)**. This move underscores India’s commitment to global sustainable development and its leadership in distributed renewable energy.

B. Addressing Africa’s Irrigation Challenge

- **Food Imports:** Africa currently imports food worth **\$400 billion**, despite possessing vast arable land.
- **Lack of Irrigation:** A primary reason for this is the severe absence of irrigation; only **4% of Africa’s arable land is irrigated**.
- **PM-KUSUM’s Solution:** By deploying solar pumps and decentralized solar power solutions, PM-KUSUM can:
 - **Enhance food security:** Provide reliable irrigation, boosting agricultural productivity.
 - **Improve energy access:** Bring clean and affordable power to millions in off-grid communities.
 - **Empower farmers:** Reduce operational costs and create new income streams for African farmers, mirroring the success observed in India.
- ❖ This expansion reinforces India’s role as a **leader in promoting sustainable, decentralized renewable energy solutions** globally.

Mission for Aatmanirbharta

- ❖ The **Mission for Aatmanirbharta in Pulses** (launched October 2025) is a critical government scheme directly relevant to UPSC topics in Agriculture, Food Security, Farmer Welfare, and Economic Development.

I. Context and Significance (GS-III)

Aspect	Detail	UPSC Relevance
Import Dependence	India is the world’s largest producer and consumer of pulses, yet it still imports 15–20% of its demand (47.38 lakh tonnes imported in 2023–24), leading to significant foreign exchange outflow.	Balance of Payments, Agricultural Trade.
Nutritional Security	Pulses provide 20–25% of the total protein in Indian diets, but per capita consumption is below the recommended 85 grams/day.	Malnutrition, Food Security, PDS Reform.
Environmental Role	Pulses are legumes, which perform atmospheric nitrogen fixation, enhancing soil fertility and reducing the need for synthetic nitrogen fertilizers.	Sustainable Agriculture, Soil Health Card Scheme.

II. Mission Goals and Timeframe

- **Duration: Six years** (2025–26 to 2030–31).
- **Outlay: Rs. 11,440 crore.**
- **Specific Self-Reliance Target:** Achieve complete self-sufficiency in **Tur (Arhar), Urad, and Masoor** by **December 2027**.
- **Production Target (2030-31):** Increase total pulse production to **350 lakh tonnes** (from \approx 252 lakh tonnes).

III. Key Interventions and Policy Tools

- ❖ The mission integrates scientific, economic, and institutional mechanisms to de-risk pulse cultivation:

A. Assured Price and Market Stability (Farmer Welfare)

- **100% MSP Procurement:** The government guarantees **100% procurement** of **Tur, Urad, and Masoor** at the Minimum Support Price (MSP) for **four years**.
- **Integration with PM-AASHA:** Procurement will be managed by Central Nodal Agencies (NAFED and NCCF) under the **Price Support Scheme (PSS)** component of the PM-AASHA umbrella scheme. This provides unparalleled price assurance to farmers.

B. Production Enhancement and Technology (Science & Tech)

- **Seed System Focus:** Development and free distribution of **88 lakh seed kits** and 126 lakh quintals of certified seeds. The focus is on **high-yielding, pest-resistant, and climate-resilient** pulse varieties.
- **Digital Monitoring:** Utilisation of the **SATHI (Seed Authentication, Traceability & Holistic Inventory) portal** for end-to-end seed quality assurance and monitoring.
- **Area Expansion:** Target expansion by **35 lakh hectares**, including maximizing the use of **rice fallow areas** (land uncultivated after the rice harvest) for pulse cultivation.

C. Value Chain Strengthening (Infrastructure)

- **Processing Units:** Provision for setting up **1,000 post-harvest processing and packaging units** (with a subsidy of up to Rs. 25 lakh per unit) to reduce post-harvest losses and encourage value addition.
- **Implementation Model:** Adoption of a **cluster-based approach** and the “One Block – One Seed Village” model, as recommended by **NITI Aayog**, for efficient resource

Green Hydrogen Hubs: India's Strategy

- ❖ The development of **Green Hydrogen Hubs** is a cornerstone of India's **National Green Hydrogen Mission (NGHM)**, representing a major policy push toward achieving Net Zero by 2070 and ensuring long-term energy security. This initiative is highly relevant for UPSC as it covers economics, environment, and infrastructure.

I. Context: National Green Hydrogen Mission (NGHM)

- ❖ The Green Hydrogen Hub strategy is implemented under the Rs. 19,744 crore NGHM (launched in **January 2023**), led by the **Ministry of New & Renewable Energy (MNRE)**.
 - **Production:** Achieving at least **5 Million Metric Tonnes (MMT)** of Green Hydrogen per annum.
 - **Associated RE Capacity:** Adding approximately **125 GW** of linked renewable energy (RE) capacity.
 - **Investment:** Attracting over **Rs. 8 lakh crore** in total investments.
 - **Emission Reduction:** Averting nearly **50 MMT** of annual greenhouse gas emissions

II. Strategy of Green Hydrogen Hub

- ❖ Green Hydrogen Hubs are envisioned as geographically defined regions or clusters capable of supporting **large-scale production, utilization, and export** of Green Hydrogen and its derivatives (like Green Ammonia, Green Methanol).

A. Rationale for Hubs (GS-III: Infrastructure & Economy)

- **Logistical Efficiency:** Hydrogen is difficult to transport long distances; local hubs minimize high transport and storage costs.
- **Economies of Scale:** Cluster-based development enhances early-stage project viability and attracts major investments.
- **Infrastructure Convergence:** Integrating production units (electrolysers), dedicated renewable energy sources, storage, and consumption centers (industrial users, ports).

B. Designated Green Hydrogen Ports (Current Affairs)

- ❖ In **October 2025**, the MNRE formally recognized three major ports as Green Hydrogen Hubs, leveraging their strategic coastal location for both domestic use and export markets:
 1. **Deendayal Port Authority, Kandla (Gujarat):** Western corridor hub, focused on **export-oriented** hydrogen value chains.
 2. **V.O. Chidambaranar Port Authority (Tamil Nadu):** Southern hub, enabling hydrogen and ammonia bunkering along global trade routes.
 3. **Paradip Port Authority (Odisha):** Eastern corridor hub, with proximity to industrial clusters (fertilizer, steel) and renewable generation zones.

III. Financial and Policy Support

- ❖ The NGHM's primary financial mechanism supporting the Hubs is the **Strategic Interventions for Green Hydrogen Transition (SIGHT) programme** (Rs. 17,490 crore outlay), which provides:
 - **Incentives for Electrolyser Manufacturing:** Boosting the domestic production of essential technology.
 - **Incentives for Green Hydrogen Production:** Reducing the cost gap between green and fossil-fuel-based ('grey') hydrogen.
- ❖ The Mission also supports the development of an enabling policy framework, including **waiver of Inter-State Transmission Charges** for renewable energy used in Green Hydrogen production, to ensure low-cost RE supply to the Hubs.

IV. Pilot Projects and Decarbonization Targets

- ❖ Pilot projects within these hubs are essential for demonstrating technical feasibility in "hard-to-abate" sectors (GS-III: Environment, Pollution):
 - **Ports & Shipping:** Pilot projects at V.O. Chidambaranar and Deendayal Ports for using Green Hydrogen/Ammonia in maritime operations.
 - **Steel Sector:** Pilots initiated to evaluate the use of Green Hydrogen for **iron reduction** in steel production, directly addressing a high-emission industry.
 - **Fertilizer and Refining:** Direct replacement of fossil-fuel-based hydrogen (Grey Hydrogen) with Green Hydrogen/Ammonia in the fertilizer and petroleum refining industries.
- ❖ This comprehensive hub strategy is positioning India to become a **global leader in Green Hydrogen** production and export, linking its climate targets with economic growth and technological self-reliance (*Aatmanirbhar Bharat*).

Reserve Bank of India's (RBI) Flexible Inflation Targeting (FIT) framework

- ❖ Reserve Bank of India's (RBI) Flexible Inflation Targeting (FIT) framework, ahead of its expiry in **March 2026**, has led to a consensus among economists and stakeholders to **maintain the current structure**.
- ❖ Here are the short points summarising the key aspects of the debate and the expected outcome:
 - **Expiration & Review:** The current FIT framework, established in 2016 and renewed in 2021, mandates a review of the target and band before its expiry in March 2026.
 - **Target Continuation:** The majority view strongly supports **retaining the 4% inflation midpoint**. Revising it upward could undermine RBI's policy credibility and signal higher inflation tolerance to global investors.
 - **Band Retention:** There is wide support for keeping the existing **±2% tolerance band (2% to 6%)**. This flexibility is considered essential for India due to structural supply shocks (monsoons, global crude prices) and the high weight of food in the CPI basket.
 - **Target Metric:** The consensus favours continuing to target **Headline Consumer Price Index (CPI-Combined)**, rather than Core Inflation. This is because food and fuel prices heavily impact the poor and quickly spill over into broader inflation through wages and costs.
 - **Performance Rationale:** The framework is credited with successfully **anchoring inflation expectations** and enhancing policy transparency and accountability through the Monetary Policy Committee (MPC).
 - **Conclusion:** The RBI is expected to recommend, in consultation with the Government, the **retention of the existing 4% (±2%) structure** for the next five-year cycle, ensuring continuity and macroeconomic stability.

Role of Monetary Policy Committee (MPC)

- ❖ **Monetary Policy Committee (MPC)** is the institutional body in India responsible for formulating the country's monetary policy. Established in 2016 through an amendment to the **Reserve Bank of India (RBI) Act, 1934**, its creation brought greater transparency, accountability, and expertise to interest rate determination.

I. Primary Role and Mandate

- ❖ The MPC operates under the **Flexible Inflation Targeting (FIT)** framework, with a **dual mandate**:
 1. **Price Stability (Primary Objective):** Its foremost role is to determine the benchmark policy interest rate (the **Repo Rate**) required to achieve the inflation target set by the Government of India.
 - **Target:** Current target is **4% annual CPI inflation**.
 - **Tolerance Band:** Maintain inflation within the range of **2% to 6%** (i.e., **±2%** around the 4% midpoint).
 2. **Supporting Growth:** While maintaining price stability, the MPC must *"keep in mind the objective of growth"* in the medium term. This requires carefully balancing the trade-off between curbing inflation and providing adequate liquidity to support investment and consumption.

II. Key Functions

- **Setting the Benchmark Rate:** The most visible function is determining the **Policy Repo Rate**. This rate influences all other interest rates in the economy (lending rates, deposit rates, bond yields) and is the primary tool for managing liquidity and credit.
- **Data-Driven Decision Making:** The MPC reviews comprehensive macroeconomic indicators, including:
 - Inflation trends (Headline and Core)
 - GDP growth and forecasts

- o Global economic conditions and commodity prices (especially crude oil)
- o Financial stability and liquidity conditions.
- **Accountability:** The MPC is legally required to submit a report to the Central Government if the inflation target is missed (i.e., if inflation remains outside the 2-6% band) for **three consecutive quarters**. The report must state the reasons for failure, proposed remedial actions, and the estimated time to return to the target.

Women's Economic Empowerment Index

- ❖ **Women's Economic Empowerment Index (WEE Index)** is a data-driven tool used to measure women's participation and agency across various economic dimensions. Its most notable recent application is in India, where it has been used at the sub-national level to guide targeted policy.
- ❖ Here are the key short points:

I. Purpose and Focus

- **Definition:** The WEE Index is a composite index designed to assess women's ability to succeed, advance economically, and exercise power/agency in making economic decisions.
- **Shift in Focus:** It moves beyond simple **Female Labour Force Participation Rates (FLFPR)** to identify the **structural barriers** (e.g., lack of credit, mobility, safety) that limit women's success.
- **Policy Need:** Crucial because women currently contribute only about **18% to India's GDP**, and nearly **196 million** employable women are outside the workforce.

II. India's Model (Uttar Pradesh)

- **Pioneer:** **Uttar Pradesh** launched India's first **district-level WEE Index** to create hyper-local and data-driven gender action plans.
- **Five Key Dimensions:** The index analyzes performance across five critical economic levers:
 1. **Employment** (Quality of jobs, retention).
 2. **Education & Skill Development** (Transition from training to jobs).
 3. **Entrepreneurship** (Access to credit, formal mentorship).
 4. **Livelihood & Mobility** (Freedom of movement, public transport access).
 5. **Safety & Inclusive Infrastructure** (Safe public spaces, women-friendly facilities).

III. Policy Impact and Relevance

- **Visibility of Gaps:** The data reveals critical drop-off points, such as high female enrolment in skill programs but **low conversion to entrepreneurship** due to poor access to formal credit.
- **Targeted Reforms:** Led to specific reforms, such as redesigning recruitment and providing women's restrooms at bus terminals to boost women's participation as drivers/conductors in the transport sector.
- **Gender Budgeting:** Facilitates true **Gender Budgeting** by ensuring every rupee spent across sectors like infrastructure, energy, and education is analyzed through a gender lens, not just welfare schemes.
- **Scaling:** The UP model is intended to be replicated by other states (like Andhra Pradesh, Maharashtra, and Telangana) to unlock the full economic potential of the female workforce

India's First Bamboobased Ethanol Plant

- ❖ The inauguration of India's first bamboo-based ethanol plant marks a significant step towards achieving energy self-reliance and boosting the economy of the Northeast.
- ❖ Here are the simple, short points on the key features and significance of the project:

I. Project Basics

- **Location:** Golaghat district, Assam (at the Numaligarh Refinery Limited - NRL complex).
- **Inauguration:** Inaugurated by Prime Minister Narendra Modi in **September 2025**.
- **Technology:** It is the **world's first green bamboo-based 2G bioethanol plant**.
- **Developers:** Joint venture involving **Assam Bio-Ethanol Pvt. Ltd. (ABEL)**, **Numaligarh Refinery Limited (NRL)**, and the Finnish technology company **Chempolis OY**.
- **Capacity:** Produces approximately **60,000 KL (kilolitres)** of ethanol annually.

II. Strategic Significance

- **Raw Material:** Uses **5 lakh tonnes** of green bamboo annually, sourced from Assam and other Northeastern states.
- **Fuel Generation:** The ethanol produced will be blended with petrol, supporting India's goal of achieving **20% ethanol blending (E20) by 2025**.
- **Green Economy:** It is a **Second-Generation (2G)** biofuel, meaning it uses **non-food biomass** (lignocellulosic material) like bamboo, avoiding the "food vs. fuel" conflict.
- **Economic Impact:** Provides an estimated **Rs. 200 crore boost** to Assam's rural economy by creating a massive, assured market for bamboo farmers, benefitting tribal communities.
- **By-products:** The plant is a "zero-waste" facility, also producing valuable chemicals like **Furfural** (with export potential), **Acetic Acid**, and **food-grade CO₂**.

India's Approach To AI And Employment

I. Context and Strategy

- **Core Philosophy:** "AI for All" and "democratizing technology," treating AI as an **enabler for economic growth**, not just a job threat.
- **Driving Force:** Policy is guided by the **IndiaAI Mission** and reports from **NITI Aayog**.
- **The Dual Challenge:** Acknowledges the risk of **1.5–2 million jobs** lost to automation by 2031, but projects the creation of up to **4 million new, AI-augmented jobs**.

II. Key Strategic Pillars

Pillar	Focus	Initiative/Mechanism
1. Skilling & Reskilling	Preparing the workforce for new roles and AI augmentation.	National AI Talent Mission: Targeting 500 PhDs, 5,000 PGs, and 8,000 UGs in AI; setting up AI Labs in ITIs and Tier 2/3 cities.
2. Digital Inclusion	Formalizing and increasing the productivity of the large informal sector.	Mission Digital ShramSetu: Aims to empower the informal workforce with skills and digital access.
3. Policy & Infrastructure	Ensuring technology is accessible and India-centric.	Democratization: Making AI open, affordable, and accessible ; developing the AIKosh (Dataset Platform) for Indian language models.
4. Talent Management	Retaining and attracting global AI expertise.	Introduction of an AI Talent Visa for fast-track residency to address net negative migration of AI professionals.
5. Industry Approach	Utilizing AI to enhance, not replace, human capability.	Focus on Augmented and Assisted Intelligence , integrating AI tools to boost human efficiency, especially in the BPO and services sectors.

Google's \$15 Billion AI Data Centre in Visakhapatnam

- **Investment Details:** Google announced a **\$15 billion** (Rs. 87,520 crore) investment over five years (2026–2030) to establish a major AI data centre in **Visakhapatnam, Andhra Pradesh**.
- **Scale and Significance:** This is Google's **largest ever investment outside the United States**.
 - It will be **India's first gigawatt-scale data centre** and Google's first **AI hub in India**.
- **Partnerships:** Google has collaborated with the **Adani Group and Bharti Airtel** for infrastructure development.
- **Connectivity:** The project includes building a new **international subsea gateway** with multiple subsea cables landing in Visakhapatnam, positioning the city as a global connectivity hub.
- **Sustainability:** The hub is supported by significant investment in **clean energy generation, transmission lines, and energy-storage systems** to ensure sustainable operations.

Expected Impact

- **Economic Activity:** Expected to generate at least **\$15 billion** in new economic activity from increased cloud and AI adoption.
- **Job Creation:** Forecast to create **5,000–6,000 direct jobs** and **20,000–30,000 total jobs** in Andhra Pradesh.
- **Strategic Boost:** Reduces India's dependence on offshore infrastructure, increases domestic cloud/AI service availability, and positions India in the **global AI race**.

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RBI Exemption for SWAMIH Fund:

- **Key Action:** The Reserve Bank of India (RBI) has **exempted the SWAMIH (Special Window for Affordable and Mid-Income Housing) Fund** from its recently tightened regulatory guidelines concerning investments in Alternate Investment Funds (AIFs).
- **Context:** RBI prescribes the regulatory guidelines for its regulated entities (like banks and NBFCs) when they invest in AIFs. The exemption provides relief to the SWAMIH Fund from these strict norms.

SWAMIH (Special Window for Affordable and Mid-Income Housing) Fund, 2019

- **Objective:** To provide **priority debt financing** for the completion of **stalled housing projects** across the country.
- **Nature:** It is classified as a **Category II Alternate Investment Fund (AIF)**.
 - *Note:* AIFs are privately pooled investment vehicles regulated by **SEBI** (Securities and Exchange Board of India), which collect funds from sophisticated investors.
- **Fund Status:** It is a **government-backed** fund.
- **Fund Manager:** **SBI Ventures Limited** manages the fund.

Impact of Exemption

- The exemption ensures continued and smooth investment from regulated entities (like public sector banks) into the SWAMIH Fund.
- This facilitates the continued flow of critical debt capital, accelerating the completion of stalled projects, which is vital for the real estate sector and consumer confidence.

IMF World Economic Outlook (WEO) Projections

I. India's GDP Growth (FY Projections)

- **FY 2025–26:** Projected growth revised **upwards** to **6.6%** (from 6.4% earlier).
 - *Rationale:* Attributed to strong domestic demand, robust performance in Q1 of FY 2025-26, and resilience against global headwinds.
- **FY 2026–27:** Projected growth **moderated** to **6.2%**.
- **Context:** India is expected to remain one of the **fastest-growing major economies** globally.

II. Global Growth Projections

- **2024:** Projected growth at **3.3%**.
- **2025:** Projected growth slows to **3.2%**.
- **2026:** Projected growth further slows to **3.1%**.

III. About the World Economic Outlook (WEO)

- **Publisher:** **International Monetary Fund (IMF)**.
- **Purpose:** Presents detailed **analyses and projections** of the world economy for the near and medium term.
- **Frequency:** Usually published **twice a year** (Spring and Fall) with updates in between.

Digital Platforms for the Coal Sector

- **Objective:** To enhance **transparency, efficiency, and governance** across the entire coal value chain (planning, mining, logistics, and quality assurance).

I. Key Monitoring & Governance Platforms

- **KOYLA SHAKTI Dashboard (SCAD):** A **unified, real-time platform** that integrates data on production, dispatch, logistics (railways, ports), and consumption by power plants. Provides end-to-end visibility.
- **UTTAM Portal:** Promotes transparency by facilitating **Third Party Assessment (TPA)** and monitoring of the quality of mined coal.
- **National Coal Portal (NCP):** Shares Key Performance Indicators (KPIs) like production, dispatch, and power plant stock levels in a public dashboard.
- **CIMS (Coal Import Monitoring System):** An online system for importers to provide advance information on coal imports for policy tracking.

II. Efficiency & Operations

- **CLAMP (Coal Land Acquisition, Management, Portal):** Digitalizes and streamlines the process of **land acquisition**, ensuring transparent and time-bound compensation.
- **e-Auction / E-Billing:** Centralized platforms for transparent coal allocation and standardized billing.
- **Single Window Clearance System (SWCS):** Expedites various project approvals, such as Mine Opening Permissions.

III. Security and Technology

- **Khanan Prahari Mobile App:** Enables citizens to report illegal mining incidents to authorities for swift enforcement action.
- **Industry 4.0:** Adoption of technologies like **Integrated Command and Control Centres (ICCC)**, **Private 5G Networks**, and **GPS-based Vehicle Tracking Systems (VTS)** for real-time monitoring and operational efficiency.

INTERNATIONAL RELATIONS

India Afghanistan Relations: Strategic Resetting of Ties

- ❖ India's relationship with Afghanistan has been characterized by deep historical and cultural ties, strong development partnerships, and, more recently, strategic challenges following the return of the Taliban in August 2021. The current phase represents a **strategic resetting of ties** based on practical engagement and national interests.
- ❖ Here are the key points on the evolution and current status of India-Afghanistan relations:

I. Pre-2021: Strategic Partnership and Development Focus

- ❖ Before the Taliban takeover in 2021, India maintained a robust strategic partnership with the internationally recognized Afghan government:
 - **Strategic Partnership Agreement (2011):** Focused on rebuilding infrastructure, capacity building, and defense cooperation.
 - **Development Aid:** India was the largest regional donor and the fifth-largest global donor to Afghanistan, committing over **\$3 billion** in aid.
 - **Flagship Projects:** Construction of the Afghan Parliament building, the **Salma Dam (Afghan-India Friendship Dam)**, and the Zaranj-Delaram Highway (crucial for accessing the Iranian port of Chabahar).
 - **Education and Health:** India provided thousands of scholarships to Afghan students and built clinics and hospitals.
 - **Zero Military Presence:** Crucially, India maintained a non-military, development-focused profile, differentiating itself from other major global powers.

II. The Strategic Reset (Post-August 2021)

- ❖ India initially suspended all diplomatic presence following the collapse of the government. The subsequent "strategic reset" is driven by two main factors: regional security concerns and humanitarian imperatives.

A. Key Policy Shifts

- 1. Re-engagement for Humanitarian Needs:** India's priority shifted from development to humanitarian aid.
 - **Aid Corridor:** India has consistently delivered multiple consignments of humanitarian aid (wheat, medicines, vaccines) to the Afghan people, bypassing Pakistan through the **Chabahar Port** (Iran).
 - **Resumption of Diplomatic Presence:** In June 2022, India **reopened its technical team at the Indian Embassy in Kabul** for the first time since the August 2021 evacuation. This signals practical engagement without formal recognition of the Taliban regime.
- 2. Security and Terrorism Concerns:** This is India's most critical strategic concern.
 - **The "3 Ms" (Meetings, Mechanisms, and Monitoring):** India participates in multilateral forums (e.g., Shanghai Cooperation Organisation - SCO, United Nations) to ensure that Afghan territory is **not used for terrorism** (Resolution 2593).
 - **Focus on Pakistan:** India consistently pressures the international community to monitor cross-border terrorism emanating from the region.
- 3. Connectivity (Chabahar and TAPI):**
 - The **Chabahar Port** remains central to India's long-term access and trade with Afghanistan and Central Asia.
 - The revival of the **TAPI (Turkmenistan-Afghanistan-Pakistan-India) pipeline** remains a potential strategic energy project, though its viability is complex.

B. India's Position on Recognition

- ❖ India's policy is based on "**cautious and conditional engagement.**"
 - India has **not formally recognized** the Taliban regime.
 - The government has linked future engagement to the Taliban's fulfillment of international commitments, particularly concerning:
 - Formation of an **inclusive government** (representative of all Afghan ethnic groups).
 - **Respect for human rights**, especially the rights of women and minorities.
 - Assurances that Afghan soil will **not be used for terrorist activities** against any country.

The Sir Creek dispute

- ❖ The Sir Creek dispute between India and Pakistan has seen a **recent flare-up in rhetoric and military posturing**, though the underlying border issue remains unresolved.

1. Hardening of India's Stance

- **Defence Minister's Warning:** In **October 2025**, India's Defence Minister Rajnath Singh issued a strong warning against any Pakistani aggression in the Sir Creek sector.
 - He stated that any misadventure would invite a "**resounding and decisive response**" that could potentially alter both "**history and geography**".
 - He also remarked that the "**road to Karachi passes through Sir Creek,**" emphasizing the area's strategic importance and India's readiness for a robust response.



2. Reports of Pakistani Military Build-up

- The Indian government's strong statements were reportedly influenced by **increased Pakistani maritime activity and military infrastructure development** near the Sir Creek region, as suggested by intelligence and media reports.
 - This includes the reported establishment of **military complexes, mini-military cantonments, and emergency airstrips** on the Pakistani side.

3. Current Status of Resolution

- **The dispute remains officially unresolved.** There has been no formal dialogue on the issue since 2012, and the broader bilateral relations have deteriorated, stalling the process.
- **Sticking Point:** The core disagreement persists over the application of the **Thalweg Principle** (which places the boundary along the middle of the principal navigable channel).
 - **India** cites the Thalweg Principle for its claim of the mid-channel boundary.
 - **Pakistan** rejects its application, claiming the entire creek based on a different interpretation of a 1914 colonial-era document, arguing the creek is not navigable.

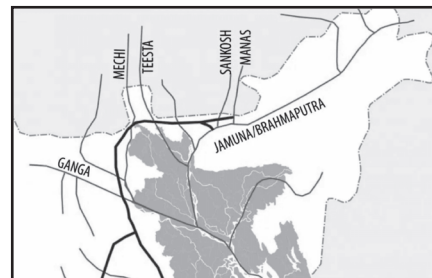
Importance of Sir Creek

- ❖ The dispute is significant due to its impact on:
 - **Maritime Security:** The area is a sensitive, marshy border region used by smugglers and, historically, by terrorists (e.g., the 2008 Mumbai attackers used this route).

- **Exclusive Economic Zone (EEZ):** The demarcation of the Sir Creek boundary is the starting point for determining the entire maritime boundary and the EEZ, which affects thousands of square kilometers of sea territory.
- **Economic Resources:** The area is one of Asia's richest **fishing grounds** and is believed to hold potential **oil and gas reserves** beneath the seabed, which remain unexplored due to the dispute.

Indo-Bhutan River Commission

- ❖ The West Bengal government for the establishment of an **Indo-Bhutan River Commission** is a significant recent development aimed at addressing the increasing severity of floods caused by trans-boundary rivers originating in Bhutan.



I. Background to the Demand

- **The Problem:** North Bengal districts, particularly those bordering Bhutan (like Jalpaiguri and Cooch Behar), face recurrent and devastating floods, especially during the monsoon season.
- **The Key Issue:** These floods are often exacerbated by the sudden and large-scale release of water from the numerous **hydropower projects (HEPs)** located in Bhutan, built on rivers that flow into India.
- **The Mechanism Gap:** There is currently no unified, high-level institutional mechanism between India and Bhutan dedicated solely to the **joint management of these shared river basins** and the coordination of controlled water releases.

II. West Bengal's Specific Demand

- ❖ The West Bengal government has called for the formation of a body analogous to the existing **Indo-Bangladesh Joint Rivers Commission (JRC)**.

Key Functions of the Proposed Commission:

1. **Water Sharing and Releases:** To establish protocols and coordinate the release of water from Bhutan's reservoirs and dams, ensuring that downstream areas in North Bengal are forewarned and prepared for controlled discharge.
2. **Flood Forecasting and Warning:** To set up joint technical teams for real-time monitoring of hydrological data (rainfall, snowmelt, river levels) in the upper catchment areas in Bhutan and ensure timely, accurate flood warnings are relayed to Indian authorities.
3. **River Management:** To undertake joint studies on common issues like river training works, dredging, and erosion control along the shared stretches of rivers.

III. The Trans-Boundary River System

- ❖ The issue primarily involves major rivers and their tributaries that flow from Bhutan into India:
 - **Torsa River System:** A major cause of flooding in the Cooch Behar district.
 - **Jaldhaka River:** Flows through Bhutan and enters India, impacting Jalpaiguri.
 - **Sankosh River:** Forms part of the border between Assam and West Bengal before flowing into Bangladesh.

IV. Current Institutional Framework (The Gaps)

- ❖ Currently, cooperation on hydro-power and water between India and Bhutan is primarily handled through:
 - **Bilateral Hydro-Power Agreements:** These focus on the construction and management of HEPs and the sale of surplus power to India. They do not sufficiently address downstream flood management and ecological concerns.

- **Existing Technical Committees:** While technical experts coordinate during crises, the lack of a **Cabinet/ Ministerial-level Commission** prevents long-term, strategic planning and integrated water management.
- ❖ The formation of the Indo-Bhutan River Commission would require approval and cooperation at the highest level of the Indian and Bhutanese governments, elevating river basin management from a technical matter to a **high-level, strategic diplomatic priority**.

2025 Gen Z Uprising in Nepal

- ❖ **The “Gen Z Uprising” or “2025 Nepalese Gen Z Protests,”** a period of mass civil unrest and violent clashes that took place in September 2025.
- ❖ The crisis was rooted in deep, structural economic and political grievances, with a controversial government action serving as the immediate trigger.



I. The Immediate Trigger: Digital Censorship

- **Social Media Ban:** The protests erupted immediately after the government abruptly banned **26 major social media platforms** (including Facebook, YouTube, WhatsApp, and X) in **September 2025**.
- ❖ **Government’s Rationale:** Failure of these platforms to comply with new domestic registration requirements and rules on content moderation.
- ❖ **Protesters’ Perception:** The ban was widely seen as an act of **digital repression** and an attempt to **silence online dissent** against the ruling elite.

II. Deeper, Structural Causes

- ❖ The social media ban was the spark that ignited years of accumulated public anger, largely driven by the younger generation (Gen Z).
- **Rampant Corruption and Nepotism:** Deep-seated frustration over widespread corruption, political impunity, and mismanagement by the geriatric political class.
 - **“Nepo Kid” Anger:** Public outrage was amplified by social media trends highlighting the **lavish, privileged lifestyles** of politicians’ children, starkly contrasting with the poverty of the average citizen.
- **Youth Unemployment and Economic Fragility:** Nepal faces high youth unemployment and underemployment.
 - The economy is heavily reliant on **remittances** (money sent home by migrant workers), making the youth highly vulnerable to external shocks.
 - Lack of job opportunities and economic prospects fueled massive disillusionment among young graduates.
- **Political Instability and Weak Governance:** Since becoming a republic in 2008, Nepal has seen frequent government collapses and leadership changes, resulting in minimal policy continuity and reform.

III. Escalation and Impact

- **Violence:** Protests, initially peaceful, escalated violently after **police firing** led to multiple civilian casualties.
- **Targets of Rage:** Enraged youth showed an unprecedented anti-establishment thrust, attacking state institutions:
 - The **Federal Parliament Building** was stormed and set on fire.
 - Homes of multiple **former Prime Ministers** were vandalized or torched.
 - **Government offices** were burned, and security forces were overwhelmed.

- **Political Fallout:** The crisis led to the **resignation of Prime Minister K. P. Sharma Oli** and a constitutional vacuum, eventually resulting in the appointment of an interim government.
- **Nature of Movement:** The movement was largely **leaderless** and **decentralized**, utilizing digital platforms for mobilization, marking a generational rejection of the “old guard” politics

India–Australia Defence Ministers’ Dialogue

- ❖ The most recent significant development in the India-Australia defence partnership was the **inaugural Australia-India Defence Ministers’ Dialogue (DMD)**, held in **October 2025** in Canberra, Australia.

I. Institutionalizing Cooperation

- **Annual Dialogue:** The Defence Ministers’ Dialogue was formally **institutionalized to be held annually**, ensuring continuous, high-level policy coordination.
- **New Mechanisms:**
 - **Joint Staff Talks:** Established as a forum to progress joint exercises and **interoperability across all military domains** (land, air, sea, cyber, and space).
 - **Joint Maritime Security Collaboration Roadmap:** Discussed to finalize a plan for enhancing maritime domain awareness, information sharing, and operational interoperability.

II. Key Operational Agreement

- ❖ The recent dialogue focused on practical mechanisms for combined operations and contingency management:
- **Mutual Submarine Rescue Support:** The signing of the **Implementing Arrangement on Mutual Submarine Rescue Support and Cooperation** establishes a structured framework for deep-sea rescue and naval contingency support.
 - *Related Action:* Australia invited India to participate in the submarine rescue exercise “**Black Carillon.**”
- **Air-to-Air Refuelling:** Ministers welcomed progress on **operationalizing the Implementing Arrangement on Air-to-Air Refuelling** (signed in 2024), which is vital for extending the range and endurance of air force assets.
- **Logistics & Maintenance:** India offered maintenance, repair, and overhaul (MRO) facilities for **Royal Australian Navy (RAN) ships** in Indian shipyards during their deployment in the Indian Ocean Region.

III. Exercises and Interoperability

- **Joint Exercise:** Australia welcomed India’s participation in the large-scale military exercise “**Talisman Sabre**” in 2025 (and looked forward to participation in 2027).
- **Amphibious Focus:** Reaffirmed commitment to deepening Army-to-Army cooperation through exercises like **AUSTRA HIND** and **Exercise Puk Puk**, with a focus on amphibious operations.
- **Quad Coordination:** Planned a **joint Quad activity** on the sidelines of Exercise Malabar in November 2025 and agreed to observe the India-US air exercise, **Cope India**.

IV. Defence Industry and Technology

- **Trade Mission:** Ministers welcomed **Australia’s first defence trade mission to India** (October 7-10, 2025) and the India Pavilion at Australia’s Land Forces Expo 2024, signaling deeper industrial linkages.
- **Joint Working Group (JWG):** Both sides agreed to accelerate collaboration under the **JWG on Defence Industry, Research and Materiel** in contemporary technology areas:
 - **Emerging Technologies:** AI, unmanned aerial systems (UAS), counter-UAS, and secure communications.
 - **Industrial Synergy:** Utilizing India’s industrial scale and MRO capabilities with Australia’s advanced technology and R&D base.

The Bilateral Investment Agreement (BIA) between India and Israel

- ❖ The Bilateral Investment Agreement (BIA) between India and Israel is a very recent and significant development in their economic relationship.

Recent Status of the BIA

The agreement was signed on September 8, 2025, in New Delhi.

- **Signed Ministers:** The agreement was signed by India's Union Minister for Finance and Corporate Affairs, **Nirmala Sitharaman**, and Israel's Finance Minister, **Bezael Smotrich**.
- **Current Status:** The BIA has been **signed** but is **not yet in force** as of the latest reports. It replaces the previous India-Israel Bilateral Investment Treaty signed in 1996, which was terminated by India in 2017.
- **Key Significance:** Israel became the **first OECD country** to sign an investment pact under India's new, revised Model Bilateral Investment Treaty (BIT) framework.
- **Objectives:** The agreement aims to boost bilateral investments (currently around \$800 million) by providing greater certainty and protection for investors from both countries. Key features include:
 - **Investor Protection:** Safeguards against expropriation (nationalization of assets) and ensures fair compensation for losses.
 - **Dispute Resolution:** Provides an independent dispute resolution mechanism, typically through arbitration.
 - **Focus Areas:** The agreement is expected to pave the way for enhanced cooperation in key sectors like fintech innovation, infrastructure development, financial regulation, and digital payment connectivity.
- **Future Outlook:** The BIA is viewed as a crucial step toward potentially finalizing a broader **Free Trade Agreement (FTA)** between India and Israel.

India-Singapore Comprehensive Strategic Partnership Roadmap

Context

- **Milestone:** 60 years of diplomatic ties.
- **Outcome:** Adoption of a forward-looking roadmap for Comprehensive Strategic Partnership (CSP).
- **Monitoring Body:** The **India-Singapore Ministerial Roundtable** will review progress annually.

8 Key Priority Areas

1. Economic Cooperation

- **Trade Pacts:** Review of **CECA** (in 2025) and **AITIGA** (ASEAN goods agreement).
- **Semiconductors:** Collaboration on R&D, supply chains, and talent.
- **Finance:** Enhanced capital market links via **NSE-IFSC-SGX GIFT Connect**.

2. Skills Development

- **New Centre:** Establishing a **National Centre of Excellence for Skilling in Advanced Manufacturing** in Chennai.
- **Vocational Training:** Cooperation in TVET and scaling state-level initiatives (e.g., Assam nursing model).

3. Digitalisation

- **Emerging Tech:** Joint work on **AI**, Quantum Computing, and datasets.
- **Payments:** Expansion of the **UPI-PayNow** linkage for cross-border transactions.

4. Sustainability

- o **Green Energy:** Collaboration on **Green Hydrogen**, Ammonia, and Civil Nuclear Energy.
- o **Global Platforms:** Joint work in International Solar Alliance & Global Biofuels Alliance.

5. Connectivity

- o **Maritime:** Creation of a **Green & Digital Shipping Corridor**.
- o **Aviation:** Partnerships in MRO (Maintenance, Repair, Overhaul) and Sustainable Aviation Fuel (SAF).

6. Healthcare

- o **Focus:** Digital health, disease surveillance, and maternal/child health.

7. People-to-People

- o **Youth:** Expanded student exchanges and internships via the **India Ready Talent (IRT)** programme.

8. Defence & Security

- o **Tech:** Cooperation in AI, automation, and unmanned vessels.
- o **Maritime Security:** Singapore acknowledged India's interest in the **Malacca Straits Patrol**.

Strategic Significance

- **Geopolitics:** Strengthens India's **Act East Policy**.
- **Strategic Reach:** Enhances presence in the **Malacca Straits**.
- **Global Leadership:** Showcases India's **Digital Public Infrastructure (UPI)** globally.
- **Self-Reliance:** Boosts India's capabilities in **Semiconductors** and **Advanced Manufacturing**

Yudh Abhyas 2025 and India-US military relations:

Yudh Abhyas 2025

- **Edition & Location:** 21st Edition; held in **Alaska, USA**.
- **Nature:** Annual **Army-to-Army** exercise; alternates between India and the US.
- **Key Assets Deployed:** Infantry, Artillery, Aviation, Electronic Warfare, and Counter-drone systems.
- **Focus Areas:**
 - o Joint command and control.
 - o Operational planning and precision targeting.
 - o Adaptability in complex environments.
- **Significance:** Reflects the **Comprehensive Global Strategic Partnership** between India and the US.

Other Key India-US Bilateral Exercises

- ❖ India conducts the highest number of military exercises with the US.
 - **Vajra Prahar:** Special Forces
 - **Malabar:** Navy (Multilateral, involves US)
 - **Cope India:** Air Force
 - **Tiger Triumph:** Tri-Services (Army, Navy, Air Force together)

India–Bhutan Railway Links

Overview

- Currently, Bhutan has **no operational railway system**.
- India and Bhutan have agreed to construct the **first-ever** cross-border railway links connecting the two nations.
- This initiative is a major boost to India’s “**Neighbourhood First**” policy and regional connectivity.

Key Projects

1. Kokrajhar-Gelephu Link (Flagship Project):

- **Route:** Connects Kokrajhar in **Assam (India)** to Gelephu in **Sarpang Dzongkhag (Bhutan)**.
- **Length:** Approximately 57.5 km.
- **Status:** Memorandum of Understanding (MoU) signed. Final Location Survey (FLS) is underway. Construction is expected to be fast-tracked (targeted for completion around 2026).
- **Funding:** Fully funded by the Government of India.

2. Banarhat-Samtse Link (Proposed):

- **Route:** Connects Banarhat in **West Bengal (India)** to Samtse in **Bhutan**.
- **Status:** In the feasibility study/survey stage.

Significance

- **Trade Boost:** Will significantly reduce transportation costs for landlocked Bhutan, facilitating easier movement of goods.
- **Tourism:** Enhances cross-border tourism prospects.
- **Strategic Connectivity:** Strengthens integration between Bhutan and India’s North East Region.

India-Mongolia Strategic Partnership (10th Anniversary)

Context

- Marked 10 years of Strategic Partnership during the Mongolian President’s visit to India.

Key Agreements & MoUs

- **Infrastructure:** Reaffirmed commitment to the **Mongol Oil Refinery Project** (funded by India’s **\$1.7 billion** Line of Credit).
- **Spiritual Ties:**
 - India to send holy relics of Lord Buddha’s disciples (**Sariputra & Maudgalyayana**) to Mongolia.
 - Digitization of **1 million** ancient Buddhist manuscripts.
 - Institutional link between **Nalanda University** and **Gandan Monastery**.
- **Regional Tie-up:** Pact between **Ladakh Autonomous Hill Development Council** and Mongolia’s **Arkhangai Province**.
- **Critical Minerals:** Cooperation in **Uranium**, resilient supply chains, and critical minerals.
- **Visa:** **Free e-visas** granted to Mongolian citizens.

Significance for India

- **Geopolitics:** Mongolia’s location is vital for regional stability and the **Indo-Pacific** vision (acting as a “third neighbor” to balance influence).

- **Energy Security:** Access to vast **Coking Coal** reserves (crucial for India's steel industry) and potential Uranium supplies.
- **Connectivity:** Exploring **third-country ports** to overcome Mongolia's landlocked status.

Areas in Conflict (October 2025):

Area in Conflict	Reason for News	Key Geographical Features
Myanmar (Sagaing Region)	Human rights violations against Rohingya Muslims.	1 million+ refugees in Bangladesh. Resistance against military Junta. Borders: "ARUNA MAMI" (Arunachal, Nagaland, Manipur, Mizoram). Mts: Rakhine Mts, Shan Plateau. Rivers: Irrawaddy, Chindwin, Salween.
Madagascar (Antananarivo)	"Gen Z Protests" led to the fall of the government.	Anti-government demonstrations. Location: Indian Ocean (East Africa). Rank: 2nd largest island country. Neighbors: Mauritius, Réunion, Comoros. Bio: 90% endemic flora/fauna.
Israel - Lebanon (Southern Lebanon)	Escalation of conflict (ground ops/airstrikes).	Tensions involving Hezbollah. Line: The Blue Line (UN demarcation). River: Litani River. Regions: Golan Heights, Bekaa Valley.
Sudan (Khartoum & Darfur)	Civil war between SAF and RSF. Massive displacement and humanitarian crisis.	Rivers: Confluence of White & Blue Nile. Port: Port Sudan (Red Sea). Region: Darfur (Western Sudan).
Ukraine (Donbas Region)	Continued intense fighting on eastern/southern fronts.	War with Russia persists. River: Dnieper River. Sea: Black Sea, Sea of Azov. Regions: Donetsk, Luhansk, Zaporizhzhia.

INDIAN SOCIETY

FSSAI Ban on Fake 'ORS' Drinks

Context

- **The Order:** In October 2025, FSSAI banned the use of the term "ORS" (Oral Rehydration Salts) on the labels of fruit-based or ready-to-drink beverages.
- **The Crackdown:** This includes brand names with prefixes or suffixes (e.g., *ORSL*, *Electro-ORS*, *Smart-ORS*).
- **Reason:** These products are sugary drinks, not medical formulations. Using "ORS" misleads consumers into using them for diarrhea treatment.

The Core Issue: Real vs. Fake

Feature	WHO-Standard ORS (Real)	“Fake” ORS (Beverages)
Regulation	Regulated as a Drug (CDSCO).	Regulated as Food (FSSAI).
Formula	Fixed WHO Formula (Sodium, Potassium, Glucose).	High Sugar + Fruit Juice + Some electrolytes.
Purpose	Treating Dehydration/Diarrhea.	Energy boost / General hydration.
Sugar Content	Low (Optimized for absorption).	Very High (Can be 5-6 times higher).

Why is “Fake ORS” Dangerous?

- **Scientific Reason:** High sugar content increases **osmolarity**.
- **The Effect:** Instead of absorbing water *into* the body, the high sugar draws water *out* of the body tissues into the intestine (Osmosis).
- **Result:** It **worsens diarrhea** and dehydration instead of curing it.

Regulatory Framework (For Exam)

- **Violation:** Misleading labelling violates **Section 23 & 24** of the **Food Safety and Standards Act, 2006**.
- **Permissibility:** The term “ORS” can *only* be used for products licensed under the **Drugs and Cosmetics Rules, 1945** (Medical products).

Global Hunger Index 2025

1. India’s Performance

- **Rank:** **102nd** out of 123 countries.
- **Score:** **25.8** (Category: “**Serious**”).
- **Trend:** Slight improvement in rank from 2024 (105th), but the score remains in the “**Serious**” bracket (20.0–34.9).
- **Comparison:** India ranks **below** its neighbors—Sri Lanka, Nepal, and Bangladesh—but **above** Pakistan and Afghanistan.

2. The 4 Key Indicators (Methodology) The score is calculated using four indicators:

1. **Undernourishment (1/3 weight):** Share of population with insufficient calorie intake (**12.0%**).
2. **Child Stunting (1/6 weight):** Low **height-for-age** in children under 5 (Chronic undernutrition) (**32.9%**).
3. **Child Wasting (1/6 weight):** Low **weight-for-height** in children under 5 (Acute undernutrition).
 - **Critical Note:** India has the **highest child wasting rate in the world** at **18.7%**.
4. **Child Mortality (1/3 weight):** Mortality rate of children under 5 (**2.8%**).

3. Publishing Agencies

- **Concern Worldwide** (Ireland)
- **Welthungerhilfe** (Germany)
- **Theme 2025:** “*20 Years of Tracking Progress: Time to Recommit to Zero Hunger.*”

4. Key Global Findings

- **Stagnation:** Global progress against hunger has **stagnated** since 2016.

- **Zero Hunger:** The world is **not on track** to achieve the UN Sustainable Development Goal (SDG) of Zero Hunger by 2030.
- **Drivers:** The “3 Cs”—**Conflict, Climate Change, and COVID-19** economic aftershocks.

5. Indian Government’s Stance

- **Rejection:** The government often rejects the GHI methodology, citing:
 - **Sample Size:** Claims “Undernourishment” data is based on a small opinion poll (Gallup World Poll).
 - **Child-Centric:** Argues that 3 out of 4 indicators rely only on children’s data to represent the entire population.
- **Counter-Initiatives:** Poshan Abhiyaan, Eat Right India, and Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY).

Mental Health is a Fundamental Right: SC Observations

1. Context

- The **Supreme Court** ruled that the “Right to Health” under **Article 21** (Right to Life and Personal Liberty) explicitly includes “Mental Health.”
- This observation was made while hearing a plea regarding the **death of a prisoner** in jail, highlighting the neglect of mental health in prisons.

2. Constitutional & Legal Framework

- **Article 21:** The scope of “Right to Life” is expanded. A life of dignity requires sound mental health, not just physical survival.
- **Mental Healthcare Act (MHCA), 2017:**
 - **Section 21:** Guarantees every person the right to access mental healthcare and treatment from services run or funded by the government.
 - The SC emphasized that the state has an **affirmative duty** to implement this Act effectively.

3. Key Focus: Prisoners’ Rights

The judgment specifically highlighted the plight of prisoners:

- **Double Disadvantage:** Prisoners suffer from the loss of liberty *and* often deteriorating mental health due to incarceration.
- **State’s Duty:** Since the state has custody of the prisoner, it is solely responsible for their health (physical and mental). Negligence amounts to a violation of Fundamental Rights.
- **No Exclusion:** Incarceration does not strip a person of their right to healthcare.

4. Major Directives/Observations

- **Equality:** Mental illness should be treated on par with physical illness; there should be no discrimination (as per **Article 14**).
- **Sensitization:** Prison staff and police personnel must be trained to recognize signs of mental distress (depression, anxiety, suicidal tendencies).
- **Screening:** Mandatory mental health screening for inmates upon admission and regular check-ups thereafter.

5. Significance of the Ruling

- **Shift in Perspective:** Moves mental health from a “medical issue” to a “**human rights issue**.”

- **Accountability:** Makes the State/Jail authorities legally liable for suicides or deaths caused by mental health neglect in custody.
- **De-stigmatization:** Reinforces that seeking help is a right, not a privilege

Vital Statistics of India (CRS) Report 2023

1. Context

- **Released By:** The Registrar General of India (RGI).
- **Data Source:** Based on the Civil Registration System (CRS) – a continuous, compulsory recording of births and deaths under the **Registration of Births and Deaths Act, 1969**.

2. Key Findings: Births & Deaths

- **Births:**
 - Total Registered: **2.52 Crore** (A decline of ~2.3 lakh compared to 2022).
 - **Trend:** Indicates a continuing decline in the birth rate and fertility transition.
- **Deaths:**
 - Total Registered: **86.6 Lakh** (Marginal increase from 86.5 lakh in 2022).
 - **Trend:** Indicates stabilization of mortality numbers after the COVID-19 spike in 2021.
- **Infant Deaths:** Registered infant deaths saw a slight increase to **1.46 lakh**.

3. Sex Ratio at Birth (SRB)

- **National Average:** **928** females per 1,000 males (excluding Sikkim).
- **State Performance:**
 - **Highest SRB:** **Arunachal Pradesh (1,085)**, followed by Nagaland (1,007).
 - **Lowest SRB:** **Jharkhand (899)**, followed by Bihar (900).

4. Quality of Registration

- **Level of Registration (LoR):**
 - **Births:** **98.4%** (Near universal coverage).
 - **Deaths:** **97.2%**.
- **Institutional Births:** **74.7%** of total registered births occurred in medical institutions, reflecting better access to healthcare.
- **Timeliness:** Only 11 States/UTs achieved >90% registration within the prescribed **21 days**.

5. Significance of the Report

- **Demographic Shift:** Confirms India is moving towards population stabilization.
- **Gender Bias:** The low SRB in states like Jharkhand and Bihar highlights persistent preference for sons.
- **Policy Utility:** Helps in effective implementation of schemes like *Beti Bachao Beti Padhao*.

POLITY AND GOVERNANCE

Accidental Deaths & Suicides in India (ADSI) 2023

- ❖ The **2023 ADSI report** released by the NCRB reveals a continuing public health crisis, with the country recording **1,71,418 suicides** and over **4.44 lakh accidental deaths**. While the national suicide rate stabilized slightly at **12.3 per one lakh population**, the absolute number of lives lost increased marginally by 0.29%. The data highlights a strong correlation between economic instability and suicide, as **daily wage earners** remained the most vulnerable group, accounting for roughly **28%** of all victims. Additionally, the report flagged a critical mental health emergency among the youth, with **student suicides** reaching an all-time high, and a sharp **9% rise** in suicides among the unemployed. The primary drivers for these tragedies continue to be **family problems (32%)** and **illness (19%)**, which together account for more than half of all reported cases.
- ❖ On the front of accidental deaths, **road crashes** remain the leading killer, claiming **1,73,826 lives** in 2023. **Overspeeding** was cited as the main culprit, responsible for over 60% of these fatalities, with **two-wheeler riders** being the most at-risk demographic. A new and alarming trend observed in the 2023 data is the significant **10% surge in “sudden deaths”** attributed to heart attacks, with a worrying increase in cases among the **30–45 age group**. Geographically, **Maharashtra, Tamil Nadu, and Madhya Pradesh** reported the highest volume of overall cases, while **Kerala** recorded the highest suicide rate per capita. Ultimately, the report underscores the urgent need for systemic interventions in road safety, economic support for low-income workers, and accessible mental healthcare.

Political Developments & Resolutions (2024–2025)

Current Status (As of Dec 2025)

- **Status:** J&K remains a Union Territory with a legislature.
- **Power Structure:** The Lieutenant Governor (LG), appointed by the Centre, retains control over key areas like **Police, Public Order, and Land**. The elected Chief Minister (Omar Abdullah) has limited executive powers, similar to the “Delhi Model” of governance.
- **The Delay:** More than a year after the Assembly elections (held in Sept-Oct 2024), the promise of statehood remains unfulfilled.



2. Key Developments (2024 – 2025)

Period	Event
Oct 2024	Formation of Govt: The National Conference-Congress alliance won the assembly elections. Omar Abdullah was sworn in as CM.
Oct 2024	Cabinet Resolution: The very first Cabinet meeting passed a resolution urging the Centre to restore statehood. LG Manoj Sinha cleared this resolution.
Nov 2024	Assembly Resolution: The J&K Assembly passed a resolution demanding the restoration of “special status” and constitutional guarantees. This led to uproar from BJP members but solidified the region’s political demand.
Apr 2025	Security Setback: A terror attack in Pahalgam (April 22, 2025) killed 26 people. The Centre has cited such incidents as “ground realities” that prevent immediate restoration.
Oct 2025	Supreme Court Intervention: The SC heard pleas regarding the delay. The Centre argued that statehood would be restored “at an appropriate time” once full normalcy returns. The Court granted the Centre 4 weeks to file a detailed response on the timeline.

3. The Core Conflict

- ❖ The issue has evolved into a deadlock between the **Elected Government** in Srinagar and the **Central Government** in New Delhi:
 - **The J&K Government's Stance:**
 - Argues that the “delimitation ’! election ’! statehood” roadmap promised by the Home Minister is being stalled.
 - Contends that an elected government cannot function effectively without control over the bureaucracy (IAS/IPS) and police.
 - Views the delay as a violation of the federal trust and the democratic mandate of 2024.³
 - **The Central Government's Stance:**
 - Maintains that statehood will be restored only when the security situation is “totally normal.”
 - Points to sporadic terror incidents (like the Pahalgam attack in 2025) as evidence that the transition is premature.
 - Insists that the current UT status allows for better coordination of security operations against terrorism.

4. Legal Dimension

- ❖ The Supreme Court, in its December 2023 verdict upholding the abrogation of Article 370, did not set a strict deadline for statehood but directed it to happen “at the earliest.”⁴
- **Current Litigation:** As of late 2025, contempt pleas and new petitions are pending in the SC, seeking a binding deadline for the Centre to restore statehood.

5. Why It Matters

- ❖ Until statehood is restored:
 - **Bureaucratic Control:** The J&K Chief Minister has little say in the transfer and posting of senior police and administrative officers.⁵
 - **Legislative Limits:** Any law passed by the J&K Assembly can be reserved by the LG for the President's consideration, effectively giving the Centre veto power.⁶

Model Youth Gram Sabha (MYGS) Initiative

1. The Core Concept: “MUN for Villages” Just as the “Model United Nations” (MUN) simulates global diplomacy for students, the **Model Youth Gram Sabha (MYGS)** introduces Indian classrooms to grassroots democracy. It is the first structured national attempt to make the **Gram Sabha** (village assembly) a lived experience for school children.

2. Key Stakeholders

- **Lead Agency:** Ministry of Panchayati Raj (MoPR).
- **Collaborators:** National Institute of Rural Development and Panchayati Raj (NIRDPR), Ministry of Education, and Ministry of Tribal Affairs.

3. How it Works (The Simulation)

- **Role-Play:** Students step into the shoes of local officials. They act as the **Sarpanch, Ward Members, Village Secretary**, and officials like Junior Engineers or Anganwadi workers.
- **Action:** Instead of listening to lectures, students run a mock session where they:
 - Debate local village issues.

- Draft development plans.
- Create village budgets.
- Pass resolutions through consensus.
- **Training:** A “Cascade Model” is used where National Master Trainers train teachers, who then guide the students.

4. Financials & Incentives

- **Total Budget (FY 2025–26):** ₹ 8.5 Crore.
- **School Grant:** Each participating school receives ₹ 20,000 to organize the mock sabha.
- **Big Rewards:** To encourage excellence, national and regional competitions will be held for JNVs and EMRSs with massive prize money:
 - **1st Prize:** Rs. 1 Crore
 - **2nd Prize:** Rs. 75 Lakh
 - **3rd Prize:** Rs. 50 Lakh

5. Implementation Phases

- **Target Group:** Primarily rural and tribal students (“Catch them young”).
- **Phase I Coverage:**
 - ~620 Jawahar Navodaya Vidyalayas (JNVs).
 - ~200 Eklavya Model Residential Schools (EMRSs).
 - Government schools in **Maharashtra and Karnataka** (volunteer states).
 - **Total:** Approx. 1,100–1,200 schools.

6. Significance

- **Civic Literacy:** It moves civic education from textbooks to practice, teaching students how local governance actually works.
- **Future Leaders:** It aims to build a generation that views the Gram Panchayat not just as a political body, but as a meaningful avenue for public service.
- **Revival:** The initiative hopes to revive dwindling interest in Gram Sabhas among the younger generation.

National Skills Qualifications Committee (NSQC)

Context

- The **44th meeting** of the NSQC was recently held under the National Council for Vocational Education and Training (NCVET).
- **Chaired by:** Secretary, Ministry of Skill Development & Entrepreneurship (MSDE) & Chairperson, NCVET.

About NSQC

- **Parent Body:** Operates under the NCVET.
- **Primary Mandate:** Ensures all skill qualifications in India align with the **National Skills Qualifications Framework (NSQF)** (a system organizing skills based on competency).

Key Roles & Functions

- **Approval:** Evaluates and approves skill qualifications proposed by Awarding Bodies and various sectors.
- **Quality Control:** Maintains national standards by ensuring NSQF compliance.

- **Mobility:** Facilitates student movement (vertical and horizontal) between vocational, technical, and academic streams.
- **Industry Link:** Connects training curriculums with industry needs to boost employability.

Composition

- Representatives from Central Ministries and State Skill Missions.
- Regulatory bodies: **UGC, AICTE, NSDC, DGT.**
- Industry associations and subject matter experts.

44th Meeting Highlights

- **Outcome:** Reviewed and approved **210 skill qualifications.**
- **Sectors Covered:** Healthcare, IT, Agriculture, Logistics, etc.
- **Goal:** To strengthen the national ecosystem and prepare a “future-ready” workforce.

2. Notaries (Amendment) Rules, 2025

The Update

- **Authority:** Notified by the Department of Legal Affairs, Ministry of Law and Justice.
- **Legal Basis:** Rules notified under **Section 15 of the Notaries Act, 1952**, amending the **Notaries Rules, 1956.**

Key Amendment

- **Change:** Increases the **ceiling (maximum limit)** on the number of Notaries that can be appointed by specific State Governments.
- **States Affected:** **Gujarat, Tamil Nadu, Rajasthan, and Nagaland.**

Reasons for Increase

- Population growth.
- Formation of new districts and tehsils.
- Corresponding rise in demand for notarial services.

About Notaries

- **Definition:** A public official authorized to verify, authenticate, and certify documents, witness signatures, and administer oaths.
- **Primary Purpose:** To **prevent fraud** and maintain the integrity of official transactions.
- **Key Duties:**
 - Attesting documents.
 - Preparing and certifying affidavits.
 - Facilitating the execution of domestic and international legal/commercial papers

Information Technology Amendment Rules, 2025

1. Context

- **Notification:** The Ministry of Electronics and Information Technology (MeitY) notified these amendments in **October 2025.**
- **Legal Basis:** Amends the **IT Rules, 2021** (originally under the IT Act, 2000).

- **Primary Objective:** To regulate “**Synthetically Generated Information**” (Deepfakes) and streamline the **content takedown process** to ensure transparency and accountability.

2. Key Provisions

A. Regulation of Deepfakes (Synthetically Generated Information - SGI)

- **New Definition:** Introduced **Rule 2(1)(wa)** to define SGI as information “artificially or algorithmically created/modified” (e.g., AI-generated images/videos/voice).
- **Mandatory Labeling:**
 - Intermediaries (platforms) must ensure SGI is embedded with a **permanent unique label or metadata**.
 - **Visuals:** The label must cover at least **10%** of the screen area.
 - **Audio:** The disclaimer must be audible for the **first 10%** of the duration.
- **Verification Obligation:** Significant Social Media Intermediaries (SSMIs) must:
 - Require users to **declare** if content is synthetically generated.
 - Deploy technical measures to **verify** these declarations.

3. Significance

- **Combating Disinformation:** The mandatory labeling of AI content helps users distinguish between **truth and deepfakes**, crucial for election integrity and preventing fraud.
- **Procedural Safeguards:** By restricting takedown powers to senior officers and requiring “reasoned intimations,” the rules aim to reduce arbitrary censorship by lower-level officials.
- **Accountability:** The monthly review mechanism introduces a check-and-balance system within the executive branch.

4. Critical Issues & Concerns

- **Operational Burden:** Monitoring millions of posts for AI content and verifying user declarations places a massive technical and financial burden on intermediaries.
- **“Chilling Effect”:** The removal of the “voluntary takedown” protection (safe harbor) might force platforms to over-censor content to avoid liability.
- **Privacy vs. Traceability:** Embedding “permanent metadata” in content raises questions about user anonymity and surveillance.
- **Subjectivity:** The definition of SGI relying on whether content “appears reasonably authentic” creates ambiguity for satire, animation, or minor digital edits.

Supreme Court’s directive on regulating social media conduct

1. The Core Issue (News Context)

- **Directive:** The Supreme Court (SC) has directed the Union Government to frame guidelines to regulate conduct on social media (including podcasts and online shows).
- **Process:** Guidelines must be framed in consultation with the **National Broadcasters and Digital Association**.
- **Reasoning:**
 - Influencers often **commercialise free speech**.
 - Content frequently offends the sentiments of **vulnerable groups** (e.g., differently-abled persons).
 - Need to balance **Free Speech** with the **Right to Dignity**.

2. Constitutional Framework (Article 19)

- **Article 19(1)(a):** Guarantees the fundamental right to freedom of speech and expression.
- **Article 19(2):** Specifies the **only** valid grounds for restricting this right:
 - Sovereignty and Integrity of India.
 - Security of the State.
 - Friendly relations with foreign states.
 - Public Order.
- **Legal Stance:** The State **cannot** impose restrictions beyond these specific grounds.

3. Status of Commercial Speech

- **Protected:** The SC has consistently ruled that **commercial speech** (ads, profit-driven content) is protected under Article 19(1)(a).
- **Key Case Laws:**
 - **Sakal Papers v. Union of India (1962):** Regulating volume/pages to limit circulation is unconstitutional; profit motive does not negate free speech rights.
 - **Tata Press Ltd. v. MTNL (1995):** Advertising is a form of free speech; the “commercial” nature alone cannot justify regulation.

4. Arguments Against New Guidelines (Criticism)

- **Existing Laws are Sufficient:**
 - **IT Act, 2000 (Section 69A):** Allows blocking of harmful content.
 - **IT Rules, 2021:** Regulates digital media and intermediaries.
 - **Criminal Law:** Offenders can already be prosecuted under ordinary laws (IPC/BNS) for obscenity or hate speech.
- **Violation of Constitution:**
 - “Dignity” is **not** listed as a restriction in Article 19(2).
 - Adding new restrictions outside the constitutional list is legally invalid.
- **Risk of Censorship:**
 - “Dignity” is a vague, subjective concept.
 - Regulating based on “offense” leads to a “**Chilling Effect**”, where people self-censor legitimate views out of fear.

5. Important Case Laws Cited

- **Kaushal Kishore v. State of UP (2023):** Held that grounds for restriction under Article 19(2) are **exhaustive** and cannot be expanded by the court.
- **Imran Pratapgadhi Case (2025):** Reaffirmed the court’s duty to “zealously protect” speech, even if it is disagreeable

UAPA and the Delhi Riots Bail Case

- The Supreme Court has recently emphasized that prolonged incarceration without the conclusion of a trial constitutes a violation of the fundamental right to life and liberty under **Article 21** of the Constitution, even in cases involving stringent anti-terror laws like the **Unlawful Activities (Prevention) Act (UAPA)**. In the context of the **2020 Delhi Riots conspiracy cases**, where several accused have been imprisoned for years without a verdict, the Court reiterated the principle laid down in the *Union of India vs. K.A. Najeeb* judgment.
- It ruled that the statutory bar on bail under **Section 43D(5)** of the UAPA—which prohibits bail if accusations are “prima facie true”—cannot be applied mechanically to keep individuals in indefinite detention when there is no likelihood of the trial completing soon. This judicial approach highlights a critical balance between national security and personal liberty, establishing that “punitive detention” before conviction is impermissible, and that constitutional courts have the power to grant bail to uphold the right to a speedy trial.

NCRB 2023 Report

Farmer Suicides in India (NCRB 2023 Data)

1. The Grim Statistics

- **Total Deaths: 10,786** people engaged in the farming sector died by suicide in 2023.
- **Share in Total Suicides:** This accounts for **6.3%** of the total suicides (1,71,418) in the country.
- **Frequency:** On average, **one person** from the farm sector dies by suicide **every hour**.
- **Trend:** A slight **decline** was observed compared to 2022 (11,290 deaths).

2. Demographic Breakdown

The report distinguishes between land-owning farmers and daily wage laborers:

- **Agricultural Labourers: 6,096** (The majority group).
 - *Gender Split:* 5,433 Men vs. 663 Women.
- **Farmers/Cultivators: 4,690**.
 - *Gender Split:* 4,553 Men vs. 137 Women.

Key Insight: More **agricultural labourers** committed suicide than land-owning farmers, indicating that landless workers are facing higher economic distress.

3. State-Wise Distribution

- **Worst Affected State: Maharashtra** (Accounted for **38.5%** of all farm suicides).
 - *Hotspots:* The cotton and soybean belts of **Vidarbha and Marathwada** remain the most critical zones.
- **Top 5 States:**
 1. Maharashtra
 2. Karnataka
 3. Andhra Pradesh
 4. Madhya Pradesh
 5. Tamil Nadu
- **“Zero Suicide” States:** West Bengal, Bihar, Odisha, Jharkhand, and several NE states (Tripura, Manipur, Mizoram) reported **zero** farmer suicides.

4. About the Authority: NCRB

- **Established:** 1986.
- **Nodal Ministry:** Ministry of Home Affairs (MHA).
- **Function:** It serves as the national repository of crime data, collected via the **Crime and Criminal Tracking Network & Systems (CCTNS)**.
- **Key Publication:** The annual “Crime in India” report.

Quick Summary Table

Category	2023 Statistics
Total Farm Suicides	10,786
Top State	Maharashtra (38.5%)
Most Vulnerable Group	Agricultural Labourers (~56% of total)
Gender Aspect	Predominantly Male (Over 92%)

Vice President of India

- **Current Update:** Mr. C.P. Radhakrishnan has been elected as the **15th** Vice President of India (October 2025).
- **Position:** Holds the **2nd highest office** in India (after the President).
- **Model:** The office is modeled on the **American Vice-President**.
- **Constitutional Basis:** **Article 63** mandates the office.
- **Tenure:** **5 Years** (Eligible for re-election any number of times).

1. Election Process

- **Method:** Indirect Election via **Proportional Representation** with **Single Transferable Vote (Secret Ballot)**.
- **Electoral College:**
 - **INCLUDES:** All members of Parliament (Both **Elected** + **Nominated** members of Rajya Sabha & Lok Sabha).
 - **EXCLUDES:** Members of State Legislative Assemblies (MLAs).
 - *Contrast with President:* The President’s college includes elected MLAs but excludes nominated MPs.

2. Qualifications & Conditions

- **Citizenship:** Must be a Citizen of India.
- **Age:** Minimum **35 years**.
- **Eligibility:** Must be qualified for election as a member of the **Rajya Sabha**.
- **Office of Profit:** Must not hold any office of profit (Exceptions: Sitting President, VP, Governor, or Minister).
- **Nomination Requirements:** Needs **20 Proposers** and **20 Seconders** from the electors.
- **Restrictions:** Cannot be a member of any House of Parliament or State Legislature.

3. Removal Process

- **Resignation:** Addressed to the **President**.
- **Removal (No Impeachment):**

- **Grounds:** The Constitution mentions **no specific grounds** for removal.
- **Initiation:** Resolution can **only** be introduced in the **Rajya Sabha** (requires 14 days' notice).
- **Majority Required:**
 1. **Rajya Sabha:** Passed by **Effective Majority** (Majority of all “then” members).
 2. **Lok Sabha:** Agreed to by **Simple Majority**.

4. Powers & Functions

1. Ex-Officio Chairman of Rajya Sabha:

- Presides over the Upper House (powers similar to the Speaker of Lok Sabha).

2. Acting President:

- Acts as President in case of vacancy (death, resignation, impeachment).
- **Max Period:** Can act as President for **maximum 6 months** (new election must be held by then).
- *Note:* While Acting President, he **does not** perform the duties of the Rajya Sabha Chairman.

SC Order on Waqf Amendment Act, 2025

Status: The Supreme Court **refused to stay the entire Act** but put specific contentious provisions on hold.

1. What is Stayed (Put on Hold)

- **“Practicing Muslim” Clause:** The requirement that a person must be a practicing Muslim for **5 years** before dedicating property as Waqf is suspended (until States frame specific rules).
- **Collector’s Power:** The provision empowering a government-designated officer (Executive) to decide if Waqf property encroaches on government land is **stayed**.
 - *Reasoning:* The SC ruled that **executive officers cannot adjudicate rights**, as it violates the **Separation of Powers**.
- **Property Rights:** Creating **third-party rights** on disputed properties is restricted until Tribunals decide the matter.

2. What Remains (Allowed/Clarified)

- **Non-Muslim Members:** The provision allowing non-Muslims on Waqf Boards **has not been stayed**.
 - *Caps Imposed:*
 - **Central Waqf Council:** Max **4** non-Muslim members.
 - **State Waqf Board:** Max **3** non-Muslim members.
- **Ex-Officio Members:** The Court observed that ex-officio members of the Board should, as far as possible, be **Muslims**.

3. Basic Context

- **Definition:** **Waqf** refers to property dedicated exclusively for religious or charitable purposes under Islamic law. It cannot be sold or used for other purposes.
- **Legal Status:** These are *prima facie* (initial) observations; the final validity of the Act is still open to challenge.

DISASTER MANAGEMENT

Erra Matti Dibbalu (Red Sand Hills)



1. Location & Identity

- **What are they?** Unique dissected red sand dune formations.
- **Location:** Near **Visakhapatnam**, Andhra Pradesh.
- **Local Name:** “Erra Matti Dibbalu” translates to **Red Sand Hills**.

2. Formation & Appearance

- **Age:** Belongs to the **Late Quaternary period** (50,000 – 20,000 years ago).
- **Color:** Distinctive **rusty-red** hue caused by the oxidation (rusting) of **ferrous minerals** over thousands of years.
- **Height:** The dunes stand between **10 to 30 feet** high.

3. Global Rarity These red sand dunes are extremely rare and are found in only **three places** globally:

1. **Visakhapatnam** (Andhra Pradesh, India)
2. **Tamil Nadu** (India)
3. **Sri Lanka**

4. Scientific & Historical Significance

- **Geological Record:** They serve as a natural archive, preserving evidence of:
 - Ancient climate changes.
 - Past monsoon patterns.
 - Historical sea-level rise and fall.
- **Evidence of Early Humans:** The discovery of stone tools and pottery from the **Paleolithic, Mesolithic, and Microlithic** periods indicates that early humans inhabited this region.

5. Recognition & Status

- **Geo-Heritage Site:** Declared as a National Geo-Heritage Site in **2014** by the **Geological Survey of India (GSI)**.
- **UNESCO Potential:** It qualifies under **UNESCO Criterion (viii)** as it represents exceptional records of Earth’s geomorphological and environmental history.

MADHOPUR BARRAGE BREACH

Context In late August 2025, a significant structural failure occurred at the **Madhopur Barrage (Headworks)** on the Ravi River in Punjab. The collapse of floodgates led to uncontrolled water release, causing severe flooding in the border districts of Punjab and Jammu & Kashmir.

1. Event Overview

- **Date of Incident:** August 27, 2025.
- **Location:** Madhopur, Pathankot District, Punjab (near the J&K border).
- **The Incident:** Three floodgates (out of 54) of the barrage collapsed under water pressure.

- **River Involved: Ravi River.**

2. Causes of the Breach

- **High Water Discharge:** Heavy rainfall and cloudbursts in the catchment area forced the upstream **Ranjit Sagar Dam** to release over **2.12 lakh cusecs** of water, creating immense pressure on the barrage.
- **Structural Negligence:**
 - **Jammed Gates:** The floodgates were reportedly jammed due to heavy **siltation** and rust, preventing them from opening in time to release the surge.
 - **Poor Maintenance:** An inquiry revealed that routine greasing and maintenance had been neglected. A private firm had “wrongly certified” the gates as fit to withstand higher pressures.
- **Aging Infrastructure:** The barrage, originally built in the 19th century and upgraded in 1959, faced structural fatigue.

3. Impact & Consequences

- **Flooding:** The breach caused flash floods in downstream districts:
 - **Punjab:** Pathankot, Gurdaspur, and Amritsar (villages and agricultural land submerged).
 - **Jammu & Kashmir:** Parts of Kathua district affected.

Hurricane Melissa (Caribbean)

- **Event:** A Category 5 storm that struck late in the month, devastating Jamaica, Haiti, and Cuba.
- **Management & Response:**
 - **Humanitarian Aid:** Agencies like World Vision and the UN mobilized largely to address immediate food and water insecurity.
 - **Infrastructure Focus:** The UN Secretary-General emphasized that aid to Jamaica must focus on “Building Back Better,” highlighting the failure of older infrastructure to withstand Category 5 wind speeds.
 - **Displacement:** Widespread displacement in Haiti complicated existing humanitarian efforts, forcing agencies to set up temporary shelters amidst ongoing gang violence challenges.

GEOGRAPHY AND ENVIRONMENT

Rising Urban Noise Pollution

1. The October 2025 Spike

October 2025 saw a sharp, acute rise in noise levels in major Asian cities, specifically linked to the festival season (Diwali) and weak enforcement of bans.

- **The “Toxic Twin” Effect:** In cities like **Delhi, Thane, and Bhubaneswar**, October data showed a synchronized spike in both air and noise pollution.
 - **Thane & Mumbai:** Civic data released in late October showed noise levels rose significantly (peaking near 90dB in residential zones), defying the “silence zone” mandates.
 - **Data Controversy:** A significant report (referenced in *The Hindu*, Oct 22, 2025) highlighted a “crisis of credibility” in Indian environmental data. It revealed that many noise monitoring sensors were either malfunctioning, poorly calibrated, or placed in locations that artificially lowered readings, leading to a false sense of security.

2. The Global Verdict: “A Medical Emergency”

Throughout 2025, global bodies have aggressively reclassified noise pollution. It is no longer just about hearing loss; it is about **heart health**.

- **EEA Report (2025):** The European Environment Agency released a landmark report in 2025 declaring environmental noise a “**Medical Emergency**.”
 - **Key Stat:** They estimated that chronic noise exposure is now responsible for over **66,000 premature deaths** and **50,000 new cases of heart disease** annually in Europe alone.

Translocation of Tigers to the Sahyadri Tiger Reserve (STR)

1. Current Status (December 2025)

- **The Milestone:** The first batch of tigers—specifically **two tigresses**—was scheduled for translocation in December 2025. Reports indicate they have been introduced into a “**soft release**” enclosure within the reserve.
- **Immediate Protocol:** These tigers are not yet roaming free across the entire reserve. They are currently in a controlled environment (soft release) to allow them to acclimatize to the new habitat and prey base before being released into the wild.

2. The Approved Plan (Sep 2025 Update)

- ❖ The Union Environment Ministry (MoEFCC) and the National Tiger Conservation Authority (NTCA) gave the final green light in **September 2025**.
- **Total Goal:** The full project involves moving **8 tigers** (3 males and 5 females) to STR over time.
- **Source:** The donor tigers are being sourced primarily from the **Tadoba-Andhari Tiger Reserve (TATR)** and the **Pench Tiger Reserve** (Maharashtra side), both of which have high tiger densities.
- **Reasoning:** Before this translocation, Sahyadri was considered a “low-density” or “zero-resident” reserve, hosting only transient male tigers that migrated from Karnataka but rarely stayed due to a lack of breeding females.

Three New Ramsar sites

- ❖ This brings the total number of Ramsar sites in Bihar to **6**.

New Ramsar Sites Added in 2025

1. Gokul Jalashay (Buxar District)

- **Declared:** September 2025
- **Type:** An oxbow lake formed by the River Ganga.
- **Significance:** It serves as a critical buffer for floodwaters and is a rich habitat for the Gangetic Dolphin and various migratory birds. It is notably managed by the local community.



2. Udaipur Jheel (West Champaran District)

- **Declared:** September 2025
- **Location:** Situated near the Valmiki Tiger Reserve.
- **Type:** An oxbow lake formed by the Gandak River.
- **Significance:** It is known for its aquatic vegetation and serves as a wintering ground for waterbirds like the Ferruginous Duck.

3. Gogabil Lake (Katihar District)

- **Declared:** November 2025 (India's 94th Ramsar Site)
- **Type:** An oxbow lake formed by the Mahananda and Kankahar rivers in the Ganga basin.
- **Significance:** It was already Bihar's first "Community Reserve" (declared in 2019). It is a vital habitat for migratory birds such as the Lesser Adjutant Stork and White-rumped Vulture.

State of Finance for Forests (SFF) 2025

- ❖ **State of Finance for Forests (SFF) 2025** report, titled "*Unlock. Unleash.*", was released by the UN Environment Programme (UNEP) in **October 2025**.
- ❖ The central finding is a massive financial shortfall: while forests are critical for climate goals, they are severely underfunded compared to the capital flowing into activities that destroy them.
- ❖ Here is the breakdown of the report's key findings:

1. The Core Numbers: A Massive Gap

- ❖ The report established a new baseline for forest finance but highlighted a critical gap that must be closed by 2030 to meet the Rio Convention targets.
 - **Current Investment (2023 Baseline):** ~\$84 billion per year.
 - **Required Investment (by 2030):** ~\$300 billion per year.
 - **The Gap:** There is an annual shortfall of roughly **\$216 billion**.
 - **Long-term Goal:** By 2050, this figure needs to reach nearly \$500 billion annually.

2. Who is Paying? (The Public-Private Imbalance)

- ❖ A major critique in the 2025 report is that the private sector is largely missing in action.
 - **Public Sector (91%):** Governments currently provide the vast majority of forest finance (~\$77 billion), largely through domestic budgets rather than international aid.
 - **Private Sector (9%):** Private capital contributes only ~\$7.5 billion. Most of this flows into "low-risk" certified supply chains (like timber) rather than high-impact conservation in tropical regions where deforestation is worst.

IUCN gave the Tiger a new "Green Status" label

- The first-ever IUCN Green Status assessment for the Tiger (*Panthera tigris*) was released in October 2025, classifying the species as "**Critically Depleted.**"
- This classification indicates that while tigers are surviving, they are far from their historical abundance and are ecologically non-functional in many parts of their range.
- Unlike the IUCN Red List which assesses the risk of extinction (where the tiger remains "Endangered"), the Green Status measures the species' progress toward full ecological recovery.
- The report reveals that without conservation interventions over the last 50 years, tigers would likely be regionally extinct in the majority of their habitats today, earning them a "High" score for Conservation Legacy.
- Despite the low current status, tigers received a "Medium" score for Recovery Potential, meaning they have the biological ability to bounce back relatively quickly if given adequate space and prey.
- The assessment notes that tigers are now confirmed extinct in 9 out of the 24 specific spatial units evaluated globally.
- Projections in the report estimate that if tigers were restored to all available suitable habitats, the global population could realistically rise from the current ~4,500 to over 25,000.
- The "Critically Depleted" score is largely due to the fact that tigers have lost approximately 93% of their historical range.

The Indian Wolf

Major Status Change: “Vulnerable”

- ❖ In **October 2025**, the IUCN released a landmark assessment. For the first time ever, the Indian Wolf was evaluated **separately** from the common Grey Wolf.
- **The Verdict:** It is now officially listed as “**Vulnerable**” on the IUCN Red List (some regional reports list it as Endangered).
- **Why this matters:** Previously, it was lumped with healthy Grey Wolf populations in Europe/America, which masked how close the Indian Wolf is to extinction.
- **Habitat Loss: The “Wasteland” Error**
- The reports highlighted the biggest threat: **Grasslands are vanishing.**

IUCN World Heritage Outlook 4 2025

- ❖ For the first time since reporting began in 2014, the global status of these sites is deteriorating rather than improving.
- The percentage of sites classified as healthy dropped from 63% in 2020 to 57% in 2025.
- Climate change is now the number one threat, endangering 43% of all natural World Heritage Sites globally.
- Khangchendzonga National Park is the only site in India rated as “Good,” indicating it is well-protected and stable.
- The Western Ghats, Manas National Park, and Sundarbans National Park in India were classified as “Significant Concern.”
- The Western Ghats faces growing threats from infrastructure development, including new roads, railways, and hydropower projects.
- The Sundarbans is critically endangered by rising sea levels, industrial pollution, and a “top dying” disease affecting the mangroves.
- Unregulated tourism has escalated to become the second largest global threat to these sites.
- Linear infrastructure, such as roads and railways, appeared in the top five threats list for the first time in 2025.

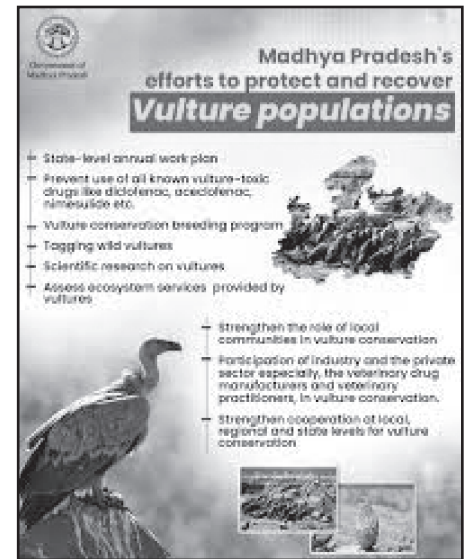
Blue Flag certified 2025

- As of October 2025, India has added **five new beaches** from the state of **Maharashtra** to its list of Blue Flag certified sites, significantly boosting its global environmental standing.
- The newly certified beaches in Maharashtra are **Shrivardhan, Nagaon, Parnaka, Guhagar, and Ladghar**, which have met the stringent international standards for cleanliness and safety.
- This addition brings the total number of Blue Flag beaches in India to **18**, reinforcing the country’s commitment to sustainable coastal tourism.
- The Blue Flag certification is awarded by the **Foundation for Environmental Education (FEE)** in Denmark, which evaluates beaches based on 33 strict criteria across four major categories: water quality, environmental management, safety, and environmental education.
- In November 2025, the **Golden Beach (Puri)** and **Sunapur Beach** in Odisha were successfully **recertified** for the 2025-2026 season, marking Golden Beach’s seventh consecutive year with the tag.
- **Eden Beach** in Puducherry remains on the list but has been noted in some 2025 reports as having “conditional recognition” or pending full certification status compared to the others.

VULTURES ROLE AND CONSERVATION

1. Latest 2025 Updates (The “State of the Vulture”)

- **Madhya Pradesh Census (2025):** MP has emerged as the top state for vultures, with the population rising from ~8,300 (in 2019) to nearly **13,000 in 2025**.
- **The Pench Release (Dec 2025):** In a major milestone, captive-bred Long-billed Vultures were released into the **Pench Tiger Reserve** (Maharashtra) in December 2025. One released bird (tagged ‘J132’) successfully flew 750km to Nashik, proving captive birds can survive in the wild.
- **New “Safe Zone” (Dec 2025):** Tamil Nadu formed a special committee in late December to declare the **Moyar Valley** (Nilgiris) a dedicated “Vulture Safe Zone.”
- **Gaushala Reform:** Reports from Dec 2025 indicate that cow shelters (Gaushalas) in Rajasthan and MP have finally stopped using **Aceclofenac** and **Ketoprofen**, switching to the vulture-safe drug **Meloxicam**.



2. Ecological Role (“Nature’s Cleanup Crew”)

- **Disease Barrier:** They have highly acidic stomachs (pH ~1.0) that can digest bacteria like **Anthrax, Cholera, and Botulism**. By eating infected carcasses, they “dead-end” these pathogens, preventing them from spreading to humans or livestock.
- **Rabies Control:** They strip a cow carcass in minutes. Without vultures, carcasses rot slowly, attracting **feral dogs** and rats. A rise in feral dogs is directly linked to a rise in **human rabies deaths** (India has the highest rabies burden globally).
- **Poaching Sentinels:** In forests, circling vultures alert forest guards to the location of dead animals, often helping them detect tiger/rhino poaching incidents quickly.
- **Cultural Significance:** They are essential for the Parsi community’s “**Dokhmenashini**” (Sky Burial) tradition, where the dead are left in Towers of Silence for natural disposal.

3. Major Threats

- **Veterinary Drugs (The #1 Killer):**
 - **Diclofenac:** Banned in 2006 but still occasionally used illegally.
 - **Aceclofenac & Ketoprofen:** These were the “new killers.” Although banned in 2023, enforcement only tightened significantly in 2024-25.
 - **Nimesulide:** Still legally available in some areas despite being toxic to vultures.
- **Poison Baiting:** Villagers often poison carcasses to kill tigers or leopards that attack their livestock. Vultures eat this poisoned meat and die in mass numbers (one poisoned carcass can kill 50+ vultures).
- **Electrocution:** Large wingspans make them prone to hitting high-voltage power lines.

4. Conservation Measures (Action Plan 2020-2025)

- **Vulture Conservation Breeding Centres (VCBCs):** India now has successful centers in **Pinjore (Haryana), Rajabhatkhawa (Bengal), and Rani (Assam)**. The goal has shifted from “breeding” to “releasing.”
- **Vulture Safe Zones (VSZ):** Designated areas (150km radius) where extensive monitoring ensures zero presence of toxic drugs in pharmacies and cattle carcasses

Blue Dragon (*Glaucus atlanticus*)

- **Puri Beach Sighting (Oct 2025):** In **October 2025**, Blue Dragons were spotted washing ashore on **Puri Beach (Odisha)**. Marine experts issued immediate warnings to tourists to “look but not touch.”
- **Spanish Invasion (Sep-Oct 2025):** A significant “invasion” occurred in Spain, forcing authorities to close several beaches in **Alicante and Lanzarote** after hundreds of these slugs washed up. This was linked to unusually high Mediterranean sea temperatures.
- **Climate Indicator:** The increasing frequency of these sightings in late 2025 is being cited by scientists as a direct result of **warming oceans** and cyclonic disturbances pushing deep-sea creatures to the shore.

2. Biological Facts

- **It’s a Slug:** Despite the name, it is a species of **sea slug** (nudibranch), usually only **3 to 4 cm** long.
- **Upside-Down Swimmer:** It floats on its back (upside down) on the ocean surface. It swallows an air bubble to stay buoyant.
- **Master of Camouflage:** It uses “**Counter-shading**”:
 - **Blue Belly (facing up):** Blends with the blue ocean water to hide from birds.
 - **Silver Back (facing down):** Blends with the bright sunlight to hide from fish below.

SCIENCE & TECHNOLOGY

SPARK-4.0

- **Launch Date:** The “SPARK-4.0” (Studentship Program for Ayurveda Research Ken) initiative was officially launched in **October 2025** by the Central Council for Research in Ayurvedic Sciences (CCRAS), under the Ministry of Ayush.
- **Primary Objective:** The program aims to cultivate a research culture among young students by supporting early-stage scientific ideas in the field of Ayurveda.
- **Target Audience:** It is exclusively designed for **undergraduate students** pursuing a Bachelor of Ayurvedic Medicine and Surgery (BAMS) degree in recognized colleges across India.
- **Financial Support:** Selected students are awarded a total studentship of **Rs. 50,000**. This is disbursed as a stipend of Rs. 25,000 per month for a duration of two months.
- **Selection Volume:** For the 2025-2026 cycle, the program has opened slots for **300 students** nationwide to undertake short-term research projects.
- **Eligibility:** The program is open to students from the 1st year to the 4th year of their BAMS course (before appearing for final exams). Interns and postgraduate students are not eligible.
- **Mentorship:** Each student must work under a guide who is a regular faculty member at their medical college, ensuring that the research follows proper scientific methodology.

- **Timeline:** The application window opened on October 15, 2025, with the actual research work scheduled to be carried out in early 2026

Cassini-Huygens mission

- ❖ Though it ended its physical journey in 2017, remains highly active in scientific news as of late 2025 due to fresh data analysis.

1. Breaking News (Dec 2025): The “Slushy” Titan

- ❖ In **December 2025**, a major re-analysis of old Cassini data shook up the planetary science community.
 - **The Old Theory:** For years, scientists believed Saturn’s moon **Titan** hid a massive, global subsurface ocean of liquid water beneath its icy shell (similar to Europa or Enceladus).
 - **The New Discovery:** A new study (released late Dec 2025) suggests this might be wrong. By analyzing the “tidal drag” (how Titan stretches as it orbits Saturn), researchers now believe Titan’s interior is not a free-flowing ocean, but rather a **“thick slush.”**
 - **Implication:** Instead of a vast sea, it likely contains pockets of water trapped in ice. While this sounds less “habitable,” scientists argue these slushy pockets could still host microbial life, similar to bacteria found in Arctic ice on Earth.

2. Upcoming Milestone: 20 Years of Huygens (Jan 2026)

- ❖ The space community is currently preparing for the **20th Anniversary** of the Huygens landing, which falls on **January 14, 2026**.
 - **The Event:** On Jan 14, 2005, the European Space Agency’s (ESA) **Huygens probe** (which hitched a ride on Cassini) detached and landed on Titan.
 - **Why it matters:** It remains the **only landing ever accomplished in the outer solar system** (beyond the asteroid belt) and the farthest landing from Earth in history.
 - **Legacy:** It revealed that Titan looks shockingly like Earth, with river valleys, lakes, and “rocks” made of water ice, but with liquid methane raining from the sky instead of water.

SJ-10 (Shijian-10)

SJ-10 (2016)

- **What it was:** The world’s first microgravity satellite dedicated to **biological experiments** (e.g., growing mouse embryos in space).
- **2025 Status:** While the mission ended years ago, scientific papers analyzing its deep-data (on radiation and fluid physics) continued to be cited in 2025 reviews of China’s space biology achievements.

AI in India’s healthcare system

- ❖ 2025, AI in India’s healthcare system has shifted from “experimental pilots” to **national-scale implementation**, driven by major partnerships between the government and big tech announced in December 2025.
 - **Google’s “HealthVaani” Launch (Dec 2025):** In mid-December 2025, Google, in partnership with the Ministry of Health, launched **“HealthVaani,”** a multilingual AI assistant designed specifically for rural ASHA workers. It helps them access accurate medical information in local dialects (Hindi, Odia, etc.) to assist patients in remote villages.

- **AIIMS & “MedGemma”:** As part of a new \$17 million investment announced in December 2025, Google is collaborating with **AIIMS Delhi** to build India-specific AI models using the “MedGemma” framework. These models focus on **dermatology (skin conditions)** and **OPD triaging** to reduce overcrowding in public hospitals.
- **Ayushman Bharat Digital Mission (ABDM) Milestone:** As of December 2025, over **84 crore ABHA (Ayushman Bharat Health Account)** IDs have been created. The system now uses AI to digitize millions of old paper records into the global FHIR standard, allowing doctors to view a patient’s history instantly.
- **TB Elimination Progress:** The “TB Mukht Bharat” campaign reported a **21% decline** in TB incidence in 2025, largely credited to the deployment of AI-powered chest X-ray tools (like **Qure.ai’s qXR**). These tools can detect TB in rural screenings in under a minute without a radiologist present.
- **“Lost to Follow-up” Tracking:** A new AI tool called **“eCLAMP”** was scaled up in 2025 to track TB patients who stop their treatment. By predicting which patients are high-risk for dropping out, health workers can intervene early, preventing drug-resistant strains.
- **eSanjeevani Integration:** India’s national telemedicine service, eSanjeevani, completed over **43 crore consultations** by late 2025. It now integrates a **Clinical Decision Support System (CDSS)**, an AI tool that assists doctors in remote areas by suggesting diagnoses based on patient symptoms.

AdFalcivax is India’s first indigenous Malaria Vaccine

- ❖ It represents a major scientific breakthrough because it targets the deadliest malaria parasite (*Plasmodium falciparum*) at **two different stages** of its life cycle, acting as both a shield for the human and a block for the mosquito.

1. The Major 2025 Update (Tech Transfer)

- **September 2025 Milestone:** The biggest news occurred in September 2025, when the **ICMR (Indian Council of Medical Research)** officially transferred the technology for AdFalcivax to **five Indian pharmaceutical companies** (including Zydus Lifesciences, Biological E, and Indian Immunologicals) to start mass production and clinical trials.
- **Significance:** This move shifts the vaccine from “lab research” to “industrial development,” aiming for a market release in the coming years.

2. Scientific Mechanism: Why “Multi-Stage”?

- ❖ Unlike traditional vaccines that usually target just one stage, AdFalcivax is “Chimeric,” meaning it combines proteins to attack the parasite at two distinct points.
- **Target 1: The Human Shield (Pre-erythrocytic Stage)**
 - It targets the **Sporozoite** stage (specifically the *PfCSP* protein).
 - **Action:** When a mosquito bites, the vaccine antibodies neutralize the parasite *before* it can enter the liver and multiply. This prevents the person from getting sick.
- **Target 2: The Community Shield (Transmission Blocking)**
 - It targets the **Sexual Stage** (specifically *Pfs230* and *Pfs48/45* proteins).
 - **Action:** If a mosquito bites a vaccinated person who happens to be infected, the antibodies enter the mosquito’s gut and **stop the parasite from reproducing inside the mosquito**. This prevents the mosquito from spreading malaria to the *next* person.

3. Key Advantages over Global Vaccines

- ❖ Reports from 2025 highlight three specific advantages AdFalcivax has over global competitors like *RTS,S* or *R21/Matrix-M*:

- **Thermal Stability:** It remains stable at **room temperature** for over **9 months**. This is a game-changer for rural India and Africa, where maintaining a “cold chain” (freezers) is difficult.
- **Production Platform:** It is produced using **Lactococcus lactis**, a safe, food-grade bacterium. This makes manufacturing cheaper and safer compared to traditional yeast or animal-cell methods.
- **Dual Protection:** Most current vaccines focus on protecting the *individual*. AdFalciVax is designed to also protect the *community* by breaking the transmission chain.

MARS ROVER PERSEVERANCE DISCOVERS

- ❖ While the initial data was collected in mid-2024, the peer-reviewed results published in *Nature* (September/October 2025) have confirmed this as the **most compelling evidence for ancient life** ever found on the Red Planet.

1. The Rock: “Cheyava Falls”

- **Location:** Found in the **Neretva Vallis**, an ancient river valley that once fed into the Jezero Crater.
- **Sample Name:** The specific core sample collected is nicknamed “**Sapphire Canyon**”.
- **Significance:** It is the first time a single rock has shown **all three** key ingredients for life:
 1. **Water** (Chemical evidence of water flow).
 2. **Organics** (Complex carbon compounds).
 3. **Energy** (Chemical reactions that microbes could use for food).

2. The Smoking Gun: “Leopard Spots”

- ❖ The 2025 reports focus heavily on the unique chemical textures found in the rock, which scientists have nicknamed “**Leopard Spots.**”
- **Appearance:** Millimeter-sized off-white splotches surrounded by a black ring, found on the reddish rock.
- **Why it matters:** On Earth, these exact spots form when microbes living in red sandstone use iron for energy. They “eat” the rust (hematite), turning it white and leaving a black rim of waste (iron phosphate).
- **The Verdict:** The 2025 analysis concluded that **no non-biological process** currently known can easily explain these spots in this specific chemical environment.

3. The “Zebra Rock” (Secondary Discovery)

- ❖ While Cheyava Falls stole the headlines, Perseverance also found a mysterious black-and-white striped rock named “**Freya Castle**” (discovered late 2024, analyzed throughout 2025).
- **Texture:** Unlike anything seen on Mars before, suggesting it rolled down from a completely different terrain higher up the crater rim.

The Nobel Prize in Chemistry 2025

- The **Nobel Prize in Chemistry 2025** was awarded to three scientists: **Susumu Kitagawa** (Japan), **Richard Robson** (Australia), and **Omar M. Yaghi** (USA/Jordan).
- They received the award for the development of **Metal-Organic Frameworks (MOFs)**, a revolutionary class of porous materials that act like “molecular sponges.”

- Richard Robson was honored for his pioneering work in the late 1980s, where he created the first stable frameworks by linking metal ions with organic molecules, proving that crystalline structures with large internal cavities could be designed rationally.
- Susumu Kitagawa was recognized for discovering that these frameworks could be flexible and dynamic, allowing gases to flow in and out, which made them practical for storage applications.
- Omar M. Yaghi was awarded for developing “Reticular Chemistry,” a strategy that allows scientists to stitch together molecular building blocks into highly stable and customized structures, effectively creating “rooms” for chemistry to happen.
- The significance of MOFs lies in their incredible surface area; a single gram of MOF powder can have a surface area larger than a football field, allowing it to trap massive amounts of gas or liquid.
- A major real-world application cited by the committee is **water harvesting**, where specific MOFs can pull moisture directly from desert air to produce drinkable water.
- The technology is also critical for **Carbon Capture and Storage (CCS)**, as MOFs can be tuned to selectively filter and trap carbon dioxide from industrial emissions.
- Other key applications include safely storing volatile fuels like **hydrogen** (for clean energy vehicles) and capturing toxic gases to prevent environmental contamination

Non-Communicable Diseases (NCDs)

Why in the News?

- **Shift in Burden:** The **Global Burden of Disease (GBD) Report** highlights that India’s disease burden has significantly shifted from infectious diseases to Non-Communicable Diseases (NCDs).
- **Release:** The report was released by the **Institute for Health Metrics and Evaluation (IHME)** at the World Health Summit in Berlin.

2. Key Findings of the GBD Report

- **Dominance of NCDs:** NCDs are now the largest contributor to the global disease burden, accounting for nearly **two-thirds** of global DALYs (Disability-Adjusted Life Years) in 2023.
- **Rising Numbers:** NCDs accounted for **1.80 billion DALYs in 2023**, a significant rise from 1.45 billion in 2010.
- **Top Killers:** The leading Level 3 NCDs globally are **Ischaemic heart disease, Stroke, and Diabetes**.
- **Fastest Growing Issues:** The sharpest increases since 2010 have been observed in **Anxiety disorders, Depressive disorders, and Diabetes**.
- **Decline in Infectious Diseases:** Communicable diseases have decreased due to improved sanitation, immunization, and healthcare access.

3. Causes of the Rising NCD Burden in India

- **Demographic Transition:** Rapid urbanization, the growth of Tier 1 & 2 cities, and an aging population are driving the shift from communicable to lifestyle diseases.
- **Unhealthy Diet:** A shift from traditional fiber-rich diets to high-calorie, processed foods rich in fat, salt, and sugar (fast food culture).
- **Physical Inactivity:** Sedentary lifestyles driven by mechanized transport and convenience (e.g., quick delivery apps) have increased metabolic risks.

Mahi Banswara Rajasthan Atomic Power Project (MBRAPP)

- **Foundation Stone (Sep 2025):** Prime Minister Narendra Modi officially laid the foundation stone for the project on **September 25, 2025**, marking the commencement of construction for Rajasthan's second nuclear power facility.
- **Massive Capacity (2,800 MW):** The project will feature **four units of 700 MW each**, creating a total installed capacity of **2,800 MW**. It utilizes indigenous **Pressurized Heavy Water Reactor (PHWR)** technology.
- **First-of-its-Kind Joint Venture:** This is the first nuclear project in India to be developed by **"ASHVINI"** (Anushakti Vidhyut Nigam Ltd), a historic Joint Venture between **NPCIL (51%)** and **NTPC (49%)**, breaking the monopoly of NPCIL operating alone.
- **Strategic Location & Cost:** Situated in the **Banswara district** near the Mahi Bajaj Sagar Dam, the project is estimated to cost over **₹ 42,000 crore** and will draw water from the Mahi River for cooling.
- **"Fleet Mode" Implementation:** The reactors are being built under India's **"Fleet Mode"** initiative, where ten 700 MW reactors are constructed simultaneously using a standardized design to reduce costs and construction time (target completion by 2031-32)

ETHICS

The Ethics of Inclusive Growth

- ❖ *"The test of our progress is not whether we add more to the abundance of those who have much; it is whether we provide enough for those who have too little."* — **Franklin D. Roosevelt**
- ❖ The ethics of inclusive growth moves the conversation from **"how much are we growing?"** to **"who are we growing for?"** It is rooted in the moral principle of **Distributive Justice**, arguing that an economy is unethical if it concentrates wealth in the hands of a few while leaving the majority in deprivation.
- ❖ From an ethical standpoint, growth is not an end in itself but a means to achieve human dignity.

Key Ethical Dimensions & Examples

1. **Distributive Justice vs. Wealth Concentration** Ethically, resources are a common trust. Inclusive growth challenges the moral validity of "trickle-down economics," which often justifies temporary inequality.
 - **Example: Corporate Social Responsibility (CSR).** When companies like the **Tata Group** use profits to build cancer hospitals or schools, they are practicing ethical capitalism. They recognize that their wealth is derived from society, and they have a moral obligation to return it, rather than just maximizing shareholder value.
2. **Human Dignity & "Decent Work"** Efficiency often demands cutting costs, but ethics demands respecting human life. Inclusive growth asserts that a job should provide more than just survival—it should provide dignity.
 - **Example: Fair Trade vs. Fast Fashion.** In the "fast fashion" industry, keeping costs low often involves exploiting workers in sweatshops. An ethical, inclusive approach is seen in **Amul (The Gujarat Co-operative Milk Marketing Federation)**. It ensures that the primary producer (the dairy farmer) gets the maximum share of the rupee, ensuring their dignity and economic independence.
3. **Equity of Opportunity (The Lottery of Birth)** It is ethically wrong for a child's future to be determined solely by the zip code or caste they are born into. Inclusive growth seeks to level this playing field.

- **Example: Right to Education (RTE) Act.** By reserving 25% of seats in private schools for disadvantaged children, the state ethically intervenes to break the cycle of elite privilege, ensuring that a poor child has the same shot at success as a rich one.
- 4. Intergenerational Ethics (Sustainability)** Growth that destroys the environment for future generations is theft. Inclusive growth ethics includes “Green Growth”—protecting the rights of those not yet born.
- **Example: Tribal Rights in Mining Zones.** When the state enforces the **Forest Rights Act (FRA)** to prevent a mining company from destroying a sacred hill, it is making an ethical choice to value the culture and long-term survival of a marginalized community over the short-term profits of a corporation.

Conclusion

- ❖ As the philosopher **John Rawls** argued with his “Veil of Ignorance,” a truly ethical society is one where you would be happy to be born, even if you didn’t know whether you would end up rich or poor. Inclusive growth is the practical application of this ethic—ensuring that the system works for the most vulnerable, not just the most powerful.

CASE STUDY 1

- ❖ This case study presents a classic administrative and ethical challenge involving **Conflict of Interest, Political-Criminal Nexus, and Professional Integrity**.
- ❖ Here is a comprehensive analysis and structured response.

(a) Ethical Issues Involved

- 1. Conflict of Interest (Pecuniary Bias):** This is the most significant ethical legal issue. Since I have borrowed ¹ 10 Lakh from Rajveer, I have a financial obligation to him. This creates a “pecuniary bias,” violating the principle of **natural justice** (*Nemo judex in causa sua* - no one should be a judge in their own cause).
- 2. Crisis of Conscience (Friendship vs. Duty):** There is a tension between my personal loyalty to a friend (and creditor) and my professional duty to conduct an impartial state inquiry. My pre-existing bias that “they are innocent” compromises neutrality.
- 3. Politicization of Bureaucracy:** The case highlights the unethical practice of using administrative inquiries as tools for vendetta. This reflects **Gandhian “Politics without Principle”**, where state machinery is weaponized against honest officers to protect criminal elements.
- 4. Erosion of Public Trust:** If an officer investigates their own friend/debtor, it destroys public trust in the police force. The “appearance of justice” is as important as justice itself.
- 5. Professional Harassment:** The frequent transfers and frivolous inquiries represent a violation of the officers’ right to a stable working environment, aimed at breaking their morale.

(b) Options Available

Option 1: Conduct the inquiry myself and give a clean chit.

- *Merit:* Prevents immediate harassment of innocent officers; upholds the truth (as I know they are innocent).
- *Demerit:* Gross violation of service rules and integrity. If the loan is discovered later, the report will be voided, and I will face suspension for hiding a conflict of interest. It validates the “nepotism” narrative.

Option 2: Conduct the inquiry strictly and objectively.

- *Merit:* Attempts to fulfill professional duty.
- *Demerit:* My objectivity is already compromised by the financial debt. Even if the report is honest, the opposition will label it “biased” due to our friendship, rendering the clean chit useless for Rajveer in the long run.

Option 3: Recuse myself (Withdraw) from the case.

- *Merit*: Upholds the highest standards of **probity** and **integrity**. It ensures the final report is credible and cannot be legally challenged on grounds of bias.
- *Demerit*: Might cause temporary delay and mental stress to the couple while a new officer is appointed.

(c) Chosen Option and Justification

- ❖ I will choose **Option 3: Recuse myself from the investigation.**
- ❖ **Reasoning**: In public service, **Integrity** is not just about being honest, but about *adhering to procedures* that ensure fairness.
 1. **Legal Validity**: An inquiry conducted by a debtor for a creditor is legally voidable. To truly help Rajveer clear his name permanently, he needs a clean chit from a **neutral** officer, not a friend. A report from me is a weak shield that will break under court scrutiny.
 2. **Protecting the Institution**: Hiding the ₹ 10 Lakh loan while conducting the probe would amount to “corrupt conduct” on my part. Recusal protects my credibility and the department’s image.
 3. **Ethical Precedent**: It sets a strong example that personal relationships should not interfere with professional duties.

Course of Action:

- I will submit a **written report** to the Police Commissioner disclosing my friendship and the financial loan.
- I will request the appointment of a senior, impartial officer to conduct the inquiry.
- In my private capacity, I will assist Rajveer and Seema by helping them organize evidence (e.g., metadata of the old video, rent receipts) to present to the new Inquiry Officer.

Quote for Context:

- ❖ “*Caesar’s wife must be above suspicion.*” (Public officials must not only be innocent of wrongdoing but must also avoid even the suspicion of it.)

MISCELLANEOUS EVENTS

1. Nobel Prizes 2025 (Complete List)

- ❖ Following the Chemistry announcement, the other categories were announced in early October:
 - **Nobel Prize in Physics**: Awarded to a trio of scientists for breakthroughs in “**Twistronics**” (manipulating 2D materials like graphene at specific angles to create superconductivity).
 - **Nobel Prize in Physiology or Medicine**: Awarded for the discovery of “**Epigenetic Clocks**” that determine biological aging, paving the way for age-reversal therapies.
 - **Nobel Peace Prize**: Awarded to the **International Court of Justice (ICJ)** for its role in upholding international law during a year of global conflicts.
 - **Nobel Prize in Literature**: Awarded to Chinese avant-garde writer **Can Xue** for her experimental and transformative narrative style.
 - **Sveriges Riksbank Prize (Economics)**: Awarded for research on “**Digital Currencies and their impact on Inflation Dynamics**” (highly relevant due to the global CBDC push).

2. Important Reports & Indices

- **Global Hunger Index (GHI) 2025:**
 - **Release:** Released by Concern Worldwide and Welthungerhilfe.
 - **India's Rank:** India ranked **104th** out of 127 countries.
 - **Concern:** While “Child Mortality” improved, India still has the world’s highest “Child Wasting” rate (low weight for height), labeled as “Serious.”
 - **Government Rebuttal:** The Indian government again questioned the methodology, citing the success of the *Poshan 2.0* scheme.
- **Global Innovation Index (GII) 2025:**
 - **Release:** World Intellectual Property Organization (WIPO).
 - **Status:** India broke into the **Top 35** for the first time (Rank 34), driven by a surge in patent filings and unicorn startups in the DeepTech sector.

3. Defense & Security

- **Exercise Malabar 2025:**
 - **Host: India** hosted the naval exercise in the **Bay of Bengal**.
 - **Participants:** Navies of the **Quad** nations (India, USA, Japan, Australia).
 - **Focus:** Anti-submarine warfare and carrier strike group integration.
- **Exercise Vajra Prahar 2025:**
 - Special Forces joint exercise between **India and the US** held at the Special Forces Training School (Bakloh, Himachal Pradesh).

4. International Summits

- **17th BRICS Summit:**
 - **Host: Brazil** (Brasília).
 - **Theme:** “Strengthening the Global South for Sustainable Development.”
 - **Key Outcome:** The group formally adopted a roadmap for a “**BRICS Pay**” system to bypass SWIFT for intra-group trade, reducing reliance on the US Dollar.
- **Financial Action Task Force (FATF) Plenary:**
 - Held in Paris.

CURRENT AFFAIRS

NOVEMBER 2025

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ART AND CULTURE

Bhagwan birsa munda

Context (Why in News?)

- **Occasion:** The nation celebrated **Janjatiya Gaurav Divas** (Tribal Pride Day) on **November 15**.
- **Significance:** It marks the **150th birth anniversary** of Bhagwan Birsa Munda.

2. About Birsa Munda

- **Titles:** Known as **“Bhagwan”** (God) and **“Dharti Aaba”** (Father of Earth).
- **Background:** Born in 1875 in the Chhotanagpur plateau (**Jharkhand**); belonged to the **Munda tribe**.
- **Ideology (Birsait Sect):**
 - Preached **Monotheism** (belief in one God).
 - **Social Reform:** Opposed Christian missionaries, advocated for cleanliness, hard work, and giving up alcohol.
- **Death:** Died of cholera in Ranchi Jail in 1900 at the age of 25.



3. The Munda Rebellion (Ulgulan) - 1899

- **Movement:** Birsa led the **Ulgulan** (Great Tumult) to overthrow the British Raj.
- **Famous Slogan:** *“Abua Raj Setarjana, Maharani Raj Tundujana”* (Let the Queen’s Kingdom end and Our Kingdom be established).

4. Causes of the Revolt

- **Land Rights:** The **Permanent Settlement Act (1793)** destroyed the traditional **“Khuntkatti”** system (community land ownership).
- **Exploitation:**
 - **“Dikus” (Outsiders):** Moneylenders and landlords exploited tribals, leading to debt and land loss.
 - **Beth Begari:** Tribals were forced into unpaid labor.
- **Cultural Loss:** Traditional clan councils were replaced by colonial courts.

5. Objectives of the Revolt

- Expel the British and **Dikus** (outsiders).
- Restore the **Khuntkatti** land system.
- Establish an independent **“Birsa Raj”**

150 years of India’s national song, Vande Mataram

- This initiative aims to honour the song’s historical and cultural significance in the nation’s freedom struggle.
- Vande Mataram was composed in Sanskrit by Bankimchandra Chatterji in the year 1875.
- The song first appeared in his patriotic novel *Anand Math*, which was published in 1882.
- Vande Mataram became a powerful rallying cry for the freedom movement.



The Sirpur Archaeological Site

1. Context (Why in News?)

- The Chhattisgarh government is preparing the Sirpur archaeological site for a **UNESCO World Heritage nomination**.
- New developments include introducing **digital exhibits** and **battery-operated transport** to enhance the site.

2. About the Site

- **What It Is:** A multi-religious city from the **5th–12th century AD**.
- **Significance:** It is known for an extraordinary concentration of **Hindu temples, Buddhist viharas, and Jain monuments**.
- **Region:** It reflects the cultural and political vibrancy of the ancient **Dakshina Kosala** region.

3. Location

- Situated on the banks of the **Mahanadi River**.
- Located in **Mahasamund district**, Chhattisgarh (about 2 hours from Raipur).

4. History

- **Discovery:** First identified in **1882** by **Alexander Cunningham**.
- **Capital City:** Served as the capital of Dakshina Kosala under the **Panduvanshi** and later **Somavamshi kings** (6th–8th century).
- **Excavations:** Major excavations (starting in the 1950s and expanding in the 2000s) have revealed:
 - 22 Shiva temples
 - 5 Vishnu temples
 - 10 Buddhist viharas
 - 3 Jain viharas
- **Commercial Hub:** Evidence shows it was a flourishing **commercial-urban hub** with markets, palaces, and residential quarters.

5. Key Architectural Highlights

- **Lakshmana Temple (7th Century):**
 - One of India's finest **brick temples**, built on a stone platform (*jagati*).
 - Features a sculpted brick *shikhara* and intricate carvings of Vishnu.
- **Surang Tila Complex (7th Century):**
 - A dramatic temple set on a **9-meter high terrace**, accessed by 37 steps.
 - Contains four Shiva shrines (with differently colored lingams) and one Ganesha shrine.
 - Shows signs of ancient **seismic (earthquake) damage**.
- **Teevardev Buddha Vihara (8th Century):**
 - A large monastery featuring a monolithic **Avalokiteshvara statue**.
 - Displays a rare blend of **Buddhist and Hindu iconography**.
- **Gandheshwar Temple (18th Century):**
 - A living temple that reuses sculptures from ancient ruins, placing Buddha images beside Shiva lingams to symbolize cultural continuity.

150 Years of Arya Samaj

- A Big Birthday (150 Years):** Arya Samaj was started in **1875**. Now, in 2025, it is celebrating its 150th anniversary.
- The Founder:** It was started by **Swami Dayanand Saraswati**. His main message was **“Go back to the Vedas”** (follow the original ancient teachings).
- One God, No Idols:** They believe in only **one God** who has no shape. They do **not** worship statues or idols.
- Equality for All:** They fought against the **caste system**. They believed a person is great by their actions, not by their birth.
- Women’s Rights:** Long ago, they supported **education for girls** and encouraged widows to remarry, which was very bold at that time.
- Schools (DAV):** They opened many **DAV schools and colleges** to give Indian children both modern education (English/Science) and Vedic values.
- Freedom Struggle:** They played a big role in India’s freedom fight. Swami Dayanand was the first to use the word **“Swaraj”** (Self-rule).
- Shuddhi Movement:** They started a movement to welcome people back into the Hindu religion who had converted to other faiths.

Raulane Festival

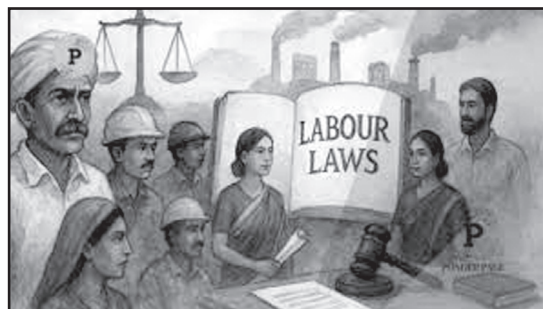
- What & Where:** It is an ancient tribal festival (believed to be 5,000 years old) celebrated in the **Kinnaur district of Himachal Pradesh** (specifically Kalpa village) during late winter or early spring.
- Main Ritual (The Masks):** The highlight is a unique ritual where **two men dress as a symbolic couple**—the *Raula* (groom) and *Raulane* (bride). They wear heavy woollen robes and **masks that completely cover their faces** to hide their human identity.
- Significance:** It is a “Thanksgiving” and **farewell ceremony for the Saunis (mountain fairies)**. Locals believe these spirits come down to protect the village during the harsh winter and return to the high peaks when spring arrives.



ECONOMY

Labour Reforms 2025

- 4 Codes, Not 29 Laws:** The government has combined **29 complex old labour laws** into just **4 simple Codes** (Wages, Social Security, Industrial Relations, and Safety).
- Universal Minimum Wage:** Every worker in India, across all sectors, will now have a legal right to a **minimum wage**.
- Previously, this applied only to specific jobs.
- Social Security for All:** For the first time, **Gig workers** (like Swiggy/Zomato drivers) and **platform workers** will be eligible for social security benefits like insurance and pension.



5. **Fixed Term Employment:** Companies can now hire workers for a **specific period** (like 1 or 2 years) directly. These workers will get the same benefits as permanent employees for that duration.
6. **Easier for Businesses:** Companies with up to **300 employees** (increased from 100) can now retrench (fire) staff or close down without needing prior government permission, giving them more flexibility.
7. **Women can Work at Night:** Women are now legally allowed to work in **night shifts** (7 PM to 6 AM) across all sectors, provided the employer ensures their safety and security.
8. **Single License:** Instead of getting multiple licenses for different laws, companies now need only **one single license** and one annual return filing, reducing paperwork.
9. **Digital Compliance:** A single web portal (**Shram Suvidha**) allows companies to file returns and reports online, reducing corruption and “Inspector Raj.”
10. **Migrant Workers Protection:** The definition of “migrant worker” has been widened. Benefits like “**One Nation, One Ration Card**” allow them to access food rations anywhere in India.
11. **Faster Disputes:** If there is a dispute between a worker and a company, the new rules set a **time limit** (usually 3 years) to resolve it, ensuring quicker justice.

Manufacturing report by NITI Aayog:

1. **Big Goal for 2035:** The roadmap aims to increase the manufacturing sector’s contribution to **over 25% of India’s GDP** by 2035 and create **100 million new jobs**.
2. **Focus on 4 Key Technologies:** To achieve this, Indian factories must adopt four specific “Frontier Technologies”: **Artificial Intelligence (AI), Robotics, Advanced Materials, and Digital Twins** (virtual replicas of physical systems).
3. **13 Priority Sectors:** The report identifies **13 specific industries** (like electronics, automotive, textiles, and pharmaceuticals) that have the highest potential to drive this growth.
4. **Cost of Doing Nothing:** It warns that if India *delays* adopting these modern technologies, the country could lose **\$270 billion** in potential income by 2035.
5. **New National Mission:** A **National Manufacturing Mission (NMM)** will be launched to coordinate all efforts and ensure these goals are met effectively.
6. **Global Frontier Technology Institute:** A new institute (GFTI) will be set up as a **Center of Excellence** to lead research and help industries adopt new tech.
7. **Smart Industrial Parks:** The government plans to set up **20 “Plug & Play” industrial parks** equipped with modern digital infrastructure like 5G and data centers.
8. **Shift to “Servicification”:** The strategy encourages companies to move beyond just “making products” to “providing solutions” (offering services related to their products), which increases value and profit.

India Skills Report 2026

1. **More Job-Ready Youth** The overall employability of Indian youth has increased to **56.35%**. This means more than half of the students graduating are ready to work immediately, a significant improvement from previous years.
2. **Women Surpass Men** For the first time, **women (54%) are more employable than men (51.5%)**. This historic shift is driven by more women gaining digital skills and entering sectors like Banking and Healthcare.
3. **Top States for Jobs** If you are looking for the most “employable” talent, the top three states are:
 - o **Uttar Pradesh**
 - o **Maharashtra**
 - o **Karnataka**

4. **Most In-Demand Degrees** Students with **Computer Science (CS)** degrees are the most employable (80%), followed closely by **IT Engineers** (78%). Commerce graduates also saw a jump in demand due to the growing Fintech sector.
5. **Hiring is Increasing** Companies are planning to hire **40% more people** in the coming year (up from 29% last year). The sectors hiring the most are **Technology, Banking (BFSI), Manufacturing, and Renewable Energy**.
6. **Gig Economy Boom** Freelancing and “Gig” jobs (like project-based work) are growing fast. Hiring for gig roles grew by **38%**, and India is expected to have **23.5 million gig workers by 2030**.
7. **AI is Essential** Artificial Intelligence (AI) skills are no longer optional. The report notes that **90% of employees** use AI tools in their work, and India now holds **16% of the world’s AI talent pool**.
8. **Tier-2 Cities Rising** Jobs are no longer limited to big metros. Smaller cities like **Lucknow, Kochi, and Chandigarh** are emerging as new hubs for talent, offering strong skills and employability.

World Inequality Report 2026:

1. **The Rich Get Richer (Global)** The world remains extremely unequal. The richest **10% of people own 75% of the entire world’s wealth**, while the poorest 50% (half the world’s population) own just **2%**.
2. **India is Highly Unequal** India is highlighted as one of the most unequal countries. The top **1% of Indians now hold 40% of the country’s total wealth**, which is among the highest concentration levels in the world.
3. **Income Gap is Widening** In terms of earnings (income), the top **10% of Indians earn 58%** of the total national income, while the bottom 50% of the population gets only **15%**.
4. **Women are Still Left Behind** Gender inequality remains high. Globally, women earn only **32%** of men’s income when unpaid housework is counted. In India, women’s share of labor income is even lower at just **18%**.
5. **Climate Inequality** The rich are also responsible for most pollution. The **top 1% of wealthy people** cause more carbon emissions than the entire **bottom 50% combined**, largely due to their investments in polluting industries.

State of Food and Agriculture (SOFA) 2025 Report:

1. **Land Degradation Crisis** A huge number of people—**1.7 billion**—are now living in areas where crop yields are falling because the land is being damaged by human activities (like over-farming and deforestation).
2. **Agriculture is the Main Driver** Farming is ironically the biggest cause of this damage. The report notes that agricultural expansion is responsible for nearly **90% of all forest loss (deforestation)** globally.
3. **Unequal Impact on Farmers** Small farmers suffer the most because they cannot afford expensive fertilizers to fix the soil. Meanwhile, giant farms (which own 50% of the world’s farmland) often hide the damage by pumping in chemical inputs to keep yields high artificially.
4. **Huge Restoration Potential** If we restore just **10% of the damaged cropland**, we could grow enough food to feed an additional **154 million people** every year.
5. **Urgent Policy Needed** The report warns that we must stop degrading land to protect food security. It calls for tailored policies that help small farmers adopt sustainable practices rather than just focusing on large-scale industrial farming.

Pradhan Mantri Fasal Bima Yojana (PMFBY)

1. **Voluntary for All Farmers** Previously, farmers who took bank loans (loanee farmers) were *forced* to take this insurance. Now, it is **100% voluntary** for everyone. Any farmer—with or without a loan—can choose whether to join or not.

2. **Wild Animal Attacks Covered (Add-On)** A major new rule allows states to offer extra coverage (add-on) for crop damage caused by **wild animal attacks**. This was a long-pending demand from farmers living near forest areas.
3. **Use of High-Tech (YES-TECH)** The old method of manual inspection is being replaced. The scheme now mandates the use of **Drones, Satellites, and AI** (under the YES-TECH system) to estimate crop loss accurately. This prevents fraud and speeds up the process.
4. **Penalty for Late Payments** If an Insurance Company delays paying the claim to the farmer beyond the deadline, they must pay a **12% interest penalty** to the farmer for the delay.
5. **States Can Be Suspended** If a State Government does not pay its share of the premium subsidy to the insurance company on time, they will be **stopped from participating** in the scheme for the next season. This ensures states don't delay funding.
6. **3-Year Fixed Contract** Insurance companies are now hired for a long term of **3 years** (instead of just 1 year). This stops companies from entering only for "good weather" years and running away during bad years.

The Code on Wages, 2019:

1. **4 Laws Became 1** This Code simplifies the law by merging 4 old Acts (Minimum Wages Act, Payment of Wages Act, Payment of Bonus Act, and Equal Remuneration Act) into one single set of rules.
2. **Minimum Wage for Everyone** Previously, minimum wage laws applied only to specific "scheduled" jobs (like factories or mining). Now, **every employee in India**—whether in a movie theatre, IT company, or farm—is legally entitled to a minimum wage.
3. **The "Floor Wage" Concept** The Central Government will fix a "**Floor Wage**" (a baseline amount). No State Government can set a minimum wage lower than this floor wage, ensuring a standard income level across the country.
4. **Equal Pay for Equal Work** It strictly prohibits discrimination based on gender. Men, women, and transgender employees must be paid the **same salary** if they are doing the same work or work of a similar nature.
5. **Timely Salary Payments** The Code sets strict deadlines. If an employee quits or is fired, the company must pay their full and final settlement within **2 working days**. For regular employees, salaries must be paid by the 7th of the next month.

Minimum Support Prices (MSP) for Rabi crops for the 2026-27

1. **New Season Approval** The Cabinet Committee on Economic Affairs (CCEA) has approved the MSP hike for all mandated Rabi crops for the **Marketing Season 2026-27** to ensure farmers get remunerative prices before the sowing season begins.
2. **Wheat Price Hike** The MSP for **Wheat**, the most critical Rabi crop, has been raised by **Rs. 160 per quintal**, bringing the new price to **Rs. 2,585 per quintal** (up from Rs. 2,425).
3. **Highest Absolute Increase Safflower** received the highest absolute cash increase of **Rs. 600 per quintal** (new price: Rs. 6,540), followed by **Lentil (Masur)** which saw a hike of **Rs. 300 per quintal** (new price: Rs. 7,000).
4. **Other Major Crops**
 - o **Rapeseed & Mustard:** Increased by **Rs. 250** to Rs. 6,200/quintal.
 - o **Gram (Chana):** Increased by **Rs. 225** to Rs. 5,875/quintal.
 - o **Barley:** Increased by **Rs. 170** to Rs. 2,150/quintal.
5. **High Profit Margins** The new rates are designed to give farmers a significant profit over their production costs. Wheat farmers will see the highest margin of **109%** over their cost of production, followed by 93% for Rapeseed & Mustard.

Shaping the Deep-Tech Revolution in Agriculture

1. **Seven “Deep” Technologies** The revolution is driven by **7 advanced technologies**: Generative AI, Computer Vision, Robotics, Edge IoT (Internet of Things), Satellite Remote Sensing, CRISPR (Gene Editing), and Nanotechnology.
2. **Beyond Basic Apps** Unlike simple mobile apps, “Deep Tech” solves complex scientific problems. For example, using **CRISPR (Gene Editing)** to create new rice varieties that can survive extreme heat or floods, rather than just tracking weather.
3. **Smart & Autonomous Farming** Farms will use **Robotics and Computer Vision** to automatically detect pests and harvest crops without human labor. AI will analyze this data to tell farmers exactly when to water or fertilize, boosting yields by up to **40%**.
4. **Climate Resilience** The report highlights that Deep Tech is the key to fighting climate change. It allows for the creation of **low-carbon crops** and helps measure exactly how much carbon a farm is saving, enabling farmers to earn money from “Carbon Credits.”
5. **India’s Success Stories** The report praises India’s use of technology, specifically citing **ICAR’s climate-resilient rice** and the use of **Satellite/Drone data** in the Pradhan Mantri Fasal Bima Yojana (PMFBY) to settle insurance claims faster and more accurately.

National Pulses Mission (2025–31)

1. **Objective (Self-Sufficiency)**: The primary goal is to make India “**Aatmanirbhar**” (self-reliant) in pulses production by **2027**, aiming to stop all imports of pulses like Tur, Urad, and Masur.
2. **Production Targets**: The mission targets increasing India’s pulse production to **350 Lakh Tonnes by 2030-31** (up from the current ~242 lakh tonnes) and expanding the cultivation area by **35 lakh hectares**.
3. **100% Procurement Guarantee**: For the first time, the government has promised **100% procurement** of **Tur, Urad, and Masur** at Minimum Support Price (MSP). Farmers who register on the **e-Samridhi** portal are guaranteed that NAFED and NCCF will buy their entire produce.
4. **Free Seed Distribution**: To boost productivity, the government will distribute **88 lakh seed kits free of cost** and supplying 126 lakh quintals of high-quality certified seeds. The quality of these seeds will be tracked via the **SATHI Portal**.
5. **Focus on “Rice Fallows”**: The mission specifically targets the **rice-fallow areas** (land left empty after rice harvest) in eastern and southern states to grow pulses, utilizing the residual soil moisture.
6. **Infrastructure Support**: It aims to set up **1,000 new processing units** to reduce post-harvest losses. The government offers a subsidy of up to **Rs. 25 lakh** for setting up these grading and polishing units

INTERNATIONAL RELATIONS

G20 Summit 2025

1. Historic Location (First in Africa)

- The summit was held in **Johannesburg, South Africa** in November 2025.
- It was historic because it was the **first-ever G20 Summit** to take place on the African continent.

2. The Main Theme

- The theme of the summit was “**Solidarity, Equality, Sustainability**”.
- The discussions were guided by the African philosophy of “**Ubuntu**” (meaning “I am because we are”), emphasizing that nations must help each other to survive.

3. Focus on “Mission 300” (Energy)

- A major outcome was the launch of “**Mission 300**”.
- This is a massive plan by the World Bank and African Development Bank to provide electricity to **300 million people** in Africa by 2030.

4. Critical Minerals Rule

- Leaders agreed on a new **Critical Minerals Framework**.
- This rule states that valuable minerals (like lithium and cobalt used in batteries) should be **processed inside the country** where they are mined (like Congo or Zambia), instead of just being exported raw to rich countries.

5. Helping Poor Nations (Debt)

- There was a strong focus on **Debt Relief** for low-income countries.
- The summit called for reforming big banks (like the World Bank) so they can lend money to developing nations faster and cheaper.

Ethiopia adopting India’s DAY-NRLM

(Deendayal Antyodaya Yojana - National Rural Livelihoods Mission)

1. **Learning from India** A high-level delegation from **Ethiopia** visited India in **November 2025** to study how India’s rural poverty scheme (DAY-NRLM) works. They have decided to adopt its key strategies for their own country.
2. **Fighting Poverty (PSNP)** Ethiopia wants to use India’s model to fix and improve its own massive social safety scheme called the **Productive Safety Net Program (PSNP)**, which supports millions of poor people in Africa.
3. **Focus on Women (SHGs)** The Ethiopian officials were most impressed by India’s **Self-Help Groups (SHGs)**. They plan to replicate how Indian rural women are organized into groups to save money, take loans, and start small businesses.
4. **Role of “Sakhis”** They specifically want to copy the concept of “**Bank Sakhis**” and “**Krishi Sakhis**”—local women trained to help villagers with banking and farming services—to reach remote areas in Ethiopia.
5. **South-South Cooperation** This partnership is a major example of **South-South Cooperation** (developing nations helping each other). The **World Bank** and India’s Ministry of Rural Development are officially supporting Ethiopia in this transition.
6. **Why India?** Ethiopia chose India’s model because DAY-NRLM successfully mobilized over **10 crore women** and achieved a **98% loan repayment rate**, proving that the poor can be reliable borrowers and entrepreneurs.

India-US Defense Ties

1. New 10-Year Defense Framework (2025–2035)

- **What is it?** Both countries have signed a new roadmap to guide their defense cooperation for the next decade.
- **Goal:** The focus has shifted from just “buying” weapons to “**co-producing**” (making them together) and developing new technologies.

2. The Predator Drone Deal (Finalized)

- **The Deal:** India has finalized the **\$4 billion** deal to buy **31 MQ-9B Predator Drones** (15 for Navy, 8 each for Army and Air Force).
- **MRO Hub:** A key part of the deal is that a **Maintenance, Repair, and Overhaul (MRO)** facility will be set up in India. This means these advanced drones will be repaired locally, not sent back to the US.
- **Delivery:** Deliveries are expected to start by **2029**.

3. GE Jet Engines (Technology Transfer)

- **Status:** Negotiations are complete for the **GE F414 engine** deal, which will power India's Tejas Mk-2 fighter jets.
- **Big Win:** The US has agreed to transfer **80% of the technology** to India. This is rare and will allow HAL (Hindustan Aeronautics Limited) to manufacture these engines completely in India.
- **Timeline:** The final contract is expected to be signed by **March 2026**.

4. Stryker Armored Vehicles

- **Co-Production:** The US has approved India to become the **first foreign country** to co-produce the **Stryker Infantry Combat Vehicle**.
- **Plan:** India plans to manufacture over **500** of these vehicles to deploy them in high-altitude areas (like Ladakh) and deserts.
- **Customization:** These vehicles will be customized with Indian sensors and weapons to suit local needs.

5. Javelin Anti-Tank Missiles

- **New Approval:** The US recently approved the sale of **100 Javelin Missiles** to India.
- **Future Plan:** India is not just buying them off-the-shelf but is negotiating to **manufacture them locally** through a partnership with Indian companies.

India welcoming the US's Gaza Peace Plan

1. PM Modi's Support

- **Official Welcome:** Prime Minister Narendra Modi publicly welcomed the **"Comprehensive Peace Plan"** announced by the US President in **September 2025**.
- **Statement:** He called it a "viable pathway" to long-term peace and urged all parties (Israel and Hamas) to accept it to stop the suffering.

2. The "20-Point" Plan

- **What is it?** The US proposal is often referred to as the **"20-Point Peace Plan."**
- **Three Phases:** It works in 3 stages:
 1. **Immediate Ceasefire:** A 6-week pause in fighting and the release of hostages (women, children, and elderly).
 2. **Permanent End:** Negotiations to permanently stop the war and the full withdrawal of Israeli military forces from Gaza.
 3. **Reconstruction:** A major international effort to rebuild homes and schools in Gaza over the next 3–5 years.

3. India at Sharm El-Sheikh Summit

- **The Event:** A special “**Gaza Peace Summit**” was held in **Sharm El-Sheikh (Egypt)** in **October 2025** to finalize support for this plan.
- **India’s Presence:** India actively participated in this summit (represented by the Minister of State for External Affairs), showing its commitment to being part of the solution.

4. Focus on “Two-State Solution”

- **Consistent Stand:** While supporting the US plan, India reiterated that the final goal must be a “**Two-State Solution**”—where Palestine and Israel live side-by-side as independent countries with secure borders.

5. UN Security Council Backing

- **Vote:** In **December 2025**, the UN Security Council passed a resolution endorsing this US plan.

India’s Role: India’s envoy praised this move, stating that the “diplomatic momentum” created by the US, Egypt, and Qatar is the best chance to save civilian lives.

INDIA–MONGOLIA DIPLOMATIC RELATIONS

India-Mongolia Diplomatic Relations (2025) explained in simple points:

1. 70th Anniversary Visit (Oct 2025)

- **State Visit:** The President of Mongolia, **Khurelsukh Ukhnaa**, visited India in **October 2025**.
- **Celebration:** This visit celebrated the **70th anniversary** of diplomatic relations between the two countries.
- **Outcome:** Both leaders signed **10 new agreements (MoUs)** in areas like digital technology, disaster management, and culture.

2. The Billion-Dollar Oil Refinery

- **Status Update:** The massive **Mongol Oil Refinery**, which is being built with Indian money (**\$1.7 billion loan**), is now expected to start operations by **2028**.
- **Importance:** Once finished, this refinery will end Mongolia’s dependence on Russia for petrol and diesel. It is India’s largest project in the region.

3. Defense: “Nomadic Elephant 2025”

- **Joint Exercise:** The Indian and Mongolian armies conducted their annual military exercise, “**Nomadic Elephant**”, in **Ulaanbaatar (Mongolia)** in **June 2025**.
- **New Post:** To strengthen security ties, India has appointed a permanent **Defence Attaché** (a special military diplomat) in Mongolia for the first time.

4. Hunt for Critical Minerals

- **New Deal:** Both countries have agreed to work together to explore **Critical Minerals** like Copper, Lithium, and Uranium in Mongolia.
- **Why?** Mongolia has huge mineral reserves, and India needs these materials for its batteries and tech industries.

5. Cultural & Visa Gifts

- **Free Visas:** India announced that it will provide **Free e-Visas** to all Mongolian citizens to encourage travel.
- **Nalanda Link:** A new project was launched to link India’s **Nalanda University** with Mongolia’s famous **Gandan Monastery**, strengthening their shared Buddhist heritage.

First BIMSTEC-India Marine Research Network (BIMREN)

1. Event Details

- **Venue & Date:** The first-ever conference of this network was hosted by India in **Kochi, Kerala** from **November 4–6, 2025**.
- **Organizer:** It was organized under the initiative of the **Ministry of External Affairs (MEA)**, India.

2. What is BIMREN?

- **The Network:** BIMREN is a special network launched by India (in 2024) to connect scientists and researchers from all **7 BIMSTEC countries** (Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka, Thailand).
- **Goal:** The main aim is to work together to study the **Bay of Bengal**—specifically its fish, oceans, and marine life.

3. Key Outcomes & Features

- **Connecting Institutions:** The network has successfully linked **25 major research institutions** and over 50 scientists across the region to share data and knowledge.
- **PhD Fellowships:** A unique “**Split-Site PhD Fellowship**” was highlighted, where students from other BIMSTEC nations can come to India to do part of their research in Indian laboratories.
- **Research Grants:** The network offers “**Twinning Research Grants**” to fund joint scientific projects between India and its neighbors.

India-Bhutan Relations

1. First-Ever Railway Link

- **Historic Deal:** On **September 29, 2025**, India and Bhutan signed a historic agreement to build the first railway line connecting the two nations.
- **The Route:** The main train line will run for **69 km** from **Kokrajhar (Assam, India)** to **Gelephu (Bhutan)**.
- **Special Status:** India has declared this a “**Special Railway Project**”, meaning it will be built on a fast-track basis with a budget of over **Rs. 3,500 crore**.



2. “Gelephu Mindfulness City” (GMC)

- **Bhutan’s Big Dream:** Bhutan’s King has launched a massive new project called the **Gelephu Mindfulness City**. It is a “Special Administrative Region” (like a smart city with its own laws) located right on the border with Assam.
- **India’s Role:** India has fully supported this project. It will provide the necessary roads, railways, and electricity to make this economic hub successful.
- **Why it matters:** This city will connect Bhutan to South East Asia (Myanmar, Thailand) through India’s North East.

3. New Hydropower Project Started

- **Punatsangchhu-II Live:** In **August 2025**, the massive **1,020 MW Punatsangchhu-II** hydroelectric plant was officially inaugurated.
- **Benefit:** This plant will generate huge amounts of electricity. Bhutan will use what it needs and sell the extra power to India, earning revenue.

- **Credit Line:** India also gave a new **Rs. 4,000 crore loan** (credit line) to help Bhutan build more such energy projects.

4. Huge Financial Support (13th Plan)

- **Rs. 10,000 Crore Gift:** India has committed to give **Rs. 10,000 crore** to Bhutan for its **13th Five-Year Plan (2024–2029)**.
- **Usage:** This money will be used to build schools, hospitals, roads, and bridges across Bhutan.

5. Better Border Trade

- **New Check Post:** A new **Immigration Check Post** was opened at **Darranga (Assam)** in November 2024. This makes it easier for tourists and traders to cross the border.
- **Waterway Link:** In **January 2025**, a new river port terminal was inaugurated at **Jogigopha (Assam)**, allowing Bhutan to send goods by river through India.

Operation Sagar Bandhu

1. What is Operation Sagar Bandhu?

- **Mission:** It is a massive **Humanitarian Assistance and Disaster Relief (HADR)** operation launched by India to help **Sri Lanka**.
- **Trigger Event:** The operation was launched in response to the devastation caused by **Cyclone Ditwah** (November–December 2025), which caused severe flooding and landslides in the island nation.
- **Meaning:** The name “Sagar Bandhu” translates to “*Friend of the Ocean*,” symbolizing India’s role as a reliable maritime neighbor.

2. Key Assets Deployed

- **Naval Power:** For the first time in a relief mission of this scale, India deployed its aircraft carrier **INS Vikrant**, along with other warships like **INS Udaygiri**, **INS Sukanya**, and **INS Gharial**.
- **Air Support:** The Indian Air Force (IAF) used **C-17 Globemaster** and **C-130J** aircraft to airlift tonnes of relief material.
- **Rescue Teams:** Specialized **NDRF (National Disaster Response Force)** teams and Indian Army engineers were flown in to conduct search and rescue operations.

3. Medical & Infrastructure Aid

- **BHISHM Cubes:** India deployed its advanced “hospital in a box” technology (Project BHISHM) to provide immediate emergency medical care.
- **Field Hospitals:** The Indian Army set up a fully functional field hospital in **Mahiyanganaya** to treat thousands of flood victims.
- **Bailey Bridges:** To restore connectivity in areas where roads were washed away, Indian engineers transported and installed portable **Bailey Bridges**.

4. Financial Support (\$450 Million)

- **Reconstruction Package:** Apart from immediate physical aid, India announced a **\$450 million** package to help Sri Lanka rebuild its damaged infrastructure (roads, power grids, and schools).
- **“First Responder”:** The operation reinforced India’s status as the “First Responder” in the Indian Ocean Region (IOR) under its **“Neighbourhood First”** policy.

INDIAN SOCIETY

Juvenile Justice (JJ) System in India

1. The Core Law (JJ Act, 2015)

- ❖ The system is governed by the **Juvenile Justice Act, 2015**. It treats children in two separate categories:
 - **CCL (Child in Conflict with Law):** A child who has committed a crime.
 - **CNCP (Child in Need of Care & Protection):** A child who is a victim, abandoned, or an orphan.

2. Treating 16-18 Year Olds as “Adults”

- ❖ This is the most critical rule. If a child between **16 and 18 years** commits a “**Heinous Crime**” (like murder or rape), they can be tried as an **adult** in a regular court, not a juvenile court.
 - **Preliminary Assessment:** Before this happens, the **Juvenile Justice Board (JJB)** conducts a mental check to see if the child understood the consequences of the crime.

3. Recent News: “Preliminary Assessment” Guidelines (2025)

- ❖ Recently, the Supreme Court and High Courts have become stricter about this “mental check.”
 - **No Guesswork:** Courts ruled that the assessment cannot be done casually. It requires a proper **IQ and Emotional Intelligence (EQ)** test by psychologists.
 - **Reason:** Many children were being wrongly sent to adult jails without proper scientific evaluation.

4. Age Proof Rule (Bone Test is Last Option)

- ❖ A major issue in 2025 has been criminals lying about their age to escape harsh punishment.
 - **The Rule:** Courts have clarified that **School Certificates** (Matriculation) are the first proof.
 - **Bone Test:** The “Bone Ossification Test” (medical test to check age) should be used **only** if no documents exist, as it is not 100% accurate.

5. Adoption Power to District Magistrate (DM)

- ❖ Under the 2021 Amendment (fully active now), you no longer need to go to a **Court** to finalize an adoption.
 - **Faster Process:** The power to issue adoption orders has been given to the **District Magistrate (DM)**. This was done to clear the huge backlog of adoption cases and help orphans find parents faster.

AI & Computational Thinking Curriculum

1. **Starting Early (Class 3)** From the academic session **2026–27**, the government will introduce a dedicated curriculum on **Artificial Intelligence (AI)** and **Computational Thinking (CT)** in all schools, starting from **Class 3** itself.
2. **“Universal Skill” like Math** The Ministry of Education wants to treat AI literacy just like reading, writing, or mathematics—as a **“Universal Foundational Skill”** that every child must know to survive in the future digital world.
3. **Theme: “The World Around Us”** For young children, AI will not be taught as complex coding. Instead, it will be linked to the theme **“The World Around Us,”** helping them understand how technology affects their daily lives and environment.
4. **Expert Committee (IIT Madras)** A special committee has been formed to design this syllabus, led by **Prof. Karthik Raman** from **IIT Madras**, along with experts from **CBSE** and **NCERT**.

5. **Focus on “AI for Public Good”** The curriculum will not just teach technology but will focus on **Ethics** and “**AI for Public Good,**” teaching children how to use AI responsibly to solve social problems rather than just for entertainment.
6. **Teacher Training (NISHTHA)** Before the rollout, the government plans to train over **1 crore teachers** using special modules under the **NISHTHA** program so they are ready to teach these modern concepts to students.

Second World Summit for Social Development

1. Event Details

- **Date & Venue:** The summit took place from **November 4–6, 2025**, in **Doha, Qatar**.
- **Significance:** It was held exactly **30 years** after the first historic summit in Copenhagen (1995) to review the world’s progress on social issues.

2. Main Objective (The “Three Pillars”)

- The summit focused on strengthening the three core pillars of social development:
 1. **Eradicating Poverty:** Ending extreme poverty everywhere.
 2. **Decent Work:** Ensuring full employment and safe jobs for all.
 3. **Social Inclusion:** Making sure no one (women, youth, disabled) is left behind.

3. The “Doha Political Declaration”

- **The Outcome:** World leaders adopted the “**Doha Political Declaration.**”
- **Commitment:** This is a new promise by all countries to move from “words to action” and speed up their efforts to achieve the **Sustainable Development Goals (SDGs)** by 2030.

4. India’s Role & Participation

- **Leader:** The Indian delegation was led by **Dr. Mansukh Mandaviya**, Union Minister for Labour & Employment.
- **Success Story:** India showcased its massive success in lifting **248 million people** out of poverty in the last decade.
- **Digital Power:** India highlighted how its digital tools (like **Aadhaar** and **Jan Dhan**) helped deliver social security benefits directly to millions of poor citizens.

POLITY AND GOVERNANCE

National Judicial Policy

- ❖ The main goal is to ensure that all High Courts across India follow the same standards and principles, preventing conflicting judgments on the same laws.
1. **“Judicial Symphony”:** The CJI used this term to explain that while there are many High Courts (voices), they must all follow one common constitutional rhythm and not sound “discordant” (confusing).
 2. **Predictability for Citizens:** Currently, legal outcomes can be unpredictable. This policy aims to make judicial decisions consistent so that citizens and businesses know exactly where they stand legally.
 3. **Standardized Technology:** It proposes that all courts, from district level to the Supreme Court, use the same digital tools (like e-filing and video hearings) to make justice accessible everywhere.
 4. **Better Infrastructure:** The policy seeks to fix the gap in court facilities (like buildings, internet, and staff) so that a court in a small village is as capable as one in a metro city.

5. **Case Management Rules:** To reduce the huge backlog (over 5 crore cases), the policy suggests strict, uniform rules for listing cases and limiting unnecessary adjournments (delays).
6. **Access for the Poor:** It emphasizes reducing the **cost** of litigation and removing **language barriers** (using local languages) so that marginalized people can easily approach the courts.
7. **Tackling Vacancies:** The policy highlights the need to fill vacant judge posts quickly and transparently to ensure there are enough judges to hear cases.
8. **Judicial Independence:** The CJI clarified that this policy should be framed **by the judiciary itself**, ensuring that the government (Executive) does not interfere in the courts' functioning.
9. **Federal Balance:** While aiming for national unity, the policy will still respect the autonomy of State High Courts to adapt to local needs and conditions.

Land Registration System in India

1. New “Registration Bill, 2025” (Proposed)

- ❖ The government is working on a new law to replace the old **Registration Act of 1908**.
- **Online Registration:** The main aim is to allow people to register property documents “**Anywhere, Anytime**” without visiting the Sub-Registrar’s office physically.
- **Video Recording:** In the future, the registration process might be recorded on video to prevent fraud and impersonation.
- **Immediate Updates:** Once registered, the ownership change will instantly update in revenue records (Mutations), removing the need for separate applications.

2. Bhu-Aadhaar (ULPIN)

- **What is it?** Just like every person has an Aadhaar card, every plot of land in India is getting a **14-digit Unique Land Parcel Identification Number (ULPIN)**.
- **Benefit:** This “Bhu-Aadhaar” prevents fraud. If you buy a land with this ID, you can instantly see its exact size, location, and history on a map.
- **Status:** It has been rolled out in many states like Andhra Pradesh, Telangana, Maharashtra, and Bihar.

3. “One Nation, One Registration” (NGDRS)

- The government is implementing a single software across India called **NGDRS** (National Generic Document Registration System).
- **Benefit:** Instead of every state having different confusing websites, there will be one standard, simple system for booking appointments, paying stamp duty, and deed registration across the country.

India AI Governance Guidelines (2025)

1. **Safety First:** The main rule of these guidelines is “**Do No Harm**,” ensuring that AI does not hurt people or society.
2. **No New Law Yet:** The government has decided not to make a strict new law immediately but will use **existing laws** to manage AI.
3. **Innovation is Priority:** The policy follows an “**Innovation over Restraint**” approach, meaning it wants to encourage new technology rather than stopping it with heavy rules.

4. **Seven “Sutras” (Principles):** The framework is built on seven core values: **Trust, Safety, Accountability, Fairness, Equality, Innovation, and Transparency.**
5. **New Safety Institute:** A new body called the **India AI Safety Institute (AISI)** will be set up to test and check if AI tools are safe before they are used.
6. **Governance Group:** A special **AI Governance Group** will be formed to oversee how these rules are followed across the country.
7. **Risk Labels:** AI tools will be classified based on **risk**; high-risk AI (like in healthcare or policing) will have stricter rules than low-risk AI (like entertainment).
8. **Focus on Citizens:** The guidelines aim to make AI **inclusive**, ensuring it benefits everyone, including people in rural areas, and does not discriminate.
9. **Protecting Democracy:** There is a special focus on preventing the misuse of AI for **Deepfakes** and misinformation that could harm elections or national security.

Model Code of Conduct (MCC)

1. **Starts Immediately:** The rules come into force the moment the Election Commission announces the election dates and stay until the results are declared.
2. **No New Schemes:** The government (Ruling Party) cannot announce any new financial grants, promise new roads, or start new projects to influence voters.
3. **No Religious Votes:** Politicians cannot ask for votes in the name of **caste or religion**. Temples, mosques, or churches cannot be used for election campaigning.
4. **Official Machinery Banned:** Ministers cannot use government vehicles, aircraft, or official staff for their election campaigning.
5. **Fair Criticism:** Parties can criticize the *policies* and *past work* of opponents but cannot make personal attacks on their private lives.
6. **No Bribes or Threats:** It is strictly illegal to bribe voters with money/liquor or intimidate them.
7. **Peaceful Meetings:** Parties must inform the police in advance about their rallies and processions to ensure there are no clashes or traffic jams.
8. **Polling Day:** On voting day, no campaigning is allowed within **100 meters** of the polling station.
9. **Complaint System:** If anyone breaks these rules, citizens or other parties can complain to the Election Commission (via the cVIGIL app) for immediate action.

Legal Aid in India (2025)

1. New “JAGRITI” Scheme (2025)

- **What is it?** NALSA launched the **JAGRITI Scheme** to spread legal awareness at the grassroots level.
- **Goal:** To use local bodies like **Panchayats** to tell people about their legal rights so that justice reaches every village.

2. Child-Friendly Legal Services (2024)

- **New Policy:** A new scheme was introduced to help children involved in legal cases (either as victims or offenders).
- **Key Feature:** It ensures that children get **specialized lawyers** who are trained to be sensitive and friendly, making the court process less scary for them.

3. “Public Defender” System (LADCS)

- **Shift in System:** India is moving towards a **Legal Aid Defense Counsel System (LADCS)**.
- **How it works:** Instead of assigning random lawyers, the government now hires **full-time dedicated lawyers** (Defense Counsels) just to fight cases for the poor in criminal matters.
- **Status:** By late 2025, this system became functional in over **600 districts**.

4. Huge Success of Lok Adalats

- **Speedy Justice:** “Lok Adalats” (People’s Courts) have become the fastest way to solve cases.
- **Recent Data:** In the last 3 years, over **23 crore cases** (mostly petty disputes and traffic challans) were settled instantly in these courts, reducing the burden on regular judges.

5. Tele-Law: Lawyers on Phone

- **DISHA Scheme:** The government’s **Tele-Law** service allows villagers to talk to a lawyer via video/voice call from a Common Service Centre (CSC) for free advice.
- **Reach:** By 2025, over **2 crore people** have used this service to get legal advice without traveling to cities.

The Indian Constitution (at 76 years)

1. **Instant Universal Voting:** India gave voting rights to every adult immediately in 1950, whereas Western democracies like the US took centuries to include women and racial minorities.
2. **Pioneer of Affirmative Action:** It introduced reservations (social justice) for the marginalized right from the start, decades before the US Civil Rights movement began.
3. **Protects Against Society:** Western constitutions mainly protect people from the *Government*, but the Indian Constitution also protects people from *society* (e.g., banning untouchability and caste discrimination).
4. **Group Rights:** It uniquely balances individual liberty with “Group Rights,” ensuring that religious and linguistic minorities can run their own educational institutions.
5. **Transformative Goal:** Unlike Western documents that preserve the status quo, the Indian Constitution was written as a tool for a “Social Revolution” to reform backward practices.
6. **Unique Secularism:** Instead of a strict “separation of church and state” (like in France/US), India follows “principled distance,” where the State respects all religions but intervenes to stop bad practices.
7. **Environmental Vision:** Through judicial interpretation, it was one of the first to recognize the “Right to a Healthy Environment” as a part of the Right to Life.
8. **Basic Structure Doctrine:** The Indian judiciary invented a unique rule that prevents Parliament from destroying the Constitution’s core values, a safeguard many Western nations lack.
9. **Flexibility & Stability:** It is neither too rigid (like the US) nor too flexible (like the UK), allowing it to survive 100+ amendments while keeping democracy intact.
10. **Surviving Diversity:** While many nations fracture over language or ethnicity, the Indian Constitution has successfully held together a continent-sized diversity for over seven decades.

Jal Jeevan Mission

- The Ministry of Jal Shakti has launched a major digital initiative to create a complete “**Digital Registry**” of India’s rural water infrastructure.
- Under this new system, every rural water supply scheme is being assigned a unique **12-digit code** called the **Rural Piped Water Supply Schemes (RPWSS) ID**, acting like an “Aadhaar card” for water assets.

- The government is mapping all water assets, including over **25 lakh kilometers of pipelines**, water tanks, and pumps, on the **PM Gati Shakti GIS** (Geographic Information System) platform.
- This digital mapping connects water data with other sectors like roads and railways to prevent damage to pipelines during construction work.
- To ensure the system works well, **IoT (Internet of Things) sensors** are being installed to monitor water pressure, quality, and flow in real-time without manual checking.
- A new digital tool called “**Jal Seva Aankalan**” has been introduced, which allows Village Panchayats to evaluate their own water supply performance and report issues directly through an app.
- This entire “Digital Public Infrastructure” aims to make the water supply system transparent, allowing officials to detect leakages and dry taps instantly from a central dashboard.

PM-KUSUM Scheme (For Farmers)

- **Target Audience:** This scheme is specifically designed for **farmers** to help them generate their own electricity.
- **Replacing Diesel:** The main goal is to replace old, polluting diesel water pumps with clean **Solar Water Pumps**.
- **Solar on Barren Land:** Farmers can install solar panels on their **barren or unused land** to generate electricity.
- **Earn Extra Income:** If farmers generate more electricity than they need for farming, they can **sell the extra power** to the government (DISCOMs) and earn money.
- **Motto:** The scheme aims to turn the farmer from an “*Annadata*” (Food provider) to an “*Urjadata*” (Energy provider).

Pradhan Mantri Surya Ghar: Muft Bijli Yojana (For Households)

- **Target Audience:** This scheme is for **regular households** and middle-class families.
- **Goal:** The government aims to install rooftop solar panels on **1 crore houses** across India.
- **Free Electricity:** The scheme promises up to **300 units of free electricity** every month for households that install these panels.
- **Heavy Subsidy:** The government provides a direct **subsidy** (money support) into the bank account of the beneficiary to cover a large part of the installation cost.
- **Net Metering:** If a household generates more power than they use, the extra electricity goes back to the grid, and the family gets paid for it.
- **No Bills:** The ultimate aim is to make the electricity bill **zero** for millions of Indian families.

India AI Governance Guidelines

- ❖ The government has introduced these guidelines to ensure that Artificial Intelligence (AI) in India is safe, trusted, and used for the good of the people.
- Instead of creating a strict new law immediately, the government has decided to regulate AI using existing laws to avoid slowing down innovation.
- The core philosophy of the guidelines is “**Innovation over Restraint,**” which means the rules are designed to encourage technology growth rather than stopping it.
- The framework is built on seven key principles, known as “**Seven Sutras,**” which include values like safety, trust, fairness, and accountability.

- A new specialized body called the **India AI Safety Institute (AISI)** will be established to test AI tools and ensure they are safe before they are released to the public.
- The guidelines follow a “**Risk-Based Approach**,” meaning that dangerous or “high-risk” AI (like those used in healthcare or policing) will face stricter rules than simple AI apps.
- There is a strong focus on preventing the misuse of AI for creating **Deepfakes** and spreading misinformation, especially during elections.
- The government aims to make AI **inclusive**, ensuring that people speaking different regional languages and living in rural areas can also benefit from this technology.
- An **AI Governance Group** will be formed to monitor how companies are following these rules and to handle any safety issues that arise.

DISASTER MANAGEMENT

Cyclone Fengal & “Ditwah” Impact

- **The Event:** A severe cyclonic storm named **Fengal** (and related system **Cyclone Ditwah** in Sri Lanka) struck the coasts of **Tamil Nadu, Puducherry**, and Sri Lanka in late November 2025.
- **Damage:** It caused heavy flooding, destroying thousands of homes and leaving over **1 million people** in need of aid in Sri Lanka alone.
- **Government Response:**
 - The Indian government quickly released nearly **Rs. 45 crore** to Tamil Nadu for immediate relief.
 - **NDRF teams** were deployed for rescue, and military aircraft (Air Force) helped drop food packets to stranded villages.
- **Public Health:** Special medical camps were set up to prevent disease outbreaks (like cholera) which often follow floods.

Delhi’s Air Pollution Crisis (GRAP-IV)

- **Severe Smog:** In November 2025, Delhi’s air quality hit the “**Severe+**” category (AQI > 450), triggering a health emergency.
- **Strict Rules (GRAP-IV):** The government enforced the strictest level of the **Graded Response Action Plan (GRAP)**.
 - **Truck Ban:** Heavy trucks (except those carrying food/medicines) were stopped from entering Delhi.
 - **School Closed:** Schools shifted to **online classes** to protect children’s lungs.
 - “**No PUC, No Fuel**”: A new strict rule was applied where petrol pumps refused fuel to vehicles without a valid “Pollution Under Control” certificate.

Wayanad Landslide Rehabilitation

- **New Township Plan:** Following the devastating landslides in Wayanad (Kerala) earlier in the year, the state government unveiled a massive **₹ 750 crore** rehabilitation project in November.
- **Safe Homes:** A new, safe “**Township**” is being built on 58 hectares of secure land (Elstone & Nedumbala estates) to permanently relocate victims.

- **Facilities:** Unlike temporary shelters, this township will have schools, hospitals, and parks to ensure survivors can rebuild their lives with dignity.
- **Land Rights:** Victims were promised that they would still own their old land for farming, even after moving to the new safe houses.

Global Climate Resilience (COP30 in Brazil)

- **The “Tropical COP”:** The UN Climate Summit (COP30) was held in **Belém, Brazil** in November 2025.
- **Focus on Adaptation:** World leaders admitted that despite efforts, some climate disasters are now “inevitable.”
- **New Goal:** The summit shifted focus to “**Adaptation Finance**”—meaning rich countries must give more money to poor countries specifically to build **disaster-proof infrastructure** (like sea walls and cyclone shelters) rather than just trying to reduce smoke/emissions.

GEOGRAPHY AND ENVIRONMENT

UNFCCC COP30: “The Tropical COP” (Belém, Brazil 2025)

- ❖ The **30th Conference of the Parties (COP30)** to the United Nations Framework Convention on Climate Change (UNFCCC) was held in **Belém, Brazil**, in **November 2025**. Located at the gateway to the Amazon rainforest, it was widely dubbed the “**Tropical COP**” and focused heavily on nature, forests, and the implementation of past promises.

1. The “Global Mutirão” (Collective Effort)

- ❖ The final political agreement was named the “**Global Mutirão**,” using a Portuguese term that means “collective community effort.” It emphasized that climate action is a shared responsibility.
- **Mission 1.5:** A new initiative called the “**Belém Mission to 1.5**” was launched. It urges all countries to submit stronger national climate plans (NDCs) by 2026 to keep global warming below 1.5°C.
- **Implementation Focus:** The summit was branded as a “COP of Implementation,” shifting focus from making new treaties to actually fixing the problems on the ground.

2. Tropical Forests Forever Facility (TFFF)

- ❖ This was the flagship announcement of Brazil’s Presidency.
- **What is it?** A massive global fund with a target of **\$125 billion** designed to pay tropical countries for *keeping their forests standing*.
- **How it works:** Instead of carbon credits, it treats forests as global assets. Countries like **Brazil, Indonesia, and Congo** will receive fixed annual payments for every hectare of preserved forest.
- **Funding:** Major pledges came from Norway (\$3 billion), the UK, and Germany, aiming to reverse deforestation by 2030.

3. Breakthrough in Adaptation Finance

- ❖ For developing nations, this was a critical win.
- **Tripling Funds:** Leaders agreed to a political goal of **tripling adaptation finance by 2035**.
- **Purpose:** This money is specifically for “adapting” to climate change—building higher sea walls, cyclone shelters, and drought-resistant agriculture—rather than just “mitigating” (reducing smoke).

- **Global Goal on Adaptation (GGA):** After years of debate, countries finally agreed on specific **indicators** (metrics) to measure how well the world is adapting to climate shocks.

4. India's Key Stance & Wins

- ❖ India played a leading role in representing the “Global South” (developing countries).
- **Just Transition Mechanism:** India successfully pushed for the creation of a formal “**Just Transition**” body within the UN. This ensures that as the world moves away from coal, workers in poor countries are protected with new jobs and skills.
- **Against Trade Barriers:** India strongly opposed “**Unilateral Trade Measures**” (like the European Union’s carbon tax on steel imports). India argued that rich nations should not punish developing economies under the guise of climate action.
- **Equity First:** India reiterated that rich nations (who caused the problem historically) must reach “Net Zero” much earlier than 2050 to leave “carbon space” for developing nations to grow.

5. The “Missing” Roadmap

- ❖ Despite the progress on forests, the summit faced criticism for failing to agree on a binding roadmap to “**Phase Out Fossil Fuels.**”
- **The Blockade:** Major oil-producing nations blocked language that would force a strict timeline for ending oil and gas use.
- **Result:** While the summit supported renewable energy, it left the timeline for ending fossil fuels voluntary, disappointing many climate activists.

INDIA'S POSITION AT COP30 (BELÉM, 2025)

1. The “Tropical COP” Context

- **Role:** India played a leading role as the voice of the **Global South** (developing nations), heading the **BASIC** group (Brazil, South Africa, India, China).
- **Core Message:** India emphasized that this summit must be a “**COP of Implementation,**” focusing on delivering past promises rather than just making new empty ones.

2. Strong Stand on Climate Finance

- **The “Trillions” Demand:** India strongly criticized the wealthy nations for offering “billions” when the actual need is “**Trillions.**”
- **Rejection of NCQG:** India labeled the **New Collective Quantified Goal (NCQG)** (agreed at the previous COP29) as “**sub-optimal**” because it lacked clear, legally binding contributions from rich countries.
- **Legal Obligation:** India insisted that providing finance is a **legal duty** of developed nations under **Article 9.1** of the Paris Agreement, not a voluntary charity.

3. Fossil Fuels: “Phase Down” vs “Phase Out”

- **No Deadline:** India **rejected** Western demands for a strict deadline to “phase out” coal and oil.
- **The Argument:** India argued that it needs fossil fuels for its growing economy and poverty eradication. Instead, it supported a “**Phase Down**” approach that respects national circumstances.
- **Domestic Success:** To show it is still responsible, India highlighted that it achieved its target of **50% non-fossil power capacity** five years ahead of schedule (in 2025).

4. Fight Against “Green Protectionism”

- **Trade Barriers:** India strongly opposed “**Unilateral Trade Measures**”—specifically the European Union’s Carbon Border Tax (CBAM).
- **Stance:** India argued that rich countries should not tax imports from developing nations under the guise of climate action, calling it discriminatory and unfair trade.

5. Focus on “Adaptation”

- **Priority:** India declared that for developing countries, **Adaptation** (surviving climate change) is more urgent than **Mitigation** (cutting emissions).
- **Tripling Funds:** India successfully pushed for a political commitment to **triple adaptation finance by 2035** to help poor nations build flood defenses and heat-resistant infrastructure.

6. “Just Transition”

- **Workers’ Rights:** India championed the “**Just Transition**” framework, ensuring that as the world moves to green energy, workers in coal and traditional industries are protected with new jobs and skills, so no one is left behind.

Urban Air Pollution

1. Why is it in the News?

- **The Trigger:** In **December 2025**, the air quality in Delhi and nearby cities (NCR) became extremely dangerous, entering the “**Severe**” category (AQI above 400).
- **The Action:** To control this, the government body **CAQM (Commission for Air Quality Management)** immediately activated **Stage-III** of the **Graded Response Action Plan (GRAP)**.

2. What is GRAP Stage-III? (The Restrictions)

- ❖ When Stage-III is active, stricter rules are applied to stop pollution:
- **Construction Ban:** All construction and demolition work is stopped (except for essential projects like Railways, Metro, and Hospitals).
- **Vehicle Ban:** Old cars are banned from roads. Specifically, **BS-III Petrol** and **BS-IV Diesel** four-wheelers are not allowed to run.
- **Online Classes:** Schools are advised to shift classes for primary children (up to **Class 5**) to online mode to protect their lungs.
- **No Stone Crushing:** Industries like stone crushers and mining activities are completely shut down.

3. Understanding the Core Issue (Urban Air Pollution)

- **The Crisis:** This event highlights that Indian cities are facing a **public health emergency** due to dirty air.
- **Main Causes:** The pollution is caused mainly by:
 - **Vehicles:** Smoke from millions of cars and trucks.
 - **Dust:** Dust from roads and construction sites.
 - **Weather:** In winter, low wind speed and cold air trap the smoke near the ground, creating a toxic “smog” chamber.
- **Health Impact:** This pollution causes serious lung and heart diseases, reducing the life expectancy of people living in cities.

UNEP Emissions Gap Report 2025

1. Theme: “Off Target”

- **Title:** The 2025 report is titled “**Off Target: Continued Collective Inaction Puts Global Temperature Goal at Risk.**”
- **Message:** It sends a blunt message that despite the new climate plans (NDCs 3.0), the world is still failing to stop rising temperatures.

2. The New Temperature Projection (2.3°C - 2.5°C)

- **Slight Improvement:** The report analyzed the **new NDCs** (climate plans) submitted by countries in 2025.
- **The Numbers:** If these new plans are fully implemented, global warming is projected to reach **2.3°C – 2.5°C** by 2100.
- **Comparison:** This is slightly better than the **2.6°C – 2.8°C** projected in the 2024 report, but it is still far above the safe limit of **1.5°C**.

3. Emissions are Still Rising (2024 Data)

- **Record High:** Instead of falling, global greenhouse gas emissions **rose by 2.3%** in 2024, reaching a new record high of **57.7 Gigatons**.
- **G20 Failure:** The report highlights that G20 nations (the richest economies) are still responsible for the bulk of emissions and are not cutting them fast enough.

4. The “55% Cut” Requirement

- **2035 Target:** To have any chance of limiting warming to 1.5°C, global emissions must fall by **55% by 2035** (compared to 2019 levels).
- **Reality:** Current plans only promise a reduction of about **15%**, leaving a massive “Emissions Gap.”

5. Impact of US Withdrawal

- **Setback:** The report explicitly mentions that the gains from other countries’ new pledges were partly cancelled out by the expected **withdrawal of the United States** from the Paris Agreement, which reduced global ambition.

Gogabeel Lake as India’s 94th Ramsar Site

1. **The 94th Site Gogabeel Lake**, located in the **Katihar district** of Bihar, was officially declared India’s **94th Ramsar Site** (Wetland of International Importance).
 2. **Oxbow Lake** It is a natural **oxbow lake** (a U-shaped lake formed when a river changes its path), created by the flow of the **Mahananda** and **Kankhar** rivers near the Ganga.
 3. **Bihar’s 6th Site** With this addition, Bihar now has **6 Ramsar Sites**, strengthening its position in wetland conservation. (Other sites include Kanwar Lake and Nagi-Nakti Bird Sanctuaries).
 4. **Community Reserve** Gogabeel is unique because it is a **Community Reserve**, meaning local villagers are actively involved in protecting the lake and its birds.
 5. **Rich Biodiversity** The lake is a paradise for birds. It supports over **90 species**, including migratory birds from Central Asia and threatened species like the **Lesser Adjutant Stork**.
- **Latest Update (December 2025):** Shortly after Gogabeel was added, two more sites—**Siliserh Lake (Rajasthan)** and **Kopra Reservoir (Chhattisgarh)**—were designated, bringing the total number of Ramsar Sites in India to **96** as of late 2025.

Global Methane Status Report 2025

- ❖ Which was released by **UNEP** and the **Climate & Clean Air Coalition (CCAC)** during the **COP30 Summit** in November 2025.

1. Theme: “Off Target”

- **The Verdict:** The report warns that the world is “**Off Target**” and is failing to meet the goals of the **Global Methane Pledge**.
- **The Goal:** The pledge (signed by 159 countries) aims to cut global methane emissions by **30% by 2030** (compared to 2020 levels).
- **The Reality:** Instead of falling, methane emissions are still **rising**.

2. Key Data (The Danger)

- **Rising Emissions:** Methane emissions reached a record high in 2024, rising by **2.3%**.
- **Warming Impact:** If this trend continues, global warming will reach **2.3°C – 2.5°C** by the end of the century, far exceeding the safe limit of **1.5°C**.
- **Inevitable Overshoot:** For the first time, UNEP stated that temporarily crossing the **1.5°C** warming limit is now “**inevitable**” because we failed to act fast enough.

3. Who is Responsible? (G20 Focus)

- **G20 Nations:** The report blames the richest countries (G20) for causing **77%** of global methane emissions.
- **Top Emitters:** The biggest sources of methane are **China, India, the USA, Russia, and Brazil**.

4. Where is Methane Coming From?

- ❖ The report breaks down the pollution sources:
 - **Agriculture (42%):** The biggest source. It comes mainly from **livestock** (cow burps/digestion) and **rice fields** (standing water).
 - **Energy (38%):** Leaks from **oil, gas, and coal** operations.
 - **Waste (18%):** Rotting food in **landfills** and sewage.

Hayli Gubbi Volcano

1. The Awakening (After 12,000 Years)

- **Event:** On **November 23, 2025**, the Hayli Gubbi volcano erupted suddenly.
- **Significance:** This was its first recorded eruption in over **12,000 years**. It had been dormant (sleeping) since the end of the last Ice Age.

2. Location & Type

- **Where is it?** It is located in the **Afar Region** of Ethiopia, which is part of the **East African Rift** (a place where the African continent is slowly splitting into two).
- **Type:** It is a **Shield Volcano**.
 - *Note:* Shield volcanoes usually have gentle, flowing lava (like in Hawaii). However, this eruption was surprisingly **explosive** because pressure had built up inside it for thousands of years.

3. Impact on India (Ash Plume)

- **The Cloud:** The eruption sent a massive cloud of ash and **Sulfur Dioxide (SO₂)** about **15 km** high into the sky.

- **Travel:** Strong winds carried this ash cloud over **3,700 km** across the Arabian Sea, reaching **Western and Northern India**.
- **Disruption:** Several flights in India and China were delayed or diverted because volcanic ash can damage jet engines.

Afghanistan Earthquake

1. The Main Event (August 31, 2025)

- **Date & Time:** A powerful earthquake struck Eastern Afghanistan just before midnight on **August 31, 2025**.
- **Magnitude:** It was recorded as **6.0 Magnitude** on the Richter scale.
- **Epicenter:** The center was in the **Hindu Kush** mountains, specifically impacting the **Kunar** and **Nangarhar** provinces near the Pakistan border.

2. High Death Toll

- **Casualties:** Despite the moderate magnitude, the quake was extremely deadly. Over **2,200 people** lost their lives, and nearly **4,000** were injured.
- **Why so deadly?**
 - **Shallow Depth:** The quake was very “shallow” (only 8–10 km deep), causing violent shaking on the surface.
 - **Poor Housing:** Most homes in the region were made of mud-bricks, which instantly collapsed on sleeping families.
 - **Landslides:** The tremors triggered massive landslides, burying entire villages in the mountains.

3. India’s Response (“Operation Maitri 2.0”)

- **PM’s Message:** Prime Minister Narendra Modi expressed deep grief and declared that “India stands with the people of Afghanistan.”
- **Relief Aid:** India immediately dispatched an Air Force plane carrying **21 tonnes** of relief material.
- **Supplies:** The aid included sleeping bags, winter tents, essential medicines, and water purification tablets to prevent disease outbreaks.

FUJIWHARA EFFECT (THE “DANCE” OF CYCLONES)

❖ Here is the matter regarding the **Fujiwhara Effect**, which was recently discussed in the news due to weather events in the Bay of Bengal (November 2025).

1. Simple Definition (The “Dance”)

- **What is it?** The Fujiwhara Effect is a rare phenomenon that occurs when **two cyclones** (or hurricanes) form close to each other at the same time.
- **The Interaction:** Instead of moving independently, they get “locked” in a dance. They start orbiting around a common center point between them.
- **Distance Rule:** This usually happens when the two storms get within **1,400 km** of each other.

2. Why was it in the News? (Nov 2025)

- **Bay of Bengal Event:** In **late November 2025**, meteorologists observed this effect in the Bay of Bengal.
- **The Players:** A deep depression formed near the **Andaman Sea** while another system (which became **Cyclone Ditwah**) formed near **Sri Lanka**.

- **The Interaction:** The two systems began to influence each other's path. This "tug-of-war" made it very difficult for scientists to predict exactly where Cyclone Ditrwah would land, creating high alarm for Tamil Nadu and Sri Lanka.

SCIENCE & TECHNOLOGY

NATIONAL ONE HEALTH MISSION (NOHM)

The **National One Health Mission (NOHM)** is a comprehensive initiative by the Government of India designed to change how we handle disease outbreaks. Born from the hard lessons of the COVID-19 pandemic, it recognizes that human health cannot be viewed in isolation.

1. The Core Philosophy: "One Health" The mission is built on the scientific fact that **Human Health, Animal Health, and Environmental Health** are deeply interconnected.

- **The Triad:** It treats these three sectors as a single unit. For example, a virus often jumps from wildlife (environment) to livestock (animals) and then to people (humans).
- **Zoonoses:** With **75% of emerging infectious diseases** (like Nipah, Ebola, and COVID-19) being zoonotic (originating in animals), this integrated approach is the only way to prevent future pandemics.

2. Institutional Framework The mission is not run by just one ministry. It is a cross-ministerial effort coordinated by the **Office of the Principal Scientific Adviser (PSA)** to the Government of India.

- **Collaboration:** It brings together **13 to 16 different Ministries** (including Health, Animal Husbandry, Environment & Forests, and Science & Technology) to work on a single platform.
- **Nodal Body:** The **Indian Council of Medical Research (ICMR)** acts as a key implementing agency.

3. Key Objectives & Components

- **Integrated Surveillance:** Instead of separate hospitals for humans and vets for animals, the mission aims to create a **unified surveillance system**. If a disease is spotted in wild birds or stray dogs, human doctors are alerted immediately to prevent a spillover.
- **Lab Network:** Setting up a nationwide network of **BSL-3 and BSL-4 laboratories** (high-safety labs) that can test samples from both humans and animals.
- **Data Integration:** Using **Artificial Intelligence (AI)** and Machine Learning to combine data from veterinary clinics, wildlife centers, and human hospitals to predict outbreaks before they spread.

4. The "Anchor": National Institute for One Health (Nagpur) A cornerstone of this mission is the **National Institute for One Health (NIOH)** being established in **Nagpur, Maharashtra**.

- It serves as the central hub for research on zoonotic diseases.
- It is unique because it houses experts from medical, veterinary, and environmental fields under one roof to conduct joint research.

5. Recent Developments (November 2025) The mission gained significant momentum in late 2025 with the **National One Health Assembly** held in New Delhi.

- **State Frameworks:** The government released the *"One Health Governance Model Framework for States/UTs,"* pushing state governments to form their own local "One Health" committees.
- **Hackathons:** Events like **"IDEA ONE"** were launched to encourage young scientists to invent new ways to track diseases.

Why is this Important? For a country like India, with a huge population, massive livestock numbers, and rich wildlife, NOHM is not just a health policy—it is a **national security shield**. It moves India from a “Reactive” approach (fighting a disease after it arrives) to a “Proactive” approach (stopping it at the animal stage).

NATIONAL ACTION PLAN ON ANTIMICROBIAL RESISTANCE 2.0

- 1. The Core Mission** NAP-AMR 2.0 is India’s official strategy to fight “**Superbugs**”—germs that have become immune to medicines. It aims to stop the misuse of antibiotics so that life-saving drugs continue to work.
- 2. Timeline (2025–2029)** This is the second phase of India’s battle plan, launched in **November 2025**. It will be implemented over the next **5 years**, fixing the gaps left in the first plan (2017–2021).
- 3. “One Health” Approach** The plan recognizes that human health is connected to animals and nature. Therefore, it tackles AMR in three sectors simultaneously: **Human Health, Animal Health (Livestock/Poultry), and the Environment**.
- 4. Defined Budgets & Accountability** Unlike the previous plan, NAP-AMR 2.0 assigns specific **budgets and timelines** to every Ministry. Each department knows exactly what it has to do and by when, ensuring real action.
- 5. Focus on States** The plan shifts focus from Delhi to the states. It pushes every State Government to create its own action plan and appoint “**Nodal Officers**” to monitor antibiotic use in local hospitals and farms.
- 6. Strict Surveillance (Tracking)** It plans to expand the network of labs that track resistant bacteria. This includes checking **wastewater** (sewage) from hospitals and pharma factories to see if drug residues are leaking into the environment.
- 7. Infection Prevention (IPC)** A major goal is to improve hygiene in hospitals (Infection Prevention and Control). If fewer people catch infections in hospitals, fewer antibiotics will be needed.
- 8. Stewardship (Smart Use)** It promotes “**Antimicrobial Stewardship**”—training doctors to prescribe antibiotics *only* when necessary and stopping the sale of strong antibiotics without a prescription (Over-the-Counter sales).
- 9. Private Sector Involvement** For the first time, the plan actively involves **private hospitals and clinics**, recognizing that most Indians seek healthcare in the private sector and their data is crucial.
- 10. Research & Innovation** The plan funds research to find **new antibiotics** and alternative treatments (like vaccines or herbal medicines) to reduce India’s dependence on traditional chemical drugs.

WHO TUBERCULOSIS (TB) REPORT 2025

- 1. Report Release** The World Health Organization (WHO) released its annual report in **November 2025**, assessing the world’s progress in fighting Tuberculosis (TB).
- 2. India’s Major Success (21% Drop)** The biggest highlight is India’s success. The report notes that India’s TB incidence (new cases) has dropped by **21%** since 2015 (from 237 to 187 per lakh population).
- 3. Beating the Global Average** India is reducing TB faster than the rest of the world. While the global decline was only **12%**, India’s decline was nearly **double** that rate.
- 4. Massive Treatment Coverage (92%)** India achieved a historic treatment coverage of **92%** in 2024. This means almost every person diagnosed with TB is successfully put on medication, a huge jump from just 53% in 2015.
- 5. The “Missing Cases” Solved** A major problem used to be “missing cases” (people who had TB but were not recorded). This number has crashed from **15 lakh** (in 2015) to less than **1 lakh** today, thanks to better digital tracking (**Ni-kshay Portal**).

LASER INTERFEROMETER LUNAR ANTENNA (LILA)

In late 2025, scientists and space agencies (including NASA and ESA) have renewed their focus on a groundbreaking project called the **Laser Interferometer Lunar Antenna (LILA)**. It is a proposed “telescope” to be built on the surface of the Moon to listen to the universe in a way never done before.

Currently, we detect **Gravitational Waves** (ripples in space caused by colliding black holes) using detectors on Earth like **LIGO** (USA) and soon **LIGO-India**. However, Earth is too noisy due to earthquakes and human activity, which prevents us from hearing certain “low-pitch” cosmic sounds. To solve this, scientists have proposed moving the detector to the Moon.

Why the Moon? The Moon is geologically “quiet” (very few moonquakes) and has a natural vacuum (no air), making it the perfect soundproof room for sensitive instruments. LILA aims to fill the “**frequency gap**” (0.1–10 Hz) that Earth-based detectors cannot touch. This will allow us to predict black hole collisions weeks before they happen and study the early universe.

The Plan (2025 Update): The recent 2025 proposals outline a two-phase plan:

1. **LILA-Pioneer:** A smaller version to be sent soon using robotic landers (like commercial US landers or potentially India’s Chandrayaan missions). It will use three landers to form a 3-5 km wide triangle.
2. **LILA-Horizon:** A massive 40-km wide version to be built later by astronauts during the Artemis missions.

INDIA’S BID FOR FULLY REUSABLE ROCKETS (2025–26)

Fully Project “Soorya” (NGLV) The government has officially approved the **Next Generation Launch Vehicle (NGLV)**, recently named “**Soorya**”. This massive rocket will replace the current LVM3 and is designed with a **reusable first stage** (like SpaceX’s Falcon 9) to slash launch costs by 80%.

1. **“Pushpak” Success (RLV-LEX)** ISRO successfully completed the third and final landing experiment (**RLV LEX-03**) of its winged spaceplane, “**Pushpak**”, in mid-2024. It proved that a vehicle returning from space can autonomously land on a runway despite high winds.
2. **The “Fully Reusable” Dream** While NGLV is *partially* reusable, ISRO’s long-term vision is the **Two-Stage-to-Orbit (TSTO)** vehicle. In this concept, the first stage acts like a plane to carry the rocket up and returns, making the *entire* system reusable, not just one part.
3. **Agnikul’s Private Bid** Chennai-based startup **Agnikul Cosmos** is now a major player. In late 2025, they unveiled plans for a **fully reusable rocket** that can be refurbished and relaunched within weeks. They recently raised **Rs. 150 Crore** to build this tech.
4. **Vertical Landing (VTVL)** ISRO is shifting from “parachutes” to **Vertical Take-off and Vertical Landing (VTVL)** technology. This means the rocket boosters will use their own engines to land vertically back on Earth (or on a ship at sea), allowing them to be refueled and used again.
5. **ADITI Scheme Support** To speed up this technology, the Defence Ministry launched the **ADITI Scheme** (2024–26), offering up to **₹ 25 Crore** to startups developing critical deep-tech for reusability and defense space missions.
6. **Orbital Re-entry Experiment (ORV)** After the landing success, ISRO’s next big step is the **Orbital Re-entry Vehicle (ORV)** mission. Unlike previous tests where the vehicle was dropped from a helicopter, this time “Pushpak” will be launched into space by a rocket and will survive the fiery re-entry into Earth’s atmosphere.
7. **Cost Goal (\$4,000/kg)** The main target of these reusable rockets is to bring the cost of launching satellites down from the current **\$20,000 per kg** to just **\$4,000 per kg**, making India the most affordable space port in the world.

8. **ADMIRE Test Vehicle** ISRO is working on a smaller test rocket called **ADMIRE** to test the “vertical landing” legs and grid fins (steering tools) before using them on the giant Soorya rocket.
9. **The 2035 Vision** All these reusable technologies are critical for India’s two mega-goals: building the **Bharatiya Antariksh Station (BAS)** by 2035 and landing an **Indian on the Moon** by 2040.

DRDO RELEASES INDIAN RADIO SOFTWARE ARCHITECTURE (IRSA) 1.0

1. What is IRSA 1.0?

- **The Launch:** In **October 2025**, DRDO, along with the Indian Armed Forces, officially released the **Indian Radio Software Architecture (IRSA) Standard 1.0**.
- **The Concept:** Think of IRSA as a “Universal Operating Language” for military radios. Just as different brands of phones can run the same apps if they use the same OS (like Android), IRSA ensures that radios made by different companies can run the same communication software.

2. The Problem It Solves

- **Old System:** Previously, if the Army bought radios from Company A and the Navy from Company B, they often could not “talk” to each other because they used proprietary software. This created “Vendor Lock-in,” where the military was forced to buy from the same company forever.
- **New Solution:** IRSA breaks this wall. It standardizes the software layer, so a radio made by **Bharat Electronics (BEL)** can seamlessly communicate with a radio made by a private startup, provided both follow the IRSA standard.

3. Key Feature: “Waveform Portability”

- In military radios, the “app” that handles communication is called a **Waveform**.
- IRSA allows **Waveform Portability**. This means a secure communication app developed by DRDO can be installed on *any* IRSA-compliant radio hardware, regardless of who manufactured the box.

4. Why is it Strategic? (Jointness)

- **Joint Operations:** As India moves towards **Integrated Theatre Commands** (where Army, Navy, and Air Force fight together), they need a single communication backbone. IRSA ensures that a soldier on the ground can talk to a pilot in the air without compatibility issues.

5. Boosting “Atmanirbhar Bharat”

- **Sovereignty:** By creating its own standard, India reduces reliance on foreign standards (like the US-based SCA or European ESSOR). This ensures that the “Source Code” of Indian military communications remains fully under Indian control, improving security against hacking

SKILLING FOR AI READINESS (SOAR) PROGRAMME

1. What is SOAR?

- **Full Form:** Skilling for AI Readiness.
- **Launch:** It was launched by the **Ministry of Skill Development and Entrepreneurship (MSDE)** in **July 2025** (marking 10 years of the Skill India Mission).
- **Goal:** To make Indian students and teachers “AI-Ready” by teaching them how AI works, how to use it ethically, and how to build careers in it.

2. Target Audience (Schools)

- **Students:** It specifically targets school children from **Class 6 to Class 12**.
- **Educators:** It also trains school teachers so they are equipped to teach these modern concepts to children.
- **Reach:** The program aims to cover both urban and rural schools to bridge the “Digital Divide.”

3. The Curriculum Structure

The program uses a structured approach with specific modules:

- **For Students (3 Stages):**
 1. **AI to be Aware:** Basics of AI and its daily use (15 hours).
 2. **AI to Acquire:** Learning coding basics and machine learning tools (15 hours).
 3. **AI to Aspire:** Advanced topics on ethics and careers in AI (15 hours).
- **For Teachers:**
 - **AI for Educators:** A dedicated **45-hour module** to help teachers integrate AI tools into their regular teaching methods.

4. Recent Event (January 1, 2026)

- **President’s Role:** On **January 1, 2026**, President **Droupadi Murmu** attended a special SOAR event.
- **Certificates:** She conferred “AI Certificates” to learners (including some Members of Parliament) who completed the course.
- **#SkillTheNation:** A new campaign called **#SkillTheNation Challenge** was launched to encourage more youth to join.

5. Key Partners

- **Industry Giants:** The government has partnered with tech giants like **Microsoft, HCL Technologies, and Google** to design the curriculum and provide training tools.
- **Platform:** All courses are accessible through the **Skill India Digital Hub**, making it easy for anyone with an internet connection to learn.

ETHICS

Environmental Ethics in Indian Philosophy

Indian philosophy offers a unique perspective on environmental ethics, viewing the relationship between humans and nature not as one of “dominion” or “conquest,” but of **spiritual oneness, stewardship, and interdependence**. Unlike modern anthropocentric (human-centered) views, Indian traditions see the entire cosmos as a single, living family.

1. The Concept of Oneness (Vasudhaiva Kutumbakam) At the core of Indian thought is the belief that divinity pervades everything—mountains, rivers, trees, and animals. The Vedic concept of “**Vasudhaiva Kutumbakam**” means “the whole world is one family.” This extends the moral community beyond humans to include all of nature.

- *Example:* The **Isopanishad** states, “*Isavasyam idam sarvam,*” meaning the divine inhabits every atom of the universe. Therefore, exploiting nature is seen as an act of sacrilege against the divine itself.

2. Earth as Mother (Prithvi Sukta) In the Vedas, the Earth is not merely “soil” or “resource,” but a Goddess. The **Atharva Veda’s Prithvi Sukta** contains the famous declaration: “*Mata Bhumi Putroham Prithivyah*” (**Earth is my Mother, I am her Son**). This establishes a relationship of respect and care rather than ownership.

- *Example:* In traditional Indian households, people often touch the ground and apologize to Mother Earth (*Bhoomi Devi*) before stepping out of bed in the morning, asking forgiveness for treading on her.
- 3. Ahimsa (Non-Violence) in Jainism and Buddhism** Jainism and Buddhism strictly advocate **Ahimsa** (non-violence), which means not harming any living being, including plants and microscopic life.
- *Example (Jainism):* Jains believe in “*Parasparopagraho Jivanam*” (All life is bound together by mutual support). They practice extreme care, such as filtering water or avoiding root vegetables, to prevent harming small organisms.
 - *Example (Buddhism):* The principle of “*Pratityasamutpada*” (Dependent Origination) teaches that human survival depends entirely on the well-being of the environment. If nature suffers, humanity suffers.
- 4. Sacred Groves and Conservation** Indian philosophy translates into practice through **Sacred Groves** (forest patches dedicated to deities). Cutting trees or hunting in these areas is strictly taboo.
- *Example:* The “**Kavu**” in Kerala or “**Orans**” in Rajasthan are ancient forest patches protected by local communities for centuries due to religious beliefs, acting as gene pools for biodiversity.
- 5. The Bishnoi Movement** The most powerful example of Indian environmental ethics is the **Bishnoi community** of Rajasthan. Following the 29 principles given by Guru Jambheshwar (which include protecting trees and wildlife), they have sacrificed their lives for nature.
- *Historical Event:* In 1730 AD, **Amrita Devi Bishnoi** and 363 others hugged Khejri trees to stop soldiers from cutting them down, famously saying, “*Sar santey rukh rahe to bhi sasto jaan*” (If a tree is saved even at the cost of one’s head, it is worth it). This inspired the modern **Chipko Movement**.
 - **Conclusion** In summary, Indian philosophy teaches “**Dharma**” (Duty) towards nature. It suggests that human happiness comes not from conquering nature, but from living in harmony with the **Rta** (Cosmic Order). Protecting the environment is not just a scientific necessity but a spiritual duty.

Ethics of the Neuro-Tech Revolution

The rapid advancement of neurotechnology—specifically **Brain-Computer Interfaces (BCIs)**—promises to cure paralysis, treat depression, and even enhance human intelligence. However, as companies like **Neuralink** and **Emotiv** move from medical trials to consumer products, they raise profound ethical questions about the sanctity of the human mind.

The ethical landscape can be categorized into four critical areas:

1. Mental Privacy and “Cognitive Liberty”

The most immediate concern is the privacy of our thoughts. Unlike data on a smartphone, neural data reveals our subconscious reactions, emotional states, and intentions before we even act on them.

- **The Threat:** If a device can “read” your brain to control a mouse, it can potentially read your mood, political bias, or sexual orientation. Who owns this data?
- **Example (Chile’s Leadership):** Chile became the first country to rewrite its Constitution to include “**Neurorights**,” explicitly protecting mental integrity. In a landmark 2023–24 case, the Chilean Supreme Court ordered **Emotiv**, a neurotech company, to delete the brain data of a former senator, setting a global precedent that brain data is not just “user data” but a human right.

2. Agency and Identity

BCIs often use AI algorithms to interpret brain signals. This creates a “blurring” of lines between the human and the machine. If a robotic arm moves, did *you* move it, or did the *algorithm* predict you wanted to move it?

- **The Problem:** This loss of clear agency can affect legal responsibility. If a BCI-controlled device causes harm, is the user or the software manufacturer liable?
- **Identity Crisis:** Patients with Deep Brain Stimulation (DBS) implants have reported feeling like “puppets” or experiencing fundamental changes in personality, raising concerns about how these devices alter the “self.”

3. The “Neuro-Divide” (Equity)

As neurotech moves from *therapy* (fixing a problem) to *enhancement* (making someone smarter/faster), it risks creating a biological caste system.

- **The Scenario:** If a wealthy student can buy a brain implant that boosts memory or focus by 20%, they gain an insurmountable advantage over a poor student.
- **Result:** This could turn economic inequality into biological inequality, where the rich are not just richer, but cognitively superior.

4. Safety and Animal Welfare

The rush to market has led to concerns about safety protocols and animal testing standards.

- **Example (Neuralink):** While Neuralink’s first human trials (starting 2024) were hailed as engineering marvels, they were plagued by reports of significant animal suffering (monkeys and pigs) during earlier testing phases. Critics argue that the “move fast and break things” culture of Silicon Valley is dangerous when applied to the human brain.

Conclusion: The Need for Global Governance

The neuro-tech revolution challenges the last private frontier: the human mind. International bodies like UNESCO (which released a major ethical framework in late 2025) are now urging nations to treat

MISCELLANEOUS EVENTS

1. New Chief Justice of India (CJI)

- **Justice Surya Kant** took oath as the **53rd Chief Justice of India** on **November 24, 2025**.
- He was administered the oath by President Droupadi Murmu at Rashtrapati Bhavan.
- He succeeded Justice B.R. Gavai and will serve a term of over one year (until February 2027).

2. G20 Summit in South Africa

- The **G20 Leaders’ Summit** was held in **Johannesburg, South Africa** from **November 22–23, 2025**.
- This was historic as it was the first G20 Summit hosted on African soil.
- **Prime Minister Narendra Modi** attended the summit, which focused on the theme “Solidarity, Equality, and Sustainability.”

3. COP30 Climate Summit (The “Tropical COP”)

- The **UN Climate Change Conference (COP30)** took place in **Belém, Brazil** from **November 10–21, 2025**.
- It was called the “Tropical COP” because it was held near the Amazon rainforest.
- World leaders gathered to finalize goals to protect forests and finance climate action for developing nations.

4. APEC Summit in South Korea

- The APEC (Asia-Pacific Economic Cooperation) Leaders' Summit was hosted by **South Korea** in the historic city of **Gyeongju**.
- The summit (concluding on November 1) focused on “Building a Sustainable Tomorrow” and regulating Artificial Intelligence (AI) in trade.

5. Booker Prize 2025

- The prestigious **Booker Prize 2025** winner was announced at a ceremony in London on **November 10, 2025**.
- It celebrated the best fiction novel written in English, continuing its tradition of honoring global literary talent.

6. Formula 1 Races

- November was a busy month for F1 with the **Las Vegas Grand Prix** (Nov 20–22) and the **Qatar Grand Prix** (Nov 28–30).
- These races were crucial deciders in the final stages of the 2025 World Championship.

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ART AND CULTURE

Ellora Caves

Context: Scottish historian William Dalrymple recently urged the Maharashtra government to promote lesser-known heritage sites surrounding this famous complex.

- **Location:** Aurangabad district, Maharashtra.
- **Status:** UNESCO World Heritage Site.
- **History:** Carved between **600 CE and 1000 CE** under the patronage of the Chalukya, Rashtrakuta, and Yadava dynasties.



Religious Harmony (The 34 Caves)

The complex is a prime example of ancient religious pluralism, featuring 34 major caves divided into three faiths:

Religion	Cave Nos.	Period	Key Features
Buddhist	1–12	5th–7th CE	Monasteries (Viharas) & Prayer halls (Chaityas).
Hindu	13–29	7th–9th CE	Shaiva and Vaishnava themes.
Jain	30–34	9th–10th CE	Tirthankaras, intricate ornamentation, cosmic themes.

Key Architectural Highlights

- **The Crown Jewel: Kailasa Temple (Cave 16)**
 - **Monolithic Marvel:** Excavated **top-down** from a single basalt rock (no bricks or mortar).
 - **Design:** Dedicated to Lord Shiva, designed to resemble **Mount Kailash** with Dravida architecture, multi-level mandapas, and narrative friezes.
- **Vishvakarma Cave (Cave 10 - Buddhist):** Famous for its vaulted ceiling and intricately carved seated Buddha.
- **Indra Sabha (Cave 32 - Jain):** Notable for delicate carvings, richly sculpted pillars, and ceiling panels.

Cultural Significance

- A powerful symbol of interreligious harmony in ancient India.
- A major centre of pilgrimage.
- Heavily influenced the development of later Indian temple architecture.

NATIONAL MARITIME HERITAGE COMPLEX (NMHC)

Context: India and the **Netherlands** recently signed an MoU to collaborate on developing this project at Lothal, Gujarat.

- **Location:** Lothal, Gujarat.
- **Vision:** Envisioned as the **world's largest maritime heritage complex**.
- **Objective:** To showcase India's **4,500-year-old** maritime legacy through museums, research facilities, and educational outreach.
- **Nodal Agency:** Supported under the **Sagarmala Programme** (Ministry of Ports, Shipping and Waterways).

About Lothal (The Host Site)

Lothal is one of the southernmost cities of the ancient **Harappan (Indus Valley) Civilisation**.

- **Geography:** Located in the **Bhal region** of Gujarat, between the Bhogavo and Sabarmati rivers, near the Gulf of Khambhat.
- **Key Features:**
 - **The Dockyard:** Home to the world's earliest known dockyard, showcasing advanced ancient tidal and maritime engineering.
 - **Industry:** Evidence of extensive **bead-manufacturing** workshops.
 - **Trade:** Served as a major trade hub with links to **Mesopotamia and Egypt** dating back nearly 4,000 years.

Historical Significance

- **Discovery:** Discovered in **1954** by archaeologist S.R. Rao.
- **Status:** The text notes it was declared for UNESCO World Heritage status in 2014 (Note: It was placed on the UNESCO Tentative List in 2014).
- **Significance:** Represents India's early urban planning and maritime prowess

Hornbill festival

Context: Known as the "Festival of Festivals," the 26th edition recently commenced, coinciding with Nagaland Statehood Day (Dec 1).

- **Location:** Naga Heritage Village, Kisama (near Kohima).
- **Timing:** Held annually in the **first week of December**.

Key Highlights

- **Organisers:** Government of Nagaland (Tourism Dept.) promoted under the *Incredible India* campaign.
- **Objective:** Conceived in **2000** to revive, protect, and preserve the richness of the Naga heritage.
- **Cultural Scope:** A blend of traditional and contemporary culture featuring:
 - Folk music and dance.
 - Traditional crafts and cuisine.
 - Indigenous games and folklore.



Significance & Impact

- **Unity:** Brings together all **16 major Naga tribes** (including Angami, Ao, Sema, Lotha, Konyak, etc.) on a single platform.
- **Identity:** Serves as a powerful symbol of Naga identity and tribal unity.
- **Economy:** A vital platform for local artisans and a major driver of Nagaland's cultural tourism.

BOREENDO (UNESCO Heritage)

UNESCO recently inscribed Pakistan's **Boreendo** on the *List of Intangible Cultural Heritage in Need of Urgent Safeguarding* (Dec 2025), recognising the threat of extinction facing this ancient art form.

- **Definition:** A rare, spherical clay vessel-flute from Sindh.

- **Lineage:** Directly linked to the **Indus Valley Civilization** (Mohenjo-daro), making it one of the oldest musical traditions still in practice.

Key Characteristics

- **Eco-Friendly Craft:** Handmade from sun-dried and kiln-fired clay (terracotta).
- **Design:** Hollow, egg-shaped body with **one inlet and 3–5 holes** (modern versions may have more).
- **Sound Control:** Unique playing technique where pitch is shifted by **tilting the mouthpiece** against the lips rather than just fingering.
- **Aesthetics:** Traditionally decorated by women using natural motifs and clay paints.
- **Acoustics:** Produces deep, mellow, and breathy tones (haunting sound).



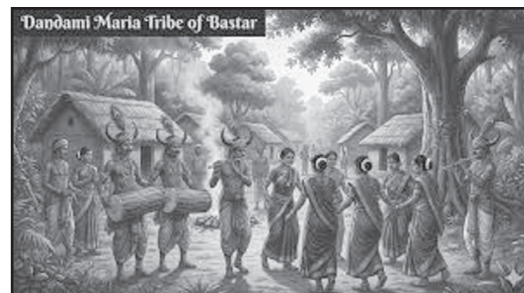
Cultural & Historical Significance

- **Status:** The tradition is critically endangered, surviving through only **one master musician (Zulfikar Loond)** and one skilled potter.
- **Social Role:** Played at *Mach Kachehri* (winter bonfires), weddings, and pastoral gatherings in the Thar desert.
- **Archaeological Link:** Excavations at **Mohenjo-daro and Harappa** (3300–1300 BCE) have yielded terracotta and bone flutes nearly identical to the modern Boreendo, proving a 5,000-year continuous sonic history.

DANDAMI MARIA TRIBE

Context: The tribe is currently in focus for the enduring vitality of its famous **Bison Horn Maria dance** amidst modern influences.

- **Identity:** A sub-group of the broader **Gond (Koytorias)** ethnic group.
- **Aliases:** Also known as *Bison Horn Maria* or *Khalpati Maria*.
- **Language:** They speak Dandami Maria and Gondi dialects (Dravidian origin).



Habitat & Livelihood

- **Location:** Predominantly found in the **Bastar region** of southern Chhattisgarh (Dantewada, Darbha, etc.).
- **Lifestyle:** Settlements are deeply integrated with dense forests.
- **Economy:** Primarily agriculture, supplemented by hunting and fishing.

Key Cultural Features

- **Bison Horn Maria Dance:**
 - **Headgear:** The tribe's most distinct marker. Men wear heavy bamboo headgear fitted with **bison or cattle horns**, decorated with cowries and peacock feathers.
 - **Attire:** Women wear heavy brass/silver jewellery and handwoven saris.
 - **Occasion:** Performed at weddings, festivals, and during the arrival of new crops.
- **Social Structure:**
 - **The Ghotul:** A traditional youth dormitory system crucial for socialisation and passing down cultural values.
 - **Marriage Norms:** They have flexible social laws permitting divorce and widow remarriage.

ECONOMY

RUPEE DEPRECIATION (2024-2025)

Context: The Indian Rupee (INR) has depreciated by approximately 7% (sliding from ¹ 83.4 to ¹ 89.2 per USD) between November 2024 and early 2025. This movement marks a significant structural shift from currency overvaluation to undervaluation.

Key Statistics & Concepts

- **The Shift:** The rupee has moved from an **overvalued** status to an **undervalued** one.
- **REER Index (Real Effective Exchange Rate):**
 - **Trend:** Fell from **108.1** (Nov 2024) to **97.5** (Oct 2025).
 - **Meaning:** A value below 100 indicates undervaluation. This confirms the depreciation is a strategic adjustment to boost the price competitiveness of Indian goods globally.
 - **Definition:** REER is the weighted average of INR against major trade partners, adjusted for inflation. It measures real international purchasing power.

Drivers of Depreciation

1. External Factors

- **Strong US Dollar:** High US Federal Reserve interest rates and strong labour data have drawn global capital to the Dollar.
- **Capital Outflows:** Foreign Portfolio Investors (FPIs) pulled out nearly **1 38,000 crore** recently, moving funds to safer US assets.
- **Global Uncertainty:** Geopolitical tensions have fueled risk-averse behaviour.

2. Domestic Factors

- **Trade Deficit:** High dependence on imported crude oil, electronics, and gold has widened the Current Account Deficit (CAD).
- **Inflation Differential:** Higher retail inflation in India compared to the US naturally erodes the rupee’s value over time.

Impact Analysis: The Double-Edged Sword

Negative Impacts (Challenges)	Positive Impacts (Opportunities)
Imported Inflation: Makes essential imports (oil, fertilizers) costlier, fueling domestic inflation.	Export Competitiveness: Cheaper Indian goods/services boost IT, textiles, and pharma exports.
Debt Burden: Indian companies with foreign loans (ECBs) face higher repayment costs in Rupee terms.	Remittances: Increases the value of inflows for families receiving money from abroad (~\$125bn).
Fiscal Stress: Higher subsidy bills for government (fertilizers/fuel) can widen the fiscal deficit.	J-Curve Effect: Expected long-term improvement in trade balance as export volumes rise.

Policy Stance: Managed Float

- **Regime:** India follows a “Managed Floating” system. The RBI does not fix the rate but intervenes to **contain volatility**.
- **Actions:** The RBI has sold ~\$50 billion to prevent a “free fall” but is allowing calibrated depreciation to correct the earlier overvaluation.
- **The “Impossible Trinity”:** The RBI faces the dilemma of balancing a fixed exchange rate, free capital flows, and independent monetary policy—choosing strictly to intervene only to smooth volatility.

Way Forward

- **Structural Reforms:** Push **PLI schemes** and FTAs to increase global export share to 3% by 2030.
- **Import Substitution:** Accelerate *Atmanirbhar Bharat* initiatives in energy (green hydrogen) and electronics to reduce dollar demand.
- **Fiscal Discipline:** The government must control the fiscal deficit to prevent inflation from eroding the competitive benefits of a weaker rupee.

MANUFACTURING SECTOR IN INDIA

Context: Despite starting the 20th century on par with East Asian giants like China and South Korea, India’s manufacturing sector has remained stagnant at approx. **17% of GDP**. It has yet to become the primary engine for employment, unlike its service sector.

- **Definition:** The conversion of raw materials into finished/semi-finished goods using labour, machines, and chemical processes.
- **Current Status:** Value addition share was **15.9% in 2023-24** (down from 16.7% in 2013-14), reflecting structural rather than policy constraints.

Policy Catalysts (The “Push” Factors)

- **National Manufacturing Mission (NMM):** Launched in Budget 2025–26 to integrate policy across states. Focuses on **sustainable manufacturing** (Solar PV, Green Hydrogen, EV batteries) to meet the net-zero 2070 goal.
- **PLI Scheme:** A massive **Rs. 1.97 lakh crore** outlay covering 14 strategic sectors. Incentives are linked to incremental sales/production, boosting electronics, pharma, and textiles.
- **GST 2.0:** Simplified two-slab structure reduced logistics/compliance costs, enhancing supply-chain efficiency.
- **National Logistics Policy (NLP):** Aims to cut logistics costs and achieve a top-25 global ranking by 2030 via the *Comprehensive Logistics Action Plan (CLAP)*.
- **SAMARTH Udyog Bharat 4.0:** Facilitates MSME adoption of Industry 4.0 tech (IoT, Robotics, AI).
- **R&D Push:** Goal to increase R&D spending to **2% of GDP**, supported by simplified patent rules (2024).

Key Drivers of India’s Manufacturing Momentum

1. Electronics Manufacturing

- **Rapid Growth:** Production has risen **6x** and exports have expanded **8x** over the last 11 years.
- **Value Addition:** Improved from 30% to **70%**, with an ambitious target of **90% by 2027**.
- **Global Standing:** India is now the **2nd largest mobile phone manufacturer** in the world.

2. Pharmaceutical Industry

- **“Pharmacy of the World”:** Ranks **3rd globally by volume**.

- **Global Supply:** Supplies **50% of global vaccines** and **40% of generic medicines** consumed in the US.
- **Future Outlook:** Projected to grow to **USD 130 billion by 2030**.

3. Automotive Industry

- **Economic Pillar:** Contributes **7.1% to GDP** and accounts for nearly **49% of manufacturing GDP**.
- **Production Scale:** India is the **4th largest global producer**, churning out 3.10 crore vehicles in FY25.

4. Textiles and Apparel

- **Employment:** The **2nd largest employer** in India (after agriculture), engaging 45 million workers.
- **Export Contribution:** Accounts for **12% of total exports**.
- **Target:** Aiming for a market size of **USD 350 billion by 2030**.

5. Green Manufacturing

- **Capacity Boost:** The PLI scheme for solar PV modules is expected to add **65 GW** of capacity to support the green transition

Major Challenges (The “Drag” Factors)

- **Infrastructure Gaps:** High logistics costs due to poor connectivity and unreliable power raise operational costs.
- **Regulatory Maze:** MSMEs face over **1,450 annual compliances**. Complex land acquisition and rigid labour laws hinder scale.
- **Skill Deficit:** Only **4.7%** of the workforce is formally skilled (vs. 96% in South Korea). Engineering education prioritises theory over hands-on practice.
- **Innovation Deficit:** India spends only **0.65% of GDP on R&D** (vs. 2.5% in the US). Low-cost labour reduces the incentive for firms to adopt tech.
- **Dutch Disease (Public Sector Wages):** High public sector salaries inflate wage expectations, drawing skilled labour away from manufacturing.
- **Global Competition:** India contributes only **2.8%** to global output (China: 28.8%).

Global Lessons: China & South Korea

- **China’s Model:**
 - **SEZs:** Created zones like Shenzhen with flexible labour laws and tax incentives.
 - **FDI-Led:** Massive foreign investment facilitated tech transfer and Global Value Chain (GVC) integration.
- **South Korea’s Model:**
 - **Chaebols:** Promoted large conglomerates (Samsung, Hyundai) to achieve economies of scale.
 - **Export-Linked Support:** Government aid was strictly conditional on export performance.

The Health Security se National Security Cess Bill, 2025

Context: The Bill was introduced and passed in **December 2025** (Lok Sabha on Dec 5, Rajya Sabha on Dec 8) to replace the existing GST Compensation Cess on certain “demerit” goods with a permanent, specific cess.

- **Objective:** To secure funds specifically for **National Security** (defense expenditure) and **Public Health** (healthcare infrastructure and services).
- **Target Goods:** Initially applies to **Pan Masala** and tobacco products but the government can notify other goods later.

Key Provisions

- **Capacity-Based Levy:** Unlike standard taxes based on sales turnover, this cess is levied on the **production capacity** (machinery installed) or processes undertaken.
 - *Rationale:* This prevents tax evasion where manufacturers underreport actual production numbers.
- **Basis of Calculation:**
 - **Machine-Based:** Cess is calculated based on the **maximum rated speed** of the packing machine (pouches per minute) and the **weight** of the pouch.
 - *Example:* A machine packing up to 500 pouches/minute (small packs) may attract a cess of **₹ 1.01 crore per month**.
 - **Manual Process:** A flat rate (e.g., **₹ 11 lakh per month**) applies to factories operating manually without machinery.
- **Use of Proceeds:** The revenue collected flows into the **Consolidated Fund of India** but is earmarked for:
 - Strengthening defense capabilities.
 - Funding public health initiatives (preventive healthcare, cancer treatment, etc.).

Significance

- **Dual Purpose:** It discourages the consumption of harmful “sin goods” (like gutkha/pan masala) while generating funds to treat the diseases they cause (cancer/public health).
- **Curbing Evasion:** By taxing the *machine* rather than the *output*, it plugs loopholes where manufacturers would clandestinely sell products without invoices.
- **Fiscal Stability:** Provides a stable revenue source for national security independent of general budget fluctuations.

MONETARY POLICY COMMITTEE (MPC)

Context: The RBI’s MPC recently announced a **25 basis points (bps)** reduction in the repo rate, citing a “rare Goldilocks phase” in the Indian economy.

- **Key Rate Decision:**
 - **Repo Rate:** Reduced by **25 bps** to **5.25%**.
 - **Stance: Neutral** (to maintain flexibility).
 - **Objective:** To support investment and consumption while maintaining price stability.

Concept: Goldilocks Economy

- **Definition:** An ideal economic state that is “just right”—neither too hot (high inflation) nor too cold (recession).
- **Characteristics:**
 - **Moderate Growth:** Steady expansion without overheating.
 - **Low Unemployment:** Healthy job creation.
 - **Controlled Inflation:** Prices remain stable (below the central bank’s target).
- **Current Status:** The RBI Governor termed the current period a “rare Goldilocks phase” due to the perfect balance of robust growth and low inflation.

Economic Projections (FY26)

1. GDP Growth

- **New Forecast: 7.3%** (Revised upwards from 6.8%).
- **Trend: Upward Revision** indicating strong economic momentum.

2. CPI Inflation

- **New Forecast: 2.0%** (Revised downwards from 2.6%).
- **Trend: Downward Revision** reflecting well-controlled price pressures

Liquidity Measures Announced

To manage liquidity in the banking and forex markets, the RBI announced:

1. **Open Market Operations (OMO):** Purchase of **₹ 1 lakh crore** in Government Securities to inject liquidity.
2. **Forex Swap:** A **\$5 billion** 3-year USD/INR buy-sell swap (scheduled for December) to manage forex liquidity.

The MPC has **6 Members** in total.

1. Internal Members (From RBI)

- **Chairperson:** The **Governor** of the Reserve Bank of India (Ex-officio).
- **Member:** The **Deputy Governor** of the RBI in charge of Monetary Policy.
- **Member:** One **officer of the RBI** (nominated by the Central Board).

2. External Members (From Government)

- **Three Experts:** Appointed by the Central Government based on recommendations from a Search-cum-Selection Committee.
 - *Qualification:* Experts in the field of economics, banking, finance, or monetary policy.
 - *Tenure:* They serve a fixed term of **4 years** and are **not eligible for reappointment**.

Key Rules

- **Quorum:** A meeting requires at least **4 members** to be present.
- **Voting:** Each member has one vote. In case of a tie, the **Governor (Chairperson)** has a second or casting vote.

MASALA BONDS

Context: The Enforcement Directorate (ED) has issued show-cause notices to Kerala CM Pinarayi Vijayan for alleged FEMA violations regarding Masala Bonds issued by the Kerala Infrastructure Investment Fund Board (KIIFB).

- **Definition:** Rupee-denominated bonds issued **abroad** by Indian entities to raise capital.
- **Origin:** The term “Masala” was coined by the **International Finance Corporation (IFC)** to reflect Indian culture.

Why Masala Bonds? (The Rationale)

- **The Problem with ECBs:** Traditionally, Indian firms used **External Commercial Borrowings (ECBs)** to raise funds abroad. In ECBs, the Indian borrower pays back in foreign currency (e.g., Dollars). If the Rupee weakens, the repayment burden increases (Exchange Rate Risk).
- **The Masala Solution:** Masala Bonds **shift the exchange rate risk** from the Indian issuer to the foreign investor. The bond is priced in Rupees.

How it Works

1. **Issue:** Investors pay foreign currency (e.g., Dollars) equivalent to the Rupee value of the bond.
2. **Repayment:** The issuer repays the rupee amount. Any loss due to Rupee depreciation is borne by the investor, not the Indian entity.

Key Milestones

- **First Global Issue:** Issued by IFC in 2014 for infrastructure projects.
- **First Indian Company:** HDFC issued the first rupee-denominated bond on the London Stock Exchange in July 2016.
- **First Indian State: Kerala (2019)** became the first state to use this route. KIIFB raised ₹ 2,678 crore, dual-listed on the **London** and **Singapore** Stock Exchanges.

Latest GI-Tagged Products (Dec 2025)

Five new products received the Geographical Indication (GI) tag in December 2025, taking Tamil Nadu's total count to 74.

1. Woraiyur Cotton Sari

- **Region:** Tiruchirappalli District
- **Description:** Traditional cotton sarees woven in Woraiyur and Manamedu. Known for their durability and distinctive *Korvai* borders (interlocking separate border and body) with geometric motifs. The weaving is traditionally done by the Devanga community.
- **Key Feature:** Bright colours and use of superior quality cotton yarn.



2. Thooyamalli Rice

- **Region:** Kancheepuram & Delta Districts
- **Description:** A traditional rice variety whose name translates to "Pure Jasmine" (*Thooya* = Pure, *Malli* = Jasmine). It is a sambha-season crop (135-140 days).
- **Key Feature:** Known for its shiny, pearly white appearance, pest resistance, and high nutritional value.



3. Kavindapadi Naatu Sakkarai

- **Region:** Erode District
- **Description:** A type of jaggery powder made from sugarcane grown in the fertile belts of Kavindapadi, irrigated by the Lower Bhavani Project canal.
- **Key Feature:** It has a distinct golden hue, high sweetness, and is produced using traditional eco-friendly methods without harsh chemicals.



4. Namakkal Makkal Pathirangal (Stone Cookware)

- **Region:** Namakkal District
- **Description:** Handcrafted soapstone cookware, locally known as *Kalchatti*. The stone used is soft and malleable, allowing for intricate carving.
- **Key Feature:** Excellent heat retention, which keeps food warm for hours and prevents spoilage. It is ideal for cooking acidic curries like *Vatha Kuzhambu*.



5. Ambasamudram Choppu Saman

- **Region:** Tirunelveli District
- **Description:** Traditional wooden toys and miniature kitchen sets (*Choppu Saman*) handcrafted by artisans in Ambasamudram.
- **Key Feature:** Made from soft woods like *Manjal Kadamba*, Teak, or Rosewood and coloured with natural, non-toxic vegetable dyes, making them safe for children.



IMF RATING ON INDIA'S GDP DATA

The International Monetary Fund (IMF) has recently provided two distinct types of assessments regarding India's GDP: a **rating on the quality of the data itself** and a **forecast of the economy's growth**.

1. Data Quality Rating: "Grade C" (Concerns)

In its **2025 Article IV Staff Report**, the IMF assigned a **"C" grade** to India's National Accounts (which includes GDP data).

- **What it means:** A "C" rating indicates "noticeable shortcomings" in the data that somewhat hamper effective economic surveillance.
- **Why the low rating?** The IMF flagged specific methodological issues:
 - **Outdated Base Year:** India's GDP series is still based on the **2011-12** benchmark, which does not capture the current structure of the economy (e.g., the boom in digital services).
 - **Single Deflation Method:** India uses a "single deflation" method (adjusting only the final price) rather than "double deflation" (adjusting both input and output prices), which can distort value-added estimates, especially during periods of volatile commodity prices.
 - **Discrepancies:** There are often unexplained gaps between GDP calculated by production (what is made) and GDP by expenditure (what is spent).

2. GDP Growth Forecast: Upgraded to 7.3%

Despite criticisms of the *methodology*, the IMF is highly optimistic about the *actual performance* of the Indian economy.

- **Latest Update (Jan 2026):** The IMF raised India's GDP growth forecast for **FY 2025-26 to 7.3%** (up from its previous estimate of 6.6%).
- **Reason for Upgrade:** The revision was driven by stronger-than-expected growth in the third quarter and sustained momentum in the fourth quarter of the fiscal year.
- **Future Outlook:** Growth is projected to moderate to **6.4%** in FY 2027 and FY 2028 as temporary factors fade, but India remains one of the fastest-growing major economies.

3. Upcoming Changes

The Government of India has acknowledged the need for updates and is expected to release a **new GDP series** with a revised base year (likely 2020-21 or later) in **February 2026**. This update aims to address the IMF's methodological concerns and could lead to an improved data quality rating in future assessments.

Economic Reforms 2025: Building a Future-Ready India

Context: In 2025, the government introduced transformative reforms focusing on **outcome-based governance** rather than just regulatory expansion, aiming to build a globally competitive and inclusive economy.

Key Reforms at a Glance

1. Income Tax Reforms (Direct Tax)

- **Tax Relief:** Annual income up to **Rs. 12 lakh** is now tax-exempt.
- **Salaried Benefit:** Effective exemption of **Rs. 12.75 lakh** (with standard deduction), boosting disposable income.
- **New Income Tax Act, 2025:** A simplified act that removes obsolete provisions, consolidates compliance, and strengthens digital enforcement.

2. Labour Reforms

- **Consolidation:** 29 existing laws merged into **4 Labour Codes** (Wages, Industrial Relations, Social Security, Occupational Safety).
- **Coverage:** Benefits extended to **gig and platform workers**.
- **Key Features:**
 - Uniform minimum wage standards.
 - Simplified dispute resolution.
 - Social security for over 500 million workers.

3. Rural Employment (Gramin Act, 2025)

- **New Law:** *Viksit Bharat - Guarantee for Rozgar and Ajeevika Mission (Gramin) Act* replaced MGNREGA.
- **Employment Guarantee:** Increased to **125 days** per rural household.
- **Focus:** Integrated labour support during agricultural peak seasons and creation of public assets (water security, infrastructure).

4. GST 2.0 (Indirect Tax)

- **Structure:** Introduction of a simplified **two-slab regime (5% and 18%)**.
- **Impact:** Reduces compliance costs for MSMEs and lowers the cost of essential goods.
- **Base:** Tax base has grown to over **1.5 crore** taxpayers.

5. Ease of Doing Business (MSME Focus)

- **Finance:**
 - **Collateral-free loans** for micro enterprises.
 - Credit guarantees up to **100 crore**.
- **Quality:** Phased Quality Control Orders (QCOs) to ensure products meet global standards.

THE INDIAN OCEAN: CRADLE OF A NEW BLUE ECONOMY

Context: The Indian Ocean is increasingly being viewed not just as a geopolitical battleground, but as a “laboratory for sustainability.” India is positioned to lead this paradigm shift, moving from resource extraction to ocean stewardship.

- **The Shift:** From a **security-centric** view (naval dominance) to a **sustainability-centric** view (climate resilience & ecology).

- **Vision:** India advocates treating the ocean as a “Common Heritage of Mankind” rather than a frontier for competitive exploitation

“Old” vs. “New” Blue Economy: A Paradigm Shift

1. Focus

- **Old Approach:** Centred on **Extraction**—prioritising mining, oil exploration, and intensive fishing (often leading to overfishing).
- **New Blue Economy:** Centred on **Stewardship**—focusing on the restoration of marine ecosystems and overall ocean health.

2. Governance

- **Old Approach:** Marked by **Unilateral and Competitive** actions, where nations vied for control individually.
- **New Blue Economy:** Emphasises **Cooperative and Multilateral** frameworks, encouraging shared responsibility and joint management.

3. Security

- **Old Approach:** Defined by hard security—**Naval dominance** and the control of strategic Sea Lanes of Communication (SLOCs).
- **New Blue Economy:** Defined by soft security—prioritising **Climate resilience** and **Human security** (protection from natural disasters, food security).

4. Goal

- **Old Approach:** Aimed purely at **Maximum GDP growth**, often at environmental cost.
- **New Blue Economy:** Aims for **Inclusive growth and Livelihoods**, ensuring economic benefits reach coastal communities without depleting resources.

Why the Indian Ocean? (The “Cradle”)

1. **Climate Ground Zero:** The Indian Ocean is warming faster than the global average. It is home to **one-third of humanity**, making it the most climate-vulnerable basin (cyclones, sea-level rise).
2. **Livelihood Hub:** Millions depend on it for food security (fisheries).
3. **Strategic Opportunity:** It offers India a chance to lead the “Global South” by setting norms for sustainable use rather than just military power.

India’s Blue Ocean Strategy (3 Pillars)

1. Stewardship of the Commons

- **Concept:** Treating the ocean as a shared space.
- **Action:** Prioritising ecosystem restoration (mangroves, coral reefs) and sustainable fisheries over unregulated exploitation.
- **Global Norms:** Aligning with the **BBNJ Agreement** (Biodiversity Beyond National Jurisdiction) to protect high seas.

INTERNATIONAL RELATIONS

Russian President's Visit to India

Russian President Vladimir Putin visited India during a period of global disorder. PM Modi described the relationship as steady like a **“Dhruva Tara” (Pole Star)**. This was Putin's first visit since the Ukraine invasion.



Key Takeaways

- **Economic Focus (Over Defence):**
 - **No Defence Announcements:** Despite speculation on missile/aircraft deals, no major defence, space, or nuclear agreements were signed (likely to avoid triggering US CAATSA sanctions).
 - **Economic Roadmap:** The focus was on the “Development of Strategic Areas of India-Russia Economic Cooperation till 2030.”
- **Major Agreements:**
 - **Labour Mobility:** A significant pact to facilitate Indian skilled workers moving to Russia, which faces a shortage of **3 million jobs** by 2030.
 - **Fertilizers:** MoU signed to build a urea plant in Russia.
 - **Connectivity:** Push to operationalise the **Chennai-Vladivostok Eastern Maritime Corridor** and the INSTC (International North-South Transport Corridor).
 - **Currency Settlement:** Continued efforts to settle trade in national currencies.
- **Oil & Energy:**
 - **Status:** No new oil deals announced.
 - **Trend:** Russian oil intake by India dropped **38%** (Oct 2025) due to Western sanctions and commercial considerations.

Geopolitical Significance

1. India's Stance:

- **“Not Neutral”:** PM Modi clarified India is not neutral but “stands on the side of **peace**.”
- **Strategic Autonomy:** The visit reaffirmed traditional ties with Russia without crossing “red lines” that would provoke the West (US/EU).

2. The Ukraine Factor:

- **Peace Hope:** Putin expressed openness to a **US-led peace proposal**.
- **Zelenskyy's Silence:** Unlike before, Ukraine's President did not criticise the visit, signaling the delicate nature of ongoing peace negotiations.

3. Western Pressure:

- **Context:** The visit happened amidst high US tariffs (25% on Indian goods) and critical “public advice” from the UK, Germany, and France.

Way Ahead (Diplomatic Calendar)

The visit was timed carefully before a busy diplomatic season for New Delhi:

- **Republic Day:** Upcoming visits by German Chancellor **Friedrich Merz** and EU leaders (Ursula von der Leyen, Antonio Costa).
- **Trade Deals:** High expectations for signing the **EU-India Free Trade Agreement**.
- **Feb Summit:** French President Macron expected for an AI Summit.
- **US Relations:** Critical phase for the India-US FTA to rollback tariffs.

Conclusion: The visit was a “win-win”—it maintained the Russia partnership while ensuring outcomes were low-key enough to avoid alienating Western partners.

INDIA–OMAN CEPA

Context: India and Oman signed the Comprehensive Economic Partnership Agreement (CEPA) on December 18, 2025. It marks a major milestone in India’s economic diplomacy with the Gulf region.

- **Background & Ties:**
 - **Legacy:** Civilisational and maritime ties spanning over two centuries.
 - **Diaspora:** Nearly **7 lakh Indians** reside in Oman, sending ~\$2 billion in annual remittances.
 - **Trade & Investment:** Bilateral trade exceeds **\$10 billion**. Over **6,000 Indian companies** operate in Oman.
 - **Strategic Role:** Oman acts as a gateway to the Middle East & Africa and is a key partner in Indian Ocean maritime security.

Key Features: Trade in Goods

- **Oman’s Offer (Market Access):**
 - **Zero-Duty Access:** Eliminated duties on **98.08%** of tariff lines (covering 99.38% of India’s exports).
 - **Impact:** Immediate tariff elimination on nearly 98% of lines gives Indian exporters clear price competitiveness.
- **India’s Offer:**
 - **Concessions:** Offered tariff cuts on **77.79%** of tariff lines.
 - **Protection:** Sensitive sectors like **dairy, tea, coffee, rubber, tobacco**, and **gold/silver bullion** were kept in the exclusion list to protect domestic interests.
- **Beneficiary Sectors:**
 - Labour-intensive industries: Textiles, Leather, Gems & Jewellery, Furniture.
 - High-value goods: Pharmaceuticals, Automobiles, Engineering goods.

Services Sector Breakthroughs

- **Unprecedented Commitments:** Oman offered commitments in **127 sub-sectors** (IT, Health, Education, R&D), a first for the country.
- **Investment (Mode 3):** Allowed **100% FDI** for Indian companies in major service sectors in Oman.
- **Professional Mobility (Mode 4):**
 - **ICT Quota:** Increased quota for Intra-Corporate Transferees from 20% to **50%**.
 - **Extended Stay:** Contractual Service Suppliers can now stay for **2 years** (up from 90 days).
 - **Professions:** Liberalised entry for Accountants, Architects, Doctors, and Nurses.

Pharma, AYUSH & Non-Tariff Barriers

- **Pharma:** Fast-tracking marketing authorisation for Indian drugs already approved by USFDA/UKMHRA/EMA.
- **AYUSH:** First-ever comprehensive commitment on Traditional Medicine, opening the Gulf market for wellness tourism.
- **Standards:** Mutual recognition of **Halal certification** and acceptance of India's **NPOP organic certification**.

Significance

- **Strategic:** Deepens ties with a politically stable Gulf partner and integrates India into Global Value Chains (GVCs).
- **Economic:** Shifts relations from transactional trade to long-term economic integration.
- **Trust:** This is Oman's first FTA since 2006, reflecting high trust in India.

INDIA-AUSTRALIA COUNTER-TERRORISM COOPERATION

Cooperation in counter-terrorism is a critical pillar of the **India-Australia Comprehensive Strategic Partnership (CSP)**. The two nations recently deepened this engagement through high-level dialogues held in late 2025.

Recent High-Level Dialogues (2025)

1. 15th Joint Working Group (JWG) on Counter-Terrorism

- **Date & Venue:** October 29-30, 2025 | Canberra, Australia.
- **Key Discussions:**
 - **Threat Assessment:** Both sides shared assessments of the regional and global terror landscape.
 - **Condemnation:** Australia reiterated strong support for India, specifically condemning the **Pahalgam terror attack (April 2025)**.
 - **New Tech:** focused on countering the use of new and emerging technologies (drones, AI, encrypted messaging) by terrorist groups.
 - **Outcome:** Agreed to strengthen information sharing and operational coordination between agencies.

2. 3rd Quad Counter-Terrorism Working Group (CTWG)

- **Date & Venue:** December 4-5, 2025 | New Delhi, India.
- **Participants:** India, Australia, Japan, and the USA.
- **Key Highlights:**
 - **Urban Operations:** Conducted a Tabletop Exercise (TTx) on "*Counter-Terrorism Operations in the Urban Environment*" to share best practices.
 - **Red Fort Incident:** The group collectively condemned the terror incident near Red Fort (November 2025) and called for bringing perpetrators to justice.
 - **Focus:** Discussed preventing the exploitation of the internet for radicalisation and terror financing.

Key Areas of Cooperation

- **Cross-Border Terrorism:** Both nations share a "zero-tolerance" approach towards terrorism and have consistently condemned the use of terrorist proxies for cross-border attacks.
- **Terror Financing:** Collaboration to disrupt financial networks supporting terrorism, working closely within the **FATF (Financial Action Task Force)** framework.

- **Cyber-Terrorism:** Joint efforts to tackle online radicalisation and the recruitment of youth via social media platforms.
- **Multilateral Engagement:** Strengthening cooperation in global fora such as:
 - **UN:** United Nations Office of Counter-Terrorism (UNOCT).
 - **GCTF:** Global Counter-Terrorism Forum.
 - **NMFT:** No Money for Terror Conference.

Institutional Mechanisms

- **Police Cooperation:** Direct engagement between the **Indian National Investigation Agency (NIA)** and the **Australian Federal Police (AFP)** to coordinate on investigations.
- **Intelligence Sharing:** Regular exchange of intelligence regarding transnational terror networks operating in the Indo-Pacific.

INDIA–ANGOLA RELATIONS:

Context: The year 2025 marked a historic turning point in bilateral ties with two high-level state visits.

- **May 2025:** **President João Lourenço** visited India (the first Angolan Presidential visit in 38 years).
- **November 2025:** **President Droupadi Murmu** paid a reciprocal State Visit to Angola (the first-ever by an Indian President), addressing the National Assembly in Luanda.

Key Strategic Outcomes (2025)

1. Defence & Security Partnership

- **Line of Credit (LOC):** India approved a **US\$ 200 million** LOC for Angola's defence procurement to support the modernisation of its armed forces.
- **Counter-Terrorism:** Both nations strongly condemned terrorism, with Angola standing in solidarity with India regarding the **Pahalgam terror attack (April 2025)**.

2. Energy & Sustainability (The “Green” Shift)

- **International Solar Alliance (ISA):** During the May visit, Angola signed the Framework Agreement, becoming the **123rd member** of the India-led ISA.
- **New Alliances:** During President Murmu's visit, Angola agreed to join the **Global Biofuel Alliance (GBA)** and the **International Big Cat Alliance (IBCA)**, broadening cooperation into wildlife and renewable fuels.
- **Oil Trade:** Angola remains India's **2nd largest African supplier** of crude oil (Oil & Gas constitute ~90% of bilateral trade).

3. Development Partnership (South-South Cooperation)

- **Digital Public Infrastructure (DPI):** India offered to share its “India Stack” (digital payment and identity solutions) to help Angola digitize its governance.
- **Health & Ayurveda:** MoU signed on cooperation in **Traditional Systems of Medicine (Ayurveda)** and establishment of healthcare facilities.
- **Capacity Building:** Increased ITEC slots and scholarships for Angolan students and officials.

Economic Overview

- **Bilateral Trade:** Stands at approximately **US\$ 4.2 billion**.
- **Trade Balance:** Heavily in favour of Angola due to oil imports.

- **Investments:** Over **200 Indian companies** operate in Angola (retail, hospitality, plastics, and steel).

Significance

- **Global South Leadership:** PM Modi termed the relationship pivotal for the “Global South,” thanking Angola for supporting the **African Union’s G20 membership**.
- **Strategic Realignment:** Angola is actively diversifying its partnerships beyond China and the West, viewing India as a key strategic partner for technology and food security.

INDIA–NEW ZEALAND FREE TRADE AGREEMENT (FTA)

Context: India and New Zealand have concluded negotiations for a comprehensive FTA in a record **nine months**. The formal signing is expected in **2026**.

- **Definition:** A pact to reduce/eliminate tariffs and barriers to boost trade and investment.

Key Targets

- **Trade Volume:** Double bilateral trade to **USD 5 billion** within five years.
- **Investment:** Attract **USD 20 billion** in New Zealand investments over 15 years (aligned with *Make in India*).
- **Diversification:** Provide an alternative market for Indian exporters amidst global protectionism.

Current Trade Landscape (FY25)

- **Volume:** Reached **USD 1.3 billion** (strong 49% YoY growth) but remains below potential.
- **Structure:** Asymmetrical trade.
 - **India Exports:** Pharmaceuticals, textiles, engineering goods, IT services.
 - **NZ Exports:** Wool, fruits, forestry products, dairy items.
- **Imbalance:** India exports finished goods/services; NZ exports agricultural raw materials.

Key Features of the FTA

1. Tariff Liberalisation

- **New Zealand’s Offer:** **Duty-free access on 100%** of India’s tariff lines.
- **India’s Offer:** Duty concessions on **95%** of New Zealand exports.

2. Sensitive Sector Protection (India)

- **Exclusions:** India has **excluded** sensitive agricultural sectors to protect farmers.
 - **List:** Dairy, rice, wheat, sugar, onions, edible oils, and rubber.

3. Services & Mobility (Major Gain)

- **Visas:** Introduction of **5,000 temporary employment visas annually**.
- **Terms:** Allows Indian professionals to work in New Zealand for up to **three years**.

4. Sectoral Boost

- **Labour-Intensive:** Will support Indian exports in textiles, leather, footwear, and gems & jewellery.

Challenges

- **Agricultural Sensitivities:** Strong concerns from Indian farmer groups (dairy/horticulture) limit deeper liberalisation.
- **Political Opposition (NZ):** Some sections of New Zealand’s coalition government oppose the pact due to immigration fears and lack of full dairy access.

- **Non-Tariff Barriers (NTBs):** Divergent standards and certification norms remain a hurdle.
- **Low Base:** Small existing trade volume means economic gains will be gradual.

Way Ahead

- **Supply Chains:** Move beyond tariff cuts to build integrated agri-processing value chains.
- **Services:** Expand collaboration in Education, Healthcare, and Tourism.
- **MSME Support:** targeted credit and standards support to help MSMEs utilise the FTA.

INDIA-UAE THIRD CEPA JOINT COMMITTEE MEETING

Context: India and the UAE convened the **3rd meeting** of the Joint Committee under the **Comprehensive Economic Partnership Agreement (CEPA)** in **New Delhi** on **November 27, 2025**.

- **Co-Chairs:**
 - **India:** Mr. Ajay Bhadoo (Additional Secretary, Dept. of Commerce).
 - **UAE:** Mr. Juma Al Kait (Assistant Undersecretary for International Trade Affairs).

Key Highlights & Trade Statistics

- **Trade Milestone:** Both sides celebrated that bilateral trade had crossed **US\$ 100.06 billion** in FY 2024–25.
- **Growth:** This marks a robust **19.6%** year-on-year increase, reaffirming the UAE as one of India's top trading partners.
- **Target Reaffirmed:** Both nations reiterated their commitment to achieving **US\$ 100 billion** in **non-oil and non-precious metal trade** by **2030**.

Major Outcomes & Discussions

1. Gold Tariff Rate Quota (TRQ)

- **New Mechanism:** India briefed the UAE on its new transparent **competitive bidding process** for allocating Gold TRQ.
- **Significance:** This ensures fairer access for jewellers importing gold at concessional duty rates under the CEPA.

2. Regulatory Cooperation

- **Food Safety:** Agreed to expedite the signing of an MoU between **APEDA (India)** and the **UAE Ministry of Climate Change & Environment** on food safety and technical requirements.
- **Pharmaceuticals:** focused on faster regulatory approvals to boost Indian pharma exports to the UAE.
- **Certificates of Origin:** Discussed resolving technical issues to ensure smoother customs clearance.

3. Services & Data

- **Services Subcommittee:** Agreed to convene a meeting of the Services Subcommittee soon to boost trade in sectors like IT, healthcare, and education.
- **Data Sharing:** Committed to enhancing data exchange to monitor trade flows more accurately.

Recent Update (January 2026)

Following this committee meeting, during the visit of UAE President Sheikh Mohamed bin Zayed Al Nahyan to India in January 2026, both leaders set a new ambitious target to double total bilateral trade to US\$ 200 billion by 2032.

INDIA-ITALY JCEC (Joint Commission for Economic Cooperation)

Context: India and Italy recently signed the protocol of the JCEC, outlining a roadmap to deepen bilateral trade, investments, and industrial collaboration.

- **What is JCEC?** A bilateral institutional mechanism aimed at facilitating structured dialogue to strengthen economic relations.

Key Components & Highlights

- **Focus Sectors:** Enhances cooperation in manufacturing, auto components, textiles, defence, agriculture, and food processing.
- **Innovation:** Promotes collaboration in R&D, education, and advanced technologies.
- **Strategic Alignment:** Aligns with broader India-EU engagement, helping unlock opportunities for the proposed **India-EU Free Trade Agreement (FTA)**.

Major Industrial Deal:

- **SAIL & Danieli Group:** The Steel Authority of India Ltd (SAIL) awarded three major steel plant projects to Italy's **Danieli Group**.
 - **Value:** ~₹500 million.
 - **Tech:** Supply of state-of-the-art **green technology**.

Current Trade Status (2024)

- **Total Bilateral Trade:** •14.24 billion.
- **Trade Balance:** Surplus in **India's favour**.
 - **India's Exports:** •9.02 billion.
 - **India's Imports:** •5.22 billion.

PAX SILICA' INITIATIVE

Context: The United States has launched a strategic initiative called *Pax Silica* with a group of “trusted allies” to build a secure and resilient silicon and AI supply chain. Notably, **India has been excluded** from the inaugural grouping despite its role in frameworks like iCET.

Meaning & Symbolism

- **“Pax” (Latin):** Means peace, stability, and prosperity (similar to *Pax Romana* or *Pax Americana*).
- **“Silica”:** Refers to silicon, the critical material for semiconductor chips.
- **Concept:** The name implies that **control over silicon and chip supply chains** will determine global stability and power in the AI era.

What is Pax Silica?

- **Definition:** A US-led initiative to build a “secure, prosperous, and innovation-driven silicon supply chain.”
- **Scope:** Covers the entire value chain—from **critical minerals and energy** to **advanced manufacturing, AI infrastructure, and logistics**.
- **Motto:** Recognises that “*economic security is national security*.”

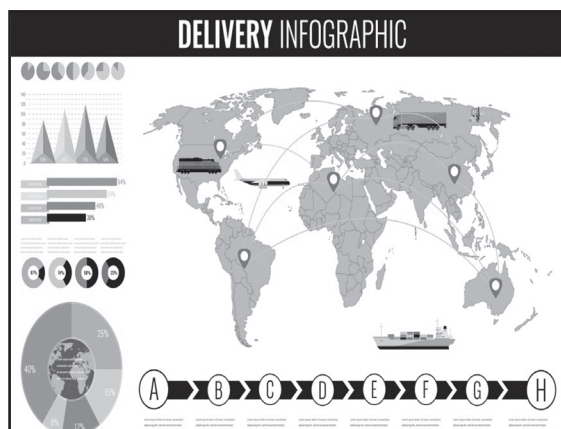
The Coalition

Inaugural Members (9)**Americas & Europe**

- United States
- United Kingdom
- Netherlands

Asia-Pacific & Middle East

- Japan
- South Korea
- Australia
- Singapore
- Israel
- United Arab Emirates

**Rationale (Why now?)**

- **Countering China:** Designed to offset China’s dominance in critical minerals, rare earths, and semiconductor supply chains.
- **Reducing Vulnerability:** Aims to limit risks from concentrated supply chains and weaponised export controls.
- **Trusted Order:** Promotes an alliance-based economic order for the AI and digital economy.

INDIAN SOCIETY

CHILD TRAFFICKING IN INDIA

Context: The Supreme Court of India recently issued transformative guidelines (2025 Judgment) to address child trafficking and commercial sexual exploitation by organized cartels, calling for a shift in judicial approach.

Key Supreme Court Guidelines (2025)

- **“Injured Witness” Status:** Trafficked children must not be treated as accomplices. Their testimonies should carry the same weight as an “injured witness” due to the trauma endured.
- **Sensitive Evidence Evaluation:** Courts must adopt a realistic approach; minor inconsistencies in a child’s testimony should not lead to disbelief, considering the trauma and secondary victimization.
- **Recognising Organized Crime:** Acknowledges that trafficking involves multiple hidden stages (recruitment, transport, harbouring), making coherent narration difficult for victims.
- **Socio-Economic Context:** Judges must consider the vulnerability of victims from marginalized/socially backward communities who are specifically targeted.

Definitions

- **Global (UN Palermo Protocol):** Recruitment or movement via threat/force/deception. For children, **exploitation alone** constitutes trafficking (method of recruitment is irrelevant).
- **National (IPC Sec 370 / BNS):** Recruitment, transportation, or harbouring for exploitation (physical/sexual/slavery). The **Bharatiya Nyaya Sanhita (BNS)** expanded this to include **online trafficking** and **forced marriages**.

Government Measures

- **Institutional:**
 - **Anti-Trafficking Nodal Cell (MHA):** Coordinates policy and action.
 - **Anti-Human Trafficking Units (AHTUs):** Specialized units in 270 districts.
- **Schemes:**
 - **Mission Vatsalya:** Focuses on non-institutional care, open shelters, and vulnerability mapping (*Samvardhan* program).
 - **Ujjawala Scheme:** Specifically for rescue and rehabilitation of victims of commercial sexual exploitation.

Root Causes & Challenges

Root Causes

- **Economic Deprivation:** Persistent poverty and lack of livelihood opportunities push families to send children away (often unknowingly into trafficking).
- **Systemic Deception:** Traffickers deceive families with false promises of education or employment.
- **High Demand:** The demand for cheap labour and commercial sexual exploitation acts as a persistent pull factor.
- **Emerging Threats:** Rise of **Online/Digital Trafficking** via social media grooming, and spikes in trafficking during post-disaster periods.

Key Challenges

- **Legislative Gaps:** Absence of a single comprehensive law (the 2018 Bill lapsed). Fragmented laws (IPC, POCSO, ITPA) create loopholes.
- **Institutional Failures:** Anti-Human Trafficking Units (AHTUs) are often underfunded, suffer from corruption, and lack inter-state coordination.
- **Victim Trauma:** Hostile court environments often result in witnesses turning hostile; inadequate rehabilitation leads to high rates of **re-trafficking**.
- **Complex Networks:** Organized crime operates through layered cartel structures, making it nearly impossible to trace the link from the recruiter to the final exploiter.

International Framework

- **UNTOC:** India ratified the UN Convention against Transnational Organized Crime.
- **SAARC Convention:** Signatory to the convention on preventing trafficking.
- **Bilateral:** Task Force with **Bangladesh** for cross-border victim repatriation.

Way Forward

- **Judicial Realism:** Implement 2025 guidelines to protect victim credibility.
- **Tech-Driven Enforcement:** Use AI and Big Data to track online grooming and cartel networks.
- **Community Role:** Empower NGOs and Panchayati Raj Institutions as first responders.
- **Rehabilitation:** Shift from mere rescue to economic empowerment to prevent re-victimization.
- **Fast-Track Courts:** Strengthen FTSCs (approx. 773 operational as of late 2025) for speedy justice.

WORLD INEQUALITY REPORT 2026

Context: The report highlights extreme and persistent economic disparities globally.

- **Source:** Produced by the **World Inequality Lab** (involving 200+ scholars).
- **Edition:** This is the **3rd edition** (following 2018 and 2022).

Key Global Findings

1. Extreme Wealth Concentration

- **Top 10%:** Own around **75%** of global wealth.
- **Bottom 50%:** Hold just **2%** of global wealth.

2. Global Gender Inequality

- **Pay Gap:** Excluding unpaid work, women earn **61%** of what men earn per working hour.
- **Unpaid Work Factor:** When unpaid domestic/care work is counted, women's total compensation drops to just **32%** of men's.
- **Labor Share:** Women's share of global labor income has stagnated at just over **25%** since 1990.

3. Climate Responsibility (Emissions)

- **Inequality in Emissions:**
 - **Wealthiest 10%:** Responsible for **77%** of carbon emissions from private capital ownership (investments/assets).
 - **Poorest 50%:** Responsible for only **3%** of such emissions.

India's Deepening Inequality

1. Income Inequality

- **Top 10%:** Capture **58%** of national income.
- **Bottom 50%:** Earn only **15%**.

2. Wealth Inequality

- **Top 10%:** Hold about **65%** of total wealth.
- **Top 1%:** Alone hold about **40%**.

3. Gender Disparity

- **Labor Force:** Female labor force participation remains critically low at **15.7%**, showing no improvement over the last decade.

Here are the short notes on **The Child Marriage Menace** based on the provided text.

THE CHILD MARRIAGE MENACE

Context: The Union Government recently marked the **1st anniversary** of the *Bal Vivah Mukta Bharat Abhiyan* with a 100-day awareness campaign. This aligns with the global commitment to end child marriage by **2030**.

Global Situation

- **SDG Target 5.3:** Part of Sustainable Development Goal 5 (Gender Equality), aiming to eliminate harmful practices like child marriage and female genital mutilation.
- **Indicator:** Measured by the proportion of women aged **20-24** married before age **18**.

- **Prevalence:**
 - **Global Rate: 19%** of young women were married as children (down from 23% a decade ago).
 - **Total Numbers:** In 2023, **64 crore** girls were estimated to have married in childhood.
- **Regional Burden:**
 - **South Asia:** Home to nearly **45%** of all child brides (India alone accounts for **one-third** of the global total).
 - **Sub-Saharan Africa:** Highest prevalence rate (1 in 3 girls). At current pace, it will take **200+ years** to end the practice there.
- **Stagnation:** Crises like COVID-19, conflict, and climate change are reversing gains, particularly in Latin America and the Middle East.

Situation in India

1. Trends (NFHS Data)

- **Decline:** Significant drop from **47.4% (2005-06)** to **26.8% (2015-16)**.
- **Slowdown:** Progress slowed recently, dropping only 3.5% to reach **23.3%** in **2019-21**.

2. State-wise Disparities

- **Highest Rates (Top 3):**
 1. West Bengal (**42%**)
 2. Bihar (**40%**)
 3. Tripura (**39%**) (*Other high prevalence states: Jharkhand, Andhra Pradesh, Assam*).
- **Lowest Rates:** Lakshadweep (4%), J&K and Ladakh (6%), Himachal Pradesh/Goa (7%).

Government Action & Initiatives

1. Legal Framework

- **PCMA, 2006:** *Prohibition of Child Marriage Act*.
- **POCSO Act, 2012:** Helps in prevention by penalizing sexual offences against minors.
- **Proposed Amendment:** To raise the legal marriage age for women to **21 years** (bringing parity with men).

2. Campaigns & Schemes

- **Bal Vivah Mukht Bharat Abhiyan:**
 - **54,917** Child Marriage Prevention Officers appointed.
 - **Impact:** Prevented 1,520 reported marriages in one year (Highest in **MP** and **Haryana**).
- **Beti Bachao Beti Padhao:** Focuses on sex ratio and education.
- **State Schemes:**
 - **West Bengal (Kanyashree):** Cash transfer to keep girls in school (ages 13-18) and delay marriage.
 - **Criticism:** WB's *Rupashree* scheme (cash for marriage after 18) might send mixed signals in a state with the highest child marriage rate.

POLITY AND GOVERNANCE

DIGITAL PERSONAL DATA PROTECTION (DPDP) RULES, 2025

Context: The Government of India notified the DPDP Rules on **November 14, 2025**, fully operationalizing the *DPDP Act, 2023*. This follows the Supreme Court's *K.S. Puttaswamy* judgment (2017) which declared privacy a fundamental right.

Key Provisions & Features

1. Phased Compliance Timeline

- **Immediate Effect:** Provisions related to the **Data Protection Board (DPB)**.
- **November 2026 (12 Months):** **Consent Manager** framework becomes operational.
- **May 2027 (18 Months):** Full compliance deadline for Data Fiduciaries (companies) regarding consent, user rights, and security.

2. Consent & Notice (The 'SARAL' Approach)

- **Notice:** Must be itemized, clear, and available in all **22 scheduled languages**. It must explain *what* data is taken and *why*.
- **Consent:** Must be free, specific, informed, and unambiguous.
- **Minors:** **Verifiable parental consent** is mandatory for children. Tracking and targeted advertising for minors are **strictly prohibited**.

3. Rights of Data Principals (Users)

- **Access & Correction:** Right to view a summary of data and correct errors.
- **Erasure:** Right to demand data deletion once the purpose is served.
- **Grievance Redressal:** Companies must resolve complaints within **90 days**.

4. Obligations of Data Fiduciaries

- **Breach Reporting:**
 - **To User:** "Without delay" (Immediate).
 - **To DP Board:** Within **72 hours** of becoming aware.
- **Significant Data Fiduciaries (SDFs):** Larger entities must appoint an India-based Data Protection Officer (DPO), conduct independent audits, and perform periodic Impact Assessments.

5. Consent Managers

- **Role:** Intermediaries that allow users to manage consent across multiple platforms via a single dashboard.
- **Criteria:** Must be an India-based entity with a net worth of **1 2 Crore**.

6. Cross-Border Data Transfer

- **"Negative List" Approach:** Data can be transferred to any country *except* those specifically restricted by the Government (no such list notified yet).

Major Concerns & Criticisms

1. RTI Act Dilution (Transparency vs. Privacy)

- **The Change:** The Rules operationalize the amendment to **Section 8(1)(j)** of the RTI Act.

- **Impact:** It removes the “**public interest override.**” Previously, personal info of officials (e.g., assets) could be disclosed if it served the public interest. Now, personal data is **absolutely exempt**, potentially shielding corrupt officials.

2. Broad State Exemptions

- **Issue:** The Central Government retains powers to exempt state agencies from compliance on vague grounds like “security of the state,” raising surveillance fears.

3. Delayed Enforcement

- **Issue:** Citizens’ rights are fully enforceable only by **May 2027**, leaving a significant gap despite the law being passed.

4. Compliance Burden

- **Issue:** High costs for MSMEs to implement consent managers, audits, and English/vernacular notices.

DEENDAYAL ANTYODAYA YOJANA – NATIONAL RURAL LIVELIHOOD MISSION (DAY-NRLM)

Context: DAY-NRLM is one of the world’s largest poverty alleviation programmes, implemented by the **Ministry of Rural Development (MoRD)**. It focuses on empowering rural households, especially women, through collective organisation and sustainable livelihoods.

Background & Evolution

- **Launch:** Originally launched in **2011** by restructuring the *Swarnajayanti Gram Swarozgar Yojana (SGSY)*.
- **Renaming:** Renamed in **2016** to honour Pandit Deendayal Upadhyaya’s philosophy of *Antyodaya* (uplifting the poorest of the poor).
- **Funding Pattern:** It is a **Centrally Sponsored Scheme**.
 - **75:25** (Centre: States)
 - **90:10** (North Eastern & Special Category States)

Key Objectives

1. **Social Mobilisation:** Organizing the rural poor into Self Help Groups (SHGs) and federations.
2. **Financial Inclusion:** Ensuring access to affordable credit and digital banking.
3. **Sustainable Livelihoods:** Diversifying income through agriculture, livestock, and micro-enterprises.
4. **Skill Development:** Enhancing youth employability via training.
5. **Convergence:** Linking SHGs to government schemes and markets.

Achievements & Impact (As of 2025)

- **Mobilisation:** Over **10 crore** rural women organised into **90 lakh** Self Help Groups (SHGs).
- **Financial Access:** SHGs accessed **11 lakh crore** in collateral-free loans with a **>98% repayment rate**.
- **Community Cadre:** A dedicated workforce of **3.5 lakh** *Krishi/Pashu Sakhis* (agriculture/livestock friends) and **48,000** *Bank Sakhis* providing doorstep financial and livelihood services.
- **Livelihoods:** **4.62 crore** *Mahila Kisans* (women farmers) trained in sustainable agriculture practices.
- **Skill Development:** **17.5 lakh** youth trained and **11.48 lakh** placed under the *Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY)*.

Significance

- **Women-Led Development:** Over **90%** of members are women, driving gender-inclusive growth.
- **Financial Resilience:** SHGs act as micro-banking hubs, solving credit access issues in rural areas.
- **Atmanirbhar Bharat:** Promotes village-level entrepreneurship in food processing and handicrafts.
- **Market Integration:** Products are promoted through **SARAS Aajeevika Melas** and e-commerce platforms.

PRADHAN MANTRI KISAN SAMMAN NIDHI (PM-KISAN)

Context: PM Narendra Modi recently released the **21st instalment** of the PM-KISAN scheme during an event in Tamil Nadu, continuing the government's direct income support efforts.

About the Scheme

- **Launch:** Launched in 2019 (with retrospective effect from Dec 2018).
- **Type: Central Sector Scheme** (100% funded by the Central Government).
- **Nodal Ministry:** Ministry of Agriculture & Farmers Welfare (Dept. of Agriculture & Farmers Welfare).

Objectives

- Provide unconditional financial assistance to farmers.
- Help farmers meet agricultural input costs and household needs.
- Reduce dependence on informal credit (moneylenders).

Financial Benefits

- **Amount:** **1 6,000 per year** per eligible family.
- **Mode:** Transferred in **three equal instalments** of **1 2,000** every four months.
- **Delivery:** via **Direct Benefit Transfer (DBT)** to ensure transparency.

Eligibility & Exclusions

- **Eligible:** All landholding farmer families, irrespective of land size.
- **Identification:** Responsibility of **State/UT Governments** based on land records.
- **Excluded Categories:**
 - Institutional landholders.
 - Income Tax payers.
 - Constitutional post holders (Ministers, MPs, MLAs).
 - Serving/Retired Government officers.
 - Professionals (Doctors, Engineers, Lawyers, etc.).

Technology Integration

- **Authentication:** Aadhaar-based e-KYC.
- **AI Support: Kisan-eMitra** (AI Chatbot) for queries and grievance redressal.
- **Monitoring:** Real-time tracking via PM-KISAN Portal & App; Analytics used to detect duplicate beneficiaries.

NEW GUIDELINES FOR UNDERGROUND COAL GASIFICATION (UCG), 2025

Context: The Ministry of Coal (MoC) has issued draft guidelines for UCG blocks to facilitate cleaner energy production from deep coal reserves while ensuring accountability.

About Underground Coal Gasification (UCG)

- **Definition:** An *in-situ* (on-site) process that converts coal into **Syngas** (Hydrogen, Carbon Monoxide, Methane, CO₂) by injecting oxidants underground.
- **Objective:** To utilize coal seams that are **unmineable** due to depth (too deep for conventional mining).
- **Utility:** Syngas is used for power generation, chemical synthesis, and hydrogen production.

Key Provisions of the Draft Guidelines**1. Feasibility & Safety**

- **Mandatory Study:** A pilot feasibility study by an accredited institution is required *before* approval.
- **Location Criteria:**
 - **Eligible:** Seams **below 300 meters** depth in low-permeability strata.
 - **Prohibited:** Seismic or eco-sensitive zones (to prevent groundwater contamination/subsidence).

2. Financial Accountability (Escrow Fund)

- **Mine Closure Fund:** Must be set up in an escrow account before operations begin.
- **Base Contribution:** **Rs. 50,000 per hectare** (indexed to WPI).
- **Fund Release:** Up to **75%** can be released after verified progressive closure.
- **Penalty:** Non-compliance leads to license forfeiture.

3. Institutional Oversight

- **Approving Authority:** Coal Controller Organisation.
- **Advisory Body:** Technical Committee (experts from MoC, DGMS, MoPNG).
- **Appellate Authority:** Secretary (Coal).

VB-G RAM G Bill, 2025 (Replaces MGNREGA)

Context: The Parliament passed the **Viksit Bharat Guarantee for Rozgar and Ajeevika Mission (Gramin) Bill, 2025** in December 2025. It repeals and replaces the 20-year-old **MGNREGA (2005)**, marking a structural shift from a “rights-based” demand model to a “normative” allocation model.

Key Provisions

- **Enhanced Guarantee:**
 - **Workdays:** Guarantees **125 days** of wage employment per rural household annually (up from 100 days).
 - **Unemployment Allowance:** Retains the provision if work is not provided within 15 days.
- **Agricultural Pause (New Feature):**
 - **Mandatory Suspension:** States can notify a “pause” period of up to **60 days** during peak agricultural seasons (sowing/harvesting).
 - **Rationale:** To ensure labor availability for farming and prevent artificial wage inflation during critical crop cycles.

- **Funding Pattern Change:**
 - **Old (MGNREGA):** Centre paid 100% of wages.
 - **New (VB-G RAM G):** Converted to a **Centrally Sponsored Scheme** with shared liability.
 - **60:40** (Centre:State) for general states.
 - **90:10** for North-Eastern & Himalayan states.
- **Allocation Model:**
 - **Normative Approach:** Replaces the “demand-driven” Labour Budget with a **State-wise normative allocation** set by the Centre. States must bear costs beyond this allocation.
- **Strategic Assets (Infrastructure Stack):**
 - Focuses on creating assets in 4 domains: **Water Security, Core Rural Infrastructure, Livelihood Infrastructure, and Disaster Mitigation.**
 - Mandatory use of **PM Gati Shakti** and GIS/AI for planning and monitoring.

Major Differences: MGNREGA vs. VB-G RAM G

Feature	MGNREGA (2005)	VB-G RAM G (2025)
Guarantee	100 Days	125 Days
Nature	Demand-Driven (Rights-based)	Normative / Budget-Capped
Funding	100% Wages by Centre	60:40 Split (Centre:State)
Work Availability	Year-round	Pauses during Peak Farming
Planning	Bottom-up (Gram Sabha)	Top-down (Aligned with National Stack)

Significance & Concerns

- **Significance:** Aligns rural work with national infrastructure goals (*Viksit Bharat 2047*) and aims to fix systemic leakages using AI/Digital stacks.
- **Concerns:** Critics argue the “Agricultural Pause” and “Normative Allocation” dilute the legal “Right to Work,” effectively turning it into a standard welfare scheme that stops when funds run out.

DIGITALIZING THE SPECIAL INTENSIVE REVISION (SIR) PROCESS

Context: The Election Commission of India (ECI) is facing criticism for its **Special Intensive Revision (SIR)** of electoral rolls. The primary concern is the reliance on outdated, paper-based legacy data from **2002-2004**, which threatens voter inclusion and the integrity of upcoming elections.

Problems with the Current SIR

- **Outdated “Paper” Foundation:**
 - The current SIR relies on legacy rolls (2002-2004) created through error-prone manual processes.
 - This approach ignores decades of digital progress, forcing a regression to unverifiable and unreliable data.
- **Data Errors & Anomalies:**
 - **Incomplete Entries:** Many records lack last names, house numbers, or EPIC numbers.
 - **Spelling Errors:** Widespread inconsistencies (e.g., *Agarwal* vs *Agraval*).

- **“Logical Discrepancies”**: Random inspections reveal anomalies like single individuals linked to impossible family structures (e.g., polygamy implied by data errors) or genuine voters unable to find their own names despite voting for years.
- **Verification Crisis:**
 - **Non-Searchable**: As rolls exist largely in paper form, the 600-million-entry database cannot be effectively verified.
 - **Broken Search**: The EC’s search interface often returns “no details found” or errors because the data is not digitized or standardized.
- **Operational Inefficiency:**
 - **BLO Burden**: Booth Level Officers (BLOs) face a “digital-to-paper-to-digital” loop—filling forms by hand, collecting physical photos (costing poor voters money), and then re-digitizing them.
 - **Backlog**: Lack of data-entry skills among BLOs has led to massive backlogs (e.g., over **50% of forms in UP** remained undigitized as of late 2025).

The Solution: Leveraging ECINet

ECINet is the ECI’s existing secure network that could streamline the process:

- **Paperless Submission**: Allows online Enumeration Form (EF) submission without physical photos, signatures, or documents.
- **Advanced Features:**
 - Detects duplicates and missing entries automatically.
 - Supports Aadhaar linking and status tracking.
 - Enables users to search current records using Mobile/EPIC numbers.
- **Kiosk Model**: Instead of burdening BLOs, mobile digital kiosks with trained staff could help non-tech-savvy citizens file EFs online.

Roadmap to a Fully Digital SIR (2026)

To transition from a “crisis” to a “trust revolution,” the following reforms are proposed:

1. **Full Digitisation**: Convert all State/UT legacy rolls into a **fully searchable digital format** (using English for metadata and regional languages for display).
2. **Data Integration**: Fuse old records with reliable digital datasets (Aadhaar, PAN, Driving Licence) using robust APIs to verify identity.
3. **Voter Categorisation**: Classify voters into three actionable groups:
 - Stable-address voters.
 - Frequent movers.
 - Those with immigration/nationality issues.
4. **Online Workflow**: Shift to 100% online submission of EFs, with document verification and validation checks done digitally.

SC CLARIFICATION ON GOVERNOR'S POWERS

Context: A five-judge Constitution Bench delivered an advisory opinion under **Article 143** in response to a Presidential Reference. This reference was triggered by an earlier Supreme Court judgment (April 2025, *TN vs Governor*) that had set rigid timelines and invoked “deemed assent” for bills pending with Governors.

1. Scope of Article 200: Governor's Options

The Court clarified that a Governor has **only three** constitutionally recognised options when a Bill is presented:

1. **Grant Assent:** The Bill becomes law.
2. **Withhold Assent:** Must be followed by returning the Bill to the Legislature “as soon as possible” (if not a Money Bill). There is no option of “pocket veto” (indefinite withholding without return).
3. **Reserve for President:** If the Bill derogates from the powers of the High Court or falls under specific constitutional criteria.
 - **Key Clarification on Re-enacted Bills:** If the State Legislature re-passes a returned Bill, the Governor **cannot withhold assent** again. However, the Bench noted that the Governor *may* still reserve such a Bill for the President—a point that differs from previous interpretations which suggested assent was mandatory after re-enactment.

2. “Deemed Assent” & Article 142

- **Rejection of Deemed Assent:** The Court **categorically rejected** the concept of “deemed assent” (treating a Bill as passed if the Governor delays inaction).
- **Rationale:** Assent is a substantive constitutional act. The Judiciary cannot use its extraordinary powers under **Article 142** to usurp the functions of a separate constitutional authority (the Governor/President). Doing so violates the **Doctrine of Separation of Powers**.

3. Timelines & Justiciability

- **No Fixed Timelines:** The Court ruled that the Judiciary **cannot prescribe rigid timelines** (e.g., 3 months) for the Governor or President to decide on Bills, as the Constitution does not specify them.
- **“Limited Mandamus”:** While courts cannot dictate *what* decision to take or *when* exactly, **“prolonged, unexplained, and indefinite inaction”** is unconstitutional.
 - In such glaring cases, the Court can issue a **limited mandamus** directing the Governor/President to make a decision within a “reasonable time.”

PM JAN VIKAS KARYAKRAM (PMJVK)

Context: The Ministry of Minority Affairs recently conducted a nationwide review of the PMJVK to enhance last-mile delivery and accelerate development outcomes.

About the Scheme

- **Type:** Centrally Sponsored Scheme (CSS).
- **Goal:** To bridge development deficits in **Minority Concentration Areas (MCAs)**.
- **Target Areas:** Covers **700+ MCAs** (both rural and urban) where:
 - The minority population exceeds **25%**.
 - Socio-economic indicators are below national averages.
- **Nature:** Focuses on **Area Development** (infrastructure) rather than individual beneficiary support.

Funding Pattern

- **60:40** – General States.
- **90:10** – North Eastern & Hill States.
- **100%** – Union Territories.

Key Objectives

- **Reduce Imbalances:** Address regional deficits in education, health, and skill development.
- **Equitable Access:** Ensure minorities have equal access to public services.
- **Empowerment:** Create women-focused facilities (hostels, safety) and youth skill centres.

Key Achievements (As of Review)

- **Infrastructure:** 12,000+ projects sanctioned since inception.
- **Education:** Developed 800+ smart classrooms and modern schools.
- **Health:** Upgraded/Established 500+ Primary Health Centres (PHCs) and maternal facilities.
- **Gender:** 15–20% of total projects are women-centric (e.g., Working Women’s Hostels).
- **Community:** Created 2,000+ assets like **Sadbhav Mandaps** (Community Halls).
- **Governance:** Achieved **100% fund flow** through the digital **PMJVK Portal** and **SNA–SPARSH** platform since 2025.

DISASTER MANAGEMENT

Cold Wave

A **Cold Wave** is a significant meteorological event characterized by a sharp drop in air temperature that poses risks to human health, agriculture, and livestock. In India, it typically occurs during the winter months (November to February), predominantly affecting North, Northwest, and Central India.

1. IMD Criteria for Cold Wave

The India Meteorological Department (IMD) declares a cold wave based on the minimum temperature {min} and its departure from the normal temperature for that specific station.

A. For Plains

- **Standard Criterion:** When {min} is **d” 10°C** AND the departure from normal is **-4.5°C to -6.4°C**.
- **Actual Temperature Criterion:** When {min} is **d” 4°C** (regardless of the departure from normal).

B. For Hilly Regions

- **Standard Criterion:** When {min} is **d” 0°C** AND the departure from normal is **-4.5°C to -6.4°C**.

C. For Coastal Stations

- **Standard Criterion:** When {min} is **d” 15°C** AND the departure from normal is **-4.5°C or less**.

Severe Cold Wave

A “Severe Cold Wave” is declared if:

- Departure from normal is **-6.5°C or lower**.
- OR, in the plains, the actual {min} hits **d” 2°C**.

2. Causes of Cold Waves in India

Cold waves are usually a result of specific atmospheric conditions that allow cold air to accumulate or be transported into the region.

- **Build-up of High Pressure:** A high-pressure area often forms over North-West India. This causes air to subside (sink), which suppresses cloud formation.
- **Lack of Cloud Cover:** Clear skies allow for **Radiational Cooling**, where the ground loses heat rapidly into space at night, causing temperatures to plummet.
- **Western Disturbances (WDs):** These systems bring precipitation and snow to the Himalayas. Once a WD passes, dry and cold north-westerly winds blow from the snow-clad mountains into the plains, dropping temperatures.
- **La Niña Influence:** During La Niña years (cooling of the Pacific Ocean), Indian winters tend to be colder than usual due to altered global wind patterns, as seen in the severe cold spells of early 2026.
- **Jet Streams:** The movements of the **Sub-Tropical Westerly Jet Stream** can steer cold Arctic or Caspian Sea air toward the Indian subcontinent.

3. Impact of Cold Waves

The impact extends beyond mere physical discomfort, affecting the economy and public health.

A. Health Impact

- **Hypothermia & Frostbite:** Prolonged exposure causes a dangerous drop in body temperature and tissue damage, particularly in the homeless and elderly.
- **Respiratory Issues:** Cold, dry air constricts airways, aggravating asthma, bronchitis, and other respiratory illnesses.
- **Cardiovascular Stress:** Cold weather causes blood vessels to constrict (vasoconstriction), increasing blood pressure and the risk of heart attacks.
- **Seasonal Affective Disorder (SAD):** Lack of sunlight and persistent cold can trigger depression and lethargy (“winter blues”).

B. Agricultural Impact

- **Frost Damage:** Ground frost (when temp < 4°C) can freeze the fluids inside plant cells, damaging crops like **mustard, wheat, and potatoes**.
- **Livestock Mortality:** Animals suffer from hypothermia and caloric stress, leading to reduced milk production and higher mortality rates.

C. Economic & Environmental Impact

- **Transport Disruption:** Cold waves are often accompanied by **dense fog**, which reduces visibility to near zero, delaying trains and flights across the Indo-Gangetic plains.
- **Pollution Trap:** Cold air is dense and moves slowly. It traps pollutants near the ground (Thermal Inversion), leading to severe smog and poor Air Quality Indices (AQI) in cities like Delhi.

Current Context (2026)

In January 2026, parts of India experienced an “unprecedented” chill, with plains in Rajasthan and Haryana witnessing sub-zero temperatures and cold conditions extending unusually far south into parts of Maharashtra and Telangana.

CYCLONIC DISTURBANCES: TRENDS & IMPACTS

Context: The patterns of cyclonic disturbances over the North Indian Ocean (Arabian Sea + Bay of Bengal) have changed drastically over the last century, shifting in frequency, intensity, and geography.

1. Basics of Cyclones

- **Definition:** Low-pressure weather systems with inward-spiraling winds.
- **Etymology:** Derived from the Greek word ‘Cyclos’ (coils of a snake).
- **Coined by:** Henry Peddington, because storms in the Bay of Bengal looked like coiled serpents.

Comparison: Tropical vs. Extra-Tropical Cyclones

Feature	Tropical Cyclones	Extra-Tropical (Temperate) Cyclones
Origin	Warm tropical oceans (>26.5°C)	Mid-latitudes (30°-60°), land or sea
Energy Source	Latent heat from condensing water vapor	Horizontal temperature gradients (Cold vs Warm air)
Movement	East to West	West to East (driven by Westerly Jet Stream)
Nature	Smaller area, but more destructive winds	Larger area, varied weather (rain/snow)

2. Changing Trends in the North Indian Ocean

- **Frequency (Inverted U-Curve):**
 - **1900–1970s:** Activity rose steadily.
 - **1980s–2000s:** Sharp decline (hit a low of ~8 in the 2000s).
 - **2010s–Present:** Activity is rebounding/climbing again, but remains below mid-century peaks.
- **Regional Shift (Westward Movement):**
 - **Bay of Bengal (BoB):** Once the primary hub, activity here has **declined sharply**.
 - **Arabian Sea:** Activity is **growing** due to faster warming. The cyclone risk is increasingly moving toward the Western Coast.
- **Intensification:**
 - **Trend:** Fewer storms overall, but they are becoming **stronger**.
 - **Severity:** Arabian Sea storms are intensifying, creating higher risks.
 - **Classification:** Ranging from *Cyclonic Storm* (62–88 kmph) to *Super Cyclonic Storm* (e”222 kmph).
- **Seasonality Shift:**
 - **Old Pattern:** Concentrated in July–September.
 - **New Pattern:** Shifted to **October–December** (Post-Monsoon).

3. Impact on India

Positives (Silver Lining)

- **Reduced Exposure:** Fewer total disturbances mean less overall disruption to agriculture and fisheries compared to the 20th-century peak.
- **Eastern Coast Relief:** Decline in the Bay of Bengal reduces the frequent battering of Odisha, West Bengal, and Andhra Pradesh.

- **Crop Maturity:** The shift to later months (Oct-Dec) gives monsoon crops more time to mature before potential strikes.

Negatives (Growing Concerns)

- **Western Coast Vulnerability:** Gujarat, Maharashtra, and Kerala are facing new risks where infrastructure/preparedness is historically weaker.
- **Compound Flooding:** Post-monsoon cyclones often coincide with the retreating monsoon, increasing flood risks.
- **Fisheries Risk:** Fishing communities face extended danger periods into the winter.
- **Forecast Challenge:** Arabian Sea cyclones are becoming stronger and less predictable due to rapid ocean warming.

Way Ahead

The future will likely see **fewer but stronger** storms occurring later in the year. India must adapt its disaster management focus from the East Coast to include the **West Coast** and adjust preparedness calendars to the **October-December** window.

METHANE HOTSPOT WARNING FOR INDIA

Context: A UN Environment Programme (UNEP) report released at COP30 (Belem, Brazil) in November 2025 identified India as a growing “global hotspot” for methane emissions. Concurrently, ISRO satellite studies (late 2025) revealed that methane emissions from Indian landfills are significantly higher than official estimates.

Why the Warning?

- **Global Rank:** India is now the **3rd largest methane emitter** globally (after China and the USA), accounting for **~9%** of global emissions.
- **Potency:** Methane (CH_4) is **80 times more potent** than CO_2 at trapping heat over a 20-year period, making it a critical target for immediate climate cooling.
- **Data Discrepancy:** Satellite data shows a massive gap between “official models” and “actual emissions”—in some cities, landfill emissions are **2 to 10 times higher** than reported.

Key Methane Hotspots Identified

1. The “Super-Emitter” Landfills (Urban Hotspots)

Recent satellite analysis (including ISRO & CarbonMapper data) has pinpointed specific city dumpsites as massive point-source emitters:

- **Delhi: Ghazipur and Bhalswa** landfills. (Emissions here are nearly double the official estimates).
- **Mumbai: Kanjurmarg and Deonar** dumping grounds. (Kanjurmarg was found emitting **~10x** more than modeled).
- **Ahmedabad: Pirana** landfill.
- **Kolkata: Dhapa** dumping ground.
- *Cause:* Anaerobic decomposition of organic waste in unscientific open dumpsites.

2. Agricultural Hotspots (Rural)

- **Stubble Burning:** The UNEP report specifically flagged **crop-residue burning** (in Punjab/Haryana) as a rapidly growing hotspot, bucking global trends of decline.
- **Livestock & Rice:** India is the world’s largest emitter of agricultural methane due to:
 - **Enteric Fermentation:** Digestive process in India’s massive livestock population.
 - **Paddy Cultivation:** Flooded rice fields creating anaerobic conditions.

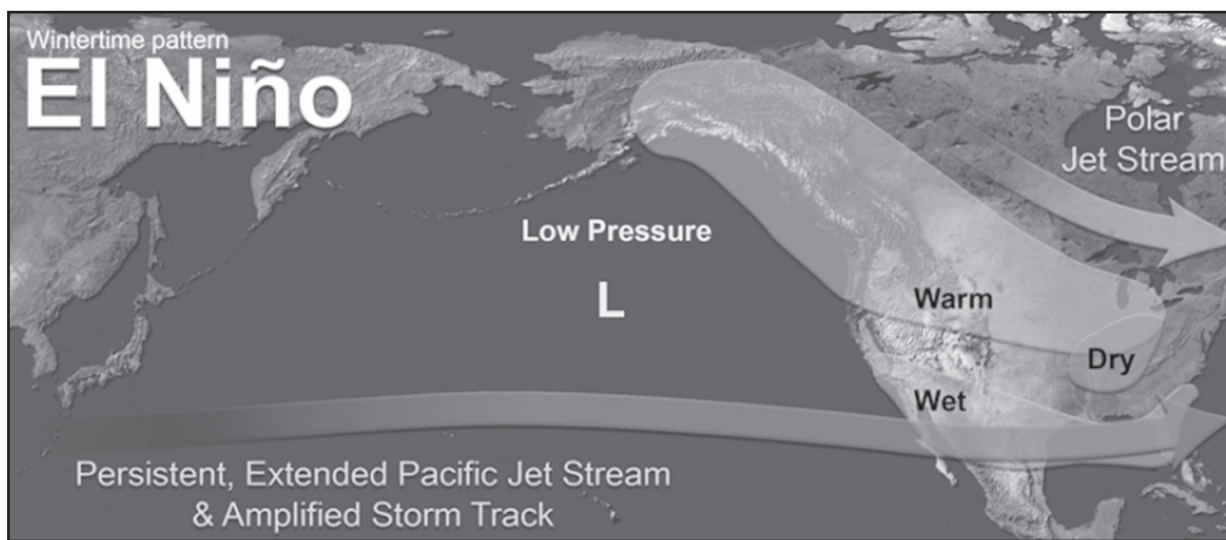
GEOGRAPHY AND ENVIRONMENT

EL NIÑO IN 2026

Context: The Equatorial Pacific Ocean is showing early signs of a return to **El Niño** conditions. It is expected to begin in the **second half of 2026** and peak during the northern hemisphere winter.

Understanding El Niño & ENSO

1. El Niño (The “Little Boy”)



- **Definition:** The warm phase of the **El Niño–Southern Oscillation (ENSO)**.
- **Key Characteristics:**
 - **Abnormal Warming:** Sea Surface Temperatures (SSTs) rise in the central and eastern equatorial Pacific.
 - **Suppressed Upwelling:** Nutrient-rich cold water is prevented from rising off the coasts of **Peru and Ecuador**.
 - **Winds:** Trade winds weaken.
 - **Atmospheric Mechanism:**
 - **Eastern Pacific:** Low pressure \rightarrow Rising air \rightarrow Increased rainfall/storms.
 - **Western Pacific:** High pressure \rightarrow Sinking air \rightarrow Stable/dry conditions.

2. ENSO Phases

- **El Niño (Warm):** As described above.
- **La Niña (Cool):** Abnormally cool SSTs in the central/eastern Pacific; strengthens trade winds; often aids the Indian Monsoon.
- **Neutral:** Near-average temperatures.

1. Signs of Potential El Niño (2026)

- **Subsurface Heat:** A large “**warm pool**” has formed in the **Western Pacific** at depths of 100–250 metres. This heat is expanding and undermining La Niña from below.
- **SST Anomalies:** NOAA data shows early surface warming in the equatorial Pacific.

2. Forecasts

- **ECMWF & Severe Weather Europe:** Predict ENSO will enter the **El Niño range by Summer 2026**.
- **Intensity:** Currently projected as a **moderate-strength** event, though intensification is possible.

Possible Climate Impacts

1. Global Impact

- **Temperature Spike:** A renewed El Niño could push global temperatures closer to or above the critical **1.5°C threshold**.
- **Extreme Weather:** Heightened risk of heatwaves, droughts, wildfires, and extreme storms worldwide.

2. Impact on India

- **Monsoon Threat:** El Niño alters pressure patterns that often **suppress monsoon rainfall** over India.
- **Drought Risk:** Several past droughts in India have been directly linked to El Niño years.

REVISED EARTHQUAKE DESIGN CODE, 2025

Context: India has released an updated seismic zonation map under the revised **Bureau of Indian Standards (BIS)** Earthquake Design Code.

About Seismic Zonation Map

- **Definition:** A scientific map that divides the region into different seismic hazard zones based on earthquake likelihood and intensity.
- **Purpose:** Guides building codes and disaster preparedness.
- **Publisher:** Bureau of Indian Standards (BIS).

Key Features of the Revised Map

1. Introduction of Zone VI (Highest Risk)

- A new **Zone VI** has been introduced as the highest-risk classification.
- **Coverage:** The entire **Himalayan arc** stretching from Jammu & Kashmir and Ladakh to Arunachal Pradesh is placed in this zone.

2. Increased Hazard Coverage

- **Landmass:** **61%** of India's landmass is now classified under moderate to high hazard zones (up from 59% in previous versions).
- **Population:** **75%** of India's population now lives in seismically active regions.

3. Boundary Rule Enhancement

- **Rule:** Any settlement located on the boundary between two zones is automatically placed in the **higher-risk zone**.
- **Logic:** Ensures zoning reflects geological risk rather than administrative lines.

4. Scientific Methodology (PSHA)

- Based on **Probabilistic Seismic Hazard Assessment (PSHA)**, an internationally recognised method.
- Considers factors like ground-shaking attenuation, tectonic regimes, and rock lithology.

5. Mandatory Safety Norms

- New codes mandate safety norms for non-structural elements (parapets, façades, overhead tanks, HVAC systems).

- **Trigger:** Especially mandatory when their weight exceeds **1%** of the building’s total load.

6. Southward Rupture Modelling

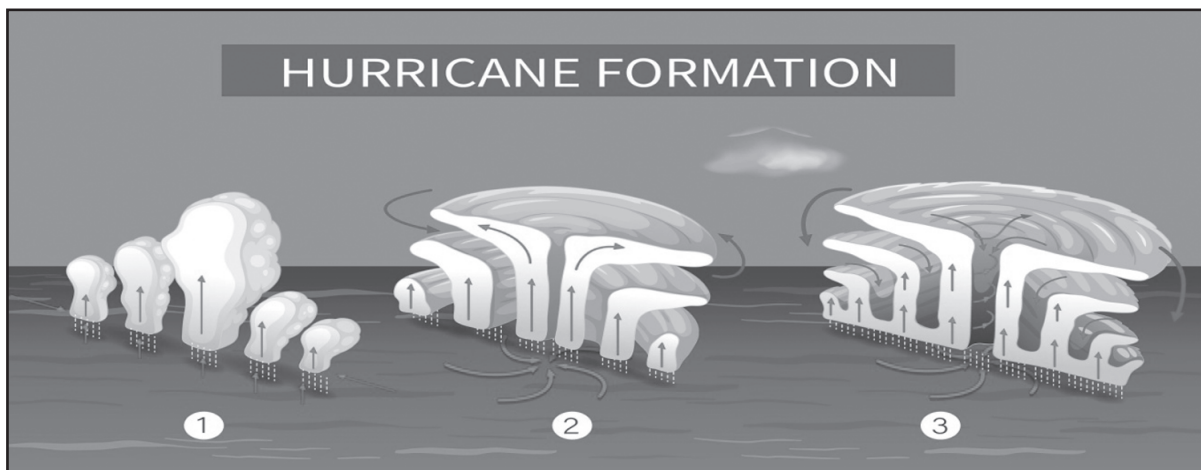
- Acknowledges that ruptures along the **Himalayan Frontal Thrust (HFT)** can propagate southwards.
- **Impact:** Affects densely populated foothill settlements (e.g., **Dehradun** near Mohand).

TRENDS IN THE NORTH INDIAN OCEAN’S STORM CYCLE

Context: The cyclonic disturbances over the North Indian Ocean (Arabian Sea + Bay of Bengal) have witnessed drastic changes in frequency, intensity, and geography over the last century.

1. Understanding Cyclonic Disturbances

- **Definition:** Low-pressure weather systems characterized by inward-spiraling winds.
- **Etymology:** The word “Cyclone” comes from the Greek word ‘*Cyclos*’ (coils of a snake).
 - **Coined by: Henry Piddington** (referred to as Peddington in text), as storms in the Bay of Bengal resemble coiled sea serpents.



Types of Cyclones

Feature	Tropical Cyclones	Extra-Tropical (Temperate) Cyclones
Origin	Warm tropical oceans (>26.5°C).	Mid-latitudes (30°–60°), land or sea.
Energy Source	Latent heat from condensing water vapor.	Horizontal temperature gradients (Cold vs. Warm air).
Movement	East to West.	West to East (driven by Westerly Jet Stream).
Impact	Smaller area, but more destructive winds.	Larger area, varied weather (rain, snow, blizzards).

2. Ongoing Trends in North Indian Ocean

The region is witnessing an **Inverted U-shaped trend** in storm activity over the last century:

- **Regional Shift (Westward Movement):**
 - **Bay of Bengal (BoB):** Historically the primary hub, it has seen a **sharp decline** in activity.
 - **Arabian Sea:** Activity is **growing** due to faster warming, shifting the cyclone risk westward.

- **Intensification:**
 - Fewer storms are forming, but they are becoming **stronger**.
 - **Arabian Sea:** Becoming a hotspot for intense cyclones, creating forecasting challenges.
 - **Classification:** Storms range from *Cyclonic Storm* (62–88 kmph) to *Super Cyclonic Storm* (e”222 kmph).
- **Seasonality Shift:**
 - **Old Pattern:** Concentrated in July–September.
 - **New Pattern:** Shifted to **October–December** (Post-Monsoon).

3. Impact on India

Positives (Reduced Vulnerability in East)

- **Lower Exposure:** Fewer overall disturbances mean reduced disruption to agriculture and fisheries compared to the 20th-century peak.
- **East Coast Relief:** The decline in the Bay of Bengal reduces risks for **Odisha, West Bengal, and Andhra Pradesh**, allowing better resource allocation.
- **Crop Safety:** The shift to later months (Oct–Dec) allows monsoon crops more time to mature before potential strikes.

GANDIKOTA CANYON (THE GRAND CANYON OF INDIA)

Context: In late 2025, the Andhra Pradesh government launched a massive tourism master plan (worth Rs. 500 Cr) to transform Gandikota into a world-class destination. It was also awarded the “**Most Promising New Destination**” at the Business Leisure Travel and MICE (BLTM) exhibition in 2025.



About Gandikota

- **Location:** Kadapa District, Andhra Pradesh.
- **Geography:** A spectacular gorge formed by the **River Pennar** cutting through the **Erramala Hills**.
- **Nickname:** “The Hidden Grand Canyon of India” (due to its resemblance to the Grand Canyon in Arizona, USA).
- **Geology:** Composed of sedimentary rocks, specifically **Gandikota Quartzite** and pink granite, featuring distinct jagged layers formed over centuries of river erosion.

Tourism & Recent Developments (2025-26)

The AP Government has initiated the “**Gandikota Tourism Project**” to elevate its status:

- **Infrastructure:** Introduction of a **Ropeway** to view the canyon from above and a **Glass-Bottom Walkway** for thrill-seekers.
- **Accommodation:** Development of eco-friendly **luxury tent cities** and partnerships with major hotel chains (e.g., Hilton/Oberoi MoUs signed in 2025).
- **Adventure:** Promotion of rock climbing, kayaking, trekking, and **Heli-tourism** (helicopter rides).
- **Connectivity:** Plans to improve connectivity from Bengaluru and Hyderabad to tap into weekend tourism

BRAZIL IDENTIFIES YOUNGEST RHYNCHOSAUR FOSSIL

Context: Paleontologists in Southern Brazil have identified the youngest and smallest rhynchosaur fossil ever recorded. The study was detailed in the *British Journal of Systematic Palaeontology* in late 2025.

Key Discovery Details

- **Species:** Identified as a hatchling of *Macrocephalosaurus mariensis*.
- **Location:** Unearthed in the **Santa Maria Formation** in Rio Grande do Sul, Southern Brazil.
- **Geological Period:** Dates back to the **Late Triassic period** (Carnian stage), approximately 233 million years ago.



Fossil Characteristics

- **Tiny Size:** The fossil consists of a skull measuring **less than 2.5 cm** in length.
- **Developmental Stage:** It represents a **perinate** (newborn).
- **Condition:** Analysis via micro-computed tomography revealed **unworn teeth**, indicating the animal likely died shortly after birth or hatching, before it could feed on vegetation.
- **Adult Comparison:** While this hatchling was tiny, adult *Macrocephalosaurus* could grow to over **2 metres** in length.

Significance of the Find

- **Record-Breaking:** It is the **smallest rhynchosaur hatchling** ever discovered globally.
- **First of its Kind:** It represents the first perinate record of **Hyperodapedontinae**, the most diverse sub-group of rhynchosaurs.
- **Scientific Value:** The fossil provides rare insights into the **ontogeny** (growth and development) of these ancient reptiles, revealing how their skull shapes and distinct “beaks” changed drastically from birth to adulthood.

FOG

Context: The IMD has issued a **Red Alert** for dense to very dense fog over Uttar Pradesh and parts of North and East India.

About Fog

- **Definition:** A phenomenon where tiny water droplets or ice crystals remain suspended near the Earth’s surface.
- **Impact on Visibility:** Reduces visibility to **below 1 km** due to the scattering of light.

Formation Conditions

- **Mechanism:** Forms when air temperature drops to the **dew point** or moisture increases to saturation.
- **Favourable Factors:** Calm winds, high humidity, long winter nights, and temperature inversions.



Types of Fog

Type	Characteristics
Radiation Fog	Forms on clear, calm nights due to rapid heat loss from Earth; common in winter plains; dissipates after sunrise.
Valley Fog	Cold, dense air flows into valleys and gets trapped; denser and longer-lasting than plain fog.
Advection Fog	Warm, moist air moves over a cold surface (snow/ocean); can persist during the day.
Freezing Fog	Supercooled droplets freeze instantly on contact with surfaces, creating hazardous ice coatings.
Evaporation Fog	Forms when water vapour from evaporation mixes with cooler air (e.g., steam fog over warm water).
Upslope Fog	Moist air rises up hill/mountain slopes, cools adiabatically, and condenses.
Hail Fog	Rare; forms after heavy hailstorms when melting hail cools the ground air.

Impacts

- **Transport:** Near-zero visibility disrupts road, rail, and air travel, increasing accident risks.
- **Weather:** Suppresses daytime heating, prolonging cold conditions.
- **Health:** Traps pollutants near the surface, worsening **smog** and respiratory issues.

SC'S REDEFINITION OF THE ARAVALLI RANGE

Context: The Supreme Court (SC) has **stayed (kept in abeyance)** its own earlier judgment (dated Nov 20, 2025) that had upheld a restrictive definition of the Aravalli Hills. The Court has now ordered the formation of a **new Expert Committee** to re-examine the definition and has issued notices to the Centre and four states (Rajasthan, Haryana, Gujarat, Delhi).

1. The Core Controversy: "100-Metre Definition"

- **Previous Order (Now Stayed):** The SC had initially accepted a definition limiting "Aravalli Hills" to:
 - Hills with **>100 metre elevation**.
 - Hill clusters within **500 metres** of each other.
- **Critique ("Broken Shield"):** Environmentalists warned that this height-based criterion would exclude nearly **90%** of hillocks (approx. 1.6 lakh hills in Rajasthan) and "Gair Mumkin Pahar" (uncultivable hilly land).
- **Consequence:** Excluding lower hills would create ecological gaps, allowing dust storms to breach the natural barrier and encouraging real estate encroachment.



2. Current Judicial Directions (Jan 2026)

- **Stay Order:** The restrictive definition is on hold due to potential ecological damage.
- **Mining Ban:** No fresh or renewed mining leases can be granted in the Aravalli region without prior SC permission (reinforcing the **Precautionary Principle**).
- **New Committee:** A CJI-led bench has ordered a new expert body to define the range scientifically.

3. Significance of Aravalli: The “Ecological Kavach” (Shield)

The Aravallis act as a multi-functional shield for North India:

- **Desertification Barrier:** Prevents the **Thar Desert** from expanding eastward into the Indo-Gangetic plains.
- **Air Quality:** Acts as a wind barrier; gaps in the range lead to a **4–6 times rise** in PM2.5/PM10 levels in Delhi-NCR due to dust intrusion.
- **Hydrological Lifeline:**
 - Recharges **20–30%** of NCR’s groundwater via fractured quartzite rocks.
 - Source of rivers: **Luni, Sabarmati, Banas, and Chambal.**
- **Biodiversity:** Hosts 22 wildlife sanctuaries and **4 Tiger Reserves**, serving as a corridor (e.g., Sariska to Ranthambore) for leopards and hyenas.

4. Challenges & Threats

- **Illegal Mining:** While legal mining is limited (0.19%), illegal mining (sandstone, marble) is rampant. A 2018 report noted the “disappearance” of **31 hills** in Rajasthan.
- **Urbanisation:** “Hill homes” and real estate pressure threaten the “Gair Mumkin Pahar” lands.
- **Human Cost:** Unregulated mining causes **silicosis** among workers and displaces tribal communities (Bhil, Meena).

5. Key Initiatives

- **Aravalli Green Wall Project:** Launched in 2025, inspired by Africa’s Great Green Wall. It aims to create a **5 km-wide green buffer** along a **1,400 km** corridor from Gujarat to Delhi.
- **Tech Surveillance:** Use of ISRO’s **Bhuvan** satellite platform and drones to monitor illegal mining changes in real-time.
- **Alternatives:** Promotion of **Manufactured Sand (M-Sand)** from granite/basalt to reduce dependency on riverbed and hill sand.

CITES CoP20 (SAMARKAND, UZBEKISTAN)

Context: The 20th meeting of the Conference of the Parties (CoP20) to CITES concluded in **Samarkand, Uzbekistan**. This event marked the **50th anniversary** of CITES and was the first CoP held in **Central Asia**.

About CITES (Washington Convention)

- **Full Name:** Convention on International Trade in Endangered Species of Wild Flora and Fauna.
- **Origin:** Drafted based on a 1963 resolution by IUCN.
- **Timeline:** Opened for signature in **1973**; entered into force on **July 1, 1975**.
- **Nature:** A multilateral treaty that is **legally binding** on Parties (they must adopt domestic legislation to implement it).
- **Secretariat:** Administered by **UNEP**; located in **Geneva, Switzerland**.
- **Membership: 185 Parties.**
 - **India:** Ratified in **1976**.

CITES Appendices (Classification)

Species are listed in three Appendices based on protection needs:

- **Appendix I:** Species **threatened with extinction**. Trade is permitted *only* in exceptional circumstances.

- **Appendix II:** Species **not necessarily threatened** yet, but trade must be controlled to prevent incompatibility with survival.
- **Appendix III:** Species protected in **at least one country** that has asked other Parties for help in controlling trade.

About CoP (Conference of the Parties)

- **Role:** The supreme decision-making body, meeting every **2–3 years**.
- **Functions:**
 - Amends Appendices (uplisting/downlisting/delisting).
 - Sets global wildlife trade policies.
 - Reviews compliance and enforcement measures.

Key Highlights of CoP20

- **Location:** Hosted by **Uzbekistan** in Samarkand (First in Central Asia).
- **Milestone:** Marked the **50th anniversary** of the convention.
- **Decisions:** Reviewed **50 proposals** and added **77 species** to the CITES appendices.
- **India's Role:** Successfully **opposed an EU proposal** to list **Guggul** (a medicinal plant), arguing that more population data is needed before regulation.

Related Body: IUCN

- **Name:** International Union for Conservation of Nature.
- **Founded:** **1948**.
- **Role:** World's largest environmental network (Govts + NGOs).
- **Publication:** Publishes the **IUCN Red List of Threatened Species**.

KERALA: INDIA'S BUTTERFLY CAPITAL

Context: A new comprehensive study confirms that Kerala hosts the highest butterfly diversity among all Indian states along the Western Ghats.

Key Findings

- **Total Diversity:** The state is home to **328 butterfly species**.
- **Western Ghats Share:** Kerala accounts for nearly the entire butterfly diversity of the Western Ghats mountain range (which has 337 species in total).
- **Endemic Species:** **41 species** found in Kerala are endemic to the Western Ghats.
- **New Discovery:** A new subspecies, *Tajuria maculata sureshi*, has been described.
 - *Named after:* Distinguished naturalist and filmmaker **Suresh Elamon**.

Diversity by Family

Kerala's butterflies belong to **six families**:

1. **Nymphalidae** (Brush-footed; Dominant family)
2. **Lycaenidae** (Blues, Hairstreaks)

3. **Hesperiidae** (Skippers)
4. **Papilionidae** (Swallowtails)
5. **Pieridae** (Whites and Yellows)
6. **Riodinidae** (Metalmarks)

Conservation Status

- **Legal Protection:** 70 species are protected under India's **Wildlife (Protection) Act, 1972**.
- **IUCN Red List:** 22 species from the state are listed on the IUCN Red List.
- **Migration:** Documents 36 migratory species, highlighting Kerala as a key corridor for seasonal movement.

Key Conservation Site

- **Aralam Butterfly Sanctuary:** Located in **Kannur district**, it is India's **first protected forest** dedicated specifically to butterflies.

SCIENCE & TECHNOLOGY

LAUNCH OF COMMUNICATION SATELLITE-03 (CMS-03)

ISRO successfully launched the **CMS-03** communication satellite aboard the **LVM3-M5** rocket from Sriharikota, strengthening India's strategic naval communication in the Indian Ocean Region (IOR).

About CMS-03 (GSAT-7R)

- **Role:** Dedicated multi-band **military communication satellite** for the **Indian Navy**.
- **Objective:** To replace the ageing **GSAT-7 (Rukmini)** launched in 2013, ensuring continuity in maritime networks.
- **Function:** Provides secure, encrypted, real-time communication between naval ships, submarines, aircraft, and land-based command centres.

Strategic Importance

- **Maritime Domain Awareness:** Supports surveillance, anti-submarine missions, and fleet coordination.
- **Secure Layer:** protects naval communications from interception and cyber threats.
- **Blue-Water Capability:** Enables the Navy to operate effectively far beyond the coastline.
- **Force Multiplier:** Facilitates tri-service synergy (Army, Air Force, Navy), aligning with **Theatre Command** goals.

Launch Vehicle: LVM3-M5 ("Bahubali")

- **Capability:** India's heavy-lift launcher capable of carrying up to **4 tonnes** to Geostationary Transfer Orbit (GTO).
- **Reliability:** Holds a 100% success rate in operational heavy-lift missions.
- **Stages:**
 1. **First Stage:** Solid Booster (S200).
 2. **Second Stage:** Liquid Core Stage (L110).
 3. **Third Stage:** Cryogenic Upper Stage (C25).

CE20 CRYOGENIC ENGINE: BOOTSTRAP MODE TEST

Context: ISRO successfully demonstrated the “**Bootstrap Mode**” start on the CE20 cryogenic engine (which powers the upper stage of the **LVM3** rocket). This milestone proves the engine can restart autonomously in space without external support.

What is Bootstrap Mode?

- **Definition:** A method where the rocket engine initiates its own start-up sequence using **internal fuel flow and system pressure**.
- **Key Difference:** It does **not rely** on external devices like gas bottles or pyrotechnic starters.
- **Benefit:** Makes the engine lighter, simpler, and capable of **multiple restarts** in orbit (crucial for deploying satellites into different orbits).

Significance of the Test

- **Multi-Orbit Capability:** Enables missions requiring multiple injections (e.g., GTO to GEO transfers, constellation deployments).
- **Payload Boost:** Eliminating heavy external start-up systems increases the rocket’s payload capacity.
- **Commercial Edge:** Improves LVM3’s competitiveness for complex commercial missions.

About CE20 Cryogenic Engine

- **Type:** India’s first fully indigenous **200 kN-class** cryogenic engine.
- **Fuel:** Burns **Liquid Oxygen (LOX)** and **Liquid Hydrogen (LH₂)** stored at temperatures below **-250°C**.
- **Application:** Powers the **C25 Upper Stage** of the LVM3 rocket.
- **Cycle:** Operates on a **Gas-Generator Cycle** optimized for high-altitude performance.
- **Track Record:** Successfully used in Chandrayaan-2, Chandrayaan-3, and OneWeb missions.

About LVM3 (Launch Vehicle Mark-3)

- **Status:** India’s heaviest operational launcher (“Bahubali”).
- **Capacity:**
 - **4 tonnes** to Geostationary Transfer Orbit (GTO).
 - **8 tonnes+** to Low Earth Orbit (LEO).
- **Stages:**
 1. **S200:** Solid Boosters.
 2. **L110:** Liquid Core Stage.
 3. **C25:** Cryogenic Upper Stage (uses CE20).
- **Human-Rating:** A specialized version with strengthened structures and redundant systems is being prepped for the **Gaganyaan** human spaceflight mission.

Here are the short notes on the **Nuclear Energy Mission** based on the provided text.

NUCLEAR ENERGY MISSION

Context: The Government informed Parliament that India will operationalise at least **5 indigenously designed Small Modular Reactors (SMRs)** by **2033** under the Nuclear Energy Mission, backed by a **Rs. 0,000 crore** allocation.

About the Mission

- **Definition:** A national framework to scale up nuclear power using advanced indigenous technologies, with a specific thrust on SMRs alongside large reactors.
- **Announcement:** Introduced in **Union Budget 2025–26**.
- **Long-term Goal:** Reach **100 GW** of nuclear power capacity by **2047** to support India’s energy transition.

Key Features

- **R&D Funding:** ¹ **20,000 crore** allocated (FY 2025–26) for the research, design, and deployment of SMRs.
- **Indigenous SMR Pipeline (BARC):**
 - **BSMR-200:** 200 MWe reactor.
 - **SMR-55:** 55 MWe reactor.
 - **High-Temp Gas-Cooled Reactor (~5 MW):** Designed for hydrogen generation.
- **Focus Areas:**
 - **Industrial Decarbonisation:** Using SMRs for captive power and repowering retiring fossil fuel units.
 - **Remote Access:** Off-grid applications.
- **Implementation Model:**
 - Public sector to contribute **~58–60 GW**.
 - Remaining capacity via public/private participation.
 - Execution led by **NPCIL** and the **NTPC–NPCIL Joint Venture**.

Significance

- **Clean Baseload Power:** Provides firm **24×7 electricity**, ensuring grid stability as intermittent renewables scale up.
- **Net Zero 2070:** Critical for reducing lifecycle emissions and achieving India’s climate goals.

ADITYA L1 FINDINGS ON GANNON’S SOLAR STORM

Context: India’s **Aditya-L1** mission, in collaboration with six U.S. satellites, has uncovered why the **May 2024 “Gannon’s Solar Storm”** was unusually intense and unpredictable.

About Gannon’s Solar Storm

- **Event Date:** May 10, 2024.
- **Intensity:** It was a **G5-level** severe geomagnetic storm—the first of such intensity in over two decades.
- **Origin:** Generated by a massive solar active region (nearly **17 times** the size of Earth) that released multiple Coronal Mass Ejections (CMEs).

Key Findings by Aditya-L1

1. Formation of a Superstorm

- A chain of powerful CMEs merged in space, colliding and compressing each other to form a single, unusually intense superstorm.

2. Internal Magnetic Reconnection

- **Discovery:** Aditya-L1 detected that the Sun’s twisted magnetic field lines snapped and rejoined *inside* the CME. This is a rare “**internal reconnection**” event.
- **Mechanism:** The collision of two CMEs triggered a large-scale magnetic reconfiguration, intensifying the storm.

3. Giant Reconnection Region

- **Scale:** The reconnection zone spanned **1.3 million km** (nearly **100 times** Earth's diameter).
- **Record:** This is the largest reconnection region ever detected inside a CME.

4. 3D Insights

- The collaboration between Aditya-L1 and six U.S. satellites allowed for multi-point observations, providing unprecedented **3D insights** into the storm's structure.

EVALUATION TRIAL OF AKASH-NG

Context: The **DRDO** and **Indian Air Force (IAF)** successfully concluded the **User Evaluation Trials (UET)** for the *Next Generation Akash* (Akash-NG) missile system.

Significance of the Trial

- **Milestone:** The successful UET signals the completion of the developmental phases.
- **Way Forward:** Clears the path for **mass production** and formal induction into the Indian Armed Forces.

Operational Capabilities

- **Target Profile:** Specifically engineered to intercept high-speed, maneuvering aerial threats:
 - Fighter jets.
 - Cruise missiles.
 - Unmanned Aerial Vehicles (UAVs).
- **Engagement:** Capable of engaging **multiple targets simultaneously** across varying altitudes and speeds.
- **Mobility:**
 - Features a **canisterized launcher** (missile stored and fired from a sealed tube).
 - Has a reduced footprint for rapid transport and quicker deployment in diverse terrains.

Key Upgrades (vs. Legacy Akash)

(Based on standard technical specifications)

- **Range:** Enhanced range (up to **70–80 km**) compared to the original Akash (~25-30 km).
- **Propulsion:** Uses a **Dual-Pulse Solid Rocket Motor** for higher range and agility.
- **Guidance:** Equipped with an **Active RF Seeker** for improved terminal accuracy (the old Akash relied heavily on ground radar guidance)

ISRO TO LAUNCH BLUEBIRD-6 (HEAVIEST US COMMERCIAL SATELLITE)

Context: ISRO is set to launch **BlueBird-6**, the **heaviest American commercial communication satellite (6.5 tonnes)** ever launched by India. The mission is scheduled for **December 15** aboard the **LVM3** rocket.

About BlueBird-6 Satellite

- **Owner:** **AST SpaceMobile** (USA).
- **Type:** Low-Earth Orbit (LEO) communication satellite.
- **Weight:** **6.5 tonnes** (Heavy payload).
- **Purpose:** Part of a next-generation constellation designed for **direct-to-device mobile broadband** globally (connecting standard smartphones directly to satellites).

- **Key Features:**

- **Antenna:** Features the **largest commercial phased array antenna** in LEO (~2,400 sq ft when deployed).
- **Capacity:** Belongs to the **Block-2 series**; it is **3.5x larger** and has **10x higher data capacity** than previous BlueBird models.
- **Bandwidth:** Provides up to **10,000 MHz** per satellite.
- **Connectivity:** Ensures connectivity in areas with no terrestrial networks.

About Launch Vehicle: LVM3 (“Bahubali”)

- **Status:** India’s **heaviest-lift launch vehicle**.
- **Payload Capacity:**
 - **LEO:** Up to **8,000 kg** (8 tonnes).
 - **GTO:** Up to **4,000 kg** (4 tonnes).
- **Future Role:** Designated launcher for the **Gaganyaan** human spaceflight mission (scheduled for 2027).

Configuration (Three-Stage):

1. **S200 Solid Strap-ons:** Two massive boosters with 204 tonnes of propellant each (among the world’s largest).
2. **L110 Liquid Core Stage:** Twin-engine liquid stage.
3. **C25 Cryogenic Upper Stage:** Powered by the indigenous **CE-20 engine**.

Recent Track Record:

- Successfully launched **CMS-3** (4.4 tonnes).
- 100% success rate in operational heavy-lift missions.

ANDHRA’S RARE EARTH CORRIDOR

Context: Andhra Pradesh’s **974-km-long coastline** has gained massive strategic importance due to large reserves of **Rare Earth Elements (REEs)** embedded in beach sand minerals.

What is the Rare Earth Corridor?

- **Location:** A continuous mineral-rich belt extending from **Srikakulam** (North) to **Nellore** (South).
- **Key Minerals:** Rich in beach sand minerals like **Ilmenite, Rutile, Zircon, Garnet, Sillimanite**, and most importantly, **Monazite**.
- **Reserves:**
 - Andhra Pradesh holds **30–35%** of India’s total monazite reserves (out of 12–15 million tonnes nationally).
 - It is considered one of India’s most underutilised critical mineral zones.
- **About Monazite:** The primary source of REEs and **Thorium**. India possesses one of the world’s largest monazite reserves, found mainly in the beach sands of Kerala, Tamil Nadu, Odisha, and Andhra Pradesh.

About Rare Earth Elements (REEs)

- **Definition:** A group of **17 elements** comprising **15 Lanthanides + Scandium + Yttrium**.
- **Why “Rare”?** They are geologically abundant but called “rare” because:
 - They occur in **low concentrations**.
 - Their extraction is complex, capital-intensive, and technology-intensive.

- **Classification:**
 - **Light REEs (LREEs):** Lanthanum, Cerium, Neodymium, Praseodymium, etc.
 - **Heavy REEs (HREEs):** Dysprosium, Terbium, Yttrium, etc.

Strategic Importance (Why REEs Matter)

- **Clean Energy:** Essential for **Wind Turbines** and **Electric Vehicles (EVs)**. Elements like Neodymium and Dysprosium are critical for making **permanent magnets**.
- **Defence:** Used in missile guidance systems, radar, sonar, and fighter aircraft components.
- **High-Tech:** Vital for smartphones, semiconductors, and medical imaging (MRI, X-rays)

ETHICS

DEATH PENALTY – THE PRACTICE AND THE PERIL

Context: The Supreme Court of India is currently hearing the Union government’s submission regarding the feasibility of replacing “hanging” with a more humane and less painful method of execution. This has reignited the debate on the constitutional and moral validity of capital punishment in a modern democracy.

1. Understanding the Death Penalty

- **Definition:** The death penalty (capital punishment) is the state-sanctioned killing of a person as punishment for a heinous crime.
- **Judicial Homicide:** In legal and ethical discourse, the practice is often termed “judicial homicide”—an intentional killing authorized by the judiciary.
- **Death Row:** Refers to the status of a prisoner who has been sentenced to death and is awaiting execution.

2. Status of Death Penalty in India

A. Judicial Trends (The “Rarest of Rare” Paradox)

Despite being a retentionist country, India’s highest court has shown a distinct reluctance to confirm death sentences in recent years.

- **Zero Confirmations:** For the third consecutive year, the Supreme Court has **not confirmed any death sentences**.
- **Acquittals & Commutations:** Instead of execution, the Court has leaned towards acquitting death row prisoners (9 acquitted recently) or commuting sentences to life imprisonment (5 commuted).
- **Remand:** Several cases have been sent back to trial courts for fresh consideration, highlighting procedural flaws in the lower judiciary.

B. The “Hanging vs. Lethal Injection” Debate

- **Current Proposals:** The Supreme Court is evaluating a proposal to give death row convicts the **option to choose** between “death by hanging” and “lethal injection.”
- **Government’s Stand:** The Centre maintains that hanging is the “safest and quickest” method. However, following the Court’s displeasure at this rigid stance, the government has hinted it is open to examining alternative, less painful methods.
- **Court’s View:** The Top Court emphasizes that the method of execution must meet the constitutional test of human dignity, even in death.

C. The Reality of “Death Row”

- **Statistics:** India currently has **564 prisoners on death row**, the highest number in nearly two decades.
- **Trial Court Aggression:** Trial courts have been sentencing over **100 people to death annually**. These sentences are often passed without proper consideration of **mitigating circumstances** (e.g., the convict’s socio-economic background, age, or potential for reform).
- **Judicial Guidance:** In the landmark *Manoj vs State of Madhya Pradesh (2022)* judgment, the Supreme Court ruled that courts must evaluate mitigating factors to prevent retributive sentencing. The Court reminded judges not to be swayed by “public outrage” or the “brutality of the crime,” asserting that modern penology centres on the **preservation of human life**.

D. The “Middle Path”

Courts are increasingly adopting “**Life Imprisonment without Remission**” as a substitute for the death penalty. Introduced after the Nirbhaya case, this ensures the convict remains in prison until natural death, satisfying the need for severe punishment without state-sponsored killing.

3. Global Landscape of Capital Punishment

A. Rising Executions (The 2023 Spike)

According to **Amnesty International**, the use of the death penalty saw a disturbing rise in 2023.

- **Recorded Executions:** 1,153 executions were recorded in 2023, a **31% increase** from 2022. This is the highest figure since 2015.
- **The “Hidden” Numbers:** These figures exclude China, which is believed to be the world’s leading executioner (executing thousands) but keeps the data a state secret.
- **Sentencing Surge:** Global death sentences increased by **20%**, reaching 2,428.

B. Retentionist vs. Abolitionist Nations

- **Retainers (55 Nations):** Major countries like the **USA, China, India, Japan, Saudi Arabia, Iran, and Singapore** continue to use the death penalty.
- **Abolitionists:** Over **70% of the world** has abolished capital punishment in law or practice.
 - **Fully Abolished (2024):** Kazakhstan, Papua New Guinea, Sierra Leone, and the Central African Republic.
 - **Reformist Steps:** **Malaysia** removed the *mandatory* death penalty for 11 serious crimes, and **Ghana** voted to abolish it altogether in 2023.

4. Methods of Execution

Different nations employ varying methods, often sparking debate over “cruelty” and “humaneness.”

Here is the revised section on **Methods of Execution** presented as a list instead of a table.

Methods of Execution

- **Hanging**
 - **The Process:** The ‘long drop’ method is the most commonly used technique, designed to break the neck instantly.
 - **Used by:** India, Japan, Bangladesh, Iran, Malaysia, Nigeria, etc.
- **Lethal Injection**
 - **The Process:** Involves the administration of a cocktail of three drugs:

1. **Sodium Thiopental:** An anaesthetic to induce unconsciousness.
 2. **Pancuronium Bromide:** A paralytic agent to stop breathing.
 3. **Potassium Chloride:** Stops the heart.
 - **Used by:** USA, China, Vietnam.
- **Electrocution**
 - **The Process:** The prisoner is blindfolded and subjected to repeated jolts of **500–2000 volts** for approximately 30 seconds.
 - **Used by:** USA.
 - **Nitrogen Hypoxia**
 - **The Process:** Forces the inmate to breathe only nitrogen gas, causing death by oxygen deprivation (hypoxia).
 - **Used by:** Select US states.
 - **Shooting**
 - **The Process:** Execution is carried out by firing squads.
 - **Used by:** China, North Korea, Indonesia, Saudi Arabia, Yemen.
 - **Beheading**
 - **The Process:** Public execution using a sword.
 - **Used by:** Saudi Arabia (Sole country known to use this method as of 2022).

5. The Great Debate: Justice vs. Humanity

The Argument for Retention:

Supporters argue that capital punishment is society's necessary response to extreme cruelty. It is viewed as a mechanism to satisfy the **collective sense of justice** and act as a deterrent against the recurrence of heinous crimes.

The Argument for Abolition (The Peril):

- **Ineffectiveness:** Empirical evidence shows that the death penalty **does not deter violent crime** more effectively than life imprisonment.
- **Irreversibility:** The risk of **wrongful execution** is the gravest peril. Once executed, a miscarriage of justice cannot be rectified.
- **Moral Contradiction:** Taking a life in the name of law ("killing to show that killing is wrong") creates a moral paradox.
- **No Rehabilitation:** It denies the possibility of reform, which is a core tenet of modern restorative justice.

6. What Lies Ahead?

The larger constitutional issue—ensuring fairness and consistency in awarding death sentences—is currently pending before a **Constitution Bench** of the Supreme Court.

- **The Need for Clarity:** The current system is marked by arbitrariness (judge-centric variations in sentencing). The Bench's decision is expected to bring long-overdue clarity.
- **Moral Progress:** As over 113 countries move towards total abolition, India's reliance on capital punishment appears out of step with global moral progress.

Conclusion: Focusing merely on the "mechanics of execution" (hanging vs. injection) misses the larger point. The true question facing the judiciary and society is not *how* to kill, but *whether* the state should kill at all.

ATTITUDE BEATS APTITUDE**1. The Core Concept**

- **Aptitude:** Refers to raw technical skills and cognitive ability. It is the **entry ticket** to a job.
- **Attitude:** Refers to mindsets and behaviors (e.g., resilience, accountability, openness). It determines **professional growth** and long-term success.

2. Why Attitude Wins (The “Soft” Edge)

In a fast-changing environment, static skills become obsolete quickly. Attitude bridges the gap:

- **Learnability:** Openness to experimenting allows employees to stay relevant, unlike those with fixed skill sets.
- **Ownership:** Taking responsibility for *outcomes* (not just tasks) builds trust and reliability.
- **Handling Ambiguity:** The ability to remain calm and solution-oriented in uncertain environments is crucial.
- **Coachability:** A willingness to accept feedback signals maturity and leadership potential.
- **Collaboration:** Interpersonal maturity ensures effective teamwork and conflict resolution.

3. Why Aptitude Still Matters (The Foundation)

While attitude drives growth, aptitude ensures the baseline of competence:

- **Quality & Safety:** Ensures minimum standards of accuracy and safety.
- **Efficiency:** Strong cognitive skills allow for faster understanding and logical problem-solving.
- **Credibility:** Essential for building confidence among peers in specialized or technical roles.
- **Autonomy:** High aptitude reduces the need for “hand-holding,” saving organizational resources.

4. Challenges to Developing the Right Attitude

- **Fear of Mistakes:** Over-emphasis on perfectionism discourages experimentation.
- **Rigid Hierarchies:** Power distances prevent young professionals from seeking clarity.
- **Remote Disengagement:** Lack of in-person interaction weakens emotional alignment and informal learning.
- **Credential Entitlement:** Excessive focus on degrees can reduce humility and willingness to learn.
- **Low Feedback Literacy:** Taking feedback as a personal attack rather than a tool for improvement.

5. Methods to Instill Both

- **Continuous Learning Culture:** Integrate behavioral learning with technical training.
- **Structured Feedback:** Regular feedback helps individuals reflect and course-correct.
- **Mentorship:** Senior professionals act as role models, demonstrating how skills and attitude blend in practice.
- **Experiential Learning:** Real-world tasks build both competence (aptitude) and confidence (attitude).

Conclusion

Aptitude enables entry into the workplace, but **Attitude** governs growth, trust, and leadership. In the long run, character acts as the true **multiplier of competence**.

MISCELLANEOUS EVENTS

1. PARAM VIR CHAKRA (PVC) PORTRAITS

Context: Portraits of all **21 Param Vir Chakra (PVC)** awardees have been installed in **Rashtrapati Bhavan**, replacing 96 portraits of British Aides-de-Camp.

- **Objective:** Part of broader efforts to remove colonial symbols from Indian institutions.
- **About Aide-de-Camp (ADC):** A senior military or police officer serving as a personal staff officer to dignitaries (President, Governors, Service Chiefs). They are responsible for protocol, logistics, and official coordination.

2. NATIONAL MATHEMATICS DAY

Context: Observed annually on **22 December** to commemorate the birth anniversary of **Srinivasa Ramanujan**.

About Srinivasa Ramanujan (1887–1920)

- **Origin:** Born in Kumbakonam, Tamil Nadu.
- **Contributions:** Despite lacking formal training, he made substantial contributions to mathematical analysis, number theory, infinite series, and continued fractions.
- **Achievements:**
 - Wrote to British mathematician **G.H. Hardy** in 1913, leading to his research at Cambridge.
 - Became one of the youngest Fellows of the Royal Society.
 - First Indian Fellow of **Trinity College, Cambridge**.

3. VINOD KUMAR SHUKLA (OBITUARY)

Context: Eminent Hindi litterateur and **Jnanpith Award** winner Vinod Kumar Shukla passed away.

Key Highlights

- **Style:** Known for transforming mundane everyday life into profound observations with a simple narrative style.
- **Pioneer:** First writer from **Chhattisgarh** to receive the Jnanpith Award.
- **Seminal Works:**
 - *Naukar Ki Kameez* (The Servant's Shirt)
 - *Deewar Mein Ek Khidki Rahti Thi* (A Window Lived in the Wall)
 - *Khilega To Dekhenge*

About Jnanpith Award

- **Institution:** Established in **1961** by the Bharatiya Jnanpith Trust.
- **Criteria:** Given for **excellence in Indian literature**. Since 1982, it recognizes an author's **lifetime contribution** (previously for specific works).
- **Eligibility:** Indian citizens writing in any of the **22 languages** in the Eighth Schedule + **English** (included post-2013).

4. CHAMPIONS OF THE EARTH AWARD 2025

Context: Tamil Nadu IAS officer **Supriya Sahu** received the **UNEP's Champions of the Earth Award** (Category: *Inspiration & Action*).

About the Award

- **Status:** The UN's **highest environmental honour**, instituted in 2005.
- **Purpose:** Recognises leaders from public/private/civil society sectors for transformative environmental impact.

Supriya Sahu's Contributions

- **Operation Blue Mountain (2000):** Campaign to eliminate single-use plastics in the **Nilgiris**.
- **Climate Solutions:**
 - **Cool Roof Project:** White-painted school roofs to reduce heat.
 - **Restoration:** Restored mangroves/wetlands and created **65 new reserve forests**.
- **Impact:** Her "Nature-first" approach reportedly generated **2.5 million green jobs** and advanced India's emission reduction targets.