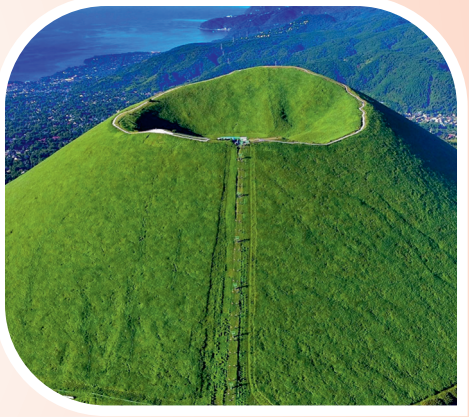
JUNE 2026

Comprehensive Coverage of

CURRENT AFFAIRS

ENTIRE CONTENT OF MAY 2026





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INDEX

- INDIAN ECONOMY 1-77
- POLITY AND GOVERNANCE 78-97
- SCIENCE AND TECHNOLOGY 98-109
- INDIAN SOCIETY 110-118
- ENVIRONMENT AND ECOLOGY 119-162
- HISTORY, ART AND CULTURE 163-183
- DAYS AND AWARDS IN NEWS 184-185

INDIAN ECONOMY

Small Hydro Power (SHP) Development Scheme (2026–31)

The Union Cabinet has approved the Small Hydro Power (SHP) Development Scheme for the period FY 2026–27 to FY 2030–31 with a total outlay of ₹2,584.60 crore. The scheme aims to add around 1,500 MW of new small hydro capacity across India, with special focus on hilly and North-Eastern states.

What is Small Hydro Power (SHP)?

In India, hydropower projects up to 25 MW capacity are classified as Small Hydro Projects (SHPs) and fall under the administrative jurisdiction of the Ministry of New and Renewable Energy. Projects above 25 MW are governed by the Ministry of Power.

Small hydro projects generally:

- Use flowing water to generate electricity
- Have limited ecological footprint
- Require comparatively less land acquisition
- Are suitable for remote and hilly regions
- Provide reliable round-the-clock power unlike intermittent solar and wind energy

Key Features of the Scheme

Financial Assistance

For North-Eastern states and international border districts:

- ₹3.6 crore per MW or 30% of project cost (whichever is lower)
- Maximum support: ₹30 crore per project

For other regions:

- ₹2.4 crore per MW or 20% of project cost (whichever is lower)
- Maximum support: ₹20 crore per project

DPR Support

- Separate allocation of ₹30 crore for preparation of Detailed Project Reports (DPRs)
- Support proposed for at least 200 projects

Employment Generation

- Expected to generate nearly 51 lakh person-days of employment during construction phase
- Additional long-term jobs in operation and maintenance

Investment Potential

- Expected to attract nearly ₹15,000 crore investment into the sector
- Promotes indigenous machinery and manufacturing in line with Atmanirbhar Bharat

SHP Potential in India

India's estimated SHP potential:

- 21,133.61 MW
- Across 7,133 identified sites

Installed capacity achieved so far:

- Around 5,171 MW
- Roughly 24.5% of total potential harnessed

Regional Distribution of SHP Potential

Northern Region

Highest SHP potential due to Himalayan rivers and mountainous terrain.

Major states:

- Himachal Pradesh
- Uttarakhand
- Jammu & Kashmir

North-Eastern Region

Important frontier for future SHP expansion.

Major state:

- Arunachal Pradesh

Importance:

- Decentralised power supply
- Off-grid electrification
- Tribal and remote area development

Southern Region

Relatively better utilisation due to stronger infrastructure and river systems.

Major state:

- Karnataka

Western Region

Potential for canal-based and dam-toe hydropower projects.

Eastern Region

Useful for rural electrification and tribal development.

Important Concepts

Run-of-the-River Projects

These projects generate electricity using the natural flow of river water without constructing large reservoirs or dams. They have comparatively lower ecological impact.

Canal-based / Dam-toe Projects

These utilise existing irrigation canals, dams or barrages to generate electricity using water-level differences, reducing infrastructure costs.

Significance for India

Energy Security

- Provides reliable and firm renewable energy
- Enhances grid stability
- Complements solar and wind energy

Decentralised Renewable Energy

- Suitable for difficult terrains and remote regions
- Reduces transmission losses

Environmental Benefits

- Clean energy source with minimal emissions
- Lower land requirement and displacement

Rural Development

- Supports local employment
- Enhances infrastructure and livelihoods in remote areas

Strategic Importance

- Particularly useful in border and hilly regions
- Strengthens regional energy resilience

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Mission for Cotton Productivity (2026–31)

The Union Cabinet has approved the "Mission for Cotton Productivity" with a total outlay of **₹5,659.22 crore** for the period **2026–27 to 2030–31**. The mission aims to improve cotton productivity, quality and global competitiveness of Indian cotton. It will be jointly implemented by **the Ministry of Agriculture & Farmers Welfare and the Ministry of Textiles.**

Why was the mission needed?

India is among the world's largest cotton producers, yet the sector has been facing several structural challenges:

- Declining productivity levels
- Pest and disease attacks
- Poor fibre quality and contamination
- Dependence on imports of Extra Long Staple (ELS) cotton
- Reduced export competitiveness

The mission is aligned with the government's "5F Vision":
Farm → Fibre → Factory → Fashion → Foreign.

Major Features of the Mission

1. Seed and Technology Development

The mission focuses on development of:

- High Yielding Varieties (HYVs)
- Climate-resilient seed varieties
- Pest- and disease-resistant cotton

Research support will involve ICAR institutes, CSIR institutions, State Agricultural Universities and AICRP centres on cotton.

2. Improving Cultivation Practices

The scheme promotes scientific cultivation methods such as:

- High Density Planting System (HDPS)
- Closer Spacing techniques
- Integrated Cotton Management
- Expansion of Extra Long Staple (ELS) cotton cultivation

HDPS aims to increase plant population per hectare to improve productivity and facilitate mechanisation.

3. Quality Improvement and Processing

A major objective is reducing contamination in Indian cotton and improving fibre quality through:

- Modernisation of ginning and processing units
- Strengthening cotton testing infrastructure
- Standardised and accredited testing facilities

The mission targets reduction of trash content in cotton to below 2%.

4. Kasturi Cotton Bharat

The initiative seeks to strengthen the "Kasturi Cotton Bharat" brand to position Indian cotton as:

- Premium quality
- Sustainable
- Traceable in global supply chains

5. Diversification of Natural Fibres

The mission also promotes alternative natural fibres such as flax, ramie, bamboo, sisal and banana fibre to encourage sustainable textile production and reduce excessive dependence on conventional cotton.

Coverage and Targets

The mission will initially cover:

- 140 districts
- 14 cotton-growing states
- Around 2,000 ginning and processing factories

Targets by 2031:

- Cotton production: 498 lakh bales
- Productivity increase:
  - From 440 kg/hectare
  - To 755 kg/hectare

Expected beneficiaries: Around 32 lakh farmers.

Important Concepts

Extra Long Staple (ELS) Cotton- ELS cotton has longer and stronger fibres, making it suitable for premium textiles and finer yarn. India imports significant quantities of ELS cotton due to inadequate domestic production.

High Density Planting System (HDPS)- HDPS involves planting cotton at closer spacing with higher plant density. It improves yield potential and supports mechanised harvesting.

Significance of the Mission

The mission is significant because it attempts to address the entire cotton value chain rather than focusing only on production.

Agriculturally, it aims to improve productivity, resilience and farmer incomes. Industrially, it supports the textile sector through better quality raw material and reduced import dependence. Economically, it can improve India's competitiveness in global textile exports. The emphasis on traceability and sustainable fibres is also important in view of emerging global sustainability standards.

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RBI Repatriation of Gold Reserves

According to RBI data, the Reserve Bank of India brought back 168.06 metric tonnes (MT) of gold to India during FY 2025–26. This is the third consecutive year in which the RBI has repatriated more than 100 MT of gold from overseas vaults to domestic storage facilities.

The gold was earlier held mainly with the Bank of England and the Bank for International Settlements (BIS).

Key Data

As of March 2026:

- RBI's total gold holdings: 880.52 MT
- Gold held domestically: around 77%
- Gold value: nearly $122 billion
- Share of gold in forex reserves: 16.7%

This is a sharp rise from March 2023, when only about 38% of RBI's gold was stored domestically.

Why is RBI Bringing Gold Back to India?

The move reflects changing global reserve management strategies after the Russia–Ukraine conflict and increasing geopolitical uncertainty.

After Western sanctions froze parts of Russia's foreign exchange reserves in 2022, many central banks began reassessing dependence on overseas custody of reserve assets. This led to:

- Greater preference for gold as a reserve asset
- Increased domestic storage of gold reserves
- Diversification away from excessive dependence on dollar-denominated assets

Why do Central Banks Hold Gold?

Gold remains an important component of foreign exchange reserves because:

- It is considered a safe-haven asset during crises
- It acts as a hedge against inflation and currency volatility
- It reduces overdependence on any single foreign currency
- It improves confidence in a country's external stability

Unlike foreign currency assets, gold does not carry sovereign default risk.

Significance for India

Financial Security

Holding larger reserves domestically improves accessibility and control during periods of global instability or sanctions-related risks.

Reserve Diversification

The RBI has gradually increased the share of gold in India's forex reserves as part of reserve diversification strategy.

Rising Importance of Gold Globally

Central banks globally have been increasing gold purchases in recent years amid:

- Geopolitical tensions
- Trade uncertainty
- Concerns over excessive dollar dependence

According to the World Gold Council, central bank gold purchases globally have remained above 1,000 tonnes annually for multiple consecutive years.

Historical Context

India had pledged gold reserves during the 1991 Balance of Payments crisis to raise foreign exchange. The present trend reflects India's substantially stronger external sector position compared to that period.

Important Institutions

Bank for International Settlements (BIS)

The BIS is an international financial institution headquartered in Basel, Switzerland. It is often referred to as the "bank for central banks" and facilitates cooperation among central banks.

Foreign Exchange Reserves

India's forex reserves mainly consist of:

- Foreign currency assets
- Gold reserves
- SDRs (Special Drawing Rights)
- Reserve Tranche Position (RTP) with IMF

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Easing of FDI Rules for Foreign Firms with Limited Chinese Stake

The Finance Ministry has notified amendments under the Foreign Exchange Management Act (FEMA), allowing overseas entities with up to 10% Chinese or Hong Kong shareholding to invest in India through the automatic route, subject to sectoral conditions. The changes were notified through the Foreign Exchange Management (Non-Debt Instruments) (Second Amendment) Rules, 2026.

Background: Press Note 3 (2020)

In April 2020, India introduced stricter FDI rules through Press Note 3 (PN3) amid concerns over opportunistic takeovers during the COVID-19 period.

Under PN3:

- Any investment from countries sharing land borders with India required prior government approval.
- The rule covered China, Pakistan, Bangladesh, Nepal, Myanmar, Bhutan and Afghanistan.
- It also applied where the "beneficial owner" of investment belonged to such countries.

The policy significantly affected Chinese investments in Indian startups and technology sectors.

What Has Changed?

The new amendment allows foreign entities with up to 10% Chinese/Hong Kong shareholding to invest under the automatic route in sectors where automatic-route FDI is otherwise permitted.

However:

- The relaxation does not apply to entities incorporated in China or Hong Kong.
- Sectoral caps and existing security conditions continue to apply.
- Sensitive sectors will still remain under tighter scrutiny.

Thus, the change mainly benefits global investment funds or multinational firms having minor Chinese shareholding rather than Chinese companies themselves.

What is the Automatic Route?

Under the automatic route:

- Foreign investors do not require prior approval from the Government of India or RBI before investing.
- Investment only needs post-facto reporting to RBI under FEMA regulations.

Under the government route:

- Prior approval from the central government is mandatory.

FDI policy in India is formulated by DPIIT, while FEMA regulations are administered by RBI and the Ministry of Finance.

FEMA and FDI

Foreign Exchange Management Act (FEMA), 1999

FEMA replaced FERA in 1999 and governs:

- Foreign exchange transactions
- Cross-border investments
- External trade and payments

It is administered by the Reserve Bank of India and the Central Government.

FDI in India

Foreign Direct Investment refers to investment by a foreign entity in productive assets or business operations in another country with lasting interest and management influence.

India permits FDI through:

- Automatic route
- Government approval route

Sectoral caps vary across sectors such as defence, insurance, telecom and media.

Significance of the Amendment

The amendment reflects a calibrated relaxation rather than a complete rollback of PN3 restrictions.
It aims to:

- Facilitate capital inflows through global funds
- Reduce compliance hurdles for multinational investors
- Improve ease of doing business
- Distinguish between passive minority ownership and controlling investment

At the same time, India continues to maintain safeguards in sectors involving national security and strategic interests.

Additional UPSC-Relevant Points

Difference between FDI and FPI

FDI:

- Long-term investment
- Involves management control and ownership interest

FPI (Foreign Portfolio Investment):

- Investment in financial assets like shares and bonds
- Generally short-term and speculative
- Does not imply management control

Sectors Prohibited for FDI in India

Examples include:

- Atomic energy
- Lottery business
- Gambling and betting
- Chit funds
- Nidhi companies

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UDGAM Portal and Unclaimed Deposits

The Reserve Bank of India informed the Supreme Court that 30 banks have now been integrated with the UDGAM portal, covering nearly 90% of unclaimed deposits transferred to the Depositor Education and Awareness Fund (DEAF). The portal is intended to help depositors and legal heirs trace dormant and unclaimed bank deposits.

What is UDGAM?

UDGAM stands for:
Unclaimed Deposits – Gateway to Access Information.
It is a centralized web portal launched by the RBI in August 2023 to enable users to search unclaimed deposits across multiple banks through a single platform.
The portal:

- Helps identify dormant or unclaimed deposits
- Assists legal heirs in tracing deposits of deceased account holders
- Provides information regarding claim procedures of respective banks

However, the portal only facilitates search and identification. Settlement of claims continues to be handled by the concerned bank.

What are Unclaimed Deposits?

Under RBI norms:

- A bank account becomes "inoperative" if there are no customer-induced transactions for two years.
- Deposits remaining unclaimed for 10 years are transferred by banks to the Depositor Education and Awareness Fund (DEAF) maintained by RBI.

Common reasons for unclaimed deposits include:

- Death of account holder
- Absence of nominee details
- Forgotten accounts
- Migration of customers
- Lack of awareness among legal heirs

Depositor Education and Awareness Fund (DEAF)

The DEAF was established by RBI in 2014 under the Depositor Education and Awareness Fund Scheme.

Key features:

- Banks transfer deposits unclaimed for 10 years to DEAF
- Depositors and legal heirs continue to retain claim rights permanently
- The fund is also used for depositor awareness and financial literacy initiatives

RBI's Submission Before the Supreme Court

RBI informed the Court that:

- 30 banks are integrated with the portal
- These account for nearly 90% of unclaimed deposits in DEAF
- Around 44 lakh searches have been conducted
- More than 20 lakh users have used the platform

The PIL before the Supreme Court highlighted the need for integration of other unclaimed financial assets such as:

- Post office deposits
- Provident funds
- Insurance policies
- Securities and dividends

Significance of the Portal

The portal is significant from the perspective of:

- Financial inclusion
- Ease of living
- Citizen-centric governance
- Digital public infrastructure

It reduces information asymmetry between financial institutions and citizens by creating a centralized search mechanism for dormant deposits.

The portal is also important for legal heirs, who often face difficulties in identifying and recovering financial assets of deceased family members.

Issues and Challenges

Despite the portal, several issues remain:

- Fragmentation of financial information across institutions
- Complex documentation requirements such as succession certificates and probate
- Lack of integration with insurance, EPFO and postal savings databases
- Potential concerns regarding data privacy and cyber fraud

Additional UPSC-Relevant Concepts

Difference between Inoperative and Unclaimed Accounts

Inoperative Account:

- No transactions for 2 years

Unclaimed Deposit:

- Remains unclaimed for 10 years and transferred to DEAF

Nomination Facility in Banking

Under the Banking Regulation Act, banks provide nomination facilities to simplify transfer of deposits to legal heirs in case of death of account holders.

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IndiaAI – ICMR MoU on AI in Healthcare

IndiaAI, under the Ministry of Electronics and Information Technology (MeitY), has signed an MoU with the Indian Council of Medical Research (ICMR) to promote responsible and scalable use of Artificial Intelligence (AI) in healthcare. The partnership seeks to build a nationally coherent and interoperable AI ecosystem for healthcare in India.

The collaboration combines:

- IndiaAI's AI infrastructure and ecosystem capabilities
- ICMR's expertise in biomedical and public health research

Source: PIB

Background

IndiaAI Mission

IndiaAI is the Government of India's flagship AI initiative under MeitY and is implemented through the Digital India Corporation (DIC).

It aims to:

- Build AI computing infrastructure
- Promote AI innovation and startups
- Create AI datasets and platforms
- Develop AI-skilled workforce
- Encourage ethical and responsible AI adoption

ICMR

Indian Council of Medical Research (ICMR):

- Apex body for biomedical research in India
- Functions under the Ministry of Health and Family Welfare

It coordinates and promotes:

- Medical research
- Disease surveillance
- Public health studies

- Biomedical innovation

Key Features of the Collaboration

1. AIKosh Dataset Platform

ICMR will contribute:

- Anonymised health datasets
- Ethics-approved research data
- AI models and toolkits

These will be integrated into the AIKosh platform to support:

- Researchers
- Startups
- Healthcare innovators

The datasets will be sourced through ICMR's MIDAS framework.

2. Compute Infrastructure Support

IndiaAI will provide:

- GPU-based computing infrastructure
- High-performance computing access

This will help address computational constraints in advanced AI-based medical research.

3. AI-based Healthcare Solutions

The partnership will support development of AI solutions for:

- Disease prediction
- Diagnostics
- Public health management
- Healthcare delivery optimisation

The use cases will be guided by India's disease burden and public health priorities.

Important Concepts

AIKosh

AIKosh is IndiaAI's national AI datasets platform aimed at:

- Providing high-quality datasets
- Supporting AI model development
- Encouraging indigenous AI innovation

MIDAS Framework

Medical Information Data for AI Solutions (MIDAS) is an ICMR framework designed for:

- Ethical health data management
- AI-ready biomedical datasets
- Responsible AI research in healthcare

GPU-based Computing

Graphics Processing Units (GPUs) are specialised processors capable of handling large-scale parallel computations required for:

- Machine learning
- Deep learning
- Generative AI models

International Collaboration

In September 2025:

- IndiaAI and ICMR's National Institute for Research in Digital Health and Data Sciences (NIRDHDS) were recognised as Pioneer Countries under the HealthAI Global Regulatory Network (GRN).

The GRN is a multilateral initiative co-founded by:

- India
- United Kingdom
- Singapore

It focuses on responsible governance of AI in healthcare.

Significance of the MoU

Strengthening Digital Health Ecosystem

The partnership integrates:

- Health research
- AI infrastructure
- Public health datasets

This can accelerate development of indigenous healthcare technologies.

Boost to Responsible AI

The collaboration emphasises:

- Ethical AI deployment
- Data privacy
- Regulatory compliance
- Interoperability

This is important given concerns regarding algorithmic bias, misuse of health data and AI accountability.

Public Health Benefits

AI applications can improve:

- Early disease detection
- Predictive healthcare
- Rural healthcare access
- Health system efficiency

Support to India's AI Ecosystem

The initiative strengthens India's objective of becoming a global AI innovation hub, especially in socially relevant sectors such as healthcare.

Challenges in AI-based Healthcare

Key concerns include:

- Data privacy and consent
- Algorithmic bias
- Lack of quality health datasets
- Regulatory uncertainty
- Digital divide and unequal healthcare access

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Scheme for Promotion of Surface Coal/Lignite Gasification Projects

The Union Cabinet has approved a new scheme for promotion of surface coal and lignite gasification projects with a financial outlay of ₹37,500 crore. The scheme aims to accelerate India's target of gasifying 100 Million Tonnes (MT) of coal by 2030.

The initiative seeks to strengthen energy security, reduce import dependence and promote domestic production of fuels and chemicals using India's large coal reserves.

Background

India possesses:

- Around 401 billion tonnes of coal reserves
- Around 47 billion tonnes of lignite reserves

Coal currently accounts for more than 55% of India's energy mix.

India remains heavily dependent on imports for several critical products:

- LNG: more than 50% imported
- Urea: around 20% imported
- Ammonia: nearly 100% imported
- Methanol: around 80–90% imported

The import bill for products that can potentially be substituted through coal gasification was estimated at around ₹2.77 lakh crore in FY2025.

The scheme builds upon:

- National Coal Gasification Mission (2021)
- ₹8,500 crore coal gasification scheme approved in 2024

What is Coal Gasification?

Coal gasification is the process of converting coal or lignite into synthesis gas (syngas) through controlled chemical reactions.

Syngas mainly contains:

- Carbon monoxide (CO)
- Hydrogen (H_2)

It can be used to produce:

- Synthetic Natural Gas (SNG)
- Methanol
- Ammonia
- Urea
- Chemicals and fuels

Unlike direct coal combustion, gasification converts coal into cleaner gaseous forms for industrial use.

Key Features of the Scheme

The scheme aims to incentivise approximately 75 MT of coal/lignite gasification.

Financial incentives:

- Maximum incentive: 20% of plant and machinery cost
- Incentive disbursed in four instalments linked to project milestones

Caps under the scheme:

- ₹5,000 crore for a single project
- ₹9,000 crore for a single product category
- ₹12,000 crore cap for a single entity group

Projects will be selected through a competitive bidding process based on:

- Project cost
- Coal input efficiency
- Syngas output

The scheme is technology-agnostic, though indigenous technologies are encouraged.

Coal Linkage Reform

The government has also extended coal linkage tenure up to 30 years under the "Production of Syngas leading to Coal Gasification" category in the Non-Regulated Sector (NRS) linkage auction framework.
This provides:

- Long-term fuel security
- Policy certainty for investors
- Greater viability for large capital-intensive projects

Expected Outcomes

The government estimates:

- Investment mobilisation of ₹2.5–3 lakh crore
- Around 50,000 direct and indirect jobs
- Development of nearly 25 projects

The scheme is also expected to generate significant revenue through:

- Coal utilisation
- GST collections
- Downstream industrial activity

Significance of the Scheme

Energy Security

The scheme seeks to diversify India's energy base and reduce excessive dependence on imported fuels and feedstock products.
This becomes particularly important amid:

- Global supply-chain disruptions
- West Asia geopolitical instability
- Price volatility in energy markets

Import Substitution

Coal gasification can reduce imports of:

- LNG
- Methanol
- Ammonia
- Urea
- Coking coal

This supports:

- Atmanirbhar Bharat
- Make in India

Better Utilisation of Domestic Coal

India has abundant coal reserves, including low-grade coal unsuitable for conventional uses. Gasification enables more value-added and cleaner industrial utilisation of such resources.

Industrial Development

Syngas acts as an important feedstock for:

- Fertiliser industry
- Petrochemicals
- Chemicals

- Synthetic fuels

Thus, the scheme has linkages with multiple sectors of the economy.

Technology Development

The scheme aims to strengthen indigenous gasification technologies and reduce dependence on foreign EPC contractors.

Concerns and Challenges

Despite its advantages, coal gasification faces several challenges:

- High capital costs
- Water-intensive process
- Carbon emissions concerns
- Technological complexity
- Commercial viability issues compared to natural gas

Environmental concerns remain significant because coal gasification still relies on fossil fuels, though it is relatively cleaner than direct coal burning.

Important Concepts

Syngas

Syngas or synthesis gas is a mixture primarily of:

- Hydrogen
- Carbon monoxide

It is used as an intermediate feedstock for fuels, fertilisers and chemicals.

Lignite

Lignite is low-grade brown coal with:

- Lower calorific value
- Higher moisture content

India's major lignite reserves are concentrated in:

- Tamil Nadu
- Rajasthan
- Gujarat

Non-Regulated Sector (NRS)

NRS includes sectors where prices are market-determined rather than government-regulated. Examples include:

- Cement
- Steel
- Sponge iron industries

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Mizoram Ginger Mission

The Ministry of Development of North Eastern Region (MDoNER) has launched the Mizoram Ginger Mission with an outlay of ₹189.79 crore for ginger cultivation and value-chain development in Mizoram. The initiative aims to transform Mizoram's GI-certified pharma-grade ginger into a globally competitive agricultural product through processing, branding and export integration.

The mission follows a convergence-based approach involving:

- Ministry of Agriculture & Farmers Welfare
- Ministry of Rural Development
- Ministry of Food Processing Industries

- NABARD
- ICAR
- APEDA
- Private sector partners

Background

Mizoram produces high-quality ginger with:

- Oleoresin content of 6–8%
- Global average oleoresin content being around 3%

Despite superior quality, farmers currently receive only ₹8–15 per kg, while processed products in international markets may reach values exceeding ₹500 per kg. The mission seeks to bridge this value-realisation gap.

Key Features of the Mission

The mission is designed around four strategic pillars:

- Convergence
- Value Addition
- Branding
- Market Integration

Key interventions include:

- One integrated processing hub
- Three spoke centres
- More than 30 strategic interventions across the value chain
- Integration of around 20,000 farming households into a traceable value-chain ecosystem

The initiative focuses on:

- Reduction of post-harvest losses
- Processing and packaging infrastructure
- Farmer Producer Organisation (FPO) strengthening
- Export-oriented production
- International branding of Mizo Ginger

Institutional Convergence

The mission reflects the "whole-of-government" approach promoted by the Union Government.

Role of institutions:

- APEDA: Export promotion and market access
- ICAR: Agricultural research and technical support
- NABARD: Credit and rural infrastructure support
- Private sector: Processing and market integration

GI-certified Mizo Ginger

The mission highlights Mizoram's GI-certified ginger cultivars.

Geographical Indication (GI)

A Geographical Indication tag identifies products originating from a specific region where:

- Quality
- Reputation
- Characteristics

are essentially attributable to geographical origin.

GI tags are governed under:

- Geographical Indications of Goods (Registration and Protection) Act, 1999

They are administered by:

- Controller General of Patents, Designs and Trade Marks

GI registration helps in:

- Product branding
- Export promotion
- Protection against imitation

Importance of Oleoresin

Oleoresin is a concentrated natural extract containing:

- Essential oils
- Resinous compounds

It is widely used in:

- Pharmaceuticals
- Food processing
- Cosmetics
- Nutraceuticals

Higher oleoresin content increases commercial value and export potential.

Significance of the Mission

Farmer Income Enhancement

The mission aims to improve farmer value realisation through:

- Direct market integration
- Processing
- Branding
- Export linkages

Export Promotion

The government has identified:

- South-East Asia
- Middle East
- Europe

as target export markets for Mizo Ginger.

Value-chain Development

The initiative seeks to move beyond raw agricultural production towards:

- Processing
- Packaging
- Traceability
- Global branding

Brand North East

The mission is part of the broader "Brand North East" strategy under which each North-Eastern state is promoted through a unique agricultural or horticultural product.

Examples mentioned:

- Organic Sikkim
- Kiwi of Arunachal Pradesh
- Queen Pineapple of Tripura
- Coffee of Nagaland
- Lakadong Turmeric of Meghalaya

Rural Development

The scheme is expected to:

- Reduce post-harvest losses
- Generate rural livelihoods
- Strengthen farmer-industry partnerships

Challenges

Key challenges include:

- Poor logistics and connectivity in the North-East
- Limited processing infrastructure
- Fragmented supply chains
- Export certification requirements
- Price volatility in spice markets

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India Assumes Chair of Common Criteria Development Board (CCDB)

India has been nominated as the Chair of the Common Criteria Development Board (CCDB) for the period April 2026 to April 2028. The decision was confirmed during the 1st Quarter Meeting of the Common Criteria Recognition Arrangement (CCRA) held in Tokyo, Japan. The development reflects India's growing role in global cybersecurity and IT security standard-setting.

What is the Common Criteria (CC)?

Common Criteria (CC) is an internationally recognised framework for evaluating and certifying the security of Information Technology (IT) products and systems.

It is formally recognised as:

- ISO/IEC 15408 standard

The framework is used to assess security features of:

- Operating systems
- Hardware devices
- Software products
- Network systems
- Security solutions

It provides assurance that IT products meet internationally accepted cybersecurity standards.

What is the CCRA?

Common Criteria Recognition Arrangement (CCRA)

The CCRA is an international arrangement under which member countries mutually recognise IT security certificates issued by one another.

This means:

- Products certified in one member country do not require re-certification in another participating country.
- It facilitates international trade in secure IT products.

The CCRA currently includes:

- 20 certificate-authorising nations
- 18 certificate-consuming nations

What is the CCDB?

The Common Criteria Development Board (CCDB) is the technical core of the CCRA.

It is responsible for:

- Development and maintenance of Common Criteria standards
- Updating evaluation methodologies
- Managing Common Methodology for IT Security Evaluation (CEM)
- Addressing emerging cybersecurity technologies and threats

Thus, the CCDB plays a major role in shaping global cybersecurity certification frameworks.

India's Role

India has been a member of the CCRA since 2013 as a Certificate Authorising Nation.

India is represented through:

- Ministry of Electronics and Information Technology (MeitY)
- STQC Directorate

STQC Directorate

STQC stands for:

Standardisation Testing and Quality Certification.

It functions under MeitY and acts as India's official certification body for IT security evaluations.

Significance of India Becoming CCDB Chair

Global Recognition in Cybersecurity

The development reflects international recognition of India's:

- Technical competence
- Cybersecurity ecosystem
- Digital governance capabilities

Influence on Global Standards

As Chair, India can influence:

- Future IT security evaluation methodologies
- Certification standards for emerging technologies
- Global cybersecurity governance frameworks

This is particularly important in areas such as:

- Artificial Intelligence
- IoT devices
- Critical digital infrastructure
- Semiconductor and telecom security

Boost to Indian IT and Electronics Industry

Mutual recognition under CCRA helps Indian firms:

- Gain easier access to global markets
- Reduce repeated certification costs
- Improve credibility of Indian cybersecurity products

Strategic Importance

The development aligns with India's broader goals under:

- Digital India
- Cyber Surakshit Bharat
- Semiconductor Mission
- Trusted telecom and digital infrastructure initiatives

It also strengthens India's role in shaping global digital governance norms.

Important Concepts

Information Security Evaluation

It refers to assessment of:

- Confidentiality
- Integrity
- Availability
- Authentication
- Access control
- Security assurance mechanisms

in IT products and systems.

Common Methodology for IT Security Evaluation (CEM)

CEM provides standardised procedures for conducting security evaluations under Common Criteria.

Evaluation Assurance Levels (EALs)

Under Common Criteria, products are certified through different assurance levels:

- EAL1 to EAL7

Higher EAL indicates:

- Greater depth and rigor of security evaluation.

Challenges in Cybersecurity Governance

Despite growing global frameworks, challenges remain:

- Rapidly evolving cyber threats
- Supply-chain vulnerabilities
- Cross-border cybercrime
- Dependence on foreign hardware/software ecosystems
- Lack of harmonised international cyber regulations

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Periodic Labour Force Survey (PLFS) Annual Report 2025

The National Statistics Office (NSO), under the Ministry of Statistics and Programme Implementation (MoSPI), released the *Periodic Labour Force Survey (PLFS) Annual Report 2025*. The report provides estimates on employment and unemployment indicators for the calendar year January–December 2025. From 2025 onwards, PLFS has shifted from the earlier July–June cycle to a calendar-year format.

About PLFS

PLFS was launched in 2017 by NSO to generate timely labour market data.

Objectives:

- To estimate employment and unemployment indicators
- To provide quarterly urban labour market data
- To capture structural changes in employment patterns

Key indicators:

- Labour Force Participation Rate (LFPR)
- Worker Population Ratio (WPR)
- Unemployment Rate (UR)

Important Concepts

Labour Force Participation Rate (LFPR)

Percentage of population that is either:

- Working, or

- Seeking/available for work

Worker Population Ratio (WPR)

Percentage of population that is employed.

Unemployment Rate (UR)

Percentage of unemployed persons among the labour force.

Current Weekly Status (CWS)

A person is considered employed if he/she worked for at least one hour on any day during the previous seven days.

Usual Status (ps+ss)

Measures employment over a longer reference period of 365 days and includes principal and subsidiary activities.

Major Findings of PLFS 2025

1. Labour Force Participation Continued to Improve

The LFPR for persons aged 15 years and above increased to 59.3% in 2025.

Gender-wise:

- Male LFPR: 79.1%
- Female LFPR: 40.0%

Rural female participation remained significantly higher than urban female participation:

- Rural female LFPR: 45.9%
- Urban female LFPR remained much lower.

This indicates increasing participation of women, especially in rural labour markets.

2. Worker Population Ratio Increased

WPR for persons aged 15 years and above rose to 57.4%.

Gender-wise:

- Male WPR: 76.6%
- Female WPR: 38.8%

The increase suggests expansion in overall employment opportunities.

3. Unemployment Rate Declined

The unemployment rate for persons aged 15 years and above declined to 3.1% in 2025.

Rural unemployment remained lower than urban unemployment.

Urban areas, especially youth and educated youth, continued to show relatively higher unemployment levels.

4. Rural Labour Market Remained Stronger

The report showed:

- Higher labour force participation in rural India
- Lower unemployment compared to urban areas

Rural male LFPR remained above 80%.

This reflects continued dependence on:

- Agriculture
- Informal employment
- Self-employment

5. Female Labour Force Participation Improved

One of the most significant findings was the sustained rise in female labour force participation.

Possible reasons include:

- Increased self-employment

- Rise in unpaid family work
- Rural economic participation
- Greater engagement in agriculture and allied activities

However, concerns remain regarding:

- Quality of employment
- Informality
- Low wages
- Limited formal sector participation

6. Structural Shift in Employment

The report indicates gradual movement of workforce towards:

- Manufacturing
- Services
- Regular salaried employment

At the same time, informal employment continues to dominate India's labour market.

7. Youth Employment Concerns Persist

Despite overall improvement, youth unemployment remained relatively high, especially among:

- Urban youth
- Educated youth

This highlights concerns regarding:

- Skill mismatch
- Employability gaps
- Jobless or job-poor growth

Major Changes in PLFS from 2025

MoSPI revamped PLFS methodology from January 2025. Key changes include:

Monthly Labour Market Estimates

PLFS now generates monthly estimates of:

- LFPR
- WPR
- UR

for the entire country under the Current Weekly Status approach.

Quarterly Rural and Urban Estimates

Earlier, quarterly estimates were available only for urban areas.

Now:

- Quarterly estimates cover both rural and urban India.

Shift to Calendar Year Reporting

PLFS now follows January–December reporting instead of July–June.

Significance of the Report

Labour Market Monitoring

PLFS is India's primary official database on employment and unemployment.

It helps in:

- Policy formulation
- Employment assessment
- Welfare targeting

High-frequency Data

The revamped PLFS improves:

- Timeliness
- Frequency
- Coverage of labour market data

This enables quicker policy interventions.

Demographic Dividend

The report is important for assessing whether India is effectively utilising its working-age population.

Gender Dimension

Rising female labour participation has major implications for:

- Economic growth
- Household incomes
- Gender empowerment

Challenges Highlighted by PLFS

Despite improvements in headline indicators, concerns remain:

- Informalisation of employment
- Low-quality jobs
- Underemployment
- Educated youth unemployment
- Low urban female workforce participation
- Limited social security coverage

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India's First Mega Greenfield Shipyard at Thoothukudi

India has signed a tripartite Memorandum of Understanding (MoU) for development of the country's first Mega Greenfield Shipyard at Thoothukudi, Tamil Nadu. The agreement was signed between:

- HD Korea Shipbuilding & Offshore Engineering (HD KSOE), South Korea
- National Shipbuilding & Heavy Industries Park – Tamil Nadu (NSHIP-TN)
- Sagarmala Finance Corporation Limited (SMFCL)

The project is a major step towards achieving the Maritime Amrit Kaal Vision 2047 and strengthening India's shipbuilding ecosystem.

Key Features of the Project

The proposed shipyard will:

- Be developed at Thoothukudi, Tamil Nadu
- Have an annual shipbuilding capacity of 2.5 Million Gross Tonnage (GT)
- Function as the anchor facility for the Thoothukudi Shipbuilding Cluster
- Generate around 15,000 direct jobs along with significant indirect employment

The project will involve:

- Joint development
- Financing
- Construction
- Operation of the shipyard

The Techno-Economic Feasibility Report (TEFR) has already been completed, while the Detailed Project Report (DPR) is under preparation.

Institutions Involved

HD KSOE

HD Korea Shipbuilding & Offshore Engineering is a major South Korean shipbuilding company and part of the HD Hyundai group.

It is involved in:

- Shipbuilding
- Offshore engineering
- Maritime technologies

NSHIP-TN

National Shipbuilding & Heavy Industries Park – Tamil Nadu Limited is a Special Purpose Vehicle (SPV) jointly promoted by:

- V.O. Chidambaranar Port Authority (VoCPA)
- State Industries Promotion Corporation of Tamil Nadu (SIPCOT)

Sagarmala Finance Corporation Limited (SMFCL)

SMFCL functions under the Ministry of Ports, Shipping and Waterways.

It supports:

- Maritime infrastructure financing
- Port-led development projects

India–Republic of Korea (ROK) Maritime Cooperation

The project is part of the India–ROK Comprehensive Framework called:

"VOYAGES"

(Shared Vision for Operation of Yard Assisted Growth with Efficiency and Scale)

The framework promotes cooperation in:

- Shipbuilding
- Shipping
- Maritime logistics

Maritime Amrit Kaal Vision 2047

The project aligns with India's Maritime Amrit Kaal Vision 2047, which seeks to transform India into a leading global maritime nation.

Key objectives include:

- Expansion of shipbuilding capacity
- Port modernisation
- Maritime industrial clusters
- Coastal economic development
- Green and sustainable shipping
- Enhanced logistics competitiveness

India aims to achieve shipbuilding output of around 4.5 Million GT annually by 2047.

Significance of the Project

Boost to Domestic Shipbuilding

India currently has a limited share in global commercial shipbuilding compared to countries like:

- China
- South Korea
- Japan

The project can help India emerge as a competitive global shipbuilding hub.

Strategic and Economic Importance

The shipyard can strengthen:

- Maritime self-reliance
- Commercial shipping capability
- Export competitiveness
- Blue economy growth

It also reduces dependence on foreign shipyards.

Employment and Industrial Ecosystem

The project is expected to promote:

- Ancillary manufacturing clusters
- Marine equipment production
- Engineering supply chains
- Workforce skilling

This can create a broader maritime industrial ecosystem in southern India.

Technology Transfer

Partnership with South Korea can facilitate:

- Advanced shipbuilding technologies
- Digital shipbuilding systems
- Green shipping technologies
- Skill development and training

Sagarmala and Port-led Development

The project complements the Sagarmala Programme's objective of:

- Port-led industrialisation
- Coastal economic development
- Maritime logistics enhancement

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Mission on "Arunachal Kiwi: The USP of Arunachal Pradesh"

The Ministry of Development of North Eastern Region (MDoNER) has launched the Mission on "Arunachal Kiwi: The USP of Arunachal Pradesh", a cluster-based kiwi cultivation and value-chain development initiative with an outlay of around ₹167 crore. The mission seeks to transform Arunachal Pradesh into a premium organic kiwi hub with strong domestic and international market integration.

The initiative follows a convergence-led "whole-of-government" approach involving:

- Ministry of Agriculture & Farmers Welfare
- Ministry of Rural Development
- Ministry of Food Processing Industries
- NABARD
- ICAR-CITH
- APEDA
- NERAMAC
- Private investors

Background

Arunachal Pradesh is India's largest kiwi-producing state and contributes more than 50% of India's kiwi production, with annual output exceeding 7,050 MT. The state was also the first in India to receive organic kiwi certification under MOVCD-NER in 2020.

Despite this, farmers suffer from:

- Low value realisation
- Post-harvest losses
- Weak cold-chain infrastructure
- Dependence on intermediaries
- Distress sales within 7–10 days of harvest

The mission aims to address these structural gaps across the entire kiwi value chain.

Key Features of the Mission

The mission is built around four strategic pillars:

- Convergence
- Value Addition
- Branding
- Market Integration

It adopts a cluster-based approach with six integrated Post-Harvest Management Hubs across:

- Ziro Valley
- Dirang
- Kalaktang
- Shi Yomi
- Dibang Valley

Major interventions include:

- Restoration of NPOP organic certification
- Creation of 2,000 MT cold-chain capacity
- Processing and value-addition facilities
- Branding and traceability systems
- QR-enabled farmer traceability
- Export-oriented market integration
- Promotion of kiwi-based agri-tourism and farm stays

The mission also seeks to integrate thousands of farming households into a unified organic kiwi ecosystem.

Why Arunachal Kiwi is Important

Arunachal Pradesh possesses:

- High-altitude agro-climatic conditions
- Organic cultivation practices
- Suitable conditions for premium kiwi cultivars such as:
    - Hayward
    - Allison

The mission highlights a strategic advantage:

Arunachal's harvest season (November–January) coincides with New Zealand's off-season, creating export opportunities in international markets.

Target export regions:

- South-East Asia
- Middle East
- Europe

Important Institutions and Schemes

MOVCD-NER

Mission Organic Value Chain Development for North Eastern Region:

- Central Sector Scheme under Ministry of Agriculture & Farmers Welfare
- Promotes certified organic farming and value-chain development in North-East India

NPOP

National Programme for Organic Production:

- India's organic certification framework
- Implemented by APEDA
- Ensures standards for organic production and exports

ICAR-CITH

ICAR – Central Institute of Temperate Horticulture:

- Located in Srinagar
- Research institution for temperate horticulture crops including kiwi

NERAMAC

North Eastern Regional Agricultural Marketing Corporation:

- PSU under MDoNER
- Promotes marketing and processing of agricultural and horticultural products from North-East India

Significance of the Mission

Farmer Income Enhancement

The mission aims to improve farmer value realisation through:

- Processing
- Branding
- Export linkages
- Reduced intermediary dependence

The government expects a four-to-six-fold increase in farmer value realisation.

Shift from Subsistence to Commercial Horticulture

Kiwi cultivation is emerging as a sustainable alternative to jhum cultivation in high-altitude areas of Arunachal Pradesh.

Reduction in Post-Harvest Losses

Cold-chain and storage infrastructure can significantly reduce distress sales and wastage.

Export Promotion

The initiative seeks to position "Arunachal Organic Kiwi" as a globally recognised premium organic fruit brand.

Brand North East

The mission is part of the broader "Brand North East" strategy where each North-Eastern state is promoted through a unique flagship product.

Examples:

- Mizoram – Ginger
- Meghalaya – Lakadong Turmeric
- Tripura – Queen Pineapple
- Nagaland – Coffee
- Sikkim – Organic State

Agri-tourism Component

The mission also promotes:

- Farm-stays
- Orchard tourism
- Farm-to-fork experiences

particularly in:

- Ziro Valley
- Dirang

This links horticulture with rural tourism and local livelihoods.

Prelims Pointers

- Largest kiwi-producing state in India:
  - Arunachal Pradesh
- Mission outlay:
  - Around ₹167 crore
- First state to receive organic kiwi certification under MOVCD-NER:
  - Arunachal Pradesh
- NPOP implemented by:
  - APEDA
- ICAR-CITH located at:
  - Srinagar
- Important kiwi cultivars:
  - Hayward
  - Allison
- MOVCD-NER falls under:
  - Ministry of Agriculture & Farmers Welfare

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EU Includes India in Revised Draft List for Continued Export of Aquaculture Products

The European Union (EU) has included India in its revised draft list permitting continued export of aquaculture products to the European market from September 2026 onwards. The development reflects recognition of India's food safety, residue monitoring and regulatory compliance systems in the seafood sector.

The decision is significant because the EU emerged as India's third-largest seafood export market in 2025–26, with exports recording over 41% growth in value terms.

Source: PIB

Background

The European Union periodically reviews exporting countries' compliance with:

- Food safety standards
- Antibiotic residue norms
- Traceability systems
- Aquaculture monitoring frameworks

Only countries satisfying EU sanitary and phytosanitary (SPS) standards are permitted to export aquaculture products to EU markets.

India's inclusion in the revised draft list indicates continued confidence in India's regulatory and surveillance mechanisms.

Key Indian Institutions Involved

MPEDA

Marine Products Export Development Authority (MPEDA):

- Functions under Ministry of Commerce and Industry
- Nodal agency for promotion of seafood exports

Functions include:

- Export promotion
- Quality control
- Traceability systems
- Aquaculture development

EIC

Export Inspection Council (EIC):

- Apex export certification body of India
- Functions under Ministry of Commerce and Industry

It ensures:

- Quality certification
- Export inspection
- Compliance with importing-country standards

Why the EU Decision is Important

The EU is one of the world's most stringent food safety jurisdictions. Its approval enhances India's credibility in global seafood trade.

The decision is particularly important because:

- EU is a premium-value export market
- Indian seafood exports face strong competition globally
- Compliance failures can lead to import bans or restrictions

The recognition also supports India's objective of increasing agricultural and marine exports.

India's Food Safety and Monitoring Framework

The PIB release highlights India's strengthened regulatory framework through:

National Residue Control Programme (NRCP)

The NRCP monitors:

- Antibiotic residues
- Veterinary drug residues
- Chemical contaminants

in aquaculture products intended for export.

It involves:

- Sample testing
- Surveillance systems
- Farm-level monitoring
- Traceability mechanisms

Rigorous Testing and Surveillance

India has developed:

- Laboratory testing infrastructure

- Residue monitoring systems
- Export certification mechanisms
- Aquaculture surveillance networks

These systems help ensure compliance with international SPS standards.

What are Aquaculture Products?

Aquaculture refers to:

Controlled farming of aquatic organisms such as:

- Fish
- Shrimp
- Prawns
- Molluscs
- Seaweed

India's seafood exports are dominated by:

- Frozen shrimp

Major export destinations include:

- USA
- China
- European Union
- Japan

SPS Measures and WTO Linkage

The EU's standards are linked to the WTO Agreement on Sanitary and Phytosanitary Measures (SPS Agreement).

SPS Measures

SPS measures are regulations adopted to protect:

- Human health
- Animal health
- Plant health

from:

- Diseases
- Pests
- Contaminants
- Food safety risks

Under WTO rules:

- SPS measures must be science-based
- They should not become disguised trade barriers

Significance for India

Boost to Seafood Exports

Continued EU market access ensures stability for India's marine export sector.

Benefit to Coastal Economy

The seafood sector supports:

- Coastal livelihoods
- Fish farmers
- Shrimp aquaculture
- Processing industries

Recognition of Regulatory Capacity

The EU decision acknowledges India's progress in:

- Food safety governance
- Export quality assurance
- Traceability systems

Support to Blue Economy

The development aligns with India's Blue Economy strategy focused on sustainable marine resource utilisation and export growth.

Challenges in Aquaculture Exports

Despite improvements, challenges remain:

- Antibiotic residue concerns
- Disease outbreaks in shrimp farming
- Traceability gaps among small farmers
- Climate-related risks
- High compliance costs for exporters

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JANANI Platform for Maternal and Child Healthcare

The Union Ministry of Health and Family Welfare launched the JANANI platform at the National Summit on Best Practices in Maternal and Child Health. JANANI is a service-oriented digital platform designed to comprehensively monitor and maintain digital health records of women during their reproductive years. The platform has been developed as an upgraded version of the existing Reproductive and Child Health (RCH) portal.

Source: PIB

What is JANANI?

JANANI is a digital maternal and child healthcare platform that creates longitudinal health records by capturing healthcare events across the continuum of care.

The platform tracks:

- Women during reproductive age
- Pregnancy care
- Delivery services
- Post-natal care
- Child healthcare services

It seeks to improve continuity, accessibility and monitoring of maternal and child health services.

Key Features of the Platform

Longitudinal Digital Health Records

JANANI creates an integrated health record for beneficiaries across different stages of healthcare delivery instead of maintaining fragmented records.

This helps in:

- Continuity of care
- Better tracking of high-risk pregnancies
- Follow-up healthcare interventions
- Improved referral systems

Upgraded Version of RCH Portal

The platform builds upon the earlier:

Reproductive and Child Health (RCH) Portal

The RCH portal was used for:

- Tracking pregnant women
- Immunisation
- Family planning services
- Maternal and child health indicators

JANANI expands and modernises this ecosystem with stronger digital integration.

Biometric Verification

The platform includes biometric verification for improved beneficiary authentication and service delivery tracking.

Service Delivery Monitoring

The system enables real-time monitoring of:

- Antenatal care
- Institutional deliveries
- Immunisation
- Maternal health interventions
- Child health services

Current Progress

According to the PIB release, JANANI has achieved:

- 1.34 crore beneficiary registrations
- Over 30 lakh pregnant women registrations
- More than 30 lakh MCH cards generated
- More than 1 lakh biometric verifications

Importance of Maternal and Child Health (MCH)

Maternal and child healthcare remains a critical public health priority because:

- Maternal mortality affects women's health outcomes
- Early childhood care influences long-term human development
- Malnutrition and preventable diseases remain major concerns

India has significantly improved maternal and child health indicators in recent decades, but regional disparities continue.

Linkages with National Health Programmes

JANANI complements several existing initiatives:

Ayushman Bharat Digital Mission (ABDM)

JANANI supports digital health ecosystem development through:

- Digital records
- Interoperability
- Continuum of care

Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCH+A)

The platform strengthens delivery and monitoring under the RMNCH+A approach.

Poshan Abhiyaan

Digital tracking can support:

- Nutrition interventions
- High-risk pregnancy monitoring
- Child growth monitoring

Universal Immunisation Programme (UIP)

The platform can improve:

- Immunisation tracking
- Child health record management

Significance of JANANI

Strengthening Digital Public Health Infrastructure

JANANI reflects increasing use of digital governance in healthcare service delivery.

It improves:

- Data integration
- Real-time monitoring
- Healthcare accountability

Better Maternal Health Outcomes

The platform can help identify:

- High-risk pregnancies
- Missed healthcare visits
- Gaps in antenatal and postnatal care

This can contribute to reduction in:

- Maternal Mortality Ratio (MMR)
- Infant Mortality Rate (IMR)

Improved Service Delivery

Digital monitoring reduces duplication and improves coordination among:

- ASHAs
- ANMs
- Anganwadi workers
- Healthcare institutions

Data-driven Public Health Policy

Large-scale health datasets generated through JANANI can assist in:

- Resource allocation
- Disease surveillance
- Public health planning

Challenges

Key concerns include:

- Digital divide in rural areas
- Data privacy and cybersecurity
- Need for healthcare worker training
- Interoperability across states and institutions

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AI-Powered Financial Inclusion in India

Why in News?

The Government of India highlighted the growing role of Artificial Intelligence (AI) in deepening financial inclusion in India. The initiative combines Digital Public Infrastructure (DPI), AI-based analytics, digital payments architecture, and data-sharing frameworks to improve access to banking, credit, insurance, and welfare delivery.

India's Digital Public Infrastructure (DPI)

India's financial inclusion model is built on a robust DPI ecosystem comprising:

- JAM Trinity (Jan Dhan–Aadhaar–Mobile)
- Unified Payments Interface (UPI)
- Direct Benefit Transfer (DBT)
- Account Aggregator (AA) framework
- Unified Lending Interface (ULI)

These systems collectively enable digital identity verification, seamless payments, consent-based data sharing, and AI-enabled financial services.

JAM Trinity

The JAM framework integrates Jan Dhan bank accounts, Aadhaar identity infrastructure, and mobile connectivity to expand financial access.

As of March 2026:

- Aadhaar enrolments crossed 144 crore.
- PM Jan Dhan Yojana accounts increased from 14.72 crore in 2015 to 58.16 crore in April 2026.
- Deposits in Jan Dhan accounts reached ₹3.02 lakh crore.
- India had 125.87 crore wireless subscribers.
- 5G connectivity expanded to 99.9% of districts, covering around 85% of the population.

The JAM architecture has enabled direct transfer of benefits, reduced leakages, and generated digital transaction trails that can support AI-driven credit assessment.

Unified Payments Interface (UPI)

UPI, developed by the National Payments Corporation of India (NPCI), has become the backbone of India's retail digital payment ecosystem.

In March 2026:

- UPI processed 2,264.11 crore transactions.
- Transaction value stood at ₹29.53 lakh crore.
- 691 banks were live on the platform.
- UPI accounted for nearly 81% of India's retail digital payment volume.

The platform has enabled low-cost, interoperable, real-time payments and has significantly increased digital financial participation across urban and rural areas.

Direct Benefit Transfer (DBT)

DBT has transformed welfare delivery by transferring subsidies and benefits directly into beneficiaries' bank accounts.

Till January 2026:

- The government transferred ₹49.09 lakh crore through DBT.
- Estimated savings due to removal of fake or duplicate beneficiaries exceeded ₹4.31 lakh crore.

The system has increased transparency, reduced intermediary leakages, and strengthened trust in formal banking systems.

Role of AI in Financial Inclusion

AI is increasingly being used to analyse alternative forms of financial and behavioural data, including:

- Digital payment records
- GST data
- Utility payments

- Banking transactions
- Mobile usage patterns

Using such data, AI systems can evaluate creditworthiness, detect fraud, improve underwriting, and extend financial services to individuals lacking formal credit histories.

This is particularly relevant for:

- MSMEs
- Small traders
- Farmers
- Gig workers
- Rural borrowers
- New-to-credit customers

AI-based financial systems are expected to unlock an estimated economic value of USD 130–170 billion through expansion of credit access.

Unified Lending Interface (ULI)

The Unified Lending Interface is designed as a DPI-enabled lending framework that simplifies and accelerates credit delivery.

It provides a standardized API-based architecture that connects lenders with digital data services such as:

- Land records
- Identity verification systems
- Satellite data
- Financial information databases

Current status:

- 64 lenders have been onboarded, including 41 banks and 23 NBFCs.
- More than 136 data services are integrated into the platform.
- Expansion is planned to Regional Rural Banks (RRBs) and District Central Cooperative Banks (DCCBs).

ULI aims to reduce documentation requirements, lower turnaround time for loans, and improve access to formal credit in rural and semi-urban areas.

Account Aggregator (AA) Framework

The AA framework is a consent-based financial data-sharing system regulated by the Reserve Bank of India.

Account Aggregators are RBI-regulated NBFCs that facilitate secure transfer of financial information between institutions with the consent of customers.

The framework allows sharing of data across sectors such as:

- Banking
- Insurance
- Securities
- Pension systems

As of December 2025:

- More than 2.6 billion accounts were enabled for data sharing.
- 252.9 million accounts had been linked under the framework.
- RBI had granted registration to 17 Account Aggregators.

The framework improves efficiency in lending and enables AI-driven underwriting through authenticated financial data.

BHASHINI and Language Inclusion

BHASHINI is an AI-based language translation initiative under the Digital India programme aimed at enabling multilingual access to digital services.

In February 2026, the Digital India BHASHINI Division signed an MoU with the Reserve Bank of India to promote inclusive banking access in Indian languages.

The initiative seeks to:

- Expand multilingual banking services
- Reduce linguistic barriers in digital finance
- Enable banking accessibility in all 22 scheduled languages

A specialized "Banking BHASHINI" model is also being developed using banking terminology, regulatory vocabulary, and sector-specific datasets.

The BhashaDaan initiative supports this effort by crowdsourcing Indian language speech, text, and translation datasets for AI training.

RBI Regulatory Sandbox

The RBI Regulatory Sandbox provides a controlled testing environment for fintech innovations.

The framework allows financial technology firms to test products under regulatory supervision before large-scale deployment.

Areas covered include:

- APIs
- Digital KYC
- Cybersecurity solutions
- Innovative financial products

The sandbox seeks to encourage innovation while ensuring consumer protection and financial stability.

MuleHunter.AI

MuleHunter.AI is an AI-powered system developed by the Reserve Bank Innovation Hub (RBIH).

Launched in December 2024, the platform is intended to identify mule bank accounts used for:

- Cyber fraud
- Money laundering
- Illegal betting operations

The system uses AI and machine learning models for real-time anomaly detection and transaction monitoring, offering greater efficiency than traditional rule-based detection systems.

Mission Digital ShramSetu

Mission Digital ShramSetu was announced in October 2025 to improve inclusion of India's informal workforce, estimated at nearly 490 million workers.

The initiative uses:

- AI
- Blockchain technology
- Immersive learning systems

Its objectives include:

- Improving market linkages
- Expanding social security access
- Enabling real-time skill verification
- Enhancing productivity and employability

The mission aims to integrate informal workers into the formal digital economy and support the broader vision of Viksit Bharat 2047.

Significance of AI-Driven Financial Inclusion

AI-enabled financial inclusion can:

- Expand access to formal credit
- Improve welfare targeting
- Reduce fraud and leakages
- Increase MSME financing
- Promote rural entrepreneurship
- Enhance efficiency in banking and governance

The integration of AI with India's DPI ecosystem represents a shift from basic financial inclusion toward intelligent, data-driven financial empowerment.

Challenges

Despite progress, several concerns remain:

- Risks relating to data privacy and misuse of personal financial information
- Cybersecurity vulnerabilities in digital financial systems
- Algorithmic bias and exclusion arising from flawed datasets
- Digital literacy gaps
- Uneven internet access in remote regions
- Regulatory challenges in balancing innovation with consumer protection

https://www.pib.gov.in/PressReleasePage.aspx?PRID=2260497&reg=3&lang=1

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Three Jan Suraksha Schemes Complete 11 Years

The three flagship social security schemes launched on 9 May 2015 — Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY), Pradhan Mantri Suraksha Bima Yojana (PMSBY), and Atal Pension Yojana (APY) — completed 11 years of implementation in 2026. The Ministry of Finance released progress data highlighting enrolments, claims settled, and expansion of social security coverage among vulnerable sections.

The schemes were launched by Prime Minister Narendra Modi to provide affordable insurance and pension protection, especially to low-income and unorganised sector households.

Finance Minister Nirmala Sitharaman stated that:

- PMJJBY recorded over 27 crore enrolments.
- PMSBY crossed 58 crore enrolments.
- APY crossed 9 crore enrolments.

The government also highlighted increasing digitisation of enrolment and claim settlement through the Jan Suraksha Portal.

Overall Significance of Jan Suraksha Schemes

The Jan Suraksha schemes were designed to:

- Expand insurance penetration in India.
- Provide low-cost life and accident insurance.
- Build pension security for unorganised workers.
- Strengthen financial inclusion through bank-linked social protection.
- Reduce vulnerability of poor households to income shocks.

The schemes form an important pillar of India's financial inclusion architecture alongside:

- PM Jan Dhan Yojana
- Aadhaar
- Direct Benefit Transfer ecosystem

Progress and Achievements of Each Scheme

Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY)

Progress in News

As on 29 April 2026:

- Total cumulative enrolments exceeded 27.43 crore.
- Claims worth ₹21,512.50 crore had been paid.
- Total claims settled: 10,75,625.
- Female enrolments reached 12.72 crore.
- PMJDY account holder enrolments stood at 8.09 crore.

The Finance Minister noted that the scheme has supported more than 10.7 lakh families through claim settlements.

PMJJBY: Detailed Notes

Objective

PMJJBY provides affordable life insurance coverage against death due to any reason.

Nature of Scheme

- One-year renewable life insurance scheme.
- Renewable annually from 1 June to 31 May.

Implementing Agencies

Implemented through:

- Life Insurance Corporation of India (LIC)
- Other life insurance companies approved for the scheme.

Banks and post offices act as enrolment and premium collection agencies.

Eligibility

- Bank or post office account holders.
- Age group: 18–50 years.
- Subscriber must consent to auto-debit facility.
- Only one subscription allowed per individual even if multiple accounts exist.

Premium

- ₹436 per annum.
- Auto-debited from bank/post office account.

Pro-rata Premium Structure

- June–August: ₹436
- September–November: ₹342
- December–February: ₹228
- March–May: ₹114

Benefits

- ₹2 lakh insurance cover on death due to any reason.

Additional Provision

- 30-day lien period applicable from enrolment date.

Importance

- Increased life insurance penetration.
- Improved social security for low-income families.
- Linked formal banking with insurance access.

Pradhan Mantri Suraksha Bima Yojana (PMSBY)

Progress in News

As on 29 April 2026:

- Cumulative enrolments crossed 58.09 crore.
- Claims worth ₹3,667.52 crore were settled.
- Total claims settled: 1,84,662.
- Female enrolments reached 27.45 crore.
- PMJDY account holder enrolments stood at 19.30 crore.

The Finance Minister stated that the scheme has provided support to more than 1.84 lakh families.

PMSBY: Detailed Notes

Objective

PMSBY provides accident insurance coverage for:

- Death
- Permanent disability
- Partial disability

arising from accidents.

Nature of Scheme

- One-year renewable accidental insurance scheme.

Implementing Agencies

Implemented through:

- Public Sector General Insurance Companies (PSGICs)
- Other approved general insurance companies

Banks and post offices act as partner institutions.

Eligibility

- Bank/post office account holders.
- Age group: 18–70 years.
- Auto-debit consent mandatory.
- Only one subscription allowed per person.

Premium

- ₹20 per annum.
- Auto-debited from account.

Insurance Benefits

₹2 lakh compensation for:

- Accidental death
- Total and irrecoverable loss of both eyes
- Loss of use of both hands or feet
- Loss of sight of one eye along with loss of one limb

₹1 lakh compensation for:

- Loss of sight of one eye
- Loss of use of one hand or one foot

Importance

- Extremely low-cost risk protection.
- Expanded accident insurance coverage among poor households.
- Reduced vulnerability to medical and income shocks.

Atal Pension Yojana (APY)

Progress in News

As on 30 April 2026:

- More than 9.04 crore people enrolled under APY.
- Women constituted around 49% of total enrolments.

The government highlighted APY's role in expanding pension security for workers in the unorganised sector.

APY: Detailed Notes

Objective

APY seeks to create a universal social security system with focus on:

- Poor households
- Unorganised workers
- Low-income groups

Administered By

Pension Fund Regulatory and Development Authority (PFRDA)

The scheme functions within the institutional framework of the National Pension System (NPS).

Eligibility

- Bank account holders aged 18–40 years.
- Not available to income-tax payers.
- Contribution amount depends on chosen pension amount.

Pension Benefits

Subscribers receive guaranteed minimum monthly pension after 60 years of age:

- ₹1,000
- ₹2,000
- ₹3,000
- ₹4,000
- ₹5,000

depending on contribution level.

Pension Disbursement Structure

- Pension first paid to subscriber.
- After subscriber's death, pension paid to spouse.
- After death of both, accumulated corpus returned to nominee.

Provision in Case of Premature Death

If subscriber dies before 60 years:

- Spouse may continue contributions till subscriber would have attained 60 years.

Contribution Frequency

Subscribers may contribute:

- Monthly

- Quarterly
- Half-yearly

Withdrawal

Voluntary exit permitted subject to prescribed conditions and adjustment of government co-contribution and returns.

Importance

- Expands old-age income security.
- Encourages pension culture among informal workers.
- Supports long-term financial inclusion.

Digitisation and Jan Suraksha Portal

Minister of State for Finance Pankaj Chaudhary highlighted:

- Simplification of enrolment procedures.
- Digitisation of claim settlement.
- Launch of online Jan Suraksha Portal.

The portal enables:

- Online enrolment.
- Reduced dependence on physical bank visits.
- Faster claim processing and settlement.

Scheme	Type	Age Group	Premium	Benefit
PMJJBY	Life Insurance	18–50 years	₹436/year	₹2 lakh on death
PMSBY	Accident Insurance	18–70 years	₹20/year	₹2 lakh accidental cover
APY	Pension Scheme	18–40 years	Contribution-based	Guaranteed pension after 60

Broader Significance

The Jan Suraksha schemes have:

- Increased insurance penetration in India.
- Strengthened financial inclusion.
- Provided low-cost social protection.
- Reduced dependence on informal coping mechanisms.
- Expanded coverage among women and PMJDY account holders.
- Advanced inclusive growth and welfare objectives.

The schemes are especially significant for India's unorganised sector workforce, which lacks formal employer-provided social security.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=2259251&reg=3&lang=1

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New SOP for Processing FDI Applications

The Department for Promotion of Industry and Internal Trade (DPIIT), under the Ministry of Commerce and Industry, issued a revised Standard Operating Procedure (SOP) for processing Foreign Direct Investment (FDI) proposals requiring government approval.

The new SOP:

- fixes a 12-week timeline for disposal of FDI applications,
- introduces a completely paperless approval system,

- standardises inter-ministerial coordination,
- and aims to improve ease of doing business and investor confidence.

The earlier SOP was issued in 2017 and prescribed a 10-week timeline.

Background: FDI Approval Routes in India

India allows FDI through two routes:

1. Automatic Route

No prior government approval is required.

Investment only needs post-facto reporting to RBI.

Most sectors fall under this route.

2. Government Route

Prior approval from Government of India is required.

Sensitive sectors requiring approval include:

- Defence
- Telecom
- Print media
- Broadcasting content services
- Multi-brand retail
- Certain banking activities

Further, investments from countries sharing a land border with India require government approval under Press Note 3 (2020).

Key Features of the New SOP

1. 12-Week Time Limit for Processing

The revised SOP mandates that decisions on FDI proposals should be taken within 12 weeks.

This timeline excludes:

- time taken by applicants to remove deficiencies,
- submission of additional documents,
- responses to clarifications sought by authorities.

Change from Earlier SOP

- Earlier limit (2017 SOP): 10 weeks
- Revised limit: 12 weeks

The additional two weeks are mainly intended for:

- DPIIT examination of proposals proposed for rejection,
- or proposals where additional conditions are suggested by competent authorities.

2. Complete Paperless Processing

The new SOP aims to make the entire FDI approval mechanism fully digital.

Applicants are no longer required to submit physical copies of documents.

Benefits:

- Reduced paperwork
- Faster processing
- Improved transparency
- Lower administrative burden
- Better tracking and accountability

3. Online Filing System

FDI applications are to be submitted online through the Foreign Investment Facilitation Portal (FIFP).
Applications must contain:

- background of investor and investee company,
- business model,
- ownership structure,
- beneficial ownership details,
- fund flow structure,
- transaction details,
- projected investment plans,
- compliance declarations,
- valuation certificates,
- audited financial statements,
- investment agreements,
- downstream investment disclosures where applicable.

4. Role of DPIIT

DPIIT acts as the nodal department for processing FDI applications.
Its functions include:

- assigning proposals to concerned administrative ministries,
- coordinating inter-ministerial consultations,
- monitoring timelines,
- ensuring policy compliance,
- reviewing delayed proposals.

The SOP also directs ministries to create dedicated FDI Cells headed by officers not below Joint Secretary rank.

5. Role of Competent Authority

The "Competent Authority" refers to the concerned administrative ministry or department handling sector-specific approvals.
Examples:

- Ministry of Defence → defence FDI
- Ministry of Information & Broadcasting → media sector FDI
- Department of Telecommunications → telecom FDI

Functions:

- examination of proposals,
- seeking clarifications,
- obtaining security clearances,
- recommending approval/rejection,
- imposing sectoral conditions where necessary.

6. Inter-Ministerial Consultation Mechanism

After filing, proposals are circulated to:

- RBI,
- Ministry of Home Affairs (MHA),
- Ministry of External Affairs (MEA),
- and other concerned ministries/agencies.

Timeline Discipline

All departments must provide comments within the prescribed period.
If comments are not received within the stipulated timeline, it may be presumed that the concerned department has no objection/comments.
This provision seeks to reduce bureaucratic delays.

7. Investments from Bordering Countries

Under Press Note 3 (2020), investments from countries sharing land borders with India require prior government approval.
These countries include:

- China
- Pakistan
- Bangladesh
- Nepal
- Bhutan
- Myanmar
- Afghanistan

Under the revised SOP:

- all such proposals are mandatorily referred to the Ministry of External Affairs,
- and security scrutiny continues.

The framework was originally introduced after concerns regarding opportunistic takeovers during the COVID-19 period.

8. Fast-Track Clearance for Select Sectors

The government has also introduced accelerated approvals for certain strategic manufacturing sectors.
Applications in identified sub-sectors are proposed to be processed within 60 days.
These sectors include:

- capital goods manufacturing,
- electronic components,
- electronic capital goods,
- polysilicon,
- ingot-wafer manufacturing,
- advanced technology manufacturing.

Objective:

- boost domestic manufacturing,
- attract high-tech investments,
- strengthen supply chains,
- support indigenisation.

9. Security Clearance Requirements

Certain sectors require additional security scrutiny.
These include:

- telecom,
- defence,
- broadcasting,
- civil aviation,
- mining,

- sensitive infrastructure sectors.

Applicants may need to submit:

- security clearance forms,
- ownership disclosures,
- beneficial ownership declarations,
- control structure details.

10. Beneficial Ownership Disclosure

The revised framework strengthens disclosure norms regarding beneficial ownership.

Applicants must disclose:

- direct and indirect ownership,
- ultimate controlling entities,
- group structures,
- downstream investments,
- fund routing structures.

This is especially important for investments involving land-border countries.

Indicative Timeline Under SOP

Stage	Timeline
Dissemination of proposal to ministries	2 days
Initial scrutiny and deficiency identification	12 days
Clarifications by DPIIT	2 weeks
Comments from RBI/MHA/MEA/ministries	6 weeks
Final decision by competent authority	4 weeks

These timelines exclude the time taken by the applicant in responding to queries.

Closure, Withdrawal and Rejection of Proposals

Closure

Applications may be closed if:

- information is incomplete,
- deficiencies remain unresolved.

Closure does not amount to rejection.

Withdrawal

Applicants can voluntarily withdraw proposals.

Rejection

Rejection or imposition of additional conditions requires DPIIT consultation.

Objectives of the Revised SOP

The revised framework seeks to:

- improve ease of doing business,
- provide predictable approval timelines,
- enhance investor confidence,
- digitise administrative processes,
- improve transparency,
- reduce bureaucratic delays,
- increase FDI inflows,
- strengthen monitoring of sensitive investments.

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India Becomes the World's Second-Largest Wind Energy Market in 2025

According to Bloomberg New Energy Finance (BNEF), India emerged as the world's second-largest wind energy market in 2025, ranking behind only China.

Key Highlights

India added a record 6.3 GW of wind power capacity during 2025. This represented an annual increase of nearly 85% compared to the previous year.

With this expansion, India overtook countries such as the United States and Germany, becoming the largest wind energy market outside China.

The rapid growth in wind installations was mainly driven by the increasing adoption of hybrid renewable energy auctions and integrated clean energy projects combining:

- Wind power
- Solar energy
- Energy storage systems

A major contributor to this growth was the Khavda renewable energy project in Gujarat, where Adani Wind deployed more than 1 GW of wind turbines. This helped the company emerge among the leading global wind turbine manufacturers.

Higher installations in 2025 were also supported by the execution of projects that had been delayed in 2024 because of grid connectivity and transmission-related constraints.

India is projected to add nearly 30 GW of additional wind power capacity by 2030. This expansion is expected to be supported by:

- Improved transmission infrastructure
- Expansion of renewable energy corridors
- Greater integration of clean energy systems
- Continued policy support for renewable energy development

Significance

India's rise in global wind energy rankings reflects:

- Rapid growth in renewable energy capacity
- Progress towards clean energy transition
- Increasing diversification of energy sources
- Strengthening of domestic renewable manufacturing capabilities

The development also supports India's broader climate and energy goals, including:

- Reduction in dependence on fossil fuels
- Expansion of non-fossil fuel electricity capacity
- Achievement of net-zero commitments
- Enhancement of energy security

Wind energy is expected to remain an important component of India's renewable energy strategy alongside solar power and green hydrogen initiatives.

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India's Economic Austerity Measures Amid the West Asia Crisis

Escalating geopolitical tensions in West Asia, especially the Iran-Israel conflict and disruptions around the Strait of Hormuz, have created major pressures on India's external sector. Rising crude oil prices, higher

shipping costs, increased gold imports, capital outflows, and pressure on the rupee led the Government of India and the RBI to initiate several stabilisation measures.

In this backdrop Prime Minister Narendra Modi appealed for economic austerity and conservation of foreign exchange.

- The government raised tariffs on gold and silver imports.
- Sugar exports were banned till September 2026.
- RBI intervened in forex and liquidity markets, including through dollar-rupee swap auctions.
- The Finance Minister highlighted the need to focus on the "3Fs" — Fuel, Fertiliser, and Forex.

Background: Why the West Asia Crisis Matters for India- India's Vulnerabilities

1. Oil Dependence India imports:

- nearly 89–90% of its crude oil requirements,
- and around half of its natural gas demand.

Any increase in oil prices immediately affects: import bill, inflation, transport costs, current account deficit (CAD), and fiscal stability.

2. Gold Imports

India is the world's second-largest gold consumer after China.

Gold imports rose sharply from about USD 35 billion in FY23 to nearly USD 72 billion in FY26.

Gold alone accounted for nearly 9% of India's import bill.

3. Pressure on Forex Reserves

India's forex reserves declined by around USD 38 billion in two months amid RBI intervention to stabilise the rupee, rising oil imports, high gold imports, and capital outflows.

4. Rupee Depreciation

The rupee crossed: 1 USD≈95 INR

This became one of the sharpest depreciations among Asian currencies in 2026.

5. Capital Outflows

Foreign Institutional Investors (FIIs) withdrew nearly ₹1.97 lakh crore between January–May 2026.

PM Modi's Austerity Appeal

Prime Minister Narendra Modi urged citizens to:

- reduce non-essential gold purchases,
- conserve fuel,
- reduce unnecessary foreign travel,
- prefer public transport,
- and avoid excessive forex outflows.

The government also encouraged:

- work-from-home arrangements,
- rational energy use,
- and restraint in imports of non-essential items.

Rationale Behind the Austerity Measures

1. Conserving Foreign Exchange

India's external sector was facing simultaneous pressure from:

- high crude oil prices,
- soaring gold imports,
- overseas remittances,

- foreign travel expenditure,
- and capital outflows.

The government sought to reduce non-essential dollar demand.

2. Preventing a Balance of Payments Crisis

A sustained rise in: oil imports, gold imports, and capital flight could widen the Current Account Deficit (CAD) sharply.

India's CAD had already risen to USD 13.2 billion (1.3% of GDP) during the December 2025 quarter.

3. Protecting the Rupee

A weaker rupee increases:

- imported inflation,
- fuel costs,
- fertiliser subsidy burden,
- and repayment burden on foreign debt.

The measures aimed to stabilise the currency.

"3Fs" Strategy

Finance Minister Nirmala Sitharaman emphasised focus on:

- Fuel
- Fertiliser
- Foreign Exchange

amid the external economic shock.

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RBI's Dollar-Rupee Swap Auction

The RBI announced a: USD 5 billion dollar-rupee swap auction to manage liquidity and support forex stability.

What is a Dollar-Rupee Swap?

In a forex swap:

- RBI buys dollars from banks in exchange for rupees,
- with an agreement to reverse the transaction later.

Objectives

1. Improve Dollar Liquidity- Ensures availability of foreign currency in domestic markets.
2. Stabilise Rupee- Reduces volatility in forex markets.
3. Manage Banking Liquidity- Injects rupee liquidity into the banking system.
4. Reduce Market Panic- Signals RBI's readiness to defend macroeconomic stability.

How Will the RBI's Dollar-Rupee Swap Help the Rupee

At first glance, the RBI's swap auction appears contradictory.

In the swap auction, the RBI:

- buys dollars from banks,
- gives rupees to banks,
- thereby increasing rupee liquidity in the banking system.

Normally, an increase in supply of a currency should weaken that currency. However, in the present context, the RBI's objective is broader than merely managing the money supply.

Why the RBI Conducted the Swap

The RBI had been actively selling dollars from its forex reserves to defend the rupee against sharp depreciation caused by: rising crude oil prices, the West Asia crisis, capital outflows, and strong global demand for dollars.

When RBI sells dollars in the spot market:

- it receives rupees from banks,
- those rupees move out of the banking system,
- liquidity tightens.

Thus, *defending the rupee through dollar sales unintentionally reduces banking liquidity*.

The swap auction was introduced to offset this liquidity drain.

Why It Does Not Necessarily Weaken the Rupee

1. The Swap Does Not Increase Net Dollar Demand

In a normal forex transaction, market participants purchase dollars immediately, increasing pressure on the rupee.

In a swap:

- banks give dollars to RBI,
- RBI temporarily gives rupees,
- banks agree to repurchase dollars after three years.

Therefore:

- immediate demand for dollars does not rise,
- RBI actually absorbs dollars into its reserves.

This can improve confidence regarding India's foreign exchange position.

2. It Rebuilds Forex Reserves

The swap allows RBI to acquire USD 5 billion without permanently selling reserves.

Higher reserves strengthen market confidence because traders know RBI possesses greater capacity to intervene against speculative attacks on the rupee.

A currency often stabilises not merely because of current supply-demand conditions but because of confidence in the central bank's ability to defend it.

3. It Prevents Excessive Tightening of Liquidity

If RBI only keeps selling dollars:

- rupee liquidity falls,
- interest rates rise sharply,
- credit conditions tighten,
- economic growth slows.

The swap restores liquidity without forcing RBI to stop defending the rupee.

Thus RBI can simultaneously:

- support the rupee,
- and maintain adequate liquidity in the banking system.

4. It Reduces Pressure in Forward Forex Markets

The swap affects not only the spot market but also the forward market.

One objective mentioned by analysts was reducing stress in:

- forward premiums,
- hedging costs,
- and future dollar availability.

When forward market pressures reduce:

- panic demand for dollars declines,
- speculative positions reduce,
- currency volatility moderates.

This indirectly supports the rupee.

5. It Signals RBI Commitment

Central bank actions have a signalling effect.

The swap communicates that:

- RBI is actively managing liquidity,
- RBI possesses adequate reserves,
- RBI is willing to intervene if volatility becomes excessive.

Such signalling often improves investor confidence and reduces speculative selling of the domestic currency.

Then Why Can the Rupee Still Depreciate?

The swap cannot fully offset fundamental external pressures.

The rupee may continue to weaken if:

- crude oil prices keep rising,
- the West Asia conflict worsens,
- FII outflows continue,
- import demand remains high,
- or global investors rush towards dollar assets.

This is exactly why the rupee remained under pressure even after the swap announcement. The auction improves liquidity and confidence, but it cannot completely neutralise large external shocks.

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India–Japan Bilateral Swap Arrangement (BSA) and Its Relevance During the Current External Sector Stress

The recently renewed India–Japan Bilateral Swap Arrangement (BSA) should be understood in the same broader context as RBI's forex interventions, rising oil prices, pressure on forex reserves, and concerns arising from the West Asia crisis.

While the RBI's recent USD 5 billion swap auction is a domestic liquidity-management tool, the India–Japan swap arrangement functions as an external financial safety net available during periods of severe foreign exchange stress.

What is the India–Japan Bilateral Swap Arrangement?

India and Japan renewed their Bilateral Swap Arrangement (BSA) in February 2026.

The agreement was signed between:

- Reserve Bank of India (RBI)
- Bank of Japan (acting on behalf of Japan's Ministry of Finance)

The size of the facility remains USD 75 billion making it one of India's largest bilateral financial safety arrangements.

The arrangement allows India and Japan to exchange their domestic currencies and obtain US dollars when required.

How Does It Work?

Suppose India faces a severe dollar shortage.
In such a situation:

- RBI can provide rupees to the Bank of Japan, and obtain dollars under the swap line.

Effectively, Japan provides temporary dollar liquidity to India.
The transaction is reversed later under agreed conditions.
Thus, the arrangement works like a pre-approved emergency credit line.

Why Is It Important Right Now?
The West Asia crisis has increased risks relating to:

- crude oil imports,
- shipping costs,
- insurance premiums,
- capital outflows,
- and pressure on India's current account deficit.

India's major vulnerability is not weak growth but external sector stress. Rising oil prices increase dollar demand because India pays for most crude imports in dollars.
The Japan swap arrangement acts as an additional layer of protection if:

- forex reserves decline sharply,
- dollar liquidity becomes scarce,
- or global financial markets become unstable.

How Does It Help the Rupee?
The arrangement does not directly strengthen the rupee through normal exchange-rate mechanics.
Instead, it strengthens confidence in India's ability to defend the rupee.

1. It Increases India's Effective Forex Firepower
2. It Deters Speculative Attacks on the Rupee
3. It Reduces Pressure on Forex Reserves
4. It Improves Investor Confidence

Then Why Doesn't India Simply Use the Swap Line Immediately?
Because the facility is primarily a precautionary instrument.
Using it immediately may:

- signal severe stress,
- create panic in markets,
- and indicate inability to manage with existing reserves.

Therefore, countries generally treat such arrangements as:

- a second line of defence,
- not the first line of intervention.

RBI usually prefers:

- forex market intervention,
- liquidity operations,
- reserve management,
- and monetary tools

before drawing on swap facilities.

Government Raises Gold and Silver Import Duty

The government increased effective import duty on:

- gold,

- silver,
- and related products

from 6%→15% effective May 2026.

New Duty Structure

Component	Earlier	Revised
Basic Customs Duty (BCD)	5%	10%
Agriculture Infrastructure and Development Cess (AIDC)	1%	5%
Total Effective Duty	6%	15%

Additionally: IGST=3%

making the total tax burden close to 18%.

Why Gold Imports Became a Concern

Gold imports:

- require large forex outflows,
- are largely non-productive imports,
- worsen CAD,
- and increase pressure on the rupee.

Despite high global prices, domestic demand remained strong due to:

- weddings,
- cultural demand,
- investment demand,
- and inflation hedging.

Top gold import sources:

- Switzerland (~40%)
- UAE (~16%)
- South Africa (~10%)

Additional Measures on Precious Metals

The government also:

- increased duty on jewellery "findings" such as hooks, pins, screws, and clamps,
- raised platinum duty to 15.4%.

Objective:

- reduce non-essential imports,
- promote domestic manufacturing,
- conserve forex.

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Sugar Export Ban Till September 2026

India banned sugar exports till 30 September 2026 with limited exceptions for quota commitments to EU, and the US.

Reasons Behind Sugar Export Ban

1. Food Security Concerns- The government wanted to ensure adequate domestic sugar availability.

2. Inflation Control- Restricting exports helps stabilise domestic prices.

3. El Niño Risk- Concerns over monsoon uncertainty and agricultural output risks influenced the decision.

4. External Sector Management- Reducing exports of critical commodities was part of broader economic management during the crisis.

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Fuel Conservation Measures

The government and political leadership encouraged nationwide fuel conservation to reduce crude oil demand and foreign exchange outflows.

Prime Minister Narendra Modi appealed to citizens to:

- prefer public transport,
- use carpooling,
- reduce unnecessary vehicle usage,
- adopt work-from-home arrangements where feasible,
- and shift towards electric mobility.

The PM also encouraged:

- increased use of railways for freight movement,
- piped natural gas,
- solar pumps,
- and other energy-efficient alternatives.

Several state administrations adopted symbolic austerity steps:

- reduction in official convoys,
- restriction on helicopter usage,
- online official meetings,
- and "petrol-free days".

Excise Duty Rationalisation on Petrol and Diesel

To cushion consumers and Oil Marketing Companies (OMCs), the government reduced excise duties on petrol and diesel.

Key Features

- Excise duty cut ₹10 per litre
- Objective:
    - offset under-recoveries of OMCs,
    - maintain fuel supply stability,
    - reduce inflationary pressure,
    - and avoid a sharp spike in retail prices.

Export Restrictions and Domestic Supply Prioritisation

The government directed refiners to prioritise domestic energy availability.

Measures

Domestic refiners were instructed to divert:

- 50% of exported petrol,
- and 30% of exported diesel

towards the domestic market.

Fertiliser Supply Stabilisation Measures

The government initiated emergency steps to secure fertiliser availability before the Kharif season.

Gas Supply Restoration

Gas supply to urea plants was increased from around: 60%→75–80%

This reportedly increased fertiliser production by: 12,000–15,000 tonnes/day

Sulphur Supply Assurance

Refineries were directed to ensure sulphur availability for domestic fertiliser production.

Stock Position Monitoring

The Centre stated that fertiliser stocks remained comfortable:

- 200.12 lakh tonnes available,
- against estimated Kharif requirement of 390.54 lakh tonnes.

Export Credit Relief for Exporters

The RBI extended special export credit relief measures because exporters were facing:

- shipping disruptions,
- higher logistics costs,
- delayed payments,
- and geopolitical uncertainty.

Key Measures

Enhanced Credit Period

Export credit window extended up to:

450 days for:

- pre-shipment credit,
- post-shipment credit.

Extended Repatriation Period

Exporters allowed 15 months to realise export proceeds instead of the usual 9 months.

Objective

- Ease working capital stress
- Prevent export slowdown
- Support foreign exchange earnings

Expansion of Energy Infrastructure

The government notified the **Natural Gas and Petroleum Products Distribution Order, 2026**

Objective

- Accelerate pipeline expansion,
- improve gas distribution,
- strengthen energy security,
- and reduce dependence on imported liquid fuels.

The framework aims to:

- streamline approvals,
- facilitate land access,
- expand City Gas Distribution networks,
- and improve last-mile connectivity.

Economic Stabilisation Fund (ESF)

The government reportedly expanded the corpus of the **Economic Stabilisation Fund (ESF)** created in FY 2025-26.

Purpose

The ESF is designed to:

- provide fiscal buffer during external shocks,
- reduce the need for abrupt expenditure cuts,

- and support macroeconomic resilience.

This reflects India's attempt to institutionalise crisis-response mechanisms against:

- geopolitical disruptions,
- commodity shocks,
- and global volatility.

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Women and Men in India 2025

Women and Men in India 2025 is the 27th edition of the flagship publication released by the **National Statistics Office (NSO)** under the **Ministry of Statistics and Programme Implementation (MoSPI)** through its Social Statistics Division.

The report presents a consolidated picture of the socio-economic status of women and men in India by compiling **50 key indicators** across sectors such as demography, health, education, economic participation, financial inclusion, and political representation. The publication serves as an important evidence base for assessing progress towards gender equality and inclusive development.

Demographic Trends

Population Growth Dynamics

India's population growth pattern has exhibited an **inverted U-shaped trajectory** since Independence. This trend indicates that:

- Population growth accelerated during the initial decades after Independence.
- The growth rate reached its highest level during the **1971–1981 decade**.
- Subsequently, population growth has experienced a continuous decline, reflecting demographic transition, rising educational attainment, urbanisation, improved healthcare access, and greater adoption of family planning measures.

The declining growth rate suggests that India is gradually moving towards a more stable population structure.

Estimated Population Projection (in millions): 2016–2036

Year	Female (million)	Male (million)
2016	626.89	664.18
2021	662.38	700.62
2026	693.83	732.07
2031	720.63	758.15
2036	742.59	779.70

Improvement in Sex Ratio at Birth

The **Sex Ratio at Birth (SRB)**, which measures the number of female births per 1,000 male births, has shown noticeable improvement.

Period	Sex Ratio at Birth
2017–19	904
2021–23	917

The increase indicates a gradual reduction in gender bias at birth and reflects improvements in awareness, legal safeguards, and social attitudes towards the girl child.

Rural–Urban Variation

During 2021–23:

- Rural India recorded an SRB of **914**.

- Urban India recorded an SRB of **925**.

Urban areas thus exhibited a relatively more favourable sex ratio at birth compared to rural regions.

In 2023, considerable variation existed among States and Union Territories.

States with Highest Sex Ratio

State	Sex Ratio
Arunachal Pradesh	1085
Nagaland	1007
Goa	973

States with Lowest Sex Ratio

State	Sex Ratio
Jharkhand	899
Bihar	900

A sex ratio above 1000 indicates that females outnumber males in the population.

Total Fertility Rate (TFR)

The **Total Fertility Rate (TFR)** refers to the average number of children expected to be born to a woman during her reproductive years.

India has witnessed a sustained decline in fertility levels.

Area	2019	2023
Urban	1.7	1.5
Rural	2.3	2.1

At the national level, India's TFR stood at **1.9 in 2023**.

This is significant because it is **below the replacement-level fertility of 2.1**, indicating that each generation is no longer producing enough children to exactly replace itself in the long run.

The decline reflects:

- Greater female educational attainment.
- Increased urbanisation.
- Delayed marriage.
- Improved access to contraception.
- Rising workforce participation among women.

Adolescent Fertility

The **Adolescent Fertility Rate (AFR)**, which measures births among women aged 15–19 years, has continued to decline.

Year	AFR
2021	11.3
2023	11.0

The declining trend indicates:

- Reduction in teenage pregnancies.
- Improved educational retention of girls.
- Greater awareness regarding reproductive health.
- Better implementation of programmes aimed at delaying early marriage and childbirth.

Fertility and Education

The report highlights substantial variation in **General Fertility Rates (GFR)** across educational categories of women.

Women with higher educational attainment generally exhibit lower fertility levels due to:

- Delayed age at marriage.
- Greater awareness of reproductive choices.
- Increased labour market participation.

- Enhanced access to healthcare services.

The finding reinforces the strong relationship between female education and demographic outcomes.

Decline in Infant Mortality Rate

The **Infant Mortality Rate (IMR)**, representing deaths of infants below one year of age per 1,000 live births, has declined steadily from **53 to 25** from since 2008..

Female IMR

Year	IMR
2008	55
2023	25

Year	IMR
2008	52
2023	26

Male IMR

The substantial reduction reflects:

- Expansion of immunisation coverage.
- Improvements in maternal and child healthcare.
- Better nutrition interventions.
- Increased institutional deliveries.
- Strengthening of primary healthcare systems.

Maternal Mortality Ratio

The **Maternal Mortality Ratio (MMR)** measures maternal deaths per 100,000 live births.

India has achieved remarkable progress in reducing maternal mortality.

Period	MMR
2004–06	254
2021–23	88

The decline demonstrates significant improvement in:

- Antenatal care.
- Skilled birth attendance.
- Institutional deliveries.
- Emergency obstetric care.
- Public health infrastructure.

This progress contributes directly to India's commitment towards the Sustainable Development Goals (SDGs).

Rising Age at Marriage

Women's average age at marriage has been increasing in both rural and urban India.

Mean Age at Marriage, 2023

Area	Mean Age
Rural	22.4 years
Urban	24.3 years

The rise in marriage age is associated with:

- Greater educational participation.
- Increased economic aspirations.
- Urbanisation.
- Enhanced awareness regarding reproductive health and rights.

Delayed marriage generally contributes to lower fertility rates and improved maternal health outcomes.

Life Expectancy

The report notes differences in life expectancy at birth between males and females, reflecting changing demographic and health outcomes.

Life expectancy remains a critical indicator of overall health, nutrition, healthcare access, and living conditions.

Life Expectancy at Birth by Sex

Period	Male (Years)	Female (Years)
1990–94	59.4	60.4
2021–25*	69.4	72.7
2026–30*	70.4	73.7
2031–36*	71.2	74.7

Literacy Trends

Literacy levels have improved steadily across India among both males and females in rural as well as urban regions.

Despite the overall improvement, literacy rates remain higher in urban areas and among males.

Literacy Rates (2017)

Category	Male (%)	Female (%)
Rural	81.5	65.0
Urban	92.2	82.8

Definition of Literacy

A person is considered literate if he or she:

- Is aged seven years or above.
- Can read and write with understanding in any language.
- Includes the ability to read and write using Braille in the case of visually impaired individuals.
- Need not possess any formal educational qualification.

Gender Gap in Literacy

India continues to exhibit a literacy gap between men and women.

- Overall literacy gender gap: **14.4 percentage points**
- Literacy gender gap among youth aged 15–24 years: **3.8 percentage points**

The much smaller gap among younger cohorts indicates significant progress in educational access and gender inclusion over recent decades.

Gross Enrolment Ratio in School Education

Female students now record higher **Gross Enrolment Ratios (GER)** than male students across all stages of school education.

Under the framework of the **National Education Policy (NEP)**:

- The highest enrolment levels are observed at the **Preparatory Stage**.
- The **Middle Stage** follows.
- The **Secondary Stage** comes next.
- The **Foundational Stage** records the lowest enrolment levels.

The trend is observed for both boys and girls.

Mean Years of Schooling

As of **2022–23**, the average years spent in formal education by individuals aged 15 years and above was:

Category	Mean Years of Schooling
Overall	8.4 years
Female	7.4 years

Female Mean Years of Schooling remained **1.9 years lower** than that of males, indicating the persistence of educational disparities despite substantial improvements.

Higher Education Enrolment

Women's participation in higher education continues to improve.

Gross Enrolment Ratio in Higher Education

Year	Female GER	Male GER
2021–22	28.5	28.3
2022–23	30.2	28.9

The figures indicate that women now exceed men in higher education enrolment at the national level.

Gender Parity in Education

Achievement of Gender Parity

India has largely achieved gender parity from the **Primary level up to Higher Secondary education**.

Gender Parity Index (GPI)

The Gender Parity Index compares female enrolment with male enrolment.

A GPI value:

- Equal to 1 indicates parity.
- Greater than 1 indicates higher female enrolment.
- Less than 1 indicates higher male enrolment.

GPI in 2024–25

Level	GPI
Elementary	Around 1.00
Secondary	1.00
Higher Secondary	1.10

The data indicate that girls are enrolling at rates equal to or higher than boys across school education.

State-wise Progress

- 30 out of 36 States and Union Territories have achieved a GPI of **1.00 or above**.
- This reflects substantial progress towards universal and gender-inclusive education.

Women's Participation in the Economy

Labour Force Participation

The **Labour Force Participation Rate (LFPR)** for persons aged 15 years and above has increased for both men and women.

The most notable increase occurred among rural women.

Category	2022	2025
Rural Female LFPR	37.5%	45.9%

This represents one of the most significant improvements in women's economic participation in recent years.

Sectoral Distribution of Women Workers

Rural Areas

Among rural women workers **72.7%** are engaged in agriculture and allied activities.

Urban Areas

Urban women workers are predominantly employed in:

- Manufacturing activities.
- Associated industrial sectors.

The pattern highlights the continued dependence of rural female employment on agriculture while urban women increasingly participate in industrial production.

Unpaid Domestic and Care Work

A significant gender disparity continues in unpaid household responsibilities.

Average Daily Time Spent on Unpaid Domestic Services

Category	Time Spent
Men	88 minutes
Women	289 minutes

Women spend more than three times the amount of time devoted by men to unpaid domestic work, highlighting the persistence of the unequal burden of household responsibilities.

Financial Inclusion

Bank Accounts

Women account for:

- **39.2% of all bank accounts**.
- **39.7% of total deposits**.

Female participation is highest in rural areas, where women constitute **42.2% of account holders**.

DEMAT Accounts

The report records rapid growth in participation in capital markets.

Indicator	2021	2024
Total DEMAT Accounts	33.26 million	143.02 million
Female DEMAT Accounts	6.67 million	27.71 million
Male DEMAT Accounts	26.59 million	115.31 million

Although male investors continue to dominate, female participation in stock market investments has increased significantly.

Female Entrepreneurship

The report records a steady rise in startups having at least one woman director.

Year	Startups with at least one Woman Director
2017	1,943
2024	17,405

This trend reflects growing female participation in entrepreneurship and the startup ecosystem.

Female-Headed Enterprises

An increasing share of female-headed proprietary establishments has been observed across:

- Manufacturing.
- Trade.
- Other service sectors.

The trend is visible across the years 2021–22, 2022–23 and 2023–24, indicating greater economic agency among women.

Among all States, **Meghalaya** recorded the highest proportion of female account holders in Scheduled Commercial Banks.

- Share of female accounts: **50%**

The finding indicates relatively strong female participation in the formal banking system within the State.

Participation in Governance and Decision-Making

Representation in Parliament and Government

Women's representation in national political institutions remains limited.

As of 2025

Indicator	Share of Women
Members of Parliament	13.65%
Ministerial Portfolios	9.86%

Although representation has improved over time, women continue to remain underrepresented in higher decision-making positions.

Representation in Panchayati Raj Institutions

Women's participation in grassroots democratic institutions has expanded significantly.

National Position

- Women constitute **49.75%** of elected Panchayat representatives.
- Sixteen States have more than **50% women representation** in Panchayati Raj Institutions (PRIs).

This reflects the transformative impact of constitutional provisions and state-level reservation policies.

States with Highest Women Representation in PRIs

State/UT	Representation (%)
Assam	60.1
Dadra & Nagar Haveli and Daman & Diu	56.93
Chhattisgarh	56.5

The data demonstrate strong female participation in local self-government institutions.

Women in Managerial Positions

Women's presence in managerial and leadership roles has expanded considerably.

Between **2017 and 2025**:

- Number of men in managerial positions increased by **73.8%**.
- Number of women in managerial positions increased by **102.54%**.

The faster growth among women indicates gradual progress towards gender diversity in leadership and management, although absolute representation gaps continue to exist.

Significance of the Report

The *Women and Men in India 2025* report highlights important demographic, educational, health and economic transformations underway in the country. Key positive trends include declining fertility rates, improved sex ratio at birth, reduction in maternal and infant mortality, rising female educational attainment, growing labour force participation, near-achievement of gender parity in school education, and expanding representation of women in local governance.

At the same time, the report points to continuing challenges such as lower female literacy in certain regions, gender disparities in years of schooling, concentration of women in agriculture and unpaid domestic work, and underrepresentation in higher political and executive decision-making positions. The findings provide a crucial evidence base for designing gender-responsive policies and monitoring India's progress towards inclusive and equitable development.

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SARTHAK-PDS Scheme

The Union Cabinet has approved the continuation of the **SARTHAK-PDS (Scheme for Assistance in Ration Transport and Handling–Income with Automation in Public Distribution System)** for the **period 2026-27 to 2030-31 with a total Central outlay of ₹25,530 crore.**

The scheme seeks to modernise the Public Distribution System (PDS), strengthen last-mile delivery of foodgrains, improve transparency and accountability, and support implementation of the National Food Security Act (NFSA), 2013 for approximately 81.35 crore beneficiaries across the country.

What is SARTHAK-PDS

SARTHAK-PDS is an umbrella scheme that combines financial support for foodgrain transportation and Fair Price Shop operations with technology-enabled reforms aimed at modernising the entire PDS architecture. The scheme will be implemented during the award period of the 16th Finance Commission from 1 April 2026 to 31 March 2031.

It merges two existing schemes:

1. **Assistance to State Agencies for Intra-State Movement of Foodgrains and FPS Dealers' Margin under NFSA**, which supports transportation, handling and dealer margins; and
2. **SMART-PDS (Scheme for Modernisation and Reforms through Technology in Public Distribution System)**, which focuses on digitisation, automation and technology-driven reforms.

The integration of these schemes is intended to create a unified framework for both operational and technological strengthening of PDS.

1. Assistance to State Agencies for Intra-State Movement of Foodgrains and FPS Dealers' Margin under NFSA

This is the older and more foundational component of SARTHAK-PDS. It originates from the implementation framework of the National Food Security Act (NFSA), 2013.

Under NFSA, the Centre procures foodgrains and allocates them to States/UTs, but States bear responsibility for:

- intra-state transportation,
- handling of foodgrains,
- delivery to Fair Price Shops (FPSs),
- and operation of the distribution network.

To support States in implementing NFSA, the Central Government provides financial assistance for:

- movement of foodgrains from designated depots,
- handling and distribution costs,
- and margins paid to Fair Price Shop dealers.

The scheme therefore addresses one of the major operational challenges of PDS: financing last-mile foodgrain delivery.

Evolution of the Scheme

The Cabinet Committee on Economic Affairs approved norms for Central assistance under NFSA in 2015. Subsequently, the norms were revised in 2022 to increase support for:

- intra-state movement,
- handling operations,
- and FPS dealer margins.

The revised norms were linked with implementation of PDS reforms by States and Union Territories.

The assistance includes:

- transportation support,
- handling charges,
- dealer commissions,
- and additional support for distribution through electronic Point-of-Sale (e-PoS) systems.

Why It Was Important

Historically, one of the weaknesses of PDS was that although foodgrain subsidy was centrally funded, States often faced financial stress in:

- transporting foodgrains,
- maintaining distribution infrastructure,
- and compensating FPS dealers.

Low dealer margins sometimes reduced viability of Fair Price Shops and contributed to inefficiencies. This scheme ensured that implementation of NFSA was financially sustainable for States.

2. SMART-PDS (Scheme for Modernization and Reforms through Technology in Public Distribution System)

SMART-PDS is the technological reform component that has now been absorbed into SARTHAK-PDS. The scheme was approved for the period 2023–2026 as a Centrally Sponsored Scheme for all States and Union Territories.

Background

Before SMART-PDS, the government had implemented **End-to-End Computerisation of PDS** and **Integrated Management of Public Distribution System (IM-PDS)**

These reforms focused on:

- digitisation of ration cards,
- Aadhaar seeding,
- online allocation systems,
- portability mechanisms,
- and One Nation One Ration Card (ONORC).

SMART-PDS was conceived as the next phase of reforms to sustain and upgrade this digital infrastructure.

Objective

The official objective of SMART-PDS was to create a unified, technology-driven ecosystem for the Public Distribution System. The scheme sought to overcome:

- fragmented state-level IT systems,
- outdated software architecture,
- lack of real-time data,
- weak interoperability,
- infrastructure limitations across States.

Major Focus Areas

SMART-PDS aimed to:

- modernise PDS technology infrastructure,
- integrate central and state databases,
- strengthen beneficiary authentication,
- improve real-time monitoring,
- enhance transparency,

- reduce leakages and diversion of foodgrains,
- improve portability and service delivery.

Technology Architecture

The scheme focused on:

- cloud-based systems,
- centralised platforms,
- integrated databases,
- AI-enabled governance tools,
- real-time analytics,
- supply-chain digitisation.

It also supported:

- e-KYC integration,
- digital beneficiary management,
- foodgrain tracking systems,
- grievance redressal platforms.

How SARTHAK-PDS Changes the Approach

The earlier transport assistance scheme and SMART-PDS largely operated as separate initiatives:

- one focused on financing foodgrain movement and FPS operations,
- the other focused on technology and digitisation.

SARTHAK-PDS integrates both into a single umbrella framework.

This is significant because food security reforms are now being viewed as a combination of:

- physical distribution infrastructure,
- financial support mechanisms,
- and digital governance architecture.

In policy terms, the evolution can be understood as:

Phase 1- Food subsidy and distribution support

Phase 2- Digitisation and portability reforms (e-PoS, Aadhaar seeding, ONORC, IM-PDS)

Phase 3- SMART-PDS (technology-driven modernisation)

Phase 4- SARTHAK-PDS (integrated AI-enabled, interoperable and intelligent food security ecosystem)

Objectives of SARTHAK PDS

The scheme seeks to create a Public Distribution System that is:

- modern and technology-enabled,
- transparent and accountable,
- efficient and leak-proof,
- beneficiary-centric and responsive.

The broader objective is to transform the PDS from a traditional foodgrain distribution network into an intelligent welfare delivery platform capable of real-time monitoring, predictive analytics and data-driven decision-making.

Major Components

Support for Foodgrain Transportation and Handling

The scheme provides financial assistance to States and Union Territories for intra-state transportation and handling of foodgrains allocated under NFSA.

This support helps reduce the fiscal burden on States and ensures smooth movement of foodgrains from Food Corporation of India depots to distribution points and Fair Price Shops.

Support for Fair Price Shops

SARTHAK-PDS provides assistance towards FPS dealer margins, recognising the critical role played by Fair Price Shops as the last-mile interface between the government and beneficiaries.

The objective is to improve the viability and sustainability of FPS operations and ensure uninterrupted service delivery.

Technology-Led Modernisation

A major focus of the scheme is the creation of a digitally integrated and interoperable PDS ecosystem. It seeks to leverage Artificial Intelligence, Machine Learning, Natural Language Processing, Blockchain, GPS-based tracking and QR-code-based traceability systems.

The emphasis is on end-to-end digitisation, automation and real-time monitoring of the foodgrain supply chain.

Digital Architecture under SARTHAK-PDS

The scheme proposes three major technology platforms.

NIRMAL

NIRMAL is envisaged as an AI-enabled beneficiary registry. It will maintain updated beneficiary databases, improve identification accuracy, eliminate duplication and strengthen targeting of food security benefits.

ASHA

ASHA is designed as a multilingual AI-enabled grievance redressal and citizen engagement platform.

Unlike conventional grievance systems that depend primarily on manual complaint registration, ASHA will operate through:

- phone calls,
- WhatsApp,
- IVRS systems,
- and AI chatbots.

The platform is expected to handle up to 3 lakh interactions/day according to the Cabinet briefing.

The government describes ASHA as an AI food-security assistant that will:

- enable faster complaint resolution,
- interact in beneficiaries' preferred languages,
- improve responsiveness,
- and increase citizen satisfaction.

The significance of ASHA lies in its attempt to make grievance redressal proactive, multilingual and scalable across a very large beneficiary base.

SAKSHAM

SAKSHAM will serve as an AI-based supply-chain management system. It will use GPS tracking, QR-code traceability and real-time logistics monitoring to track foodgrain movement and improve accountability throughout the distribution chain.

The Cabinet briefing indicates that SAKSHAM is expected to:

- reduce travel distance of foodgrain movement by 15–50%,
- improve logistics efficiency,
- generate annual savings of about ₹280 crore,
- and reduce carbon emissions by nearly 35%.

The system will also use:

- QR-coded tags on foodgrain bags,
- vehicle location systems,
- and digital traceability mechanisms to reduce diversion and leakages.

Governance and Transparency Reforms

The scheme seeks to establish a nationally integrated and interoperable PDS architecture through:

- standardised digital platforms,
- unified databases,
- real-time monitoring systems,
- automated reporting mechanisms,
- digital audit trails,
- and integrated Centre-State coordination frameworks.

A key objective is to ensure complete visibility of foodgrain movement from procurement centres to beneficiaries, thereby reducing diversion and leakages.

The scheme also promotes data-driven governance through predictive analytics, anomaly detection and AI-assisted monitoring.

Linkage with NFSA and Existing Reforms

SARTHAK-PDS supports implementation of the National Food Security Act, 2013, under which eligible beneficiaries receive subsidised foodgrains.

The scheme should also be viewed in the broader context of ongoing PDS reforms such as:

- digitisation of ration cards,
- Aadhaar seeding,
- electronic Point-of-Sale (e-PoS) devices,
- and One Nation One Ration Card (ONORC).

While earlier reforms focused primarily on digitisation and portability, SARTHAK-PDS represents a transition towards intelligent and integrated welfare administration.

Its focus extends beyond beneficiary authentication to predictive governance, real-time supply-chain management and AI-enabled decision-making.

Significance

SARTHAK-PDS marks a shift from conventional subsidy distribution towards a modern public service delivery architecture.

The scheme is expected to:

- strengthen implementation of NFSA,
- improve efficiency of foodgrain distribution,
- reduce leakages and diversion,
- improve beneficiary identification,
- enhance grievance redressal,
- support portability and interoperability,
- improve transparency and accountability,
- and promote evidence-based governance.

It also reflects the increasing integration of Digital Public Infrastructure and Artificial Intelligence into welfare delivery systems.

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LEADS 2025 and LEAPS 2025

Union Minister for Commerce and Industry Piyush Goyal released the **LEADS 2025 Report** and felicitated winners of the **LEAPS 2025 Awards**. Both initiatives are administered by the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry, and form part of India's broader logistics reform agenda under the **National Logistics Policy (NLP), 2022** and **PM GatiShakti National Master Plan**.

Although the names are similar, LEADS and LEAPS serve different purposes:

- **LEADS** is a logistics performance assessment and benchmarking framework for States and Union Territories.
- **LEAPS** is a national awards platform recognising excellence and innovation within the logistics sector.

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LEADS: Logistics Ease Across Different States

LEADS (Logistics Ease Across Different States) is DPIIT's flagship logistics performance assessment framework that evaluates logistics ecosystems across States and Union Territories.

It was launched **in 2018** and was conceptualised broadly on the lines of the World Bank's **Logistics Performance Index (LPI)**. The report functions as a benchmarking and reform tool to identify gaps, improve logistics efficiency and promote evidence-based policymaking.

The broader objective is to reduce logistics costs, improve supply-chain efficiency and strengthen India's competitiveness in domestic and global trade.

Objectives of LEADS

LEADS seeks to:

- benchmark logistics performance across States and UTs,
- identify logistics bottlenecks,
- support targeted reforms,
- promote competitive and cooperative federalism,
- improve logistics infrastructure and services,
- align state-level reforms with the National Logistics Policy and PM GatiShakti framework.

LEADS 2025: Key Features

LEADS 2025 is the 7th edition of the report.

The 2025 edition marks an important methodological shift.

1. Greater Emphasis on Objective Indicators- Nearly 59% weightage has been assigned to objective and measurable indicators, making the assessment less perception-driven and more evidence-based.

These indicators include:

- regulatory support,
- logistics enablers,
- infrastructure availability,
- service efficiency,
- implementation outcomes.

2. Four-Tier Classification Framework

Earlier editions used a three-tier classification system. LEADS 2025 introduced a Four-Tier Performance Framework to better capture varying levels of logistics ecosystem maturity across States and UTs.

The categories are:

Exemplars

Top-performing States and UTs demonstrating sustained excellence across:

- infrastructure,
- policy environment,
- logistics services,
- and regulatory systems.

High Performers

States showing strong and consistent logistics outcomes across most indicators.

Accelerators

States demonstrating significant reform momentum and improvement in logistics performance.

Growth Seekers

States and UTs that are still developing foundational logistics systems and institutional capacities.

LEADS 2025: Top Performers

Exemplars Category

Category	State/UT
Coastal States	Tamil Nadu
Landlocked States	Uttar Pradesh
North-Eastern States	Mizoram
Union Territories	Delhi

Assessment Parameters

LEADS evaluates States and UTs across multiple dimensions including:

- logistics infrastructure,
- warehousing capacity,
- multimodal connectivity,
- policy and institutional support,
- quality and reliability of logistics services,
- regulatory environment,
- safety and operating conditions.

Significance of LEADS

LEADS functions as a logistics governance tool rather than merely a ranking exercise.

It helps:

- identify infrastructure gaps,
- prioritise reforms,
- improve coordination between Centre and States,
- reduce logistics costs,
- support export competitiveness,
- and strengthen supply-chain resilience.

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LEAPS: Logistics Excellence, Advancement and Performance Shield

It is DPIIT's flagship national awards initiative designed to recognise organisations demonstrating excellence, innovation and leadership in logistics and supply-chain management.

Unlike LEADS, which evaluates States and UTs, LEAPS evaluates:

- logistics companies,

- startups,
- MSMEs,
- educational institutions,
- warehousing operators,
- freight service providers,
- and other logistics stakeholders.

Objectives of LEAPS

The initiative seeks to:

- recognise best practices,
- encourage innovation,
- promote sustainability,
- strengthen logistics competitiveness,
- support adoption of technology,
- encourage ESG-oriented logistics practices,
- and create a future-ready logistics ecosystem.

LEAPS 2025

LEAPS 2025 is the 4th edition of the awards initiative.

Applications were invited through the Government's **Rashtriya Puraskar Portal (Awards Portal)** and evaluated through a structured process involving:

- Expert Committee scrutiny,
- Award Committee evaluation,
- and DPIIT oversight.

Evaluation Criteria

Applicants were assessed on:

- technological innovation,
- ESG practices,
- multimodal logistics integration,
- operational efficiency,
- safety standards,
- research and development,
- employment generation,
- skill development,
- alignment with National Logistics Policy objectives.

Categories under LEAPS 2025

The awards covered:

Core Logistics

- Air Freight Service Providers
- Road Freight Service Providers
- Maritime Freight Service Providers
- Rail Freight Service Providers
- Multimodal Transport Operators
- Warehouse Service Providers

MSMEs
Startups
Educational Institutions
Special Categories
including:

- e-commerce logistics,
- freight forwarding,
- third-party logistics services.

LEADS vs LEAPS

Feature	LEADS	LEAPS
Full Form	Logistics Ease Across Different States	Logistics Excellence, Advancement and Performance Shield
Nature	Assessment and benchmarking report	Awards and recognition initiative
Launched	2018	2022 (first edition)
Implemented By	DPIIT	DPIIT
Focus	States and Union Territories	Logistics organisations and institutions
Purpose	Measure logistics performance	Recognise excellence and innovation
Unit of Assessment	State/UT logistics ecosystem	Logistics companies, MSMEs, startups, institutions
Linked With	Logistics reforms and policy benchmarking	Industry best practices and innovation
Output	Ranking/classification report	National awards

Broader Context: India's Logistics Sector
India's logistics reforms are being driven by the objective of reducing logistics costs and improving competitiveness.
Logistics costs in India are estimated at around 8% of GDP though costs vary across sectors and regions.
Major challenges include:

- infrastructure gaps,
- excessive dependence on road transport,
- fragmented logistics markets,
- regulatory complexity,
- and uneven technology adoption.

Related Government Initiatives
Both LEADS and LEAPS are linked to broader logistics reforms including:
National Logistics Policy (NLP), 2022
Aims to reduce logistics costs, improve efficiency and strengthen competitiveness.
PM GatiShakti National Master Plan
Integrated infrastructure planning platform for multimodal connectivity.
Unified Logistics Interface Platform (ULIP)
Logistics Data Bank 2.0
Dedicated Freight Corridors (DFCs)

Multi-Modal Logistics Parks (MMLPs)
Strengthening Multimodal and Integrated Logistics Ecosystem (SMILE) Programme

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India Unveils Port Performance Index (LPPI) and Maritime Digital Reforms

The Ministry of Ports, Shipping and Waterways (MoPSW), under Union Minister Sarbananda Sonowal, launched the **Logistics Port Performance Index (LPPI) for FY 2024–25** along with four major digital initiatives during the 37th Foundation Day celebrations of the Jawaharlal Nehru Port Authority (JNPA), Mumbai. The objective is to improve efficiency, transparency, ease of doing business, and India's competitiveness in the global maritime sector.

Logistics Port Performance Index (LPPI)
LPPI is a new performance assessment framework introduced for Indian ports.
Objectives

- Improve operational efficiency of ports.
- Promote transparency and accountability.
- Encourage competition among ports.
- Enable global benchmarking of Indian ports.
- Strengthen India's position as a leading maritime power.
- Support logistics cost reduction and trade facilitation.

Four Major Digital Initiatives Launched
1. One Nation-One Port Process (ONOP)
ONOP seeks procedural standardisation across ports rather than institutional merger of ports.
Before ONOP:

- Different ports followed different documentation formats.
- Operational procedures varied across ports.
- Shipping lines faced compliance duplication.
- Transaction costs increased due to lack of uniformity.

ONOP aims to remove these inconsistencies.

Major Achievement
As part of ONOP:
Container Cargo Documentation
Reduced from 143 documents → 96 documents.
Reduction of 33%.
Bulk Cargo Documentation
Reduced from 150 documents → 106 documents.
Reduction of 29%.

Agencies Standardised
Documentation has been harmonised across:

- Immigration authorities.
- Port Health Organisation.
- Port Authorities.

Expected Outcomes

- Faster cargo movement.
- Reduced vessel waiting time.
- Lower logistics costs.
- Greater predictability in port operations.
- Improved ease of doing business.

2. Sagar Ankalan – Logistics Port Performance Index

Digital dashboard associated with the LPPI framework. "Sagar Ankalan" essentially functions as the performance measurement and benchmarking architecture for Indian ports.

The LPPI is not a standalone index. It has been developed under the **Sagar Ankalan framework**, which serves as India's national port benchmarking mechanism.

Cargo Categories Covered

The index evaluates ports under three major cargo segments:

- Dry Bulk Cargo
- Liquid Bulk Cargo
- Container Cargo

Both major and non-major ports are covered under the assessment framework.

Key Performance Indicators (KPIs)

The LPPI measures port performance using operational indicators such as:

- Cargo handled
- Vessel turnaround time
- Berth idle time
- Pre-berthing waiting time
- Container dwell time
- Ship berth-day output
- Berth efficiency and utilisation indicators

Unique Feature

The framework assigns:

- 50% weight to absolute operational performance.
- 50% weight to year-on-year improvement.

This is designed to reward both efficiency and continuous improvement.

Functions

- Real-time monitoring of port performance.
- Comparative assessment of ports.
- Data-driven governance and decision making.
- Continuous performance improvement through benchmarking.

3. National Centre of Excellence in Green Port and Shipping (NCoEGPS) Digital Portal

To support sustainable and environmentally responsible maritime development.

Focus Areas

- Green shipping technologies.
- Decarbonisation initiatives.
- Alternative fuels.
- Environmental compliance.

- Capacity building and knowledge sharing.

Importance

Supports:

- India's net-zero ambitions.
- Green maritime transition.
- International Maritime Organization (IMO) environmental commitments.

4. MAITRI Platform

Master Application for International Trade and Regulatory Interface

Purpose- Digital trade facilitation platform for maritime stakeholders.

Key Benefits

- Streamlines regulatory clearances.
- Integrates multiple agencies on a common platform.
- Reduces paperwork and delays.
- Facilitates international trade through digitisation.

Significance

- Supports paperless governance.
- Improves trade competitiveness.
- Reduces compliance burden on businesses.

MAITRI is a key platform for operationalising the **India–UAE Virtual Trade Corridor (VTC)**

The system enables:

- Digital trade documentation.
- Faster customs and logistics processes.
- Integrated trade facilitation.

Link with IMEEC

MAITRI is aligned with:- **India–Middle East–Europe Economic Corridor (IMEEC)**

It is also expected to expand towards:

- BIMSTEC countries.
- ASEAN countries.

Bharat Global Ports Consortium

A major initiative launched alongside ONOP and MAITRI.

Objectives

- Expand India's maritime reach globally.
- Strengthen global trade resilience.
- Enhance supply chain integration.
- Support Make in India.
- Improve India's role in international logistics networks.

5. Unified Ship Recycling Portal

To operationalise the **Ship Recycling Credit Scheme**.

Objectives

- Promote ship recycling activities in India.
- Encourage domestic shipbuilding.
- Improve transparency in recycling operations.
- Digitise approvals and monitoring.

Function: Operationalizes the government's ₹70,000-crore maritime development package to boost indigenous shipbuilding.
Features: Shipowners who recycle their aging vessels at Hong Kong Convention-compliant Indian yards automatically receive a digital credit note worth **40% of the ship's scrap value**, which can be directly redeemed against new shipbuilding projects within India.

Significance

- Supports circular economy principles.
- Enhances India's ship recycling ecosystem.
- Strengthens domestic maritime manufacturing capabilities.

6. Vessel Traffic Service (VTS) Launch
To improve navigation and maritime safety.
Functions

- Real-time vessel monitoring.
- Traffic management in port waters.
- Enhanced navigational safety.
- Reduced risk of maritime accidents.

Importance

- Improves operational efficiency.
- Supports safer port operations.
- Enhances maritime security.

Directorate General of Shipping (DGS) Digital Initiatives
The newly launched digital initiatives were developed by the **Directorate General of Shipping (DGS)**.
Four DGS Modules Launched

1. 24×7 Grievance Redressal Module under e-Navik.
2. Ship Registration Module under e-Samudra.
3. Medical Practitioner Module.
4. Unified Ship Recycling Credit Note Module.

Directorate General of Shipping

- Attached office of MoPSW.
- Headquarters: Mumbai.

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Insolvency and Bankruptcy Code (IBC) Completes 10 Years

The Insolvency and Bankruptcy Code (IBC), enacted in 2016, completed ten years of implementation in 2026. The government highlighted the Code's role in transforming India's insolvency framework, improving creditor recoveries, strengthening credit discipline, and improving ease of doing business.

As of March 2026, 1,419 cases had yielded resolution plans. The resolution process has facilitated realisation of over ₹4 lakh crore for creditors. This realisation to the creditors is 95% and 167% as against their fair and liquidation value, respectively.

Today, the jurisprudence evolving around the Code has contributed to the development of a robust and dynamic insolvency ecosystem that continues to adapt to emerging economic realities and stakeholder expectations.

Simultaneously, the Insolvency and Bankruptcy Code (Amendment) Bill, 2025 introduced major structural reforms to address delays, judicial bottlenecks, and gaps that emerged during implementation.

Background: Why Was IBC Needed?

Before the IBC, India's insolvency framework was fragmented and governed by multiple laws, including:

- Sick Industrial Companies Act (SICA), 1985
- Recovery of Debts Due to Banks and Financial Institutions Act, 1993
- SARFAESI Act, 2002
- Companies Act provisions relating to winding up

The earlier system suffered from:

- multiple forums,
- overlapping jurisdictions,
- prolonged litigation,
- low recovery rates,
- and poor credit discipline.

As a result:

- Non-Performing Assets (NPAs) increased sharply,
- banks remained burdened with stressed assets,
- and resolution of failed businesses often took several years.

The Bankruptcy Law Reforms Committee (BLRC) chaired by T.K. Viswanathan recommended a unified insolvency framework, leading to enactment of the IBC in 2016.

What is the Insolvency and Bankruptcy Code?

The IBC is a comprehensive law providing a unified and time-bound mechanism for:

- insolvency resolution,
- bankruptcy proceedings,
- liquidation of assets,
- and revival of financially distressed entities.

The Code covers companies, LLPs, partnership firms, individuals, and personal guarantors.
Its primary objective is resolution before liquidation.

The Code seeks to maximise value of assets while balancing the interests of all stakeholders.

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Institutional Framework Under IBC

Insolvency and Bankruptcy Board of India (IBBI)

Established in 2016 as the regulator under the Code.
Functions:

- regulates insolvency professionals,
- insolvency professional agencies,
- information utilities,
- and implementation of the Code.

National Company Law Tribunal (NCLT)- Adjudicating authority for corporate insolvency, companies, LLPs.
National Company Law Appellate Tribunal (NCLAT)- Appellate authority against NCLT decisions.
Debt Recovery Tribunal (DRT)- Adjudicating authority for individuals, partnership firms.
Insolvency Professionals (IPs)- Manage: debtor assets, resolution process, **and** creditor coordination.
Information Utilities (IUs)- Maintain authenticated financial information regarding: loans, defaults, liabilities.

Corporate Insolvency Resolution Process (CIRP)

Trigger- Insolvency proceedings may be initiated upon default.
Applicants may include:

- financial creditors,
- operational creditors,
- corporate debtor itself.

Moratorium
Once CIRP begins:

- recovery proceedings are stayed,
- lawsuits are suspended,
- asset transfers are restricted.

This protects the debtor as a going concern.

Interim Resolution Professional (IRP)- Takes control of management and operations.
Committee of Creditors (CoC)
Consists mainly of financial creditors.
Functions:

- evaluates resolution plans,
- approves revival proposals,
- decides future of company.

Resolution Plan
A successful applicant submits a plan for revival.
Approval requires 66% voting share of CoC.

Liquidation- If no resolution plan succeeds, the company enters liquidation.

Major Achievements of IBC in 10 Years
According to the government:
Recovery for Creditors- IBC resolution process facilitated realisation of ₹4 lakh crore for creditors.
Behavioural Change Among Borrowers- One of the most important achievements has been the "deterrence effect".
Fear of losing management control encouraged:

- early settlements,
- repayment of dues,
- voluntary restructuring.

Many defaults were resolved before formal admission.

Strengthening Credit Culture
The Code shifted control from defaulting promoters to creditors.
This improved repayment discipline, lending confidence, accountability in corporate governance.

Improvement in Ease of Doing Business
The Code improved investor confidence, recovery mechanisms, credit market efficiency.
It helped establish a predictable framework for distressed asset resolution.

Challenges Faced by IBC
Despite successes, implementation revealed several problems.

- **Delays in Resolution**
  Originally, CIRP was intended to be completed within 180 days extendable to 330 days including litigation.

However, many cases exceeded these timelines.

- **Large Pendency in NCLT**
  More than 30,000+ insolvency-related matters were pending before NCLT by 2025.
  The backlog significantly slowed resolution.
- **Haircuts and Low Recoveries**
  In several high-profile cases creditors accepted substantial haircuts, raising concerns regarding value maximisation.
- **Litigation and Judicial Delays**
  Frequent appeals led to prolonged proceedings, uncertainty for investors, delayed resolution.
- **Cross-Border Insolvency Gap**
  The original Code lacked a comprehensive framework for multinational corporations, overseas assets, foreign creditors.
- **Group Insolvency Issues**
  The Code dealt primarily with individual companies, even where multiple group entities were financially interconnected.

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Insolvency and Bankruptcy Code (Amendment) Bill, 2025

Why Was the Amendment Introduced?

The Bill seeks to address:

- procedural delays,
- uncertainty in recovery outcomes,
- ambiguity arising from judicial interpretations,
- and institutional bottlenecks.

It represents the most extensive overhaul of the Code since 2016.

Key Features of the IBC Amendment Bill, 2025

1. Creditor-Initiated Insolvency Resolution Process (CIIRP)

The Bill introduces Creditor-Initiated Insolvency Resolution Process. This creates an alternative route outside the traditional tribunal-led admission system.

Key features:

- available for specified corporate debtors,
- initiated by specified financial creditors,
- requires approval of creditors holding at least 51% of debt
- debtor must be given opportunity to respond before commencement.

Objective- Reduce NCLT burden and accelerate resolution.

2. Faster Admission Timelines

The amendment operationalises stricter timelines. NCLT must admit insolvency applications within 14 days once default is established. This seeks to eliminate admission-stage delays.

3. Cross-Border Insolvency Framework

The Bill introduces a framework for Cross-Border Insolvency. This addresses situations where:

- debtor assets exist in multiple countries,
- creditors are located internationally,
- insolvency proceedings involve foreign jurisdictions.

Importance

Increasing relevance due to globalisation and multinational corporate structures.

4. Group Insolvency Framework

This allows coordinated resolution of financially linked corporate groups. Done to Avoid fragmented resolution of interconnected entities.

5. Changes in Liquidation Process

The Bill seeks:

- stricter liquidation timelines,
- improved asset sale mechanisms,
- greater flexibility in disposal of assets.

6. Clean Slate Protection

Successful resolution applicants receive stronger protection from:

- past liabilities,
- legacy disputes,
- historical claims.

Objective- Improve attractiveness of distressed asset acquisitions.

7. Strengthening Resolution Plan Implementation

The amendment introduces mechanisms for:

- better enforcement,
- implementation monitoring,
- accountability after approval of plans.

8. Guarantor Assets

The Bill strengthens provisions relating to:

- personal guarantors,
- guarantor assets,
- creditor recovery rights.

9. Avoidance Transactions

The framework strengthens action against:

- fraudulent transactions,
- preferential transactions,
- undervalued transactions,
- transactions intended to defeat creditors.

10. Removal of Fast-Track CIRP

The Bill removes the earlier fast-track insolvency process and replaces it with the new creditor-driven mechanism.

Significance of the 2025 Amendment

The amendment aims to move the Code from:

- mere insolvency resolution,
- to faster and more predictable resolution.

Expected outcomes:

- reduced litigation,
- quicker admissions,
- improved recoveries,
- stronger creditor rights,
- reduced burden on tribunals,
- greater investor confidence.

POLITY AND GOVERNANCE

Recalibrating Public Interest Litigation (PIL)

Why in News?

The Union Government has urged the Supreme Court to reconsider the existing framework of Public Interest Litigation (PIL), citing concerns regarding agenda-driven litigation, misuse of judicial processes, and judicial overreach. At the same time, PIL continues to play a crucial role in protecting fundamental rights and expanding the scope of Article 21.

What is Public Interest Litigation (PIL)?

Public Interest Litigation is a legal mechanism that enables any public-spirited individual or organization to approach the courts on behalf of disadvantaged sections of society who are unable to seek justice due to poverty, illiteracy, ignorance, or socio-economic constraints.

Origin

- The concept originated in American jurisprudence.
- In India, it was developed during the late 1970s and 1980s by Justice V.R. Krishna Iyer and Justice P.N. Bhagwati.

Significance of PIL

Relaxation of Locus Standi

- Traditionally, only a person whose rights were directly violated could approach the court.
- PIL relaxed the doctrine of Locus Standi, allowing third parties to seek judicial intervention in matters affecting public interest.

Expansion of Article 21

Through PILs, the Supreme Court expanded the scope of Article 21 (Right to Life and Personal Liberty) to include:

- Right to a clean environment
- Right to free legal aid
- Right to speedy trial
- Right to privacy

Access to Justice

- Provided legal remedies to marginalized and vulnerable sections of society.
- Enhanced judicial protection of human rights and constitutional values.

Landmark PIL Case

Hussainara Khatoon v. State of Bihar (1979)

- First major PIL case in India.
- Exposed inhuman conditions of undertrial prisoners in Bihar prisons.
- Led to the release of more than 40,000 undertrial prisoners.
- Established the Right to Speedy Trial as a Fundamental Right under Article 21.
- Laid the foundation for future PIL jurisprudence in India.

Key Concerns Associated with PIL

1. Rise of Agenda-Driven Litigation

Private Interest Litigation

- Corporate or personal rivalries are presented as matters of public interest.

Publicity Interest Litigation

- Petitions are filed primarily to gain media attention and public visibility.

Political Interest Litigation

- Courts are used as platforms for political battles instead of genuine rights enforcement.

2. Constitutional Friction and Judicial Overreach

- Increasing judicial involvement in policy-making blurs the separation of powers.
- Courts are often required to adjudicate matters traditionally within the executive and legislative domains.
- Raises concerns regarding judicial overreach.

3. Enforcement Gap

- Many judicial directives lack practical feasibility and administrative support.
- Weak implementation mechanisms result in non-compliance.
- Limited use of contempt proceedings further reduces effectiveness.
- This undermines the credibility and authority of the judiciary.

4. Rise of Ambush PILs

- Poorly drafted petitions are strategically filed to secure quick dismissal.
- Due to the principle of res judicata, subsequent genuine petitions on the same issue may become difficult to entertain.
- This obstructs serious and well-researched legal challenges.

5. Judicial Backlog

- India currently faces a pendency of more than 5 crore cases.
- Expansive PILs consume considerable judicial time and resources.
- This delays the disposal of regular civil and criminal cases, affecting timely access to justice.

Measures to Strengthen PIL

Exemplary Penalties

- Impose heavy financial penalties on frivolous litigants.
- Restrict future filing rights of individuals misusing PIL for personal, political, or publicity purposes.

Filtering Mechanism

- Establish dedicated PIL Cells or administrative committees in High Courts and the Supreme Court.
- Screen and filter frivolous petitions before they reach judicial benches.

Specialised PIL Benches

- Create domain-specific benches for sectors such as environment, health, and education.
- Improve efficiency and expertise in adjudication.
- Example: Green Bench of the Calcutta High Court.

Judicial Self-Restraint

- Courts should avoid encroaching upon executive and legislative functions.
- Judicial intervention should be limited to cases involving clear violations of fundamental rights or constitutional vacuum.

Conclusion

Public Interest Litigation remains one of the most transformative innovations in Indian judicial history, significantly enhancing access to justice and expanding the scope of fundamental rights. However, growing instances of misuse, judicial overreach, and implementation challenges necessitate reforms to preserve its credibility while ensuring that PIL continues to serve genuine public causes.

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Right to Education (RTE) Act, 2009

Why in News?

The Ministry of Education has informed the Supreme Court that it is drafting rules to prescribe the method and manner of admission of children belonging to Economically Weaker Sections (EWS) and Disadvantaged Groups (DG) in neighbourhood schools under the Right to Education Act, 2009.

About the RTE Act, 2009

The Right of Children to Free and Compulsory Education Act, 2009 is a landmark legislation that transformed elementary education from a policy objective into a Fundamental Right.

The Act came into force on 1 April 2010 and provides the legal framework for implementing Article 21A of the Constitution.

Constitutional Basis

Article 21A

- Inserted by the 86th Constitutional Amendment Act, 2002.
- Provides free and compulsory education to all children between the ages of 6 and 14 years as a Fundamental Right.
- The RTE Act operationalizes this constitutional provision.

Major Features of the RTE Act

Free and Compulsory Education

- Every child between 6 and 14 years of age has the right to free elementary education.
- No child can be denied admission, charged fees, or prevented from completing elementary education.

Prohibition of Capitation Fee and Screening Tests

The Act strictly prohibits:

- Capitation fees charged by schools during admission.
- Screening procedures or admission tests for children and parents.

This ensures that admission is not based on academic performance, economic status, or social background.

Neighbourhood School Concept

- Children should have access to schools located within their neighbourhood.
- States are responsible for ensuring the availability of such schools.

Section 12: Reservation for EWS and Disadvantaged Groups

25 Percent Reservation Provision

Under Section 12(1)(c):

- Private unaided schools and special category schools must reserve at least 25 percent of entry-level seats (Pre-School or Class I) for:
- Economically Weaker Sections (EWS)
- Disadvantaged Groups (DG)
- These children are entitled to free and compulsory education until completion of elementary education.

Reimbursement to Schools

Under Section 12(2):

- The government reimburses private schools for admitting EWS and DG students.

Reimbursement is limited to:

- Per-child expenditure incurred by the State, or Actual amount charged from the child,

whichever is lower.

Supreme Court's View on the 25 Percent Quota

Dinesh Biwaji Ashtikar v. State of Maharashtra (January 2026)

In this landmark judgment, the Supreme Court reaffirmed that the 25 percent reservation under the RTE Act is a:

"National Mission for Social Integration"

The Court emphasized that the provision promotes:

- Inclusive education
- Social equality
- Reduction of socio-economic segregation in schools
- Equal educational opportunities for all children

Algorithmic Governance in RTE Admissions

Use of Management Information Systems (MIS)

Several states have adopted centralized digital systems for seat allocation under the RTE quota.

Objectives

- Eliminate discretionary decision-making.
- Reduce local-level corruption.
- Prevent elite capture of reserved seats.
- Ensure transparency and fairness in admissions.

Rajasthan Model

- Rajasthan has fully digitized the RTE admission process.
- Admissions are conducted through computerized lotteries.
- Human intervention is minimized, reducing the possibility of manipulation and bias.

Current Development

The Ministry of Education is preparing rules to standardize the "method and manner of admission" for EWS and DG children in neighbourhood schools under the RTE Act.

Significance

- Greater uniformity across states.
- Increased transparency in admissions.
- Better implementation of Section 12(1)(c).
- Strengthening the objective of inclusive and equitable education.

Key Constitutional Provisions Related to Education

Provision	Description
Article 21A	Fundamental Right to free and compulsory education for children aged 6–14 years
Article 45	Early childhood care and education for children below 6 years
Article 46	Promotion of educational and economic interests of weaker sections
Seventh Schedule	Education is placed in the Concurrent List

State	USP
Mizoram	Ginger
Sikkim	Organic State
Arunachal Pradesh	Kiwi
Tripura	Queen Pineapple
Nagaland	Coffee
Meghalaya	Lakadong Turmeric

Hate Speech

Why in News?

The Supreme Court observed that hate speech stems from an "us versus them" mentality, which undermines the constitutional value of fraternity. The Court emphasized strict enforcement of existing laws rather than creating new legislation.

Supreme Court's Key Observations

Hate Speech Undermines Fraternity

- Hate speech promotes social divisions and weakens constitutional values.

It fosters an "us versus them" mindset that threatens social cohesion and national unity.

Against India's Civilisational Ethos

The Court observed that such divisive narratives are contrary to India's civilizational philosophy of:

Vasudhaiva Kutumbakam "The World is One Family"

No Need for New Laws

- The Court refused to direct the enactment of new hate speech laws.
- It held that law-making falls within the exclusive domain of the Legislature.

The primary issue is weak enforcement of existing laws rather than absence of legislation.

Separation of Powers

- Creation of new criminal offences is a legislative function.

Judicial intervention cannot substitute the role of Parliament and State Legislatures.

Role of Fundamental Duties

Article 51A(e)

- Every citizen has a fundamental duty:
- To promote harmony and the spirit of common brotherhood.
- To transcend religious, linguistic, regional, and sectional diversities.

To uphold national unity and social cohesion.

Mandatory Registration of FIRs

- Referring to the landmark case of Tehseen Poonawalla v. Union of India (2018), the Supreme Court reiterated:
- Police must immediately register FIRs upon receiving complaints related to hate speech.
- Investigations should be conducted promptly and fairly.
- Jurisdictional magistrates must supervise the investigative process.

What is Hate Speech?

Law Commission Definition (267th Report, 2017)

Hate speech refers to:

- Incitement to hatred against individuals or groups based on:
- Race
- Ethnicity
- Religion
- Gender
- Sexual orientation

Similar protected characteristics

Broader Understanding

Hate speech includes:

- Speech
- Gestures
- Conduct
- Written material
  Visual displays

• that may:

- Incite violence,
- Encourage discrimination,
- Promote hostility, Intimidate or humiliate protected groups.

Constitutional Framework

Article 19(1)(a)

Guarantees Freedom of Speech and Expression.

Article 19(2)

Permits reasonable restrictions in the interests of:

- Sovereignty and integrity of India
- Security of the State
- Public order
- Decency and morality
- Defamation Incitement to offences

Thus, hate speech is not protected under absolute free speech.

Legal Provisions Against Hate Speech

Bharatiya Nyaya Sanhita (BNS), 2023

Provides punishment for:

- Promoting enmity between different groups.
- Acts prejudicial to communal harmony.
- Deliberate and malicious acts intended to outrage religious feelings.
- Insulting religion or religious beliefs of any class.

Representation of the People Act, 1951

Disqualifies candidates convicted for promoting communal hatred and disharmony.

SC/ST (Prevention of Atrocities) Act, 1989

- Criminalizes:
- Intentional insults.
- Intimidation.

Derogatory remarks aimed at humiliating members of Scheduled Castes or Scheduled Tribes in public view.

Protection of Civil Rights Act, 1955

Penalizes acts that promote or practice untouchability.

Information Technology Rules, 2021

- The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 require:
- Social media intermediaries to remove unlawful content, including hate speech.
- Compliance upon receiving court orders or government notifications.

Important Supreme Court Judgments

Shaheen Abdulla v. Union of India (2022)

- The Supreme Court:

- Expressed concern over the growing incidence of hate speech.
- Directed police authorities to take suo motu action.
- Clarified that authorities need not wait for formal complaints before initiating legal proceedings.

Conclusion

The Supreme Court has emphasized that hate speech poses a serious threat to constitutional values, particularly fraternity, equality, and social harmony. Rather than creating new legal provisions, the focus should be on effective enforcement of existing laws, prompt registration of FIRs, proactive policing, and adherence to citizens' fundamental duty of promoting harmony and brotherhood.

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Manipur Ethnic Conflict and Expansion of UAPA Powers

Why in News?

The Home Department of Manipur has issued a notification implementing Section 43A of the Unlawful Activities (Prevention) Act (UAPA), 1967. The notification empowers lower-ranked police personnel to exercise anti-terror powers, including arrests, searches, and seizures, across the state amid continuing ethnic unrest.

Expansion of UAPA Powers in Manipur

Section 43A of the UAPA, 1967

- The notification authorizes police personnel not below the rank of:
- Head Constable in Civil Police Havildar in Armed Policeto exercise powers under the UAPA.

Reason for the Decision

The state government cited:

- Heavy FIR workload
- Shortage of senior police officers Continuing law and order challenges arising from ethnic violence as the reasons for extending these powers.

Key Powers Granted

Arrest Powers

- Authorized officers may arrest individuals if they have a "reason to believe" that:
- A UAPA-related offence has been committed, or A UAPA-related offence is likely to be committed.

Search and Seizure Powers

The notification permits officers to:

- Search buildings, vehicles, and premises.
- Conduct searches at any time, including during night hours.
- Seize documents, materials, electronic records, and assets linked to suspected unlawful activities.

Duration

The powers remain in force until further notice.

Concerns Regarding the Notification

Broad "Reason to Believe" Standard

- The threshold for action is relatively subjective.
- Possibility of misuse and arbitrary action increases during periods of social unrest.

Impact on Civil Liberties

- UAPA contains stringent bail provisions.

- Individuals accused under the Act may remain in custody for prolonged periods. Delays in investigation and trial can result in lengthy incarceration even before guilt is established.

Due Process Concerns

- Expanding powers to lower-ranking officials raises concerns regarding:
- Accountability
- Procedural safeguards
- Protection against misuse of anti-terror legislation

Background of the Manipur Ethnic Conflict

Immediate Trigger

High Court Order on ST Status (April 2023)

The immediate trigger for the violence was a High Court direction asking the state government to consider recommending Scheduled Tribe (ST) status for the Meitei community.

Meitei Community's Position

- Meiteis were recognized as a tribe before Manipur's merger with the Union of India in 1949.
- They argue that ST status would help preserve their identity, culture, and land right

Opposition from Kuki-Zo Tribes

- The Kuki-Zo tribal groups opposed the proposal due to concerns that:
- Meiteis are already politically and economically dominant.
- ST status would enable Meiteis to purchase land in protected hill areas.
- It could reduce opportunities available to tribal communities in:
- Government employment
- Educational reservations Welfare schemes

Political Dimension of the Conflict

Assembly Representation

Imphal Valley

- Dominated largely by the Meitei population.
- Elects 40 out of 60 Members of the Legislative Assembly (MLAs).

Hill Districts

- Predominantly inhabited by tribal communities.
- Elect only 20 MLAs.

Perceived Political Imbalance

- Tribal communities have long argued that:
- The numerical dominance of the valley translates into greater political influence.
- Decision-making is concentrated in the valley region.
- Developmental priorities of hill districts often receive inadequate attention.
- This perception has contributed to feelings of marginalization among tribal groups.

Structural Factors Behind the Conflict

Identity and Ethnicity

- Demand for protection of ethnic identity.
- Competing claims over historical status and recognition.

Land Rights

- Restrictions on land ownership in hill areas.
- Concerns regarding demographic and territorial changes.

Political Representation

- Unequal distribution of legislative seats between valley and hill regions.

Developmental Disparities

Allegations of unequal allocation of resources and infrastructure.

About the Unlawful Activities (Prevention) Act, 1967

Objective

- The UAPA is India's principal anti-terror legislation aimed at:
- Preventing unlawful activities.
- Combating terrorism.
- Restricting activities threatening India's sovereignty and integrity.

Key Features

- Allows designation of organizations and individuals as terrorists.
- Provides extensive powers of arrest, search, and seizure.
- Contains stringent bail provisions.
- Permits extended periods for investigation and detention.

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Governor's Role in a Hung Assembly

Why in News?

Following the 2026 Tamil Nadu Assembly elections, the Tamilaga Vettri Kazhagam (TVK) emerged as the single largest party. Governor Rajendra Arlekar delayed inviting TVK president C. Joseph Vijay to form the government and asked him to submit letters of support from at least 118 MLAs before being sworn in as Chief Minister.

This has reignited debate regarding the constitutional role and discretion of Governors in situations involving a hung Assembly.

What is a Hung Assembly?

A Hung Assembly arises when no political party or pre-poll alliance secures an absolute majority in the legislature.

In Tamil Nadu

- Total Assembly Strength: 234 seats
  Majority Mark: 118 seats

A party or coalition requires at least 118 MLAs to form the government independently.

Constitutional Position of the Governor

Article 164

• The Governor appoints the Chief Minister.

Other ministers are appointed on the advice of the Chief Minister.

Constitutional Gap

The Constitution does not prescribe a specific procedure for appointing a Chief Minister when no party obtains a clear majority.

Therefore, the Governor plays a crucial role in facilitating government formation while ensuring constitutional stability.

Governor's Responsibilities in a Hung Assembly

The Governor must:

- Ensure formation of a stable government.
- Uphold constitutional governance.
- Act impartially and objectively.
- Avoid political bias and personal preferences.

Facilitate democratic functioning of the legislature.

Order of Preference in Government Formation

Based on recommendations of the Sarkaria Commission and subsequent constitutional practice, the Governor generally follows the following order:

First Preference

A pre-poll alliance commanding a majority.

Second Preference

The single largest party with support from other parties or independents sufficient to secure a majority.

Third Preference

A post-poll coalition where all coalition partners join the government.

Fourth Preference

A post-poll alliance providing outside support to a minority government.

Floor Test: The Ultimate Test of Majority

Meaning

A Floor Test is a vote conducted in the Legislative Assembly to determine whether the government enjoys majority support.

Majority Requirement

- The Chief Minister must secure a simple majority, that is: More than 50% of members present and voting.

Evolution of Judicial Position on Floor Tests

S. R. Bommai Case (1994)

- S. R. Bommai v. Union of India
- Emphasized that majority should ordinarily be tested on the floor of the House.
- Initially focused on situations where an incumbent government's majority was questioned.

Subsequent Supreme Court Judgments

The Court increasingly treated the floor test as:

- The most objective method of determining majority.
- A safeguard against arbitrary gubernatorial discretion.

A mechanism to respect the democratic mandate.

The judiciary has consistently held that legislative confidence should be tested inside the Assembly rather than determined solely by the Governor.

Recommendations of the Sarkaria Commission

The Sarkaria Commission recommended that Governors:

- Act as neutral constitutional authorities.
- Avoid partisan behaviour.
- Give preference to governments most likely to command majority support.
- Ensure transparency in the government formation process.

Dissolution of the Assembly

Article 174(2)(b)

The Governor may dissolve the Legislative Assembly.

Supreme Court View

Cases such as:

- B. R. Kapur v. State of Tamil Nadu Rameshwar Prasad v. Union of India recognize that if no party or coalition can establish a stable government, the Governor may recommend dissolution of the Assembly.

President's Rule as the Last Resort

Article 356

- If all possibilities of government formation are exhausted:
- The Governor may report constitutional breakdown to the President. President's Rule may be imposed.

Important Principle

President's Rule should be invoked only after every constitutional option for forming an elected government has been explored.

Key Constitutional Articles

Conclusion

In a hung Assembly, the Governor's role is not to determine who enjoys majority support but to facilitate a constitutional process through which majority is tested on the floor of the House. Judicial precedents and commission recommendations consistently emphasize that democratic legitimacy must be established through a floor test rather than through subjective gubernatorial discretion.

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Project Saksham

Why in News?

The National Highways Authority of India, in partnership with the Vertis Foundation, launched Project Saksham to empower rural communities living along National Highways through skill development and livelihood generation.

About Project Saksham

Project Saksham is a community development and skill enhancement initiative aimed at creating sustainable livelihood opportunities for underserved populations, particularly rural women, residing near National Highway corridors.

The project seeks to ensure that infrastructure-led economic growth translates into tangible socio-economic benefits for local communities.

Objectives

Women Empowerment

- Promote economic and social empowerment of rural women.
- Enhance participation of women in the workforce.
- Foster self-reliance and financial independence.

Skill Development

Provide structured vocational training aligned with industry requirements.

- Improve employability and job readiness among beneficiaries.

Sustainable Livelihoods

- Create long-term income-generating opportunities.
- Facilitate access to employment in both public and private sectors.

Inclusive Growth

Ensure that communities located near National Highway projects directly benefit from infrastructure development.

Bridge the gap between economic growth and local welfare.

Key Features

Vocational Skill Training

- The programme offers training in various employment-oriented trades, including:
- Plumbing Nursing and healthcare services
- Other industry-relevant vocational skills

Training Infrastructure

- Operates through 12 training centres across India.
- Targets underserved and marginalized communities.
- Focuses on practical and market-oriented skill development.

Community-Centric Approach

Links infrastructure expansion with human capital development.

Promotes community welfare alongside economic development.

Significance

Economic Empowerment

- Enhances employability of rural youth and women.
- Increases household income and financial security.

Social Empowerment

- Improves women's participation in economic activities.
- Strengthens social status and decision-making capacity.

Inclusive Infrastructure Development

- Ensures that benefits of highway development extend beyond physical connectivity.
- Integrates social development with infrastructure investment.

Skill India Vision

Contributes to the objectives of skill development and workforce enhancement.

Supports inclusive and sustainable development goals.

Conclusion

Project Saksham represents a model of inclusive infrastructure development by combining highway expansion with community welfare. Through skill development, livelihood generation, and women empowerment, it seeks to ensure that economic benefits arising from infrastructure projects reach rural households and contribute to sustainable socio-economic transformation.

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Dowry-Related Violence in India

Why in News?

Nearly 16 women died every day due to dowry-related violence, as revealed by the National Crime Records Bureau (NCRB) Crime in India 2024 report.

Definition of Dowry

As per the Dowry Prohibition Act, 1961, dowry refers to:

"Any property or valuable security given or agreed to be given either directly or indirectly, by one party to a marriage to the other party, at or before or any time after the marriage."

What is Dowry Death?

Dowry death refers to the death of a married woman caused by cruelty, harassment, violence, or unnatural circumstances arising from dowry demands made by the husband or his relatives.

In India, dowry death is recognized as a specific criminal offence under Section 80 of the Bharatiya Nyaya Sanhita (BNS), which corresponds to the earlier Section 304B of the Indian Penal Code (IPC). It is also addressed under the provisions of the Dowry Prohibition Act, 1961.

Current Status (NCRB Crime in India 2024)

Crimes Against Women

- A total of 4,41,534 cases of crimes against women were registered.
- Out of these, 27.2% of cases were registered under "Cruelty by Husband or Relatives."

Dowry Deaths

- Despite a marginal long-term decline, India recorded 5,737 dowry deaths in 2024.
- Uttar Pradesh reported the highest number of dowry death cases (2,038).
- Bihar and Madhya Pradesh followed Uttar Pradesh in the number of reported cases.

Related Legal Provisions

Dowry Prohibition Act, 1961

- Criminalizes the giving, taking, or demanding of dowry.

Bharatiya Nyaya Sanhita (BNS)

- Section 80 (earlier Section 304B of the IPC) provides punishment for dowry deaths.
- Section 85 (earlier Section 498A of the IPC) deals with cruelty by a husband or his relatives.

Protection of Women from Domestic Violence Act, 2005

- Enacted to protect women from domestic violence.

Evidentiary Backing

Section 118 of the Bharatiya Sakshya Adhiniyam (BSA) (earlier Section 113B of the Indian Evidence Act, 1872) raises a presumption of guilt against the accused in cases of dowry death.

Supreme Court Directions (2025)

- In the case of State of U.P. v. Ajmal Beg, the Supreme Court issued the following directions:

Appointment of Dowry Prohibition Officers (DPOs)

- States should ensure the appointment of Dowry Prohibition Officers under the Dowry Prohibition Act, 1961.

Training for Officials

- Police officers and judicial officers should receive periodic training for effective implementation of anti-dowry laws.

Expeditious Disposal of Cases

- High Courts were requested to review and take stock of the number of pending dowry-related cases to ensure speedy disposal.

Awareness Measures

- District administrations should conduct grassroots awareness programmes.
- Educational curricula should incorporate awareness regarding the social and legal consequences of dowry practices.

Implications

- Dowry-related crimes reflect deeply entrenched patriarchal attitudes in society.

- They indicate the continued commodification of marriage and structural discrimination against women.
- Despite the existence of stringent legal provisions, weak enforcement, delays in justice delivery, and social acceptance of dowry practices continue to perpetuate the problem.
- Persistent dowry harassment contributes to:
- Domestic violence
- Suicides
- Emotional and psychological trauma
- Reduced social and economic security for women

Relevant Legal Provisions

Dowry Prohibition Act, 1961

- Prohibits the giving, taking, and demanding of dowry.

Bharatiya Nyaya Sanhita (BNS)

- Section 80 (earlier IPC Section 304B) deals with dowry deaths.
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Bharatiya Sakshya Adhiniyam (BSA)

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Supreme Court Directions (2025)

- In the case of State of U.P. v. Ajmal Beg, the Supreme Court directed:
- Appointment of Dowry Prohibition Officers (DPOs) under the Dowry Prohibition Act, 1961.
- Periodic training of police and judicial officers.
- Review and expeditious disposal of pending dowry-related cases by High Courts.
- Conduct of grassroots awareness programmes by district administrations.
- Inclusion of awareness regarding dowry-related issues in educational curricula.

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Justice Prakash Prabhakar Naolekar Committee

Context

The Union Home Minister announced the constitution of a high-level committee to address challenges arising from unnatural demographic changes across India.

About the Committee

- The Justice Prakash Prabhakar Naolekar Committee is a specialized, multi-disciplinary committee constituted by the Union Ministry of Home Affairs to investigate illegal immigration and abnormal demographic shifts.

Chairperson

Justice Prakash Prabhakar Naolekar, former Judge of the Supreme Court of India.

Members

- Census Commissioner of India.
- Durga Shankar Mishra, former IAS officer.
- Balaji Srivastava, former IPS officer.
- Shamika Ravi, economist.

Member Secretary

- Joint Secretary (Foreigners-I), Ministry of Home Affairs.

Objectives

- To undertake a comprehensive and empirical assessment of unnatural demographic changes occurring in different parts of India due to long-term illegal immigration and infiltration.
- To analyse patterns of abnormal population changes across various religious and social communities.
- To develop a structured and time-bound framework for addressing demographic imbalances and stabilising regional demographics.

Key Features

Origin in Prime Ministerial Mandate

- The committee originates from a policy intent articulated by Prime Minister Narendra Modi during his Independence Day address from the Red Fort.

Comprehensive Scope of Investigation

- Empowered to collect field-level data.

Examine migration trends in border areas.

- Review historical census patterns up to district and village levels.

Focus on Localised Demographic Changes

The committee will focus on rapid demographic shifts occurring at the local level.

- It will identify areas experiencing significant undocumented population growth rather than relying solely on national-level averages.

Time-Bound Action Plan

- The committee is required to complete its work within a predefined timeline.
- It will submit a blueprint report containing:
- Policy recommendations.
- Border management measures.
- Data monitoring and tracking mechanisms.

Significance

National Security

- Aims to address illegal border crossings and infiltration.
- Helps prevent distortions in voter records, resource allocation, and internal security management, particularly in border regions.

Protection of Tribal Communities

- Seeks to safeguard tribal populations in regions such as Jharkhand and the North-East.
- Addresses concerns related to demographic imbalance, land encroachment, and cultural erosion.

Demographic Assessment

- Provides a systematic framework for understanding demographic changes at regional and local levels.
- Facilitates evidence-based policy interventions for managing population shifts.

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Committee on Petitions (Rajya Sabha)

Context

Rajya Sabha MP Raghav Chadha was appointed as the Chairman of the Committee on Petitions of the Rajya Sabha.

About the Committee on Petitions

Origin

- The Committee on Petitions is one of the oldest parliamentary committees in India.
- It originated from a Council of State resolution moved on 15 September 1921.
- The resolution provided for the creation of a Committee on Public Petitions with the power to take evidence.
- The Committee acquired its present name, "Committee on Petitions", in 1933.

Constitution and Composition

- The Rajya Sabha Committee on Petitions was first constituted in 1952.
- Initially, it consisted of a Chairman and four other members.
- In 1964, its membership was increased to ten members and has remained unchanged since then.

Recognition

- It is a Standing Committee of the Rajya Sabha.
- It is constituted under Rule 147 of the Rules of Procedure and Conduct of Business in the Rajya Sabha.

Appointment

- Members of the Committee are nominated by the Chairman of the Rajya Sabha.
- The Chairman of the Rajya Sabha also appoints the Chairman of the Committee.
- The quorum for meetings is five members.
- The Committee is generally reconstituted every year.

Functions

- Examines petitions referred to it by the Rajya Sabha.
- Reports to the House on specific grievances and complaints.
- Recommends remedies in individual cases.
- Suggests broader corrective measures to address systemic issues.

Powers

- The Committee has the power to:
- Take oral and documentary evidence.
- Call for papers and records.
- Seek comments from Ministries and Departments.
- Examine witnesses.
- Hear petitioners.
- Recommend remedial measures to address grievances and prevent their recurrence.

Format of a Petition

- A petition submitted to the Rajya Sabha must:
- Be in the prescribed format.
- Be addressed to the Rajya Sabha.
- Be written in respectful and temperate language.
- Contain a concise statement of grievance.
- Clearly specify the relief or prayer sought.
- Be signed or thumb-impressed by the petitioner.

Scope of Petitions

- Prior to 1964, petitions were generally limited to Bills or matters pending before the House.
- Following the 1964 amendment of the Rules, petitions can also be submitted on matters of general public interest, subject to prescribed limitations.

Procedure

- A Member of Parliament gives advance notice to the Secretary-General.
- The Rajya Sabha Secretariat examines the petition for admissibility.
- The Chairman of the Rajya Sabha decides on its admission.
- Once admitted, the petition is presented to the House after papers are laid on the Table.
- No debate takes place at the time of presentation.
- The petition is then referred to the Committee on Petitions for examination and report.

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26th Meeting of the Central Zonal Council (CZC)

Context

- The Union Home Minister chaired the 26th meeting of the Central Zonal Council (CZC) in Bastar, Chhattisgarh.

More on the News

- The meeting was attended by the Chief Ministers of the four states constituting the Central Zonal Council:
- Chhattisgarh
- Madhya Pradesh
- Uttar Pradesh
- Uttarakhand

The meeting was organised by the Inter-State Council Secretariat under the Ministry of Home Affairs.

- The Government of Chhattisgarh hosted the meeting.

Key Highlights of the Meeting

- The Union Home Minister stated that India has made significant progress in eliminating Left Wing Extremism (LWE).
- He remarked that the country has become "Naxal-free" and emphasized the need to accelerate development in regions affected by extremism for decades.

The meeting stressed greater inter-state coordination on:

- Internal security
- Cybercrime
- Narcotics control
- Border disputes
- Law and order

The Council reiterated the importance of:

- Cooperative federalism
- Consensus-based governance
- Coordinated efforts between the Centre and States towards the vision of Viksit Bharat

Zonal Councils

About

- Zonal Councils are statutory advisory bodies established under the States Reorganisation Act, 1956.
- They were constituted on the recommendation of the States Reorganisation Commission (Fazl Ali Commission).

Objectives

- Promote cooperative federalism.

- Strengthen national integration.
- Enhance inter-state coordination.
- Resolve regional disputes through dialogue and consensus.

Zonal Councils in India

India has five Zonal Councils:

- Northern Zonal Council
- Central Zonal Council
- Eastern Zonal Council
- Western Zonal Council
- Southern Zonal Council

North Eastern Council

- The North Eastern Council functions separately under a different statutory framework.
- It was established under the North-Eastern Council Act, 1971.

Its members include:

- Assam
- Manipur
- Mizoram
- Arunachal Pradesh
- Nagaland
- Meghalaya
- Tripura
- Sikkim

Composition

Chairman

- The Union Home Minister serves as the Chairman of all Zonal Councils.

Members

- Chief Ministers of member states.
- Two Ministers from each member state.
- In the case of Union Territories, two representatives are nominated from each UT.

Vice-Chairman

- Each Chief Minister acts as Vice-Chairman by rotation.
- The tenure is one year.

Standing Committee

- Each Zonal Council has a Standing Committee comprising the Chief Secretaries of member states.
- The Standing Committee undertakes preliminary discussions.
- It helps resolve issues before they are placed before the Zonal Council.

Nodal Agency

The Inter-State Council Secretariat under the Ministry of Home Affairs acts as the nodal body for organizing and coordinating Zonal Council meetings.

Significance of Zonal Councils

Strengthening Cooperative Federalism

- Provide an institutional platform for regular dialogue and coordination between the Centre and States.

Peaceful Resolution of Inter-State Issues

- Facilitate resolution of disputes relating to:
- Boundaries

- Water sharing
- Transport
- Security through consultation and consensus.

Improving Policy Coordination

- Promote coordinated implementation of national programmes.
- Enable sharing of best governance practices among states.

Enhancing National Integration

- Encourage regular political and administrative interaction among states.
- Help reduce regionalism and strengthen national unity.

Addressing Regional and Security Challenges

- Facilitate coordinated responses to:
- Left Wing Extremism
- Cybercrime
- Disaster management
- Regional development disparities
- Internal security concerns

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CIC Exemption of BCCI from the RTI Act, 2005

Context

The Central Information Commission (CIC) ruled that the Board of Control for Cricket in India (BCCI) does not qualify as a "public authority" under the Right to Information (RTI) Act, 2005.
The CIC thereby reversed its 2018 order, which had earlier declared the BCCI a public authority under the RTI Act.

Key Observations of the CIC

Interpretation of Section 2(h) of the RTI Act

- The CIC held that the BCCI does not satisfy the definition of a "public authority" under Section 2(h) of the RTI Act.
- BCCI is a private society registered under the laws of Tamil Nadu.
- It is not an entity established:
- By Parliament, By a State Legislature, or Through a government notification.

Substantial Financing vs Tax Concessions

- The Commission clarified that tax exemptions and statutory concessions available under general law do not amount to "substantial financing" by the government.
- Substantial government financing is a necessary condition for bringing an independent body within the ambit of the RTI Act.

Absence of Government Control

- The government exercises no significant administrative control over the BCCI.
- The government does not appoint its office-bearers.
- The BCCI does not depend on government funding for its operations.

Its activities are largely financed through market-driven sources such as:

- IPL media rights
- Sponsorship agreements
- Commercial revenues

Judicial Precedents Relied Upon

Thalappalam Service Cooperative Bank v. State of Kerala (2013)

- The Supreme Court held that bodies receiving indirect benefits or limited government assistance cannot automatically be treated as public authorities under the RTI Act.

Zee Telefilms v. Union of India (2005)

- The Supreme Court ruled that BCCI is not "State" under Article 12 of the Constitution despite performing public functions.

Dalco Engineering v. Satish Prabhakar Padhye (2010)

The Court clarified that substantial government financing or control is necessary for an entity to fall within statutory accountability frameworks.

BCCI v. Cricket Association of Bihar (2016)

The Commission observed that:

- The Supreme Court mandated governance reforms within the BCCI.
- However, the judgment did not declare BCCI to be a public authority under the RTI Act.

Lodha Committee and Law Commission Recommendations

Justice R.M. Lodha Committee (2015)

- Recommended greater transparency and accountability in BCCI's functioning.

Law Commission of India – 275th Report (2018)

- Favoured bringing BCCI under greater transparency mechanisms.

The CIC held that:

- These recommendations are advisory in nature.
- They cannot override the explicit statutory provisions enacted by Parliament.

Caution Against Regulatory Overreach

The CIC stated that imposing public-sector administrative oversight mechanisms on autonomous and market-driven sports bodies may create unintended disruptions.

It noted that government control does not automatically guarantee fairness or efficiency.

Right to Information (RTI) Act, 2005

About

- The RTI Act, 2005 empowers citizens to access information held by public authorities.
- It promotes transparency and accountability in governance.
- The Act upholds the spirit of Article 19(1)(a) of the Constitution, which guarantees freedom of speech and expression.

Applicability

- Applies to all levels of government and public authorities.
- Does not apply to private bodies unless they qualify as a "public authority" under Section 2(h) of the Act.

Public Interest Override

The Act permits disclosure of otherwise exempt information if public interest outweighs the potential harm to protected interests.

Exempted Information

- The Act exempts disclosure of information affecting:
- Sovereignty and integrity of India
- Security of the State
- Strategic interests of the country
- Foreign relations
- Other protected interests specified under the Act.

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SCIENCE AND TECHNOLOGY

Thermal Energy Storage (TES) Systems

Context: Researchers at the International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI) announced the development of a low-cost, high-performance spinel nanocomposite Phase Change Material (PCM).

About Thermal Energy Storage (TES) Systems:

What it is?

- A Thermal Energy Storage (TES) system is an advanced clean technology designed to stock thermal energy by heating or cooling a storage medium. It functions essentially as a **thermal battery**, retaining heat during peak generation hours (like midday solar cycles or active industrial manufacturing) and discharging it on demand for continuous electricity generation or space heating.

Materials Used:

- Traditional TES frameworks rely on sensible heat storage (like molten salts or thermal oils) or latent heat storage materials known as **Phase Change Materials (PCMs)**, which absorb and release energy when transitioning between solid and liquid states.
- The 2026 ARCI breakthrough introduces a new material classification:
- **The Base Medium:** Standard commercial Phase Change Materials (PCMs).
- **The Nanocomposite Additive:** Custom-tailored **spinel-type metal oxide nanoparticles** synthesized via a cost-effective, scalable co-precipitation method.

How it Works?

The charging and discharging mechanics operate on a closed thermochemical circuit:

1. **The Charging Phase (Heat Absorption):** High-temperature heat from Concentrated Solar Power (CSP) mirrors or industrial exhaust flues is passed into the storage tank. The solid base PCM absorbs this sensible heat until it reaches its melting threshold.
2. **The Latent Phase Change:** As the material melts into a liquid, it stores a massive volume of latent thermal energy at a nearly constant temperature.
3. **The Nano-Interface Effect:** By adding **just 1% spinel nanoparticles**, a highly stable oxide layer forms at the internal interfaces. This layout expands the material's specific surface area and structural surface energy, enabling the nanocomposite to store **45% more thermal energy per unit mass** (Cp enhancement).
4. **The Discharging Phase (Power Generation):** When power is needed during cloudy periods or the evening peak, cold water or heat-exchange fluid passes through the liquid PCM. The PCM solidifies, dumping its stored heat back out to drive power turbines or industrial boilers.

Key Features:

- **Massive Specific Heat Capacity (Cp):** Shows an unprecedented 45% enhancement in thermal holding capability over baseline PCMs with only a marginal 1% nanoparticle doping rate.
- **Superior Thermal Stability:** The co-precipitated spinel metal oxides resist degradation, maintaining uniform dispersion and high thermal cycling integrity over thousands of melting-solidifying blocks.
- **Extreme Compactness:** Because the material stores more heat per unit mass, the size of required physical storage tanks can be significantly scaled down.

- **High Economic Scalability:** Bypasses expensive manufacturing processes by utilizing a simple, chemical co-precipitation method, lowering both capital and operational costs.

Applications:

- **CSP Plants:** Store excess daytime solar heat to generate electricity even after sunset.
- **Industrial Waste Heat Recovery:** Captures unused heat from steel, cement, and chemical industries for energy reuse.
- **Grid-Scale Thermal Batteries:** Store surplus renewable energy and release it during peak electricity demand.
- **Green Buildings & HVAC:** Helps regulate indoor temperatures naturally, reducing cooling and energy costs.

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AI Agents

Context: At its annual Google I/O 2026 developer conference, Google introduced major AI advancements—including the **Gemini 3.5 Flash** model, the **Gemini Omni** physical world model, and its new **Gemini Spark** personal AI agent.

About AI Agents:

What It Is?

- An AI agent is an advanced software system that leverages underlying Large Language Models (LLMs) as its central cognitive processor to pursue specific goals and complete complex, multi-step workflows autonomously.
- Unlike traditional static software or basic chatbots, AI agents do not just answer queries; they show independent reasoning, planning, memory management, and proactivity, allowing them to make decisions and execute digital transactions on behalf of users.

How It Works?

An AI agent operates by combining an underlying AI model with a specialized architectural framework:

- **The Brain (LLM Core):** Parses natural language, processes multimodal inputs (text, voice, video, code), and drives decision-making.
- **Persona:** Establishes a highly defined role, communication style, and behavioral constraints tailored to the task at hand.
- **Memory Systems:** Outfitted with structural memory layers, including *short-term* (for maintaining immediate conversation context), *long-term* (for historical logs), *episodic* (for past interactions), and *consensus* (for data shared across multiple agents).
- **Tools Integration:** Connects to external APIs, databases, software applications, and web search engines, teaching the agent how to actively read, edit, or control external digital systems.

Key Features:

- **Reasoning & Observation:** Constantly observes its environment through computer vision or data feeds, using logic to draw inferences and adapt to changing contexts.
- **Autonomous Planning:** Deconstructs a broad user objective into sequential steps, anticipates potential obstacles, and self-corrects mid-workflow.
- **Collaborating & Self-Refining:** Coordinates fluidly with humans or other digital agents while continuously evaluating its own performance to fix software bugs and optimize future outputs.

Types of AI Agents:

Categorization	Agent Type	Core Operational Mechanics
By User Interaction	**Surface Agents**	User-triggered, conversational tools built to directly assist humans with immediate queries or tasks (e.g., customer support, medical Q&A).
	Background Agents	Event-driven workflow engines that operate behind the scenes with minimal to no human interaction to automate routine data pipelines.
By Structural Count	**Single-Agent Systems**	Standalone units running on a single foundation model, ideal for highly contained, well-defined digital operations.
	Multi-Agent Systems	Networks of specialized agents, potentially running on different base models, that collaborate or compete to solve highly complex, enterprise-level problems.

Applications:

- **Personal Digital Management:** AI assistants integrate with apps like Gmail, Docs, and Drive to manage schedules, organize files, and perform multi-app tasks.
- **AdvancedCyber Defense:** AI systems can scan large codebases, detect software vulnerabilities, and generate security patches automatically.
- **No-Code Engineering:** Multi-agent AI platforms can write, test, and deploy software systems directly from text instructions.
- **Physics-Driven Media Simulation:** Advanced AI models can understand motion and physics to edit videos, modify characters, and create interactive virtual environments.

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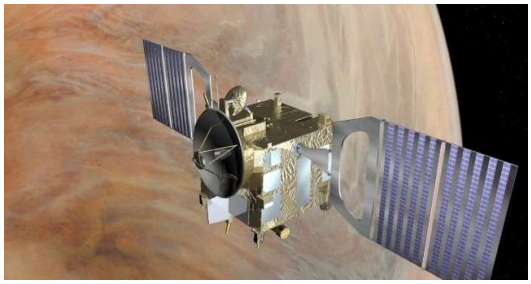
Sweden joins India's Shukrayaan Mission

Context: During Prime Minister official visit to Sweden, the Indian Space Research Organisation (ISRO) and the Swedish National Space Agency signed a MoU formalizing Sweden's participation in India's upcoming Venus Orbiter Mission.



AboutSweden joins India's Shukrayaan Mission:

What is Shukrayaan?

- Officially named the **Venus Orbiter Mission (VOM)**, Shukrayaan (meaning *Venus Craft*) is India's first dedicated planetary exploration mission targeting Venus. Approved by the Union Cabinet with a budget of ₹1,236 crore, the spacecraft will carry 19 scientific payloads.

Target Launch Date: March 29, 2028, aboard ISRO's heavy-lift **LVM-3** rocket.

Mission Profile: A 112-day journey culminating in Venus orbit insertion on July 19, 2028, where it will utilize innovative aerobraking techniques to achieve its final scientific orbit.

Aim:

- The overarching mission aims to conduct a comprehensive global survey of Venus—a planet that evolved into a scorching, toxic greenhouse world despite sharing a similar size and origin to Earth.
- Shukrayaan will map the planet's volcanic surface, look for active hotspots, sound its subsurface layers, monitor cloud dynamics, and investigate whether Venus once possessed liquid water.

Key Features of the Collaboration:

- **Integrated Plasma Package:** Sweden's contribution is a highly specialized instrument named the **Venusian Neutrals Analyser (VNA)**.
- **The VISWAS Component:** The VNA will be integrated into a larger, comprehensive sensory payload named **VISWAS** (Venus Ionospheric and Solar Wind particle AnalySer).
- **International Synergy:** Sweden joins other top-tier global space entities—such as Russia (providing the VIRAL instrument) and Germany (collaborating on the RAVI experiment)—positioning ISRO as a trusted leader in deep-space exploration.

Specific Role of Sweden:

- The Swedish-built VNA instrument will explicitly observe Energetic Neutral Atoms (ENAs) and plasma boundaries around Venus.
- It will study how the high-energy charged particles of solar winds interact with the Venusian ionosphere.
- The vital data gathered by Sweden's instrument will help scientists decipher **atmospheric escape processes**—the mechanisms by which solar winds strip away atmospheric particles over time—yielding crucial insights into planetary climate evolution.

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The Ebola Outbreak

Context: The World Health Organization (WHO) officially declared the ongoing Ebola outbreak in the Democratic Republic of Congo (DRC) and Uganda a Public Health Emergency of International Concern (PHEIC).

About The Ebola Outbreak:

What it is?

- The 2026 outbreak is an epidemic of **Bundibugyo Virus Disease (BVD)**, a severe, often fatal hemorrhagic illness caused by the Bundibugyo virus (*Orthoebolavirus bundibugyoense*).
- It marks the 17th Ebola outbreak in the DRC but stands out as an extraordinary threat because it is driven by a strain for which the international community possesses zero stockpiled pharmaceutical defenses.

Origin:

- **Natural Reservoir:** Fruit bats of the *Pteropodidae* family are the presumed natural hosts of the virus.

- **Animal Spillover:** The virus transitions to humans through direct contact with the blood, organs, or bodily fluids of infected wild animals found sick or dead in the rainforest (such as non-human primates, porcupines, and fruit bats).

Region Affected:

- **Democratic Republic of Congo (DRC):** Deeply concentrated in the northeastern **Ituri Province** (including Bunia, Rwampara, and Mongbwalu health zones), with cases also tracked to the capital, Kinshasa.
- **Uganda:** Active cross-border transmission has brought laboratory-confirmed cases directly into the capital city of **Kampala**.

Symptoms:

- **Incubation Period:** Spans anywhere from **2 to 21 days** after exposure.
- **Early Manifestations:** Abrupt onset of high fever, extreme fatigue, muscle pain, intense headache, and severe sore throat.
- **Advanced Stages:** Followed rapidly by vomiting, profuse diarrhea, abdominal pain, a distinct body rash, and impaired kidney and liver functions.
- **Neurological &Hemorrhagic Impact:** Can attack the central nervous system causing severe confusion, irritability, and aggression. While internal and external bleeding (hemorrhaging) is a defining feature, it usually occurs later in the disease cycle.

Transmission:

- **Direct Human-to-Human Contact:** Spreads via direct contact (through broken skin or mucous membranes) with the blood, secretions, or bodily fluids (feces, vomit) of an infected person.
- **Asymptomatic Barrier:** Individuals are **not infectious** during the incubation period; they can only transmit the virus *after* visible symptoms develop.
- **Nosocomial (Healthcare) Amplification:** The outbreak poses an extreme risk to medical personnel. At least four healthcare workers died within days in Ituri, highlighting severe gaps in localized Infection Prevention and Control (IPC).
- **Fomites & Burials:** Shaking hands or handling contaminated objects (bedding, clothing) spreads the pathogen. Traditional burial ceremonies involving direct physical contact with the deceased remain a major vector for super-spreader events.

Treatment:

- No, we do not have a specific treatment, cure, or vaccine for the current 2026 outbreak.

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Polyendocrine Metabolic Ovarian Syndrome (PMOS)

Context: Medical experts, including those from AIIMS Delhi, highlighted a landmark global shift in medical terminology where Polycystic Ovary Syndrome (PCOS) is being renamed to Polyendocrine Metabolic Ovarian Syndrome (PMOS).

About Polyendocrine Metabolic Ovarian Syndrome (PMOS):

What was PCOS?

- **Polycystic Ovary Syndrome (PCOS)** was traditionally understood as a reproductive disorder characterized by irregular periods, excess androgens (masculine hormones), and the appearance of cysts on the ovaries.
- However, the term was medically inaccurate as the cysts are actually **arrested follicles** (immature eggs that failed to mature and release) rather than true pathological cysts.

What is PMOS?

- **PMOS** is the updated medical term that identifies the condition as a **multisystemic disorder**. It acknowledges that the syndrome involves the endocrine (hormonal), metabolic (energy processing), reproductive, and psychological systems of the body.

Causes for PMOS:

While the exact cause is complex, it is generally attributed to a combination of:

- **Insulin Resistance:** The body's cells don't respond normally to insulin, causing blood sugar levels to rise and the body to produce more insulin, which in turn triggers excess androgen production.
- **Hormonal Imbalance:** Elevated levels of androgens and Luteinizing Hormone (LH) disrupt the normal ovulation cycle.
- **Genetics:** A strong hereditary link, particularly significant in the Indian population.
- **Low-grade Inflammation:** Research suggests women with this condition have a type of low-grade inflammation that stimulates polycystic ovaries to produce androgens.

Symptoms and Impacts:

Category	Manifestations & Impacts
Reproductive	Irregular or absent periods, infertility, pregnancy complications, and an increased risk of endometrial cancer.
Metabolic	Weight gain (obesity), Type 2 diabetes, hypertension (high blood pressure), and fatty liver disease (MASLD).
Dermatological	Severe acne, thinning of scalp hair (alopecia), and **hirsutism** (excessive facial or body hair).
Psychological	Increased rates of anxiety, depression, eating disorders, and poor quality of life due to physical symptoms.

Difference Between PCOS and PMOS:

Basis	PCOS (Polycystic Ovary Syndrome)	PMOS (Polyendocrine Metabolic Ovary Syndrome)
Focus	Mainly focused on ovaries and reproductive symptoms	Focuses on endocrine and metabolic dysfunction across the body
Terminology	Cystic term may be misleading	Metabolic and Polyendocrine better reflect root causes
Disease Nature	Viewed largely as a gynecological disorder	Recognized as a systemic metabolic condition
Clinical Approach	Treatment often centered on fertility and menstruation	Includes early screening for diabetes, obesity, and heart disease

Patient Clarity	Confusing for patients without ovarian cysts	Gives clearer understanding of hormonal and metabolic involvement

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OLED (Organic Light Emitting Diodes)

Context: OLED technology is currently dominating the high-end electronics market, with global production reaching nearly a billion screens annually.

About OLED (Organic Light Emitting Diodes):

What it is?

- OLED is a flat, **emissive** display technology made by placing thin films of organic (carbon-based) compounds between two conductors. Unlike traditional LCDs, OLEDs do not require a separate backlight; instead, each individual pixel generates its own light when an electric current is applied.

How it Works?

1. **Layering:** Organic thin films (consisting of carbon and hydrogen) are sandwiched between an anode and a cathode.
2. **Current Application:** When electricity flows through these layers, the organic molecules become excited.
3. **Light Emission:** As the molecules return to their base state, they release energy in the form of bright, visible light.
4. **No Backlight:** Because the pixels create their own light, they can turn off completely to produce **true black,** leading to infinite contrast ratios.

Key Features:

- **Self-Emissive:** Eliminates the need for bulky backlights, making devices ultra-thin and light.
- **Superior Image Quality:** Offers the best contrast ratios, higher brightness, fuller viewing angles, and a wider color range compared to LCDs.
- **High Performance:** Features much faster refresh rates, making them ideal for gaming and high-action video.
- **Flexibility:** Can be manufactured on plastic or foil substrates, allowing for **foldable, rollable, and even stretchable** designs.
- **Energy Efficiency:** Consumes less power because only the active pixels use energy; black pixels are completely powered off.
- **Durability:** Capable of operating in a broader temperature range than traditional liquid crystal displays.
- **Environmental Impact:** Organic because of their chemical makeup (carbon/hydrogen), they do not contain toxic heavy metals and are highly recyclable due to their thin profile.

Applications:

- **Consumer Electronics:** The dominant technology for smartphones, laptops, tablets, and high-end computer monitors.
- **OLED TVs:** Used by brands like LG, Samsung, Sony, and Panasonic to create the world's thinnest televisions with the highest recognized image quality.
- **Foldable & Rollable Devices:** Powers new generations of mobile devices, such as the Samsung Galaxy Fold and rollable TV sets.

- **Wearables & Health:** Used in smartwatches, e-tattoos, and skin patches for health monitoring.
- **Automotive:** Transparent OLEDs are being embedded in car windshields and used for highly efficient, uniform automotive lighting (taillights).

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Hantavirus Outbreak

Context: Three passengers have died and three others have fallen ill following a suspected hantavirus outbreak on a Netherlands-based cruise ship in the Atlantic Ocean.

About Hantavirus Outbreak:

What it is?

- Hantavirus belongs to a family of viruses that cause severe and often fatal respiratory or renal (kidney) diseases in humans. It is primarily known for causing two major clinical syndromes: Hantavirus Pulmonary Syndrome (HPS) and Hemorrhagic Fever with Renal Syndrome (HFRS).

Origin:

- The name is derived from the **Hantan River** area in South Korea, where the virus was first identified by researchers in the 1970s. While found worldwide, specific strains are localized to different hemispheres.

Vector & Spread:

- **Primary Vector:** Rodents, such as deer mice, cotton rats, and rice rats.
- **Mode of Transmission:**
    - **Airborne (Aerosolization):** Most common. People breathe in the virus when dried rodent droppings, urine, or saliva are stirred up (e.g., during sweeping).
    - **Direct Contact:** Touching contaminated materials and then touching the mouth or nose.
    - **Bites:** Rare transmission via a rodent bite.
    - Human-to-Human**:** Extremely rare; only documented in specific South American strains (e.g., Andes virus).

Symptoms:

The incubation period is typically **1 to 8 weeks**. Symptoms manifest in two phases:

- **Early Phase:** Fever, fatigue, and muscle aches (especially in thighs, hips, and back). Some experience headaches, dizziness, and abdominal issues like vomiting or diarrhea.
- **Late Phase (HPS):** Occurs 4 to 10 days later. Includes coughing, severe shortness of breath, and tightness in the chest as the lungs fill with fluid.
- **Renal Symptoms (HFRS):** Includes blurred vision, flushing of the face, low blood pressure, and acute kidney failure.

Key Features:

- **High Fatality Rate:** HPS has a mortality rate of approximately **38% to 40%**, making it much deadlier than the common flu.
- **Geographic Variation:** HPS is more common in the Americas (Western Hemisphere), while HFRS is more prevalent in Europe and Asia (Eastern Hemisphere).
- **Stability:** The virus can remain infectious in the environment for several days depending on temperature and sunlight.

Treatment:

- **No Specific Cure:** There are no specific antivirals or vaccines approved for hantavirus.
- **Supportive Care:** Treatment focuses on intensive care management.
    - **Respiratory Support:** Use of ventilators or oxygen therapy for HPS.
    - **Fluid Management:** Careful monitoring of hydration to prevent fluid overload in the lungs or kidneys.
- **Early Intervention:** Survival rates improve significantly if the patient is diagnosed and moved to an Intensive Care Unit (ICU) early.

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Cell Broadcast System (CBS)

Context: Minister of Communications launched the indigenous Cell Broadcast System (CBS) to revolutionize India's disaster management.

About Cell Broadcast System (CBS):

What it is?

- The Cell Broadcast System is a cutting-edge mobile communication technology designed to send un-queued, emergency messages to all mobile devices within a specific geographical area Unlike traditional SMS, it is a one-to-many service that functions independently of network traffic congestion.

Developed By: Centre for Development of Telematics (C-DOT)

Aim:

- The primary objective is to shift India's disaster management from a **reactive** to a **proactive**
- It aims to ensure that life-saving information reaches millions of citizens in near real-time, specifically during flash floods, gas leaks, earthquakes, or other public safety emergencies.

How it Works?

CBS sends messages from a central platform to designated cell towers (Base Transceiver Stations). These towers then broadcast the message to every mobile handset within their signal radius.

- **No Queuing:** Unlike SMS, which is sent individually and can get stuck in network traffic, CBS messages reach all users at the same time.
- **Network Independent:** It works even if the recipient's phone number is unknown to the sender, as long as the phone is connected to the targeted cell tower.

Key Features:

- **Precise Geo-Targeting:** Alerts can be disseminated at the level of individual cell towers, clusters, or entire states and regions.
- **Multilingual Alerts:** Supports various regional languages to ensure the message is understood by the local population.
- **Priority Notifications:** Alerts appear as a pop-up on the screen, bypassing other apps, and are accompanied by a **distinct loud siren tone**.
- **Read-Aloud Capability:** On supported handsets, the system can read the message text aloud to assist those with visual impairments.
- **Scalability:** While it can target a single neighborhood, it can also scale to cover the entire nation instantly.
- **Indigenous Technology:** A globally benchmarked solution designed and manufactured entirely within India.

Significance

- Provides critical lead time for protective action, significantly reducing potential casualties during sudden disasters.
- Strengthens the national security framework by providing a direct, official channel for government-to-citizen communication.

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Mission Drishti by GalaxEye

Context: Bengaluru-based space startup GalaxEye successfully launched 'Mission Drishti', the world's first OptoSAR satellite, aboard a SpaceX Falcon 9 rocket.

About Mission Drishti by GalaxEye:

What it is?

- Mission Drishti is a cutting-edge, dual-use Earth observation satellite. It is uniquely recognized as the **world's first OptoSAR satellite**, meaning it integrates two different types of sensors—optical and radar—onto a single operational platform to provide high-clarity, analysis-ready data.

Organization:

- **Developer:** GalaxEye (a Bengaluru-based space-tech startup).
- **Support:** Facilitated by **IN-SPACe** (Indian National Space Promotion and Authorization Center).

Launch Details:

- **Launch Vehicle:** SpaceX Falcon 9.
- **Launch Site:** Vandenberg, California, USA.
- **Orbit:** Sun-synchronous Low Earth Orbit (LEO) at an altitude of approximately 500 km.

Aim: The mission aims to overcome the limitations of traditional Earth observation by providing **all-weather, day-and-night imaging**. By combining optical and radar data, it seeks to provide decision-grade clarity for global stakeholders in sectors ranging from national security to environmental monitoring.

Key Features:

- **OptoSAR Technology:** The first satellite globally to combine **Electro-Optical (EO)** sensors with **Synthetic Aperture Radar (SAR)**. SAR can see through clouds and darkness, while EO provides intuitive visual detail.
- **Mass & Size:** At **190 kg**, it is India's largest privately developed Earth observation satellite.
- **Resolution:** Offers a spatial resolution of **1.2 – 3.6 meters**, the highest among Indian private players.
- **Spectral Bands:** Operates across multiple bands including **X-Band (SAR)**, PAN, RGB, NIR, Coastal Blue, and Red Edge.
- **Revisit Frequency:** The satellite is designed to revisit the same spot every **4 days**, ensuring high-frequency monitoring.
- **Fused Data Output:** It delivers inherently aligned, fused imagery that is analysis-ready, reducing the need for complex post-processing by the user.

Significance:

- It addresses the cloud-cover limitation of standard optical satellites, making it invaluable for tropical regions like India.
- As a dual-use satellite, it supports critical applications in defense, maritime monitoring, disaster management, and infrastructure planning.

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The Atomic Energy Regulatory Board (AERB)

Context: The Atomic Energy Regulatory Board (AERB) has granted permission for the erection of major equipment, including Reactor Pressure Vessels and Steam Generators, for Units 5 and 6 of the Kudankulam Nuclear Power Project (KKNPP).

About The Atomic Energy Regulatory Board (AERB):

What it is?

- The AERB is the national nuclear regulatory body of India. It functions as an independent authority to oversee and enforce safety and regulatory standards for all nuclear and radiation-related activities in the country.

Established In:

- **Founded:** November 15, 1983.
- **Authority:** Constituted by the President of India under the Atomic Energy Act, 1962.

Aim: The primary mission of the AERB is to ensure that the use of ionizing radiation and nuclear energy in India does not cause undue risk to the health of the public or the environment.

History:

- **Early Safety Committees:** In 1969, safety committees were formed during the commissioning of Tarapur (TAPS) and Rajasthan (RAPS) power stations.
- **DAE-SRC:** In 1972, the Department of Atomic Energy Safety Review Committee (DAE-SRC) was established to advise on safety policies.
- **Karkhanawala & Meckoni Committees:** Between 1979 and 1981, these committees recommended creating a statutory body to enhance public confidence and ensure independent oversight.
- **Formal Creation:** Following these recommendations, the AERB was set up in 1983. In 1987, the **Meckoni Committee** further broadened its functions, integrating the DAE-SRC into the AERB (now known as SARCOP).

Key Functions:

- **Standard Setting:** Lays down safety standards for nuclear and radiation facilities.
- **Licensing & Consent:** Issues permissions for various stages of nuclear projects, such as First Pour of Concrete (FPC) and Equipment Erection.
- **Safety Reviews:** Conducts multi-tier safety assessments of the design and civil construction of nuclear plants.
- **Radiological Protection:** Enforces provisions for radiological protection in both DAE and non-DAE (industrial and medical) radiation installations.
- **Rule Framing:** Assists the Government in framing rules and regulations under the Atomic Energy Act and the Environment (Protection) Act, 1986.
- **Operational Oversight:** Monitors the performance and safety of operating plants through the **Safety Review Committee for Operating Plants (SARCOP)**.

Significance:

- By drawing experts from various governmental and academic institutions, the AERB ensures that safety reviews are technically sound and independent of the agencies developing nuclear power.
- Its stringent protocols ensure that India's nuclear expansion—such as the VVER design units at Kudankulam—incorporates advanced safety features to prevent accidents.

Printed Circuit Boards (PCB)

Context: The conflict in the Middle East has triggered a global supply chain crisis, causing printed circuit board (PCB) prices to surge by as much as **40%** in April 2026 due to the disruption of critical raw materials like PPE resin.

About Printed Circuit Boards (PCB):

What It Is?

- A rigid or flexible board used to electrically connect and mechanically support electronic components using conductive tracks, pads, and other features etched from one or more sheet layers of copper.

Raw Materials Used:

- **Resins:** High-purity **Polyphenyleneether (PPE)** and **epoxy resins** serve as critical base materials for laminates.
- **Copper Foil:** Conductive material that typically accounts for approximately **60%** of total raw material costs.
- **Glass Fiber:** Used as a reinforcing material within the substrate to provide strength and insulation.

Manufacturing Process:

- **Lamination:** Base materials like resin and glass fiber are bonded together to create the substrate.
- **Etching:** Excess copper is removed from the board to leave behind only the specific conductive pathways (traces) required for the circuit.
- **Multi-layering:** High-end boards, particularly for AI servers, involve stacking multiple layers of circuitry to increase complexity and performance.

Key Features:

- **High-Purity Substrates:** Advanced boards require specialized resins (like PPE) to maintain signal integrity in high-speed applications.
- **Thermal Resistance:** Designed to withstand the heat generated by powerful processors and chips.
- **Scalability:** Can range from simple single-layer designs to complex multi-layer structures costing thousands of dollars per square meter.
- **Reliability:** Provides a stable and permanent platform for soldering components, reducing the risk of loose wires or short circuits.

Applications:

- **Consumer Electronics:** Found in nearly all devices, including smartphones and computers.
- **Advanced Infrastructure:** Essential for **AI servers** used by cloud service providers.
- **Industrial Use:** Integrated into factory automation and large-scale manufacturing equipment.
- **Semiconductor Support:** Serves as the interface for components produced by companies like Samsung, SK Hynix, AMD, and Nvidia.

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INDIAN SOCIETY

Gen Z and Democracy

Context: The Central Government used Section 69A of the IT Act to block the website and social media handles of the newly formed **Cockroach Janta Party (CJP)**.

- The satirical online movement, launched by a 30-year-old student after a CJI courtroom remark, gained over 2 crore followers by tapping Gen Z anger over NEET leaks and unemployment.

About Gen Z and Democracy:

What it is?

- Gen Z and Democracy represents the evolving relationship between the youngest voting cohort (born roughly between 1997 and 2012) and established democratic institutions. Unlike previous generations whose political lives began with physical, grassroots mobilization, Gen Z experiences democracy as a digital-first, heavily networked phenomenon.

Role of Social Media in Strengthening Democracy:

- **Instantaneous Democratization of Dissent:** Social media allows marginalized youth to bypass elite media gatekeepers and broadcast real-time grievances to a massive audience.
- **Low-Cost Political Mobilization:** It eliminates the heavy financial barriers historically required to build a political movement, allowing organic ideas to scale rapidly.
- **Rapid Amplification of Governance Failures:** Digital platforms serve as a hyper-vigilant civic audit tool, exposing institutional corruption or policy lapses instantly.
- **Fostering Decentralized Global Solidarity:** Connects localized youth struggles to international human rights standards and successful global resistance models.
- **Promoting Creative Political Engagement:** Replaces dry, unengaging policy text with creative political satire and visual storytelling, making civic awareness accessible to the masses.

Need for Integrating Gen Z into Traditional Democracy:

- **Preventing Institutional Alienation:** If young voters feel traditional voting mechanisms are broken, they will abandon mainstream electoral politics altogether.
- **Channeling Satire into Legislative Action:** Integrating digital energy into traditional party systems turns short-lived internet trends into lasting, structural policy reforms.
- **Mitigating National Security Panic:** Formalizing youth dissent within standard democratic frameworks stops state intelligence agencies from mistaking organic satire for foreign interference.
- **Harnessing Digital Public Policymaking Capital:** Gen Z possesses unmatched skills in public relations, data aggregation, and AI tools that can modernize outdated government communication styles.
- **Ensuring Long-Term Democratic Continuity:** As older generations age out, the survival of democratic values depends entirely on making constitutional systems relevant to digitally native youth.

Challenges to Democracy Due to Social Media:

- **The Mismatch Between Virtual Tractions and Ground Reality:** Massive digital following can create a false sense of political momentum that completely lacks real-world organization.

Example: The **CJP garnered over 2 crore Instagram followers in less than 10 days**, yet it possessed zero physical office space or registered ground volunteers.

- **Susceptibility to Rapid Mass Disinformation Loops:** Algorithmic feeds prioritize emotional outrage over verified facts, accelerating the spread of unverified panic.

Example: Digital echo chambers can weaponize **unverified narratives surrounding structural exam leaks**, triggering widespread student panic before formal investigations conclude.

- **Weaponization by Transnational Influence Operations:** Foreign intelligence agencies can easily hijack genuine domestic grievances to covertly fuel polarization.

Example: State officials raised concerns that the **CJP's rapid online rise mirrored cross-border influence operations** designed to exploit youth unrest and destabilize the state.

- **Triggering Disproportionate State Repression:** The speed and scale of viral internet movements often cause governments to overreact with heavy-handed censorship tools.

Example: The Centre invoked **Section 69A emergency powers to block CJP accounts** under a confidential framework, bypassing open judicial scrutiny.

- **Dehumanization and Polarization of Political Discourse:** Internet anonymity and meme culture can reduce complex systemic socio-economic problems into hostile, divisive tribal rhetoric.

Example: Framing structural unemployment through **dehumanizing cockroach vs. parasite online tropes** degrades civil political discourse.

Way Ahead:

- **Establishing Institutional Outlets for Satire:** Protect political humor, memes, and satire from national security laws, treating digital dissent as a normal part of a healthy democracy.
- **Reforming Section 69A IT Act Protocols:** Amend the Information Technology Rules to mandate a transparent, public hearing before a website or social media page can be shut down.
- **Building Mainstream Youth Advisory Councils:** Establish non-partisan youth assemblies within state legislatures to directly capture Gen Z concerns regarding employment and education.
- **Deploying AI-Driven Fact-Checking Grids:** Partner with social media companies to flag foreign bot networks without silencing genuine domestic political criticism.
- **Modernizing Mainstream Political Recruitment:** Traditional political parties must overhaul their structures, allowing young digital creators to run for office without relying on dynastic wealth.

Conclusion:

The sudden rise and ban of the Cockroach Janta Party highlights a growing disconnect between digital-first Gen Z voters and India's traditional democratic structures. When institutions dismiss youth anxieties with outdated labels, social media fills the void by transforming viral satire into an immediate political force.

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The Road to Women's Safety

Context: A high-profile POCSO case against a Union Minister's son became a litmus test for Telangana's judicial impartiality.

About The Road to Women's Safety:

What it is?

- The road to women's safety represents a comprehensive policy and social journey aimed at securing both physical (offline) and digital (online) environments for women.
- It involves a transition from reactive policing to proactive systemic change, focusing on equal enforcement of the law regardless of the perpetrator's social status, and fostering an environment where women can participate in public life without fear of harassment or digital smear campaigns.

Data/Stats on Women's Safety:

- **Rising Crime Rates:** According to NCRB data, registered cases of crime against women in Telangana rose by **3.4%**, increasing from 22,066 in 2022 to **24,495 in 2024**.
- **Undercover Findings:** In a recent safety audit, a senior IPS officer went undercover at a city junction at night; in just one session, **40 men** approached her with inappropriate intent.
- **Online Surge:** Legal action was recently initiated against **73 individuals** in a single instance of coordinated online trolling against a public figure, highlighting the scale of digital abuse.
- **Targeting Youth:** Recent POCSO filings indicate that minors remain highly vulnerable, with cases often involving perpetrators from influential backgrounds.

Risks Faced by Women:

In Online Space:

- **AI and Bot-Led Attacks:** Use of automated bots and artificial intelligence to launch large-scale, sexualized smear campaigns.
- **Orchestrated Trolling:** Systemic baiting by organized groups that attempt to silence women in public positions through threats and disinformation.
- **Anonymity and Speed:** The ability of abusers to hide behind anonymous handles makes it difficult for cyber police to trace and prosecute.
- **Mental and Professional Harm:** Digital abuse is designed to damage reputations, impacting a woman's mental health and her ability to engage professionally.

In Offline Space:

- **Casual Sexism:** Daily exposure to low-level harassment such as lewd staring, stalking, and sexist comments in public and workspaces.
- **Physical Violence:** Persistent threats of sexual assault and domestic violence that remain high despite increased patrolling.
- **Workplace Hostility:** Systemic barriers and sexist cultures that undermine a woman's authority and safety in professional settings.
- **Power Asymmetry:** The difficulty for survivors to seek justice when the accused holds significant political or social influence.

Initiatives Taken So Far:

- **'Stand with Her' Initiative:** Launched by the Chief Minister in March 2026 to mainstream conversations about sexism and encourage men to act as allies.
- **Special Investigation Teams (SIT):** Constituted specifically to probe digital smear campaigns and blind items targeting women in official positions.
- **Technical Policing:** The Telangana Police has moved towards direct collaboration with tech platforms and even utilized stringent laws like UAPA to unmask anonymous abusers.
- **SHE Teams:** Continued expansion of dedicated units that provide immediate assistance and conduct undercover operations to identify molesters in public spaces.

Way Ahead:

- **Uniform Legal Enforcement:** Ensure that the law treats the powerful and the powerless equally, starting with the swift resolution of high-profile POCSO cases.
- **Digital Literacy & Protection:** Strengthen the legal framework to define and penalize digital smear campaigns while balancing the right to free expression.
- **Institutional Sensitization:** Conduct mandatory gender-sensitivity training for the police and judiciary to ensure prominence does not dictate the urgency of a case.

- **Male Allyship Programs:** Scale the 'Stand with Her' campaign to educational institutions to tackle casual sexism at its roots among young men.
- **Enhanced Cyber-Tracing:** Invest in advanced AI-detection tools for the state's cyber cell to track bot-led harassment and disinformation faster.

Conclusion:
The road to delivering women's safety in Telangana requires bridging the gap between the narrative of action and actual legal outcomes. By tackling both undercover street harassment and coordinated digital trolling, the state can set a national benchmark for justice. Ultimately, the success of these initiatives depends on delivering safety to all women, irrespective of their background or the status of the accused.

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VB—G RAM G Act, 2025

Context: The Central Government has announced that the Viksit Bharat—Guarantee for Rozgar and Ajeevika Mission (Gramin), or VB–G RAM G, will replace MGNREGA starting July 1, 2026.

About VB—G RAM G Act, 2025:
What it is?

- The **Viksit Bharat-G RAM G Act, 2025** is a comprehensive rural employment and development legislation that replaces the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), 2005. It provides a legal guarantee for unskilled wage employment while shifting the program's focus toward creating productive, future-ready rural assets aligned with the **Viksit Bharat @2047** vision.

Aim:

- The mission aims to foster long-term financial resilience and sustainable rural development. It seeks to transition from mere survival-based employment to livelihood-linked asset creation through a convergence-based planning model.

Key Features of the Act:

- **Enhanced Employment Guarantee:** Increases the statutory guarantee from 100 days to **125 days** of unskilled manual work per financial year for every rural household.
- **Centrally Sponsored Fund Sharing:**
  - **90:10** for North-Eastern and Himalayan States.
  - **60:40** for other States and UTs with legislatures.
  - **100% Central funding** for UTs without legislatures.
- **Agricultural Season Pause:** To ensure labor availability for farming, states must notify a **60-day pause period** annually during peak sowing and harvesting seasons when works will not be undertaken.
- **Thematic Work Domains:** Projects are restricted to four key areas:
  - Water Security.
  - Core Rural Infrastructure.
  - Livelihood Infrastructure.
  - Extreme Weather Mitigation.
- **Viksit Gram Panchayat Plan (VGPP):** A single-plan, multi-funding approach where works must originate from a participatory, evidence-based plan integrated with the **PM Gati Shakti National Master Plan**.

- **Technology Integration:**
  - Face authentication-based attendance for workers.
  - Biometric authentication for all financial transactions.
  - Geospatial technology for real-time monitoring and tracking.
- **Safeguards for Workers:**
  - **Unemployment Allowance:** If work is not provided within 15 days of demand.
  - **Transport Allowance:** Extra 10% of the wage rate if work is beyond a 5 km radius.
  - **Weekly Payments:** Wages must be paid weekly, or at most within 14 days, directly via DBT.

Significance:

- By increasing the guaranteed days and ensuring timely DBT payments, it provides a stronger safety net for the rural poor.
- Unlike the often temporary nature of MGNREGA works, VB-G RAM G focuses on high-impact, durable infrastructure that aids long-term rural growth.

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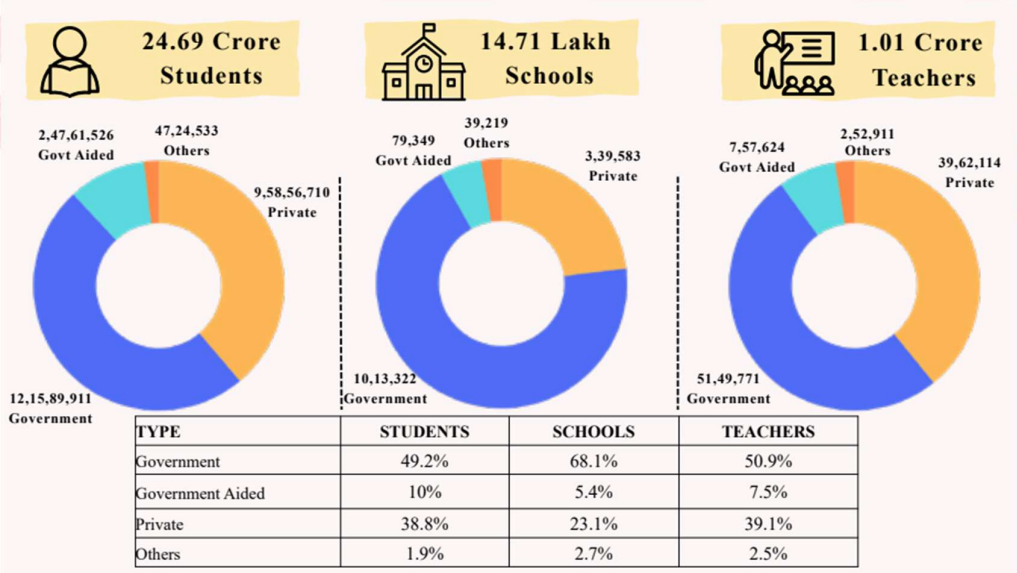
NITI Aayog Report on the School Education System in India

Context: NITI Aayog has released a comprehensive policy report analyzing a decade of India's school education system (2014-15 to 2024-25).

- The report provides a strategic roadmap to enhance quality and equity as India moves toward its Viksit Bharat @2047 vision.



TYPE	STUDENTS	SCHOOLS	TEACHERS
Government	49.2%	68.1%	50.9%
Government Aided	10%	5.4%	7.5%
Private	38.8%	23.1%	39.1%
Others	1.9%	2.7%	2.5%

Figure 3.1: Snapshot of India's School Education System (2024-25)

Source: UDISE+ 2024-25

About NITI Aayog Report on the School Education System in India:

What it is?

- The report, titled 'School Education System in India: Temporal Analysis and Policy Roadmap for Quality Enhancement', is an independent academic and policy-oriented research document. It utilizes secondary data from national surveys (UDISE+, PARAKH, NAS, and ASER) to assess key parameters like access, infrastructure, equity, and learning outcomes across all 36 States and UTs.

Key Data/Stats on School Education:

- **Scale:** India manages the world's largest school system with **14.71 lakh schools** serving over **24.69 crore students**.

- **Teachers:** The system is supported by a workforce of over **1.01 crore teachers**.
- **Enrolment Ratio:** While elementary enrolment is near universal, the national Gross Enrolment Ratio (GER) for higher secondary stands at **58.4%**.
- **Management:** Government schools account for **68.1%** of all schools and serve **49.2%** of the total student population.

Evolution of School Education System in India:

- **Ancient & Colonial:** Evolved from ancient Gurukuls to a colonial model that reoriented learning toward clerical and English-medium proficiency.
- **Post-Independence Milestones:** Key early commissions like the **Mudaliar Commission (1952)** and **Kothari Commission (1964-66)** established foundational constitutional goals for free and universal education.
- **Inclusive Policies (2000-2010):** The launch of **Sarva Shiksha Abhiyan (2001)** and the **Right to Education (RTE) Act (2009)** made elementary education a justiciable right.
- **Systemic Integration (2018): Samagra Shiksha** integrated pre-primary, elementary, and secondary education into a single unified framework.
- **Current Framework (2020):** The **National Education Policy (NEP) 2020** introduced a 5+3+3+4 structure to align schooling with developmental needs.

Current Overview on School Education:

- **Transition from Expansion to Consolidation:** The system is shifting focus from just building schools to optimizing existing resources.

Example: The total number of schools declined from 15.58 lakh (2017-18) to 14.71 lakh (2024-25) due to school rationalization and merging.

- **Near-Universal Elementary Access:** Participation in primary and upper primary stages is consistently high nationwide.

Example: National GER stands at 90.9% for primary and 90.3% for upper primary levels as of 2024-25.

- **Strengthened Infrastructure:** Foundational facilities like electricity and sanitation have reached high coverage levels.

Example: Functional electricity in schools improved from 55.96% in 2014-15 to 91.9% in 2024-25.

- **Recovering Learning Outcomes:** There are measurable signs of improvement in foundational literacy and numeracy following pandemic disruptions.

Example: Recent PARAKH scores show that students are increasingly able to perform foundational tasks and basic arithmetic.

- **Digital Ecosystem Growth:** Access to technology and internet connectivity is expanding rapidly across schools.

Example: Internet facility in schools surged from just 8.05% in 2014-15 to 63.5% in 2024-25.

Challenges Associated with the Indian School System:

- **Fragmented Schooling Structure:** The pyramidal distribution of schools limits availability at higher stages.

Example: There are 7.3 lakh primary schools but only 1.64 lakh higher secondary schools, causing transitions to be difficult.

- **Persistent High Dropouts at Secondary Stage:** Retention gains at the primary level are not yet fully translating into higher secondary completion.

Example: The secondary dropout rate stands at 11.5% nationally, significantly higher than the primary rate of 0.3%.

- **Existence of Small/Under-Enrolled Schools:** Many institutions are economically and administratively inefficient due to low student strength.

Example: More than one-third of Indian schools have fewer than 50 students, complicating teacher deployment.

- **Academic Pressure vs. Foundational Mastery:** Pedagogy often focuses on rote textbook completion rather than conceptual understanding.

Example: ASER 2024 reports that nearly 50% of Grade 5 children in rural India still cannot read a Grade 2 level text.

- **Inequitable Digital Integration:** While digital access is growing, it remains structurally uneven across different states.

Example: Functional smart classrooms are present in over 95% of schools in Chandigarh but fewer than 5% in Meghalaya.

Recommendations of NITI Aayog:

- **Structural Reform:** Strengthen school provisioning through **Composite Schools** (Grades 1-12) and evidence-based rationalization.
- **Governance Enhancement:** Establish independent **State School Standards Authorities (SSSAs)** to oversee safety, infrastructure, and learning quality.
- **Teacher Development:** Elevate teacher deployment and professional capacity through structured career progression and specialized subject training.
- **Pedagogical Transformation:** Shift from textbook completion to **competency-based assessments** and level-based instruction (Teaching at the Right Level).
- **Focus on Inclusivity:** Expand digital and broadcast-based learning while strengthening support for children with special needs and migrant populations.

Conclusion:

India's school education system has achieved near-universal access at the elementary level and significant infrastructure improvements over the last decade. However, sustaining participation through the secondary stage and ensuring meaningful learning outcomes remain critical hurdles. Systemic transformation, as outlined in the report's roadmap, is essential to develop the high-quality human capital required for a Viksit Bharat by 2047.

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Intercaste Marriages and the Unfinished Law

Context: Coinciding with Dalit History Month, reports of violence and coerced nullification of intercaste marriages in Gujarat have highlighted the persistent gap between constitutional guarantees and social reality.

Intercaste Marriages and the Unfinished Law

About Intercaste Marriages and the Unfinished Law:

What it is?

- Intercaste marriage refers to a union between two individuals belonging to different castes. While the Indian Constitution and the **Special Marriage Act of 1954** provide the legal framework for such unions, the law remains unfinished because the social machinery—ranging from community councils to local police—often prioritizes caste-based customs (endogamy) over individual constitutional rights, leading to honour crimes and social boycotts

Key Data & Statistics:

- **Low Prevalence:** Despite 75 years of independence, various surveys indicate that intercaste marriages in India still hover around a meager **5% to 6%** of total marriages.
- **Judicial Directive (2018):** The Supreme Court in the Shakti Vahini v. Union of India case declared interference by Khap Panchayats in consensual marriages of adults as **absolutely illegal.**
- **Violence and Impunity:** In 2025-26, states like Gujarat reported multiple instances of **honour killings** and community-led abductions to return women to their natal castes.
- **Special Marriage Act (1954):** This law has existed for **72 years**, yet its requirement for a 30-day public notice is often criticized for tipping off hostile families and community mobs

Intercaste Marriage Laws in India:

1. **Article 21 of the Constitution:** The Supreme Court recognizes the Right to Marry as an integral part of the **Right to Life and Personal Liberty**.
2. **Special Marriage Act, 1954:** Enables any two Indian citizens to marry regardless of their religion or caste without needing to convert.
3. **The Hindu Marriage Act, 1955:** While originally focused on intra-community rules, it does not prohibit inter-caste marriages between two Hindus (including Sikhs, Jains, and Buddhists).
4. **SC/ST Prevention of Atrocities Act, 1989:** Provides a legal shield against violence or harassment directed at intercaste couples where one partner belongs to a Dalit or Tribal community.
5. **Incentive Schemes:** Various states and the Central government (Dr. Ambedkar Scheme) provide financial incentives (up to ₹2.5 lakh) to couples in intercaste marriages involving a Dalit partner.

Reasons for the Rise of Intercaste Marriages:

- **Access to Higher Education:** Women and men meeting in universities develop bonds beyond caste identities.

Example: Chandrika Chaudhary, a NEET-qualified student, chose her partner based on shared aspirations rather than community ties.

- **Economic Independence:** Migration to urban areas for work allows youth to escape the direct surveillance of village elders.

Example: Musician Aarti Sangani's career in the arts allowed her to form professional and personal links with musicians from diverse backgrounds.

- **Social Media and Digital Connectivity:** Platforms allow individuals to meet and communicate outside traditional matchmaking circles.

Example: Kinjal Rabari used social media to announce her choice, bypassing the traditional reciprocal exchange (Sata Pratha) system.

- **Judicial Activism:** Increased awareness of Supreme Court rulings has encouraged some couples to seek legal protection.

Example: Haresh filed a habeas corpus petition before the High Court to protect his partner from being forcibly held by her family.

- **Influence of Reformist Movements:** Dalit History Month and the teachings of Ambedkar and Phule continue to inspire youth to reject the anachronistic institution of caste.

Example: Community activists in Ahmedabad use public protests to assert that the annihilation of caste requires the acceptance of inter-marriage.

Challenges Associated:

- **Caste Endogamy & Sata Pratha:** The reciprocal exchange of women between families makes one marriage dependent on the survival of another.

Example: If an intercaste union breaks a Sata link, the community leaders use violence to restore the woman to preserve the second marriage.

- **Systemic Apathy of Law Enforcement:** Police often side with community leaders rather than protecting the couple's autonomy.

Example: In Kinjal Rabari's case, despite her public appeal for protection, she was returned to her family through orchestrated community pressure.

- **Patriarchal Control over Purity:** Women are seen as the gatekeepers of caste purity; their marriage outside the caste is viewed as a loss of community honor.

Example: Ashok Chaudhary's family demanded a woman for a woman exchange, treating female bodies as transactional objects.

- **Organized Moral Policing:** Groups like Navchetan Trust specifically target and rescue women who marry outside their caste or religion.

Example: Former leaders of extremist groups have been linked to syndicates that track down and coerce couples into separating.

- **Legal Lacunae in Proposed Bills:** New bills like the Gujarat UCC mandate notifying parents of a marriage, which can lead to immediate threats.

Example: Critics argue that a 10-day notice period for parents essentially invites honour violence before the couple can secure safety

Way Ahead:

- **Neutral Policing:** Ensuring that law enforcement agencies act strictly on Supreme Court directives to protect consenting adults from mob interference.
- **Cultural and Educational Reform:** Rewriting textbooks to include progressive content that normalizes intercaste unions as a tool for social integration.
- **Annihilation of Caste Agenda:** Moving beyond mere tolerance to a political and social movement that actively celebrates intercaste marriages.
- **Judicial Suo Motu Cognizance:** Courts should act proactively in reported cases of community coercion rather than waiting for habeas corpus petitions.
- **Removing Notice Barriers:** Amending laws like the SMA to remove public notice requirements that compromise the privacy and safety of intercaste couples

Conclusion:

The unfinished law of intercaste marriage remains a battleground between constitutional liberty and feudal patriarchy. While the state offers legal frameworks, the lack of a corresponding social transformation allows community leaders to treat women as transactional objects. Only through a combination of strict legal enforcement and a deep cultural shift toward the annihilation of caste can India truly guarantee the right to choose.

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ENVIRONMENT AND ECOLOGY

Amur Falcons Returning from Africa to India

- The recent return migration of satellite-tagged Amur falcons from southern Africa to India has become an important development in the field of wildlife conservation and migratory bird research.
- Two Amur falcons that were satellite-tagged in Tamenglong district of Manipur in November 2025 have started their spring migration back towards their breeding grounds in Far-East Asia through India.
- These birds had migrated to southern Africa during the winter season in search of warmer climatic conditions and food availability.
- The migration of Amur falcons is considered one of the most extraordinary long-distance migrations among birds because they travel across continents and oceans covering nearly 20,000–22,000 kilometres annually.
- The recent tracking data revealed that the birds are undertaking a non-stop flight of around 6,000 km from Somalia to India across the Arabian Sea within approximately six days.

About Amur Falcon

- The **Amur Falcon (***Falco amurensis***)** is a small migratory bird of prey belonging to the falcon family.
- The species derives its name from the **Amur River region situated between Russia and China,** where these birds are commonly found during the breeding season.
- Amur falcons mainly breed in **southeastern Siberia, northern China, and Mongolia during summer.**
- **During winter**, these birds migrate **to southern African countries** because the climatic conditions there are comparatively warmer and suitable for feeding.
- The bird is **primarily insectivorous** and **feeds on termites, grasshoppers, beetles, locusts, and other flying insects.**
- Because they consume large quantities of insects and agricultural pests, Amur falcons help **maintain ecological balance** and **indirectly support agriculture.**
- According to the **International Union for Conservation of Nature (IUCN),** the Amur Falcon is presently classified as a species of **"Least Concern."**

Migration of Amur Falcons: One of the Longest Bird Migrations

- The Amur Falcon undertakes one of the **longest migratory journeys among raptors in the world.**
- Every year, these birds **travel approximately 20,000 to 22,000 kilometres** between their breeding grounds in Asia and wintering grounds in Africa.
- Their migration route connects multiple countries, ecosystems, climatic regions, and continents.
- During migration, the birds move from northeastern Asia through China and northeast India before crossing the Indian Ocean and Arabian Sea towards Africa.
- During spring migration, they again return from Africa to Asia through India.

Non-stop Sea Crossing

- One of the most remarkable features of Amur falcon migration is their ability to undertake long non-stop flights across oceans.
- The recent **satellite data** showed that **one tagged female falcon named "Alang"** started its **journey from Somalia and began crossing the Arabian Sea towards India's western coast.**
- Scientists estimate that the sea crossing may take nearly three days of uninterrupted flight without any resting opportunity.

- During this journey, the birds depend heavily on **favourable tailwinds** that help **reduce energy expenditure and support continuous flight.**
- Their **lightweight aerodynamic body structure** and **ability to store fat reserves before migration** enable them to survive these demanding journeys.

Satellite Tagging Project: Tagging in Manipur

- In **November 2025**, **three Amur falcons were satellite-tagged** in **Tamenglong district of Manipur** under a project supported by the **Ministry of Environment, Forest and Climate Change (MoEFCC).**
- The **primary objective** of the project was to **scientifically monitor the migration routes and behaviour of the birds.**
- The tagged birds migrated from India to Somalia and further into southern Africa during winter.
- Recently, two of the tagged birds started their return journey towards their breeding grounds in Far-East Asia through India.

Importance of Satellite Tracking

- Satellite tracking has become an important scientific tool for studying migratory species and wildlife behaviour.
- **Tiny transmitters** attached to birds provide scientists with real-time information regarding migration routes, flight speed, stopover sites, and survival patterns.
- Earlier, scientists could only estimate migration routes based on sightings and limited field observations, but satellite technology now provides accurate and continuous data.
- Satellite tracking helps researchers identify important habitats and stopover locations that are essential for the survival of migratory birds.
- The information collected through tracking also helps governments formulate better conservation policies and habitat protection strategies.
- Such projects improve international cooperation because migratory birds travel across several countries and ecosystems.

Role of India in Amur Falcon Migration

- India occupies a **highly strategic position in the migratory route** of the Amur Falcon.
- The **northeastern states of Manipur, Nagaland, and Assam** serve as important feeding and resting grounds for the birds during migration.
- These regions provide **suitable habitats** and **food resources** that help the birds regain energy before long sea crossings.
- India forms an important part of the **Central Asian Flyway,** which is one of the major migratory bird flyways in the world.
- The Central Asian Flyway connects breeding grounds in Arctic and Central Asia with wintering grounds in South Asia, Africa, and the Indian Ocean region.
- Because of its geographical location, India supports hundreds of migratory bird species every year and plays a major role in global biodiversity conservation.

Community-led Conservation Efforts

- Earlier, large-scale hunting of Amur falcons was common in some parts of northeast India, especially in Nagaland.
- During migration seasons, thousands of birds were **trapped and killed for meat and commercial sale.**
- This large-scale hunting created international concern regarding the safety and survival of the species.

Transformation Through Conservation

- Conservation efforts involving local communities, forest departments, environmental organisations, and government agencies gradually transformed the situation.
- Awareness campaigns educated villagers regarding the ecological importance of Amur falcons and the need to protect migratory species.
- Local communities eventually became active participants in wildlife conservation rather than hunting activities.
- Villages that were once associated with bird hunting later emerged as successful examples of community-led conservation.
- This transformation demonstrated that conservation becomes more effective when local communities are treated as stakeholders and partners.

Ecological Importance of Amur Falcons

- Amur falcons play an important ecological role because they **consume large numbers of insects and agricultural pests.**
- By feeding on termites, locusts, and grasshoppers, they naturally **help control pest populations.**
- This contributes to **ecological balance** and **indirectly benefits agriculture and food security.**
- Migratory birds such as Amur falcons are also considered **important indicators of environmental health.**
- Changes in their migration timing, routes, or breeding behaviour may indicate climate change, habitat degradation, or ecosystem disturbances.
- Thus, studying migratory birds helps scientists understand broader environmental and climatic changes occurring across the planet.

Threats Faced by Migratory Birds

Climate Change

- Climate change is one of the biggest threats faced by migratory birds across the world.
- Changes in temperature, rainfall patterns, and atmospheric circulation **affect migration timing, breeding cycles, and food availability.**
- Extreme weather events such as cyclones and storms may increase mortality during migration.

Habitat Loss

- Wetlands, forests, and grasslands used by migratory birds as stopover sites are rapidly declining because of urbanisation, deforestation, and infrastructure development.
- The destruction of resting and feeding habitats can severely affect migratory success and bird survival.

Hunting and Poaching

- Illegal hunting and poaching continue to threaten migratory species in several regions along migration pathways.
- Since migratory birds travel across multiple countries, conservation efforts require international coordination and cooperation.

Pollution

- Pollution caused by pesticides, industrial waste, and plastics affects ecosystems used by migratory birds.
- Contaminated food chains and degraded habitats negatively impact bird health and survival.

Importance of International Cooperation

- The conservation of migratory birds cannot be achieved through the efforts of a single country because these species travel across international boundaries.
- Effective conservation requires international scientific cooperation, habitat protection, and information sharing among countries.
- India's efforts in satellite tracking, habitat conservation, and community participation contribute significantly to global biodiversity conservation.
- Such initiatives also support international agreements related to migratory species and environmental protection.

Significance of the Recent Migration Event

- The successful return migration of satellite-tagged Amur falcons demonstrates the extraordinary endurance and navigational abilities of migratory birds.
- The event highlights the importance of scientific technologies such as satellite tracking in wildlife conservation.
- It also reflects the success of community-based conservation efforts in northeast India.
- The migration further emphasizes the ecological interconnectedness between Asia and Africa and the need for global conservation cooperation.

Conclusion

- The migration of Amur falcons from Africa to Asia through India represents **one of the most remarkable natural phenomena in the world.**
- Their ability to undertake long-distance transoceanic flights demonstrates **exceptional biological adaptation and survival capacity.**
- The successful satellite tracking project in Manipur has improved scientific understanding regarding migratory behaviour and conservation needs of these birds.
- The conservation story of the Amur Falcon also highlights the **importance of community participation, biodiversity protection, and international cooperation in preserving migratory species.**
- Protecting migratory birds like the Amur Falcon is essential not only for ecological balance but also for maintaining the interconnected natural heritage shared by different regions of the world.

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Elusive Himalayan Turtle Found in Chhattisgarh Tiger Reserve

Introduction

- A rare and scientifically significant wildlife sighting has been reported from Chhattisgarh, where a turtle species typically associated with the Himalayan region has been unexpectedly discovered in a tiger reserve.
- The turtle was found inside a tiger reserve in Chhattisgarh, surprising forest officials because the species is generally native to cooler, high-altitude Himalayan ecosystems.
- The unusual presence of this species in central India has raised important ecological questions related to **habitat shift, climate change, and possible human interference**.
- The discovery highlights the importance of continuous biodiversity monitoring inside protected areas such as tiger reserves, which often act as biodiversity hotspots.

Key Species Identified

- The turtle observed in this case is identified as the **Himalayan Tricarinate Hill Turtle (Melanochelys tricarinata)**, a small terrestrial freshwater turtle species.
- This species is known for its distinctive shell structure, which has **three longitudinal keels (ridges)**, giving it the name "tricarinate."
- It is generally found in the **sub-Himalayan belt**, including regions of northeastern India, Nepal, Bhutan, and Bangladesh.
- The species prefers **moist deciduous forests, grasslands, and foothill streams**, where it remains hidden under leaf litter and near water sources.
- It is a **secretive and rarely observed species**, which makes sightings outside its natural range scientifically important.

Habitat and Distribution

- The Himalayan Tricarinate Hill Turtle is naturally distributed along a narrow ecological zone in the Himalayan foothills, where environmental conditions remain humid and moderately cool.
- Its habitat usually includes **forest floors, wetlands, and slow-moving freshwater systems**, which provide both food and shelter.
- The species is not adapted to tropical central Indian ecosystems, which makes its presence in a Chhattisgarh tiger reserve ecologically unusual.
- Such unexpected distribution patterns often indicate either **natural dispersal anomalies or anthropogenic movement**, though exact reasons require scientific investigation.

Why This Sighting is Important

- The sighting is ecologically significant because it suggests possible **changes in species movement patterns or habitat suitability**, which may be influenced by environmental changes.
- It may indicate that certain protected areas in central India are maintaining **microhabitats suitable for rare Himalayan species**, which is an encouraging sign for conservation.
- At the same time, it raises scientific curiosity about whether the species has naturally migrated, been displaced, or accidentally introduced into the region.
- Such discoveries help researchers understand **biodiversity connectivity between different ecological zones in India**.

Ecological and Conservation Significance

- Tiger reserves are not only important for tiger conservation but also serve as **multi-species biodiversity landscapes**, supporting reptiles, amphibians, birds, and mammals.
- The presence of a Himalayan species in a central Indian reserve highlights the **ecological richness and habitat diversity** of protected areas.
- It also strengthens the argument that conservation efforts in tiger reserves contribute to the protection of **entire ecosystems rather than a single flagship species**.
- Such findings can help improve **habitat management strategies and ecological corridor planning**.

Possible Reasons for Unusual Presence

- One possible explanation is **climate change-driven habitat shifts**, where species expand or move beyond their traditional ranges due to changing temperature and rainfall patterns.
- Another possibility is **accidental transportation through water flow, vegetation movement, or human activities**, although this requires further investigation.

- Habitat fragmentation in Himalayan regions may also force some species to explore **new ecological niches** in nearby regions.
- However, scientific confirmation is necessary before drawing any final conclusions regarding its presence.

Conservation Status and Concerns

- The Himalayan Tricarinate Hill Turtle is considered a **threatened species**, with population pressures arising from habitat loss and illegal wildlife trade.
- Its survival depends heavily on the conservation of **forested wetlands and undisturbed freshwater ecosystems**.
- Because the species is already rare and secretive, any change in its habitat distribution becomes highly important for conservation planning.
- The sighting underlines the need for stronger **wildlife monitoring and anti-poaching measures** in both Himalayan and non-Himalayan regions.

Conclusion

- The unexpected discovery of the Himalayan Tricarinate Hill Turtle in a Chhattisgarh tiger reserve is a significant ecological event that highlights the dynamic nature of wildlife distribution.
- It reinforces the importance of **continuous biodiversity monitoring in protected areas** and the need to understand ecological changes driven by environmental and anthropogenic factors.
- Such findings also emphasize that conservation efforts must focus on **entire ecosystems rather than single species**, ensuring long-term ecological stability and biodiversity protection.

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Whitley Awards 2026: Indian Conservationists Barkha Subba and Parveen Shaikh

Introduction

- Two Indian conservationists, **Dr. Barkha Subba** and **Parveen Shaikh**, received the prestigious **Whitley Awards 2026**, popularly known as the **"Green Oscars,"** for their outstanding contributions to wildlife conservation and biodiversity protection in India.
- The awards were presented by the **Whitley Fund for Nature (WFN)**, a UK-based conservation charity that supports grassroots conservation leaders from the Global South.
- The recognition is significant because both conservationists have successfully combined **scientific research, community participation, and ecosystem conservation** to protect endangered and lesser-known species.
- Their work highlights the growing importance of **community-led conservation models** in protecting fragile ecosystems and biodiversity.

About the Whitley Awards

What are the Whitley Awards?

- The **Whitley Awards** are internationally recognised conservation awards presented annually by the **Whitley Fund for Nature (WFN)** in the United Kingdom.
- The awards are popularly known as the **"Green Oscars"** because of their global prestige in the field of environmental conservation.
- These awards recognise **grassroots conservation leaders** who are working to protect biodiversity through locally driven and sustainable approaches.

- The awards particularly focus on conservation efforts in countries of the **Global South**, where biodiversity is rich but ecological threats are increasing rapidly.
- Winners receive:
    - international recognition,
    - financial support,
    - networking opportunities,
    - and institutional backing for expanding their conservation work.

Dr. Barkha Subba and Himalayan Salamander Conservation

Who is Dr. Barkha Subba?

- **Dr. Barkha Subba** is a conservation scientist from the Darjeeling Himalayas who works on the protection of the rare **Himalayan Salamander** and its fragile wetland ecosystems. (EastMojo)
- She is associated with the **Federation of Societies for Environmental Protection (FOSEP)**, a Darjeeling-based environmental organisation.
- Her work is considered highly important because the Himalayan Salamander is a rare amphibian species with limited distribution and highly specialised habitat requirements.

About the Himalayan Salamander

- The **Himalayan Salamander** is an ancient amphibian species found mainly in parts of:
    - India,
    - Nepal,
    - and Bhutan.
- Salamanders are biologically significant because they possess the remarkable ability to **regenerate lost limbs and tissues**.
- The species depends upon:
    - high-altitude wetlands,
    - forest ecosystems,
    - and moist breeding habitats for survival.
- The salamander is highly vulnerable because many of its breeding sites are located **outside protected areas**.

Threats Faced by Himalayan Salamanders

- The species faces severe threats due to:
    - **wetland loss,**
    - **urbanisation,**
    - **unregulated tourism,**
    - **tea garden expansion,**
    - and **invasive species.**
- Climate change and changing land-use patterns in the Darjeeling Himalayas are further shrinking the breeding habitats of the species.
- Another important threat is the spread of **chytrid fungus**, a deadly fungal disease responsible for amphibian declines globally.

Conservation Efforts by Barkha Subba

- Dr. Barkha Subba is leading the **first grassroots conservation movement** focused specifically on protecting the Himalayan Salamander and its wetland habitats.
- Her conservation approach includes:
    - wetland restoration,

  - removal of invasive plant species,
  - disease monitoring,
  - habitat protection,
  - and sustainable eco-tourism models.
- She works closely with local communities because many salamander wetlands are culturally sacred and traditionally protected by villagers.
- Her conservation model respects and strengthens **traditional ecological knowledge** instead of replacing local practices.
- With support from the Whitley Award, she aims to create a **transboundary wetland conservation framework** involving India, Nepal, and Bhutan.

Parveen Shaikh and Indian Skimmer Conservation

Who is Parveen Shaikh?

- **Parveen Shaikh** is an Indian conservationist and researcher working on the protection of the endangered **Indian Skimmer**, a rare riverine bird species.
- Her conservation work focuses mainly on river systems such as:
  - the Chambal River,
  - the Ganga,
  - and the Yamuna basin.
- She has developed a successful **community-led conservation model** known as the **"Guardians of the Skimmer" initiative**.

About the Indian Skimmer

- The **Indian Skimmer (Rynchops albicollis)** is a rare riverine bird known for its unique feeding behaviour.
- The bird has a distinctive beak in which the **lower mandible is longer than the upper mandible**, allowing it to skim the water surface and catch fish.
- The species nests on:
  - sandbars,
  - river islands,
  - and exposed riverbanks.
- India supports more than **90% of the global population** of Indian Skimmers.
- According to the IUCN Red List, the species is classified as **Endangered**.

Threats Faced by Indian Skimmers

- Indian Skimmers face major threats due to:
  - fluctuating river water levels,
  - sand mining,
  - habitat degradation,
  - cattle trampling,
  - free-ranging dogs,
  - and human disturbance.
- Since the birds nest on low-lying sandbars, sudden water release from dams can destroy entire nesting colonies.
- Pollution and increasing river traffic also negatively affect breeding success.

Conservation Efforts by Parveen Shaikh

- Parveen Shaikh's **"Guardians of the Skimmer" initiative** trains local community members to monitor nests and protect breeding habitats.
- Local "nest guardians" help:
  - identify nesting sites,
  - prevent disturbance,
  - monitor breeding success,
  - and protect nests from predators.
- Her project significantly improved nesting success and helped increase the local skimmer population in the Chambal region.
- With support from the Whitley Award, she plans to expand the conservation model to **Prayagraj** in the Ganga basin.
- Her work demonstrates how community participation can effectively support riverine biodiversity conservation.

Importance of Community-led Conservation

- Both Barkha Subba and Parveen Shaikh have demonstrated that conservation becomes more effective when local communities are actively involved.
- Community participation creates:
  - local ownership,
  - long-term sustainability,
  - and better protection of ecosystems.
- Local communities often possess valuable traditional ecological knowledge that can complement scientific conservation methods.
- Their work highlights the importance of integrating:
  - science,
  - local culture,
  - and public participation
    in biodiversity conservation.

Ecological Significance

- The conservation projects undertaken by these award winners are important because they protect:
  - wetlands,
  - river ecosystems,
  - amphibians,
  - and endangered bird species.
- Wetlands and riverine ecosystems provide critical ecological services such as:
  - water purification,
  - groundwater recharge,
  - biodiversity support,
  - and climate regulation.
- Protecting species like the Himalayan Salamander and Indian Skimmer also helps conserve entire ecosystems and food chains.

Importance for India

- The recognition of Indian conservationists at an international platform highlights India's growing contribution to global biodiversity conservation.
- It also draws attention towards lesser-known but ecologically important species that are often neglected in mainstream conservation efforts.

- Such awards encourage:
  - scientific research,
  - grassroots activism,
  - and greater public awareness regarding environmental protection.

Conclusion

- The Whitley Awards received by **Dr. Barkha Subba** and **Parveen Shaikh** represent an important recognition of India's grassroots conservation efforts and biodiversity protection initiatives.
- Their work demonstrates that successful conservation requires a combination of:
  - scientific knowledge,
  - community participation,
  - ecosystem restoration,
  - and long-term sustainability.
- These conservation models provide valuable lessons for protecting fragile ecosystems and endangered species in an era increasingly threatened by climate change, habitat degradation, and biodiversity loss.

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International Big Cat Alliance (IBCA) Summit 2026

Introduction

- India will host the **first International Big Cat Alliance (IBCA) Summit** on **1st–2nd June 2026** in **New Delhi**.
- The announcement was made during the launch of the official **website and logo** of the summit by Union Environment Minister Bhupender Yadav.
- The summit is considered a major step in strengthening **global cooperation for big cat conservation** and reflects India's growing leadership in international environmental diplomacy.
- The event will bring together:
  - Heads of State and Government,
  - conservation experts,
  - policymakers,
  - scientists,
  - multilateral institutions,
  - financial organisations,
  - and community representatives from across the world.
- The summit will be organised under the theme:
  - **"Save Big Cats, Save Humanity, Save Ecosystem."**

About International Big Cat Alliance (IBCA)

Establishment of IBCA

- The **International Big Cat Alliance (IBCA)** is an inter-governmental international organisation established for the conservation of the world's major big cat species.
- The alliance was launched by India in **2023** under the leadership of Prime Minister Narendra Modi.
- The headquarters of IBCA is located in **India**.
- IBCA was established with the objective of promoting:
  - international cooperation,
  - scientific collaboration,

  - habitat conservation,
  - knowledge sharing,
  - and coordinated policy action for big cat conservation.
- The alliance reflects India's belief that wildlife conservation challenges cannot be solved by individual countries alone and require collective global action.

Seven Big Cats Covered Under IBCA

- The International Big Cat Alliance focuses on the conservation of the following **seven big cat species**:
  1. **Tiger**
  2. **Lion**
  3. **Leopard**
  4. **Snow Leopard**
  5. **Cheetah**
  6. **Jaguar**
  7. **Puma**
- These species are distributed across Asia, Africa, North America, and South America, making IBCA a truly global conservation initiative.
- Many of these species face threats such as:
  - habitat loss,
  - poaching,
  - illegal wildlife trade,
  - climate change,
  - and human-wildlife conflict.

Objectives of IBCA

Global Conservation Cooperation

- The primary objective of IBCA is to create a global platform where countries hosting big cat populations can work together for conservation.
- The alliance promotes:
  - exchange of scientific knowledge,
  - capacity building,
  - technological cooperation,
  - and joint conservation strategies.
- It also seeks to strengthen transboundary conservation because many big cat habitats extend across international borders.

Ecosystem Conservation

- Big cats are considered **umbrella species** because protecting them also helps conserve forests, grasslands, wetlands, and entire ecosystems.
- Conservation of big cats indirectly protects:
  - biodiversity,
  - water resources,
  - ecological balance,
  - and climate resilience.
- Therefore, IBCA links wildlife conservation with broader environmental and developmental goals.

Importance of India in Big Cat Conservation

India's Conservation Achievements

- India has emerged as a global leader in wildlife conservation due to several successful conservation programmes.
- The most notable initiative is **Project Tiger**, launched in 1973, which significantly helped increase India's tiger population.
- India has also undertaken important conservation initiatives for:
    - Asiatic lions,
    - leopards,
    - snow leopards,
    - and cheetahs.
- The country has demonstrated that **development and conservation can coexist** through scientific management and community participation.

India's Global Leadership Role

- Through IBCA, India aims to position itself as a leader in global biodiversity governance and conservation diplomacy.
- India's experience in protected area management, species recovery, and community-based conservation provides important lessons for other countries.
- The initiative also strengthens India's soft power and environmental leadership at the international level.

IBCA Summit 2026

Key Features of the Summit

- The first IBCA Summit will be held in **New Delhi** on **1st–2nd June 2026**.
- Participation is expected from:
    - member countries,
    - observer nations,
    - conservation agencies,
    - scientists,
    - corporate leaders,
    - and local community representatives.
- More than **400 delegates** from around the world are expected to participate in the summit.
- The summit will focus on:
    - future strategies for big cat conservation,
    - international cooperation,
    - financing conservation,
    - scientific research,
    - and ecosystem restoration.

Technical Sessions

- The summit will include technical sessions involving:
    - senior government officials,
    - conservation practitioners,
    - scientists,
    - and partner organisations.
- Representatives from around **95 big cat range countries** are expected to participate in these discussions.
- These sessions will focus on:

- wildlife monitoring,
- anti-poaching strategies,
- habitat connectivity,
- climate resilience,
- and community-based conservation models.

Delhi Declaration

First Global Declaration on Big Cats

- One of the most important expected outcomes of the summit is the adoption of the **"Delhi Declaration"** on big cat conservation.
- This will be the **first-ever global declaration exclusively focused on big cat conservation**.
- The declaration aims to:
  - strengthen international cooperation,
  - promote transboundary conservation,
  - encourage landscape-based conservation approaches,
  - and establish common global priorities.
- It is expected to provide a long-term framework for coordinated global action on big cat conservation.

South-South Cooperation

Meaning and Importance

- The summit aims to strengthen **South-South cooperation** among developing countries that host major big cat populations.
- South-South cooperation refers to collaboration among developing nations in areas such as:
  - technology,
  - conservation,
  - scientific research,
  - and capacity building.
- Many big cat range countries are located in Asia, Africa, and Latin America, making such cooperation highly important.
- This approach helps developing countries share practical conservation experiences and locally suitable solutions.

Importance of Big Cat Conservation

Ecological Importance

- Big cats occupy the top levels of the food chain and function as **apex predators**.
- They help regulate prey populations and maintain ecological balance within ecosystems.
- The decline of big cats can disturb food chains and negatively affect ecosystem stability.
- Conserving big cats also helps protect forests, grasslands, and biodiversity-rich landscapes.

Climate and Ecosystem Benefits

- Healthy ecosystems protected for big cats also contribute to:
  - carbon sequestration,
  - climate regulation,
  - soil conservation,
  - and water security.
- Thus, big cat conservation is directly linked with combating climate change and ensuring ecological sustainability.

Logo and Website of IBCA Summit

Logo Features

- The official logo of the IBCA Summit reflects:
  - harmony,
  - ecological balance,
  - and interconnected ecosystems.
- The logo features all **seven big cat species** at its core, symbolising unity and shared responsibility.
- It is surrounded by a **lotus-inspired design** representing the **five elements of nature**.

Summit Website

- The official summit website has been launched as a dedicated platform for:
  - outreach,
  - information sharing,
  - and public engagement.
- The website will serve as the official digital identity of the summit and provide authentic information regarding summit activities and conservation initiatives.
- It will also host promotional films and awareness material related to big cat conservation.

Exhibition and Public Awareness

- A special exhibition will be organised during the summit in collaboration with conservation institutions and partners.
- The exhibition will showcase:
  - tribal art,
  - paintings,
  - immersive wildlife photography,
  - films,
  - virtual reality experiences,
  - and India's achievements in biodiversity conservation.
- Such initiatives aim to increase public awareness and promote greater participation in wildlife conservation efforts.

Significance of the Summit

- The IBCA Summit represents a major step in strengthening **global conservation diplomacy**.
- It demonstrates growing international recognition that biodiversity conservation requires:
  - collective action,
  - scientific cooperation,
  - and long-term ecological planning.
- The summit also highlights India's emerging role as a leader in:
  - wildlife conservation,
  - biodiversity governance,
  - and international environmental cooperation.
- It may further strengthen global commitment towards achieving:
  - biodiversity targets,
  - sustainable development goals,
  - and climate action objectives.

Conclusion

- The International Big Cat Alliance Summit 2026 marks an important milestone in global wildlife conservation efforts and environmental diplomacy.
- By bringing together countries that host major big cat populations, the summit aims to strengthen international cooperation and develop collective solutions for biodiversity conservation.
- The initiative reflects India's growing leadership in global environmental governance and highlights the importance of protecting apex predators for maintaining ecological balance and ensuring long-term sustainability.

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Spiny-Tailed Lizards in The Thar Desert: Recent Study on Dietary Adaptation and Foraging Behaviour

Introduction

- A recent scientific study examined the **seasonal nutrient intake, dietary adaptations, and foraging behaviour** of **Spiny-tailed Lizards** living in the **Thar Desert** ecosystem.
- The study is important because desert ecosystems are characterised by:
    - extreme temperatures,
    - water scarcity,
    - low vegetation density,
    - and highly seasonal food availability.
- Understanding how species survive in such harsh conditions helps scientists assess:
    - ecological adaptation,
    - desert biodiversity,
    - and the impact of climate variability on wildlife.
- The study focused on how Spiny-tailed Lizards modify their feeding patterns and nutritional intake according to seasonal changes in the desert environment.

About Spiny-tailed Lizard

- The **Spiny-tailed Lizard** is a desert-dwelling reptile commonly found in the arid and semi-arid regions of:
    - India,
    - Pakistan,
    - the Middle East,
    - and North Africa.
- In India, the species is mainly associated with the **Thar Desert** region of Rajasthan and Gujarat.
- It belongs to the genus **Uromastyx**, which is well adapted to hot and dry desert conditions.
- The lizard derives its name from its thick tail covered with sharp spiny scales that provide protection from predators.

Physical Features

- Spiny-tailed Lizards possess:
    - stout bodies,
    - short limbs,
    - strong claws,
    - and flattened spiny tails.
- Their body structure is specially adapted for:
    - digging burrows,

  - surviving high temperatures,
  - and conserving water.
- The tail acts as a defensive structure and is often used to block burrow entrances against predators.

Habitat and Distribution

- The species is commonly found in:
  - sandy plains,
  - rocky terrains,
  - scrublands,
  - and desert grasslands.
- Spiny-tailed Lizards prefer open dry habitats where they can easily dig burrows for shelter and temperature regulation.
- Their burrows help them escape:
  - extreme daytime heat,
  - predators,
  - and cold desert nights.

Importance of the Thar Desert Ecosystem

- The **Thar Desert** is one of the most densely populated deserts in the world and supports unique desert biodiversity.
- Despite harsh climatic conditions, the desert hosts:
  - reptiles,
  - migratory birds,
  - desert foxes,
  - rodents,
  - and drought-resistant vegetation.
- Species living in this ecosystem show specialised physiological and behavioural adaptations for survival.

Key Findings of the Study

Seasonal Changes in Diet

- The study found that Spiny-tailed Lizards significantly modify their diet according to seasonal availability of food resources.
- During seasons when vegetation is abundant, the lizards consume more:
  - leaves,
  - grasses,
  - flowers,
  - and seeds.
- In dry seasons, when plant availability decreases, they shift towards consuming:
  - tougher vegetation,
  - dry plant matter,
  - and nutrient-rich available resources.
- Such flexibility in feeding behaviour helps them survive in environments where food availability changes drastically across seasons.

Nutrient Intake Adaptation

- Researchers observed that the lizards actively adjust their nutrient intake according to environmental conditions.
- During breeding and active seasons, they prefer foods rich in:
    - proteins,
    - minerals,
    - and water content.
- During harsh summer periods, they reduce energy expenditure and consume food that supports:
    - hydration,
    - energy conservation,
    - and metabolic stability.
- This demonstrates advanced ecological adaptation to desert stress conditions.

Foraging Behaviour

- The study highlighted that Spiny-tailed Lizards display selective and energy-efficient foraging behaviour.
- They usually forage during cooler parts of the day such as:
    - early morning,
    - or late afternoon.
- This behavioural adaptation helps them avoid extreme daytime desert temperatures and reduces water loss.
- The lizards also prefer foraging close to burrows in order to quickly escape predators and excessive heat.
- Their movement patterns are carefully regulated to minimise unnecessary energy expenditure in the desert environment.

Adaptations for Desert Survival

Physiological Adaptations

- Spiny-tailed Lizards possess several physiological mechanisms that help them survive in arid conditions.
- Their bodies are capable of:
    - conserving water,
    - tolerating high temperatures,
    - and reducing metabolic activity during stressful periods.
- They derive much of their water requirement from the plants they consume, reducing dependence on direct water sources.

Behavioural Adaptations

- Burrow-making behaviour is one of their most important survival strategies.
- Burrows provide:
    - thermal insulation,
    - protection from predators,
    - and moisture retention.
- Seasonal adjustment in feeding and activity patterns also helps them cope with fluctuating desert conditions.
- Such behavioural flexibility is critical for survival in unpredictable environments like deserts.

Ecological Importance of Spiny-tailed Lizards

Role in Desert Ecosystem

- Spiny-tailed Lizards play an important role in maintaining ecological balance within desert ecosystems.
- As herbivorous reptiles, they influence:
  - vegetation dynamics,
  - seed dispersal,
  - and nutrient cycling.
- Their burrowing activities improve:
  - soil aeration,
  - water infiltration,
  - and soil mixing.
- They also serve as prey for larger desert predators, making them an important component of desert food chains.

Threats Faced by Spiny-tailed Lizards

Habitat Loss

- Expansion of agriculture, urbanisation, and infrastructure development in desert areas are reducing natural habitats of the species.
- Habitat fragmentation affects:
  - burrow availability,
  - feeding grounds,
  - and breeding habitats.

Illegal Hunting and Trade

- In some regions, Spiny-tailed Lizards are illegally hunted for:
  - traditional medicine,
  - meat,
  - and the exotic pet trade.
- Such exploitation can negatively affect local populations.

Climate Change

- Rising desert temperatures and changing rainfall patterns may alter vegetation availability and ecological conditions.
- Extreme climatic events can further increase stress on desert species already living near survival limits.

Importance of the Study

- The study improves scientific understanding regarding how desert reptiles adapt to:
  - seasonal environmental changes,
  - food scarcity,
  - and extreme climatic conditions.
- Such research helps ecologists understand species resilience in fragile ecosystems.

Conservation Importance

- The findings can support better conservation planning for desert ecosystems and reptile biodiversity.
- Understanding dietary and habitat requirements is essential for protecting vulnerable desert species.
- The study also highlights the ecological importance of preserving:

- desert vegetation,
- grasslands,
- and natural burrowing habitats.

Conclusion

- The recent study on Spiny-tailed Lizards in the Thar Desert highlights the remarkable physiological and behavioural adaptations developed by desert species for survival under extreme environmental conditions.
- Their ability to modify nutrient intake, feeding behaviour, and activity patterns according to seasonal variations demonstrates the ecological resilience of desert wildlife.
- The study also underlines the importance of conserving fragile desert ecosystems, which support highly specialised and ecologically important species.

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Global Forest Goals Report 2026

Introduction

- The **United Nations** released the **Global Forest Goals Report 2026** during the **21st Session of the United Nations Forum on Forests (UNFF)**.
- The report evaluates global progress towards achieving the **Global Forest Goals** adopted under the **United Nations Strategic Plan for Forests 2017–2030**.
- It highlights the current status of:
  - forest conservation,
  - afforestation,
  - sustainable forest management,
  - biodiversity protection,
  - and international cooperation related to forests.
- The report is important because forests play a critical role in:
  - climate regulation,
  - biodiversity conservation,
  - water security,
  - carbon sequestration,
  - and livelihood support.
- The report also assesses how countries are progressing toward forest-related targets linked with:
  - the **Sustainable Development Goals (SDGs)**,
  - the **Paris Climate Agreement**,
  - and global biodiversity commitments.

About the United Nations Forum on Forests (UNFF): Establishment and Nature

- The **United Nations Forum on Forests (UNFF)** is a functional body of the **UN Economic and Social Council (ECOSOC)**.
- It was established in **2000** with the objective of promoting:
  - sustainable forest management,
  - conservation,
  - and long-term political commitment towards forests.

- The forum serves as the main international platform for discussing global forest-related issues.
- All UN member states participate in the UNFF process.

Objectives of UNFF

- The main objective of UNFF is to strengthen:
  - political commitment,
  - policy coordination,
  - and international cooperation for sustainable forest management.
- The forum also promotes:
  - forest restoration,
  - afforestation,
  - reduction in deforestation,
  - and financial support for developing countries.
- It encourages countries to integrate forest conservation into:
  - climate policies,
  - biodiversity strategies,
  - and sustainable development planning.

United Nations Strategic Plan for Forests (2017–2030)

Background

- The **United Nations Strategic Plan for Forests 2017–2030** provides a global framework for sustainable forest management.
- It was adopted to strengthen international efforts towards protecting forests and reversing forest degradation.
- The plan includes:
  - six Global Forest Goals,
  - and multiple associated targets to be achieved by 2030.
- The strategic plan supports implementation of:
  - SDGs,
  - Paris Agreement,
  - Convention on Biological Diversity (CBD),
  - and land restoration goals.

Global Forest Goals

Goal 1: Reverse Forest Loss

- The first goal aims to reverse forest loss worldwide through:
  - sustainable forest management,
  - restoration,
  - afforestation,
  - and reforestation.
- It seeks to increase global forest cover and reduce deforestation significantly by 2030.
- This goal is important because forests act as major carbon sinks and biodiversity reservoirs.

Goal 2: Enhance Forest-based Benefits

- The second goal focuses on enhancing:

  - economic,
  - social,
  - and environmental benefits derived from forests.
- Forests support millions of people through:
  - livelihoods,
  - fuelwood,
  - medicinal resources,
  - food,
  - and ecosystem services.
- Sustainable forest management can contribute to poverty reduction and rural development.

Goal 3: Increase Protected Forest Areas

- This goal seeks to expand:
  - protected forests,
  - sustainably managed forests,
  - and conservation landscapes globally.
- It also promotes restoration of degraded forest ecosystems.
- Protected forests are essential for preserving:
  - wildlife habitats,
  - biodiversity,
  - and ecological balance.

Goal 4: Mobilise Financial Resources

- The fourth goal aims to increase:
  - financial investment,
  - international cooperation,
  - and technical assistance for forest conservation.
- Developing countries often face challenges related to:
  - funding,
  - technology,
  - and institutional capacity for forest management.
- Therefore, international support becomes essential for achieving global forest goals.

Goal 5: Promote Forest Governance

- This goal focuses on improving:
  - forest governance,
  - policy coordination,
  - law enforcement,
  - and stakeholder participation.
- It encourages countries to strengthen:
  - forest institutions,
  - monitoring systems,
  - and community participation in forest conservation.

Goal 6: Strengthen International Cooperation

- The sixth goal emphasizes international collaboration in:
  - research,
  - technology transfer,
  - capacity building,
  - and policy support.
- Since climate change and biodiversity loss are global challenges, forest conservation requires collective international action.

Key Findings of the Global Forest Goals Report 2026

Continued Deforestation Remains a Major Concern

- The report highlights that deforestation continues at an alarming rate in several parts of the world despite global conservation commitments.
- Major drivers of deforestation include:
  - agricultural expansion,
  - logging,
  - mining,
  - infrastructure development,
  - and urbanisation.
- Tropical forests remain particularly vulnerable because of increasing economic pressure on land resources.

Forests and Climate Change

- The report emphasizes that forests are essential for combating climate change because they absorb large quantities of atmospheric carbon dioxide.
- Deforestation contributes significantly to:
  - greenhouse gas emissions,
  - ecosystem degradation,
  - and climate instability.
- Protecting forests is therefore necessary for achieving global climate goals under the Paris Agreement.

Biodiversity Loss

- The report warns that forest degradation is accelerating biodiversity loss across the world.
- Forest ecosystems support:
  - wildlife,
  - pollinators,
  - microorganisms,
  - and indigenous communities.
- Loss of forests threatens ecological stability and increases extinction risks for many species.

Need for Sustainable Forest Management

- The report stresses the importance of **Sustainable Forest Management (SFM)** as a balanced approach that combines:
  - ecological protection,
  - economic use,
  - and social welfare.

- Sustainable management helps ensure that forests continue providing ecosystem services without long-term degradation.

Role of Indigenous and Local Communities

- The report recognizes the important role played by:
  - indigenous peoples,
  - forest-dependent communities,
  - and local institutions
    in protecting forests.
- Traditional ecological knowledge often contributes significantly to sustainable resource management and biodiversity conservation.
- Community participation improves long-term conservation outcomes.

Forests and Sustainable Development Goals (SDGs): Linkage with SDGs

- Forest conservation is directly linked with several Sustainable Development Goals.
- **Forests contribute to:**
  - **SDG 13** → Climate Action
  - **SDG 15** → Life on Land
  - **SDG 6** → Clean Water and Sanitation
  - **SDG 1** → No Poverty
  - **SDG 2** → Zero Hunger
- **Healthy forests support:**
  - rainfall regulation,
  - groundwater recharge,
  - soil fertility,
  - and livelihood security.

India and Forest Conservation

India's Forest Efforts

- India has undertaken several initiatives for:
  - afforestation,
  - forest restoration,
  - and biodiversity conservation.
- Major programmes include:
  - **National Afforestation Programme**
  - **Green India Mission**
  - **Compensatory Afforestation Fund Management and Planning Authority (CAMPA)**
- India also focuses on:
  - agroforestry,
  - community forest management,
  - and restoration of degraded lands.

India's Global Role

- India actively participates in:
  - UNFF discussions,
  - climate negotiations,
  - and biodiversity conventions.

- The country supports balancing:
  - developmental needs,
  - climate goals,
  - and ecological sustainability.

Challenges in Forest Conservation

- Climate change increases:
  - forest fires,
  - droughts,
  - pest outbreaks,
  - and ecosystem stress.
- Extreme climatic conditions affect forest productivity and biodiversity.

Illegal Logging and Encroachment

- Illegal logging and land encroachment continue to threaten forest ecosystems in many countries.
- Weak governance and poor monitoring systems worsen forest degradation.

Developmental Pressure

- Expansion of roads, mining, industries, and urban infrastructure often leads to fragmentation of forest habitats.
- Fragmentation negatively affects wildlife movement and ecosystem connectivity.

Conclusion

- The **Global Forest Goals Report 2026** highlights both the progress achieved and the major challenges remaining in global forest conservation.
- The report emphasizes that forests are critical for:
  - climate stability,
  - biodiversity conservation,
  - ecological balance,
  - and sustainable livelihoods.
- Achieving the Global Forest Goals will require:
  - stronger political commitment,
  - sustainable forest management,
  - international cooperation,
  - and active participation of local communities.
- The report ultimately reinforces the idea that protecting forests is essential for ensuring environmental sustainability and securing the future of humanity.

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Microplastics and Heavy Metal Contamination in Bhitarkanika Sanctuary

Introduction

- A recent scientific study found the presence of **microplastics along with heavy metals** in sediment samples collected from all **20 sampled sites** within and around the **Bhitarkanika Wildlife Sanctuary**.
- The findings are significant because Bhitarkanika is one of India's most ecologically sensitive wetland and mangrove ecosystems.
- The study highlights growing concerns regarding:
  - plastic pollution,

  - industrial contamination,
  - marine ecosystem degradation,
  - and threats to biodiversity in coastal ecosystems.
- The discovery indicates that even protected ecosystems are increasingly being affected by anthropogenic pollution.

About Bhitarkanika Sanctuary

Location

- Bhitarkanika National Park is located in the **Kendrapara district of Odisha** near the eastern coast of India.
- It lies in the deltaic region formed by the:
  - Brahmani,
  - Baitarani,
  - and Dhamra river systems.
- The area is part of a highly productive estuarine and coastal ecosystem connected to the Bay of Bengal.

Ecological Importance

- Bhitarkanika is famous for its extensive **mangrove forests**, which are among the largest mangrove ecosystems in India after the Sundarbans.
- The sanctuary supports rich biodiversity including:
  - estuarine crocodiles,
  - olive ridley turtles,
  - migratory birds,
  - reptiles,
  - fishes,
  - and numerous aquatic organisms.
- It is recognised internationally for its ecological significance and wetland biodiversity.
- Mangrove ecosystems act as natural barriers against:
  - cyclones,
  - coastal erosion,
  - storm surges,
  - and tidal impacts.

What are Microplastics?

Meaning

- **Microplastics** are extremely small plastic particles generally measuring less than **5 millimetres** in size.
- They originate from:
  - breakdown of larger plastic waste,
  - synthetic fibres,
  - industrial products,
  - cosmetic products,
  - and packaging materials.
- Microplastics persist in the environment because plastics are non-biodegradable and decompose very slowly.

Types of Microplastics

Primary Microplastics

- These are intentionally manufactured small plastic particles used in:
  - cosmetics,
  - industrial abrasives,
  - and personal care products.

Secondary Microplastics

- These form when larger plastic materials gradually break down due to:
  - sunlight,
  - wave action,
  - heat,
  - and physical weathering.
- Secondary microplastics are now widely found in:
  - rivers,
  - oceans,
  - soils,
  - and wetlands.

Heavy Metals

- Heavy metals are metallic elements that can become toxic when present in high concentrations.
- Common heavy metals include:
  - lead,
  - mercury,
  - cadmium,
  - chromium,
  - arsenic,
  - and nickel.
- These pollutants usually originate from:
  - industrial discharge,
  - mining,
  - urban runoff,
  - sewage,
  - and agricultural chemicals.

Environmental Impact

- Heavy metals are dangerous because they:
  - persist in ecosystems,
  - accumulate in sediments,
  - and enter food chains through bioaccumulation.
- They can affect:
  - aquatic organisms,
  - fish reproduction,
  - plant growth,
  - and overall ecosystem health.

Key Findings of the Study

1. Presence Across All Sampled Sites

- Researchers detected microplastics mixed with heavy metals in sediment samples collected from all 20 study locations in and around Bhitarkanika.
- This indicates widespread contamination across the sanctuary ecosystem.
- The findings suggest that pollution has penetrated even ecologically protected and sensitive regions.

2. **Interaction Between Microplastics and Heavy Metals**
   - The study observed that microplastics act as carriers or "vectors" for heavy metals.
   - Due to their surface properties, microplastics can absorb and transport toxic metals within aquatic ecosystems.
   - This increases the mobility and spread of pollutants in wetlands and estuarine environments.
   - As organisms ingest contaminated microplastics, heavy metals may enter biological systems and food chains.
3. **Sediment Contamination**
   - Sediments act as long-term storage zones for pollutants in aquatic ecosystems.
   - The accumulation of microplastics and heavy metals in sediments indicates chronic and long-term pollution exposure.
   - Disturbance of sediments through tides, storms, or human activities may release pollutants back into water bodies.

Sources of Pollution

1. **Riverine Inputs**
   - Rivers flowing into the Bhitarkanika region may carry:
     - urban waste,
     - industrial pollutants,
     - agricultural runoff,
     - and plastic debris.
   - These pollutants eventually accumulate in estuaries and mangrove ecosystems.
2. **Coastal and Marine Pollution**
   - Plastic waste entering the Bay of Bengal may also contribute to contamination through:
     - tidal movement,
     - ocean currents,
     - and coastal deposition.
   - Fishing-related plastic waste is another important source.
3. **Human Activities**
   - Increasing tourism, urbanisation, and industrialisation near coastal areas contribute to pollution load in sensitive ecosystems.
   - Poor waste management systems further worsen plastic contamination.

Ecological Impacts

1. **Threat to Mangrove Ecosystems**
   - Mangroves trap sediments and pollutants, making them vulnerable to long-term contamination.
   - Microplastics and heavy metals may affect:
     - mangrove root systems,
     - nutrient cycling,
     - and soil quality.
   - Pollution may weaken the ecological resilience of mangrove ecosystems.

2. Impact on Aquatic Organisms

- Small aquatic organisms often ingest microplastics accidentally.
- Toxic pollutants associated with plastics can affect:
  - feeding behaviour,
  - reproduction,
  - metabolism,
  - and survival.
- Contaminants may biomagnify through food chains and eventually affect larger predators.

3. Threat to Biodiversity

- Bhitarkanika supports several ecologically important and protected species.
- Pollution can negatively affect:
  - fish populations,
  - crustaceans,
  - reptiles,
  - birds,
  - and estuarine crocodiles.
- Long-term ecosystem degradation may reduce biodiversity and ecological productivity.

Human Health Concerns

1. Entry into Food Chain

- Microplastics and heavy metals may enter human food chains through:
  - seafood,
  - fish,
  - shellfish,
  - and contaminated water.
- Consumption of contaminated aquatic organisms may lead to health risks over time.

2. Toxic Effects

- Heavy metals can cause:
  - neurological disorders,
  - kidney damage,
  - hormonal imbalance,
  - and developmental problems.
- Scientists are increasingly concerned about long-term exposure to microplastics in humans.

Importance of Mangroves

1. Ecological Importance

- Mangroves are among the most productive coastal ecosystems in the world.
- They provide:
  - nursery grounds for fish,
  - coastal protection,
  - carbon sequestration,
  - and biodiversity support.
- Mangroves also help reduce:
  - coastal erosion,
  - storm surge damage,
  - and climate vulnerability.

2. Blue Carbon Ecosystems
   - Mangroves are considered important **Blue Carbon ecosystems** because they store large amounts of carbon in vegetation and sediments.
   - Protecting mangroves contributes significantly to climate change mitigation.

Need for Conservation Measures

1. **Plastic Waste Management**
   - Stronger waste management systems are necessary to reduce plastic leakage into rivers and coastal areas.
   - Reducing single-use plastics can help minimise microplastic generation.
2. **Monitoring and Research**
   - Continuous monitoring of coastal ecosystems is necessary to assess pollution levels and ecological impacts.
   - Scientific studies help policymakers design targeted conservation strategies.
3. **Strengthening Coastal Regulation**
   - Better implementation of:
     - coastal regulations,
     - industrial pollution control,
     - and wetland protection measures is essential.
   - Sustainable management of estuarine ecosystems is critical for biodiversity conservation.

Conclusion

- The recent study revealing widespread microplastic and heavy metal contamination in Bhitarkanika sanctuary highlights the growing environmental threat posed by anthropogenic pollution to fragile coastal ecosystems.
- The findings demonstrate that even protected ecosystems are increasingly vulnerable to plastic waste and toxic contaminants.
- Protecting mangrove ecosystems like Bhitarkanika requires:
  - effective pollution control,
  - sustainable waste management,
  - scientific monitoring,
  - and stronger conservation policies.
- Conserving such ecosystems is essential not only for biodiversity protection but also for climate resilience, coastal security, and long-term ecological sustainability.

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India's First Hydrogen-Powered Train

Why in News?

- India has moved closer to joining countries such as Germany, Sweden, Japan, and China that already operate **hydrogen-powered trains**.
- In a letter dated **22 May 2026**, the **Railway Board** approved the introduction of India's **first hydrogen-powered trainset**.
- The project marks an important step towards:

- railway decarbonisation,
- clean energy transition,
- and India's **Net Zero target by 2070**.

Key Features of India's First Hydrogen Train

1. **Route and Development**
   - India's first hydrogen-powered train will operate between:
     - **Jind** and **Sonipat** in **Haryana**.
   - The trainset has been developed by the Integral Coach Factory located in Chennai.
   - The train will consist of:
     - **10 coaches**
     - with a maximum speed of **75 kmph**.
2. **Importance for Indian Railways**
   - India possesses one of the world's largest railway networks, with more than:
     - **25,000 trains operating daily**.
   - Hydrogen-powered trains can become a sustainable alternative for:
     - diesel locomotives,
     - especially on non-electrified railway routes.
   - Such trains are expected to reduce:
     - fossil fuel dependence,
     - greenhouse gas emissions,
     - and air pollution.

What are Hydrogen Trains?

- Hydrogen trains, also known as:
  - **Hydrail**
  - or **H-Trains**,

  are trains powered using **Hydrogen Fuel Cell (HFC) technology**.
- Unlike conventional electric trains that receive electricity from:
  - overhead wires,

  hydrogen trains generate electricity onboard.
- They use compressed hydrogen as fuel and produce electricity through an electrochemical reaction.

Zero-Emission Technology

- Hydrogen fuel cells combine:
  - hydrogen gas,
  - and atmospheric oxygen

  to generate electricity.
- The only byproduct released during this process is:
  - **water vapour**.
- Therefore, hydrogen trains are considered:
  - **zero-emission transport systems at the point of use**.

How Hydrogen Fuel Cell (HFC) Technology Works

Basic Working Principle

- Hydrogen Fuel Cells convert the **chemical energy of hydrogen** directly into electrical energy through electrochemical reactions.

- This electricity powers:
  - traction motors,
  - onboard systems,
  - and batteries.
- The process is:
  - clean,
  - quiet,
  - efficient,
  - and reliable.

Main Components of Hydrogen Fuel Cell

1. **Membrane Electrode Assembly (MEA)**
   - The **Membrane Electrode Assembly (MEA)** is the core component where the electrochemical reaction occurs.
   - It consists of:
     - Proton Exchange Membrane (PEM),
     - catalyst layers,
     - and Gas Diffusion Layers.
   - The MEA helps separate:
     - electrons,
     - and protons

     during the reaction process.
2. **Proton Exchange Membrane (PEM)**
   - The **PEM** is a specially treated membrane that resembles thin plastic film.
   - It allows only:
     - positively charged hydrogen ions (protons)

     to pass through.
   - It blocks electrons, forcing them to travel through an external circuit, thereby generating electricity.
   - The PEM is considered the most important component of hydrogen fuel cell technology.
3. **Anode Catalyst**
   - The anode is the side where:
     - hydrogen gas enters the fuel cell.
   - At the anode:
     - hydrogen molecules split into:
       - protons (H+)
       - and electrons (e−).
   - This process is known as:
     - **oxidation**.
4. **Cathode Catalyst**
   - The cathode is the side where:
     - oxygen from atmospheric air enters.
   - At the cathode:
     - oxygen combines with:
       - protons,
       - and electrons

       to form water.

- This process is called:
  - **reduction**.

5. **Gas Diffusion Layers**
   - Gas Diffusion Layers surround the catalyst layers.
   - Their functions include:
     - distributing gases evenly,
     - removing excess water,
     - and managing heat.
6. **Bipolar Plates**
   - Bipolar plates are located on the outer sides of fuel cell stacks.
   - They help in:
     - gas distribution,
     - electron conduction,
     - and heat management.
   - They also connect multiple fuel cells together in a stack.

Step-by-Step Working of Hydrogen Fuel Cell

1. **Step 1: Hydrogen Entry**
   - Hydrogen fuel enters the anode side of the fuel cell.
   - Using catalysts, hydrogen molecules split into:
     - protons,
     - and electrons.
2. **Step 2: Electron Flow**
   - Electrons cannot cross the PEM.
   - Therefore, they travel through an external circuit.
   - This movement of electrons generates:
     - electrical current.
3. **Step 3: Proton Movement**
   - Protons pass through the Proton Exchange Membrane towards the cathode.
4. **Step 4: Oxygen Reaction**
   - Oxygen enters from the cathode side.
   - Oxygen reacts with:
     - protons,
     - and electrons
       to produce water.
5. **Step 5: Electricity Generation**
   - The continuous electrochemical reaction generates electricity as long as:
     - hydrogen,
     - and oxygen
       are supplied.
   - Water vapour remains the only emission.

Role of Batteries and Regenerative Braking

1. **Onboard Batteries**
   - Hydrogen trains contain onboard batteries that:
     - store excess electricity,
     - support acceleration,

- and improve energy efficiency.
- Batteries help provide additional power during high energy demand.

2. Regenerative Braking

- Hydrogen trains use:
  - **regenerative braking technology**.
- During braking:
  - kinetic energy (motion energy) is converted into electricity.
- This electricity recharges onboard batteries and improves energy efficiency.

Advantages of Hydrogen Trains

1. Environmental Benefits

- Hydrogen trains produce:
  - no smoke,
  - no carbon emissions,
  - and no particulate pollution at the point of use.
- They support:
  - decarbonisation of transport,
  - and climate change mitigation.

2. Reduced Diesel Dependence

- India still operates diesel trains on several non-electrified routes.
- Hydrogen trains can reduce:
  - diesel consumption,
  - fuel imports,
  - and fossil fuel dependence.

3. Noise Reduction

- Since fuel cells have very few moving parts, hydrogen trains operate:
  - quietly,
  - and smoothly.
- This reduces noise pollution.

4. Energy Security

- Hydrogen technology supports India's long-term goal of:
  - energy independence,
  - and clean energy transition.

Hydrogen for Heritage Initiative: Indian Railways Initiative

- Indian Railways launched the:
  - **"Hydrogen for Heritage" initiative**.
- The programme aims to deploy:
  - **35 hydrogen-powered trains** on:
  - heritage routes,
  - and hill railways.
- Heritage routes often remain non-electrified, making hydrogen trains a suitable alternative.

National Green Hydrogen Mission

Background

- The National Green Hydrogen Mission was approved by the Union Cabinet in **2023**.

- The mission aims to make India a major producer and exporter of:
    - green hydrogen.
- It supports India's goals of:
    - energy independence by 2047,
    - and Net Zero emissions by 2070.

Production Targets

- The mission aims to produce:
    - at least **5 Million Metric Tonnes (MMT)** of Green Hydrogen annually by 2030.
- Production capacity may increase to:
    - **10 MMT annually**
      with export market expansion.

Areas of Application

- Green hydrogen can replace fossil fuels in sectors such as:
    - petroleum refining,
    - fertilizer production,
    - steel manufacturing,
    - transport,
    - and shipping.
- Green hydrogen-based fuels include:
    - Green Ammonia,
    - and Green Methanol.

Types of Hydroge

1. **Grey Hydrogen**
    - Grey hydrogen is mainly produced using:
        - natural gas,
        - through Steam Methane Reforming (SMR).
    - This process releases:
        - carbon dioxide into the atmosphere.
    - It currently constitutes most hydrogen production globally.
2. **Blue Hydrogen**
    - Blue hydrogen is produced using:
        - natural gas or coal
          along with:
        - Carbon Capture and Storage (CCS).
    - CCS captures emitted carbon dioxide and stores it underground.
    - It reduces emissions compared to grey hydrogen.
3. **Green Hydrogen**
    - Green hydrogen is produced through:
        - electrolysis of water
          using:
        - renewable energy sources such as solar and wind.
    - It is considered:
        - virtually emission-free,
        - and environmentally sustainable.

Significance for India

1. **Net Zero Goal**
   - Hydrogen trains support India's commitment to achieve:
     - **Net Zero emissions by 2070**.
   - Railway decarbonisation is important because transport is a major contributor to greenhouse gas emissions.
2. **Clean Energy Transition**
   - Hydrogen technology promotes:
     - renewable energy adoption,
     - green mobility,
     - and sustainable transport infrastructure.
3. **Technological Advancement**
   - Development of hydrogen trains strengthens India's:
     - indigenous technology capabilities,
     - manufacturing sector,
     - and innovation ecosystem.

Challenges of Hydrogen Technology

1. **High Cost**
   - Hydrogen fuel cell systems remain expensive because of:
     - costly fuel cells,
     - hydrogen storage systems,
     - and infrastructure requirements.
2. **Hydrogen Storage and Transport**
   - Hydrogen is highly inflammable and requires:
     - specialised storage,
     - high-pressure tanks,
     - and advanced safety mechanisms.
3. **Infrastructure Requirement**
   - Large-scale adoption requires:
     - hydrogen refuelling stations,
     - supply chains,
     - and renewable hydrogen production capacity.

Conclusion

- India's first hydrogen-powered train represents a major milestone in the country's transition towards sustainable and low-carbon transportation.
- Hydrogen fuel cell technology offers a clean and efficient alternative to diesel locomotives, especially on non-electrified routes.
- The initiative supports India's broader goals of:
  - Net Zero emissions,
  - energy independence,
  - and green industrial development.
- Successful implementation of hydrogen trains can strengthen India's position as a global leader in clean transport innovation and green hydrogen technology.

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India's First Green Methanol Plant

India's First Green Methanol Plant is being constructed at the Deendayal Port Authority (DPA) in **Kandla, Gujarat**. Developed by **Pune-based Thermax and Ankur Scientific**, the facility aims to convert the **highly invasive *Prosopis juliflora* weed** into sustainable, *low-carbon* **marine fuel**.

Project Highlights:

- **The Feedstock:** The plant targets *Prosopis juliflora* (an **invasive shrub** heavily prevalent in the **Kutch region**) to clear out the local ecosystem while putting the biomass to productive use.
- **The Technology:** Utilizes a specialized biomass gasification process to convert the weed into syngas (synthetic gas), which is then synthesized into green methanol.
- **Production Capacity:** The demonstration plant is designed to produce 5 tonnes of **methanol** per day, acting as a stepping stone for larger commercial 100-500 tonnes/day models.
- **Environmental Impact:** Serves as a cleaner, net-zero alternative to conventional bunker oil (fuel to power ships), capable of cutting greenhouse gas emissions by 60–95%.

Strategic Significance

- **Green Shipping:** Directly fuels the maritime sector's push toward decarbonization and assists India in meeting its **net-zero emissions target by 2070**.
- **Policy Alignment:** The project aligns with India's flat 30% financial subsidy policy for green fuel-propelled ships and global mandates aimed at decarbonizing shipping corridors.

Methanol (CH_3OH), also known as methyl alcohol or wood alcohol, is the simplest alcohol. It is a highly flammable, clear, colorless, and volatile liquid. Primarily produced from natural gas, it serves as an essential industrial chemical and clean energy source.

Key Properties & Characteristics

- **Chemical Formula:** CH_3OH
- **Boiling Point:** 64.7 degree C
- **Flammability:** Burns with a clear, almost invisible blue flame.
- **Toxicity:** Highly toxic. Ingestion, inhalation, or skin absorption can lead to permanent blindness or death

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JABALPUR CRUISE BOAT TRAGEDY: Search operations expanded to trace four missing passengers

The **Bargi Dam cruise tragedy** near Jabalpur, Madhya Pradesh, occurred on **April 30, 2026**, when a passenger cruise vessel named the *Narmada Queen* capsized in the Narmada River reservoir, resulting in **13 fatalities**.

The Incident

- **The Cause:** A sudden, severe storm struck the area, generating powerful winds and rough waters.
- **The Capsize:** Strong winds caused the cruise boat to sway violently. Passengers on the upper deck panicked and rushed to the lower deck, severely destabilising the vessel and causing it to capsize.

Geographical Angle (UPSC Perspective):

reason for winds in bargi dam:

The severe winds that triggered the Bargi Dam tragedy were caused by a **sudden, localized summer thunderstorm (nor'wester/squall)** that struck the Jabalpur region.

The scientific and environmental factors that created these extreme wind conditions include:

1. Intense Heating and Convective Instability

During late April, central India experiences extreme daytime temperatures. This intense heat causes the air near the ground to rise rapidly, creating a low-pressure zone. As cool, moist air from the massive Bargi Dam reservoir interacted with this rising hot air, it triggered rapid **convective cloud formation**, resulting in a sudden, violent thunderstorm.

2. Microbursts and Downbursts

Thunderstorms over large water bodies frequently generate microbursts—localized, powerful columns of sinking air. When this rapidly dropping air hits the water's surface, it bursts outward in all directions, generating sudden **gale-force winds that peaked between 60 to 74 km/h**.

3. The "Reservoir Effect"

Open water surfaces like reservoirs offer zero aerodynamic resistance. Unlike land, which has trees, hills, and buildings to slow down air currents, the vast, unobstructed surface of the Bargi Dam allowed the storm winds to accelerate rapidly and strike the vessel with full, unmitigated force.

4. Wind Heeling Moment

When these high-velocity winds struck the broad, exposed side of the cruise ship, they created what naval architects call a **Wind Heeling Moment**. The wind pushed the top half of the boat sideways while the turbulent water pushed the bottom, forcing the vessel to tilt dangerously until it took on water and capsized. The Meteorological Department had actually issued a **yellow alert forecast** predicting wind speeds of 40 to 50 km/h for the area. Unfortunately, these warnings were ignored by the operators.

Nor'westers (locally known as **Kalbaishakhi** in Bengal or **Bordoisila** in Assam) are violent, short-lived **pre-monsoon convective thunderstorms** that originate in eastern India and Bangladesh. They are called "Nor'westers" because they typically approach a region from a northwesterly direction.

How Nor'westers Form

- **Extreme Heat:** Intense daytime solar heating over the **Chota Nagpur Plateau** (covering parts of Jharkhand, Odisha, and Chhattisgarh) creates a thermal low-pressure zone.
- **Moisture Inflow:** This low-pressure zone draws in warm, highly humid air from the Bay of Bengal into the lower atmosphere.
- **The Clash:** At higher altitudes, this warm, moist air collides with cooler, drier air masses moving in from the northwest.
- **Explosive Convection:** The severe atmospheric instability causes the rapid, vertical formation of massive **Cumulonimbus clouds** (reaching up to 15–18 km high), resulting in sudden, violent storms.

Key Characteristics

- **Timing:** They occur primarily during the pre-monsoon summer months (**March to May**) and usually strike in the late afternoon or evening when land temperatures are highest.
- **Gale-Force Winds:** They are characterized by sudden, destructive squalls and downbursts with wind speeds frequently **exceeding 80 to 100 km/h**.
- **Intensity:** These storms bring intense lightning, loud thunder, heavy downpours, and frequent hailstorms. While they usually pass a specific location within 1 to 2 hours, they cause massive localized damage.

Regional Names and Cultural Impact

- **Kalbaishakhi (West Bengal/Bangladesh):** Translates to the "calamity of the month of Baisakh" (mid-April to mid-May), highlighting its destructive power.
- **Bordoisila (Assam):** Derived from folklore, representing a fierce goddess of wind and rain.

- **The Dual Nature:** While these storms routinely cause severe damage—uprooting trees, flattening houses, and disrupting transit—they are also **vital for agriculture**. The rainfall provides a sudden, sharp drop in temperature and essential water for summer crops like **tea, jute, and paddy.**
  If you would like to explore further, I can provide more details on **how meteorologists track these storms** or explain the specific **meteorological maps** used to forecast convective weather.
  The nor'wester season occurs during the **pre-monsoon summer months of March, April, and May**.
  Season Timeline
- **Peak Activity:** Late **April to mid-May** sees the highest frequency of these violent storms.
- **Daily Timing:** They almost always strike in the **late afternoon or evening** after maximum daytime heat buildup.
- **Transition:** The season ends abruptly with the arrival of the southwest monsoon in **early June**.

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Parliamentary forum discussion needed for Great Nicobar projects, says Congress:

Following a high-profile visit to **Great Nicobar Island** by the Leader of the Opposition, Rahul Gandhi, national scrutiny has intensified over the central government's ₹81,000–₹92,000 crore mega infrastructure project. Gandhi sharply criticized the project, calling it "destruction dressed in development's language" and a threat to India's natural and tribal heritage.

The primary environmental and social concerns that have taken center stage following this visit include:

1. Large-Scale Deforestation & Biodiversity Loss

- **Massive Tree Felling:** The project requires the diversion of over **130 square kilometers of pristine tropical rainforest**.
- **Destruction of Carbon Sinks:** Official environmental impact assessments state that between **8.6 lakh to 9.6 lakh trees** are slated to be chopped down, threatening a highly dense, globally recognized endemic biodiversity zone.
- **Inadequate Mitigation:** Critics and the opposition argue that the government's plan for "compensatory afforestation" elsewhere cannot replicate or replace the complex ecosystem of a centuries-old island rainforest.

2. Threat to Marine Life and Galathea Bay

- **Leatherback Turtles: Galathea Bay**, the designated site for the international container transshipment terminal, is one of the most critical nesting grounds for the giant leatherback turtle in the Indian Ocean.
- **Habitat Alteration:** The project calls for constructing massive breakwaters that will restrict the bay's natural 3-km-wide opening to just 300 meters, severely disrupting the wave and sediment dynamics vital for turtle nesting.
- **Coral Reef Degradation:** Construction and increased maritime traffic directly threaten the surrounding coral ecosystems, which border the highly sensitive global Coral Triangle.

3. Tribal Rights and Displacement Risk

- **Lack of Local Consent:** Gandhi met with indigenous **Nicobarese** and **Shompen** community leaders who claim they were never properly consulted. There are allegations that tribal council members were coerced into signing land clearance certificates.
- **Demographic Influx:** The master plan aims to bring around **650,000 settlers** to an island currently inhabited by only a few thousand people. Experts warn this demographic shift could result in the cultural erasure of indigenous groups.

4. Severe Water Scarcity

- **Limited Freshwater:** Geological studies point out that Great Nicobar lacks robust underground aquifers.
- **Aquifer Vulnerability:** The island relies on shallow, rainfall-fed groundwater that is highly susceptible to seawater intrusion. Introducing a mega-township and airport risks exhausting the island's sustainable freshwater supply.

5. High Seismic Vulnerability

- **Earthquake Zone:** The island is situated in **Seismic Zone V**, making it highly prone to severe earthquakes and tsunamis. Constructing heavy industrial infrastructure, an airport, and a power plant in a volatile tectonic zone raises major safety and long-term sustainability concerns.

Political and Government Response

Following the political backlash from the visit, the Union Ministry issued a comprehensive fact sheet to serve as damage control. The government maintains that the project is vital to secure India's strategic maritime presence against China near the Malacca Strait. They assert that the National Green Tribunal (NGT) has cleared the project and that "calibrated safeguards" are active to protect both the local environment and indigenous populations. However, opposition parties continue to demand an open parliamentary forum debate on the project's ecological cost.

9th May: Calcutta HC to Hear Pleas Challenging the ₹92,000-Crore Great Nicobar Project:

- *The Hindu* reported that the **Calcutta High Court officially overruled objections raised by the Central Government**, clearing the way to hear public interest litigations (PILs) challenging the massive infrastructure project in **Great Nicobar Island**.
- **The Legal Challenge:** Former IAS officer Meena Gupta and environmental groups argued that the statutory **Environmental Impact Assessment (EIA)** completely ignored crucial forest and tribal land rights.

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Nepal has objected to India and China organizing the 2026 Kailash Manasarovar Yatra through the Lipulekh Pass, asserting that the route traverses territory belonging to Nepal. Kathmandu maintains that the region is part of its sovereign territory under the 1816 Treaty of Sugauli, while India, citing the route's traditional use since 1954, rejects this claim and labels it an artificial expansion of territory.

Nepal has raised concerns over India and China utilizing the Lipulekh Pass for the 2026 Kailash Mansarovar Yatra without its consent, viewing it as a breach of territorial sovereignty. Kathmandu holds that the area is part of its territory based on the 1816 Treaty of Sugauli and has formally protested against the use of the route for both pilgrimage and bilateral trade.

1. The Two Official Indian Government Passes

The Ministry of External Affairs (MEA) officially organizes the pilgrimage through two distinct mountain passes:

- **Lipulekh Pass (Uttarakhand)**: Positioned at 17,500 feet, this is the most ancient, traditional, and heavily traversed route. Historically, it required a brutal 90-km trek on foot or mules before a motorable highway was constructed up to the pass.
- **Nathu La Pass (Sikkim)**: Located at 14,140 feet, this second official route was opened by agreement between India and China in **2015**. It was introduced specifically as a scenic, motorable alternative requiring very little trekking, making it the preferred path for senior citizens

The **Lipulekh Pass** is located in the **Kumaon Himalayas (it is a longitudinal division of Himalayas that contains all the three Himalayan ranges), but actually Lipulekh lies in the GREATER HIMALYAS mountain range**.

Is Lipulkeh between Uttarakhand and Nepal?

Technically, **no, it is not directly between Uttarakhand and Nepal**. Physically and administratively, it connects the Pithoragarh district of **Uttarakhand (India) with the Tibet Autonomous Region of China**.

However, it is a **strategic tri-junction** where the borders of India, Nepal, and China meet:

- **The Border Location**: The pass sits right at the intersection of all three nations.
- **The Contention**: The southern side of the pass—known as the **Kalapani territory**—is administered by India but actively claimed by Nepal. Nepal states that the true border lies further west along the Limpiyadhura range, which is why the pass is often a point of diplomatic tension between Uttarakhand and Nepal.

Major Rivers via Lipulekh Pass:

- **The Kali River (also known as Mahakali or Sharda)**: This is the most crucial river flowing directly along this route. It serves as the natural, international border dividing India and Nepal. The road built by India runs right alongside the deep gorges of this furious river.

1. **GIR FORESTS (Gujarat: Kathiawar Peninsula):**

The health and ecological stability of the **Gir Forest (it is in Gir Range of Gujarat which has Girnar hills as its part)**—the world's only natural habitat for the endangered Asiatic lion—face critical threats from infectious disease outbreaks, overpopulation-induced habitat overflow, and aggressive human encroachment.

While the Asiatic lion population grew to a historic high of **891**, the high density within a single geographic zone has severely compromised the forest's ecosystem and wildlife health

Note: the Somnath Temple is very close to the Gir Forest.

- Girnar temples (a spectacular cluster of sacred Hindu and Jain temples built across the five jagged peaks of Mount Girnar in Junagadh, are near the Gir forest

Rivers passing via Gir Forests:

The Gir Forest is nourished by seven major perennial rivers that act as the vital ecological lifelines of the sanctuary. These river streams run continuously throughout the year, providing a reliable water supply for the endangered Asiatic lions and thousands of other wildlife species during Gujarat's harsh, dry summer seasons.

The 7 Lifelines (RIVERS) of Gir:

The seven primary rivers flowing through the Gir National Park region are:

- Hiran River: (this Hiran is NOT the Hiran that is the largest right bank tributary of Narmada)
- Shetrunji River
- Shingoda River
- Machhundri River
- Raval River
- Dhatarvadi (Datardi) River
- Ambajal River

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Invasive Species Paradigm:

In an article in the Hindu, Suprabha Seshan argues that **Invasive Alien Species (IAS)** are symptoms of ecosystems already degraded by human activity—**specifically massive nitrogen** overload from **urea and intense grazing pressures**—rather than the root cause of ecological damage. The article contends that massive, expensive eradication campaigns often fail by focusing on removing visible plants instead of

addressing underlying environmental degradation, suggesting that these species also provide uncredited, compensatory ecological benefits like **soil stabilization**.

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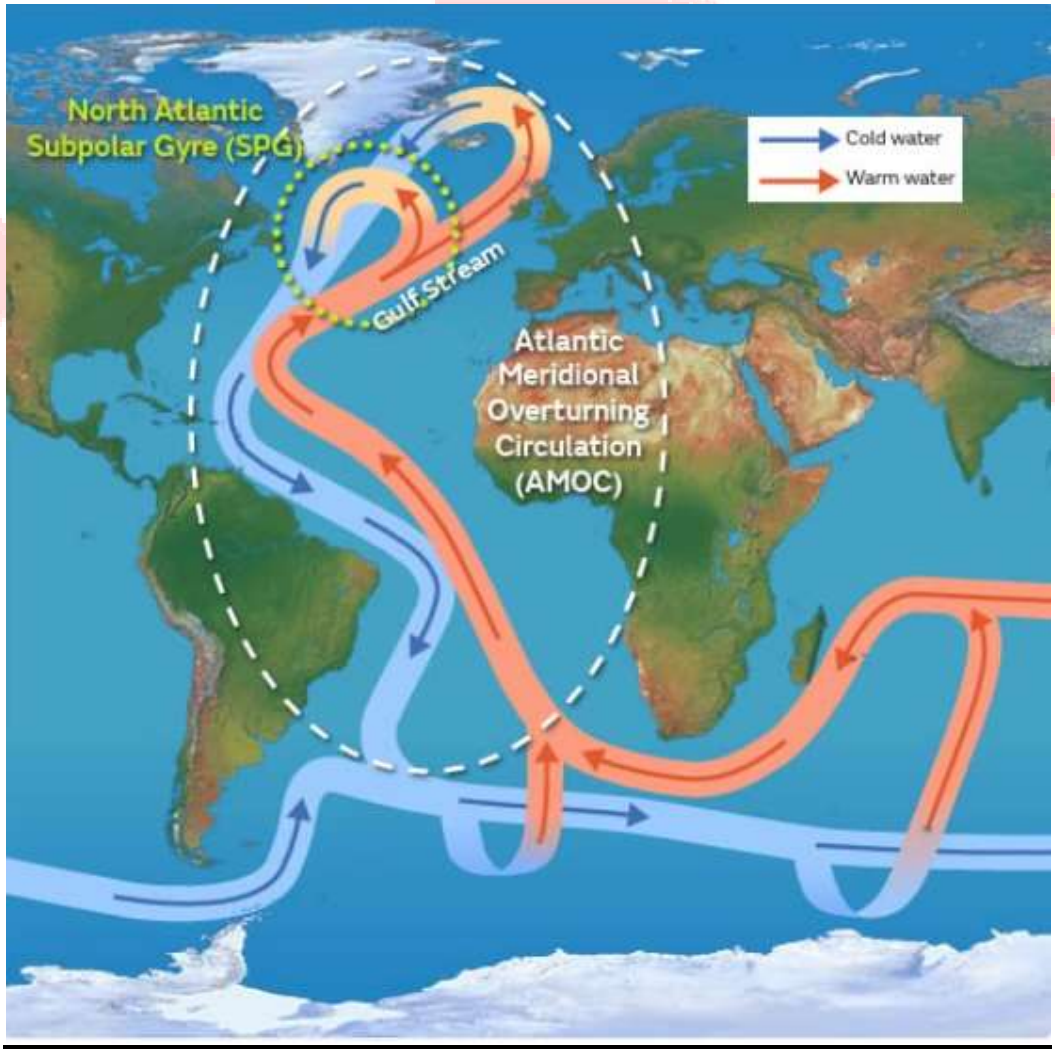
Sharp Decline of AMOC Ocean Currents Threatens Indian Monsoon

- **The News:** a newly published study in *Nature*, warning that the **Atlantic Meridional Overturning Circulation (AMOC)** is weakening rapidly due to accelerated climate change.
- **The Mechanism:** Rising temperatures are rapidly melting Arctic and Greenland glaciers. The sudden influx of fresh water lowers the salinity and density of the ocean water, preventing it from sinking properly and disrupting the global "conveyor belt" heat circulation system.
- **Impact on India:** Geographers warned that a prolonged AMOC slowdown will shift tropical rainfall belts southward, reducing moisture flow from the Arabian Sea. This disruption risks a significantly **weakened or delayed southwest monsoon**, threatening India's rain-fed agricultural zones, crop security, and urban water availability.



Uttar Pradesh Integrates Solar Energy with Rural Water Framework (Jal Jeevan Mission)

- **The News:** The Uttar Pradesh government announced a sweeping shift toward green utility infrastructure.
- **The Strategy:** The state is strategically deploying **33,157 solar-based rural water supply schemes** across 67,013 villages under the *Jal Jeevan Mission*.
- **Environmental Impact:** By shifting water-pumping infrastructure away from fossil-fuel-reliant grids to renewable solar energy, the initiative aims to drastically cut carbon emissions while securing uninterrupted drinking water for over 2.07 crore rural households.

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Century-Old Forest School in Jawadhu Hills Hits Record 98% Pass Rate

- **The News:** In a major success story for indigenous forest communities, *The Hindu* highlighted the **Government Forest Higher Secondary School** located in the remote Pudur Nadu region of the **Jawadhu Hills (in Atlas as Javadi hills), (Northern part of Tamil Nadu in SE India)**.
- **Impact:** Serving 18 remote tribal hamlets deep within the forest, the historic institution achieved a stellar 98% pass rate in the state's *Plus Two* board examinations, demonstrating the compounding success of targeted tribal education programs within protected forest reserves.

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The Tamil Nadu Forest Department has released 1.65 lakh Olive Ridley hatchlings this season, protecting eggs through 35 coastal hatcheries to combat urban pressure. Sporadic nesting occurs across Tamil Nadu's coastline, with high-density zones in Chennai, Cuddalore, and Nagapattinam.

Gahirmatha (Odisha) vs Tamil Nadu Coast (w.r.t. Olive Ridley Turtles)While both regions are vital corridors for the conservation of vulnerable Olive Ridley sea turtles along India's east coast, the scale and biological behavior observed at Gahirmatha are completely different from those in Tamil Nadu.

The primary ecological and administrative distinctions between the two coastal ecosystems include:

1. Nesting Behavior: Mass vs. Sporadic

- **Gahirmatha (Odisha):** World-famous for **Arribada** (Spanish for "arrival"), a synchronized **mass nesting** phenomenon where hundreds of thousands of female turtles emerge from the sea simultaneously over a span of just a few nights to lay their eggs on the same beach.
- **Tamil Nadu Coast:** Characterized almost entirely by **sporadic or solitary nesting**. Individual turtles crawl ashore independently at scattered locations along the shoreline over a prolonged nesting season, rather than congregating in a massive, single-night wave.

2. The Scale of Populations

- **Gahirmatha:** Stands as the **world's largest mass nesting rookery** for Olive Ridleys. A single Arribada season routinely witnesses anywhere from **2 lakh to over 5 lakh turtles** nesting within a highly concentrated area.
- **Tamil Nadu:** Operates on a much smaller, decentralized scale. The state's record-breaking nesting season yielded about **1,985 recorded nests** and roughly 1.65 lakh safely released hatchlings across the entire state coastline, which is a fraction of a single night's layout in Odisha.

- **3. Conservation Strategy & Infrastructure**
- **Gahirmatha:** Managed as the **Gahirmatha Marine Sanctuary**, a highly protected offshore and onshore zone. Because of the intense density of eggs laid in one spot, the primary conservation challenge is preventing turtles from accidentally digging up existing nests. The Indian Coast Guard runs major offshore enforcement programs like **Operation Olivia** to keep commercial trawlers completely out of the breeding waters.
- **Tamil Nadu:** Relies heavily on a widespread network of **artificial beach hatcheries** run by the Forest Department and local fishing community volunteers. Because the nests are scattered across public tourist beaches (like Chennai's ECR coast or Nagapattinam), volunteers walk the coastline every night to physically collect vulnerable eggs and relocate them to enclosed hatcheries to shield them from stray dogs, poachers, and heavy urban light pollution.

Summary Comparison

Features	Gahirmatha (Odisha)	Tamil Nadu Coast
Nesting Style	**Arribada** (Mass Nesting)	**Sporadic** (Solitary/Scattered)
Volume Scale	Lakhs of turtles simultaneously	Thousands of nests across months
Primary Site	Estuary beaches near Bhitarkanika	Nagapattinam, Chennai, & Cuddalore
Core Threat	Commercial trawlers & nest overcrowding	Urban lights, stray animals, & beach erosion

The **Olive Ridley sea turtle (***Lepidochelys olivacea***)** is the smallest and most abundant sea turtle species in the world, and India's eastern coastline serves as its most critical global breeding ground.

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Severe Heatwave Index

Meteorological updates highlighted an early-onset summer where cities in Uttar Pradesh and Rajasthan surged past 45°C. Weather experts cited by *The Hindu* mapped geographic hazards concerning **Wet Bulb Temperature** thresholds and the building signature of a "Super El Niño" affecting the upcoming monsoon season.

Wet-bulb temperature (WBT) constitutes a critical, combined measure of ambient heat and relative humidity that determines the threshold of human heat stress, with a 35 degree Celcius) WBT representing the absolute limit of human tolerance. Unlike dry-bulb temperatures, high WBTs in humid conditions impede sweat evaporation, creating severe, life-threatening conditions for outdoor workers and vulnerable populations, often triggering mandated "heat halts" in regions like the Indo-Gangetic Plains

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HISTORY, ART & CULTURE

Koraga Tribe: Preserving Cultural Identity Amid Development Challenges

Why in News?

The Koraga tribe recently gained attention after global discussions on housing inequality highlighted the challenges faced by vulnerable indigenous communities. Reports have pointed towards persistent social exclusion, inadequate housing and limited access to essential services among several tribal populations, bringing the Koragas into focus.

Why is it Important?

The Koragas are recognised as a Particularly Vulnerable Tribal Group (PVTG), one of the most marginalized sections among India's tribal communities. Their socio-economic conditions provide valuable insights into issues of tribal welfare, social justice and inclusive development.

The community is primarily concentrated in the coastal districts of Karnataka, including Dakshina Kannada and Udupi, with smaller populations in Kerala's Kasaragod region.

The Unique Feature: A Rare Matrilineal Tribal Society

One of the most distinctive characteristics of the Koraga community is its matrilineal social system. Unlike many tribal and non-tribal societies in India, lineage and family identity are traditionally traced through the maternal line.

The community is organised into clan-based groups known as *Bali*, which play an important role in regulating social relationships and maintaining cultural traditions. Village administration is generally guided by respected elders known as *Mooppans*, who help resolve disputes and ensure community welfare.

Culture and Traditional Livelihoods

The Koragas have maintained a close relationship with forests and natural resources for generations. Agriculture, collection of forest produce and handicrafts continue to support their livelihoods.

Basket weaving remains one of their most recognised traditional skills and reflects the community's rich artisanal heritage. Such practices not only provide economic support but also help preserve indigenous knowledge systems.

Cultural Identity Through Music

Music and ritual performances form an inseparable part of Koraga cultural life. Traditional instruments such as the *Dholu* (drum) and *Voote* (flute) accompany festivals, ceremonies and community gatherings.

The rhythmic drumbeats of the Dholu are regarded as a powerful symbol of Koraga identity and collective memory, connecting present generations with their ancestral traditions.

Religious Beliefs

The Koragas follow a unique blend of Hindu traditions and indigenous spiritual practices. Bhuta worship occupies a prominent place in their belief system, reflecting a worldview that emphasises harmony between human beings, nature and supernatural forces.

Contemporary Challenges

Despite welfare initiatives, many Koraga settlements continue to face challenges related to housing, healthcare, education and livelihood security. Their experience highlights the need for development strategies that combine economic progress with cultural preservation and social inclusion.

Idu Mishmi Tribe: Indigenous Conservation and Ecological Wisdom

The Idu Mishmi tribe of Arunachal Pradesh offers a remarkable example of how indigenous belief systems can contribute to environmental conservation. Their traditional worldview demonstrates that cultural values and biodiversity protection can coexist in a mutually reinforcing relationship.

The Idu Mishmis primarily inhabit the Dibang Valley region and parts of Lohit district in Arunachal Pradesh. Living in the rugged Mishmi Hills near the India–China border, they have developed a unique cultural identity shaped by their mountainous environment. The community is known for its distinctive attire, traditional hairstyles and intricate artistic designs woven into their clothing.

Weaving and craftsmanship constitute important components of the local economy, while subsistence agriculture continues to support many households. The community's language, Idu Mishmi, is considered endangered, highlighting the need for efforts aimed at preserving both linguistic and cultural diversity.

A defining feature of Idu Mishmi society is its profound connection with nature. Traditionally animistic, the community views forests, rivers and wildlife as integral elements of a sacred ecological order. Among all animals, the tiger occupies a special place in their cosmology. According to tribal mythology, humans and tigers share a common ancestral origin, leading to the belief that tigers are the "elder brothers" of the community.

This belief is reinforced through a traditional ethical code known as Iyu-ena'. The system contains a series of myths, customs and taboos that regulate human interaction with wildlife. It discourages the hunting of several species and imposes a strict prohibition on killing tigers. Such cultural practices have unintentionally functioned as effective conservation mechanisms for generations.

The tribe celebrates vibrant festivals such as Reh and Ke-Meh-Ha, which reinforce social cohesion and cultural identity. Traditional rice beer, known as Ebu, is often associated with ceremonial and festive occasions. Socially, the Idu Mishmi community follows a patriarchal and patrilineal system, with inheritance generally passing from father to son.

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Anal Naga Tribe: A Traditional Model of Community-Led Forest Conservation

Why in News?

The Anal Naga tribe of Manipur has recently attracted attention for its traditional forest governance systems known as Uju and Rangkang. These indigenous conservation practices are being recognised as successful examples of community-led environmental management at a time when biodiversity loss and climate change have become global concerns.

Why is it Important?

The significance of the Anal Naga tribe extends beyond its cultural identity. The community has developed an effective mechanism for balancing ecological protection with human needs through customary institutions that regulate forest use and resource extraction.

Their conservation model demonstrates how local communities can play a central role in protecting forests without relying solely on state intervention. Such systems are increasingly relevant in discussions related to sustainable development, climate resilience and participatory governance.

The Unique Feature: Uju and Rangkang

The most remarkable aspect of Anal Naga society is its dual forest management system.

Uju refers to community-managed forests located near villages. These forests are protected through collective decision-making, with village elders regulating resource use. Commercial logging is prohibited, while the collection of forest produce is permitted only for household needs.

Rangkang, on the other hand, represents untouched forest zones deliberately left undisturbed for generations. These areas act as natural biodiversity reservoirs and contribute to ecological regeneration.

Together, Uju and Rangkang create a sustainable conservation framework that combines active management with complete ecological protection.

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Fort St. George: The Birthplace of British Power in India

Why in News?

Fort St. George recently came into focus after the Chief Minister of Tamil Nadu visited the historic complex and reviewed several important locations within its premises. The visit has renewed attention towards one of India's most significant colonial-era landmarks.

Why is it Important?

Fort St. George occupies a unique place in Indian history as the first major English fortress established in the Indian subcontinent. Constructed by the British East India Company in 1644, it marked the beginning of a permanent British presence in southern India and eventually became a key centre of colonial administration.

The fort functioned not only as a military outpost but also as a major commercial hub that enabled the East India Company to expand its influence along the Coromandel Coast. Over time, the settlement surrounding the fort developed into the city of Madras, now known as Chennai.

The Unique Feature: Where a Trading Company Became a Political Power

What makes Fort St. George particularly significant is that it symbolizes the transformation of the British East India Company from a trading enterprise into a territorial power.

Initially established to safeguard commercial interests, the fort gradually evolved into an administrative and military headquarters from where British influence expanded across large parts of India. In many ways, the story of British colonial rule in India can be traced back to this single fortification.

Architectural and Historical Significance

Built primarily using brick and stone, the fort was designed with strong defensive walls and strategic gateways capable of withstanding attacks. Its rectangular layout reflects European military architecture of the seventeenth century.

The complex houses several historically important structures, including St. Mary's Church, regarded as the oldest Anglican church in India. Another major attraction is the Fort Museum, which preserves paintings, weapons, uniforms, manuscripts and other artefacts from the colonial era.

Present-Day Relevance

Unlike many historical forts that serve only as tourist attractions, Fort St. George continues to play an active administrative role. It currently houses the Tamil Nadu Secretariat, Legislative Assembly and several government departments, making it one of the rare heritage sites in India that remains a functioning centre of governance.

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Pashupatinath Temple: A Sacred Symbol of India–Nepal Civilizational Ties

Why in News?

Pashupatinath Temple recently came into the spotlight after India gifted a special variety of sandalwood to Nepal for use in religious rituals at the shrine. The gesture reflects the deep cultural and spiritual bonds that continue to connect the people of India and Nepal.

Why is it Important?

Pashupatinath Temple is one of the most revered Hindu pilgrimage centres in the world and an important symbol of the shared civilizational heritage of South Asia. Located on the banks of the Bagmati River near Kathmandu, the temple attracts millions of devotees, saints and pilgrims every year.

Dedicated to Lord Shiva in his form as *Pashupati*—the protector of all living beings—the temple occupies a central place in Shaivite traditions. Its spiritual significance extends beyond Nepal and resonates deeply among Hindu communities across India and other parts of the world.

The Unique Feature: A Temple That Connects Two Nations

What makes Pashupatinath exceptional is that it is not merely a religious monument but also a cultural bridge between India and Nepal. The temple represents centuries of uninterrupted spiritual exchanges, pilgrimage networks and people-to-people connections between the two countries.

For this reason, any development related to the shrine often carries diplomatic and cultural significance, making it an important element of India's neighbourhood diplomacy and soft power outreach.

Architectural and Historical Significance

The temple complex has a long and fascinating history. Although the site is believed to have been a place of worship since ancient times, the earliest recorded temple dates back to the early centuries of the Common Era. The present structure emerged after repeated reconstructions over centuries.

Built in the traditional Nepalese pagoda style, the temple is distinguished by its tiered roof, elevated plinth and exquisite craftsmanship. The main structure features four silver-covered doors facing different directions, symbolising universal accessibility to the divine.

Its two-storeyed roof is made of copper and adorned with gold, enhancing its grandeur. Among the most striking features of the complex is the magnificent golden statue of Nandi, the sacred bull and vehicle of Lord Shiva, which stands as a symbol of devotion and spiritual strength.

UNESCO Recognition

The temple was included in the UNESCO World Heritage List in 1979, recognising its outstanding cultural, religious and architectural value. The designation has helped strengthen efforts aimed at preserving the site and its associated traditions.

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Muga Silk and Shirui Lily Silk: Weaving Heritage into Diplomacy

Why in News?

Muga Silk and Shirui Lily Silk recently gained attention after the Prime Minister of India presented stoles made from these unique textiles to the Prime Minister of Italy during a diplomatic engagement. The gesture highlighted India's rich textile heritage while showcasing the role of traditional crafts in cultural diplomacy.

Why is it Important?

India's handloom and silk traditions represent centuries of indigenous knowledge, craftsmanship and cultural continuity. By selecting region-specific textiles as diplomatic gifts, India not only promotes its cultural identity but also brings global attention to local artisans and traditional industries.

The choice of Muga Silk from Assam and Shirui Lily-inspired Silk from Manipur reflects the country's commitment to celebrating its diverse cultural landscapes through soft power and heritage-based diplomacy.

The Unique Feature: The World's Natural Golden Silk

Muga Silk is often referred to as the "Golden Silk of Assam" because of its naturally occurring golden sheen. Unlike many luxury textiles that require artificial processing or dyeing, Muga silk possesses a unique natural colour that becomes more lustrous with age.

Produced from the silkworm *Antheraea assamensis*, which feeds primarily on Som and Soalu plants, Muga silk is found almost exclusively in Assam's Brahmaputra Valley. Its rarity, strength and durability have made it one of India's most prized textile traditions.

The silk is widely used in traditional Assamese attire, including mekhela chadors, sarees and ceremonial garments. Recognising its uniqueness and regional identity, Muga Silk received the Geographical Indication (GI) tag in 2007.

Shirui Lily Silk: A Textile Inspired by a Rare Himalayan Flower

Shirui Lily Silk derives its inspiration from the famous Shirui Lily, a rare flower that blooms only in the Shirui Hills of Manipur. Known for its delicate pale pink and white petals, the flower is deeply associated with the cultural identity of the Tangkhul Naga community.

For local communities, the Shirui Lily symbolises purity, resilience and heritage. Interestingly, lilies also hold significant cultural value in Italy, where they have historically represented grace, beauty and artistic refinement. This shared symbolism made the textile an especially meaningful diplomatic gift.

Cultural Diplomacy and Soft Power

The gifting of these textiles demonstrates how traditional crafts can serve as instruments of international engagement. Beyond their economic value, such cultural products communicate stories of local communities, biodiversity, craftsmanship and national identity.

In an increasingly interconnected world, heritage-based diplomacy allows nations to strengthen bilateral relationships through cultural appreciation and mutual respect.

Kumbhalgarh Fort: The Great Wall of India

Why in News?

Kumbhalgarh Fort recently attracted international attention after its massive defensive wall was recognised among the world's longest surviving fortification systems. Often referred to as the "Great Wall of India," the fort continues to highlight India's rich architectural and military heritage.

Why is it Important?

Kumbhalgarh Fort is one of the most formidable hill forts of medieval India and a symbol of the strength of the Mewar Kingdom. Built during the 15th century by Rana Kumbha, the fort played a crucial role in safeguarding the rulers of Mewar during periods of conflict and political instability.

Strategically located in the Aravalli Hills of Rajasthan, the fort provided both military security and geographical advantage. Its location allowed rulers to monitor surrounding territories while remaining protected by difficult terrain and strong fortifications.

The Unique Feature: India's Own Great Wall

The most remarkable feature of Kumbhalgarh Fort is its massive defensive wall stretching over 36 kilometres. This extraordinary structure is considered the second-longest continuous defensive wall in the world after the Great Wall of China.

The wall's width is so substantial at certain points that several horses could reportedly move abreast on its surface. This engineering achievement reflects the advanced military planning and architectural expertise of medieval Rajasthan.

Historical Significance

Kumbhalgarh served as a refuge for Mewar rulers during invasions and military crises. It is also celebrated as the birthplace of Maharana Pratap, one of India's most revered warrior kings, who became a symbol of resistance against Mughal expansion.

The fort's defences proved exceptionally strong throughout history. Historical records suggest that it was breached only once, largely due to the scarcity of drinking water rather than military weakness.

Architectural and Cultural Heritage

The fort complex contains more than 360 temples, including both Hindu and Jain shrines, demonstrating the religious diversity of the region. It also houses several palaces, reservoirs and gateways that reflect the architectural brilliance of the Rajput era.

Recognising its outstanding cultural value, Kumbhalgarh has been included in UNESCO's Hill Forts of Rajasthan World Heritage Site.

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Matua Community: Faith, Social Reform and Citizenship Debate

Why in News?

The Matua community has once again come into public discussion due to concerns regarding citizenship documentation and the implementation of the Citizenship Amendment Act (CAA). The issue has drawn attention to the historical migration experiences and socio-political significance of the community in eastern India.

Why is it Important?

The Matuas constitute one of the most influential Scheduled Caste communities in West Bengal and possess considerable social and political significance. Their history reflects larger themes of migration, identity, social justice and citizenship that continue to shape contemporary Indian politics.

The community traces its origins to the nineteenth-century Matua movement founded by Harichand Thakur. The movement emerged as a response to caste discrimination and sought to promote dignity, equality and social empowerment among marginalised sections of society.

The Unique Feature: A Reform Movement Against Caste Hierarchy

What distinguishes the Matua movement is its emphasis on social equality and spiritual inclusiveness. Harichand Thakur challenged rigid caste practices and advocated a faith centred on human dignity rather than ritual hierarchy.

The community believes that all individuals are equal before God and rejects distinctions based on caste, creed or social status. This message transformed the movement into both a religious and social reform initiative.

Religious and Cultural Beliefs

The Matua faith is monotheistic and focuses on devotion, meditation and spiritual discipline. Unlike many traditional Hindu sects, it places limited emphasis on elaborate Vedic rituals.

Devotional singing and collective worship occupy a central place in religious practice. The community's principal scripture, *Shrishriharililamrta*, preserves the teachings and philosophy of the movement.

Historical Background and Migration

The Partition of Bengal in 1947 significantly altered the demographic and social landscape of the Matua community. Large numbers migrated from East Pakistan, later Bangladesh, to India in search of security and better opportunities.

This migration experience remains central to the community's identity and explains its continuing interest in issues related to citizenship, documentation and legal recognition.

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Anaimangalam Copper Plates: A Window into Chola Maritime Power

Why in News?

The Anaimangalam Copper Plates, also known as the Leiden Plates, were recently returned to India by the Netherlands. Their return marks an important milestone in the recovery of India's cultural heritage and has renewed interest in the maritime achievements of the Chola Empire.

Why is it Important?

The inscriptions provide rare evidence of South India's extensive maritime networks during the medieval period. They reveal how the Chola rulers maintained diplomatic, commercial and cultural relations with Southeast Asian kingdoms across the Indian Ocean.

The plates are also significant because they demonstrate the administrative sophistication and religious tolerance that characterised the Chola state at its zenith.

The Unique Feature: Proof of India's Maritime Globalisation

Unlike many royal inscriptions that focus solely on military victories, the Anaimangalam Copper Plates document international cultural exchanges and economic connectivity.

The records describe grants made to the Chudamani Vihara, a Buddhist monastery at Nagapattinam established by a ruler of the Srivijaya kingdom in present-day Indonesia. This illustrates how South India functioned as an active participant in transnational trade and religious networks centuries before the modern era.

Historical Significance

The plates date to the reigns of Rajaraja Chola I and Rajendra Chola I. Written in both Sanskrit and Tamil, they combine royal genealogy with detailed administrative records.

The inscriptions reveal the close relationship between political authority, religion and maritime commerce. They also highlight the Cholas 'role in promoting cultural interactions across the Bay of Bengal region.

Heritage and Repatriation

The plates remained in the Netherlands for centuries after being taken during the colonial period. Their return reflects growing international efforts to restore historically significant artefacts to their countries of origin.

Tughlaqabad Fort: Delhi's Forgotten Fortress

Why in News?

Tughlaqabad Fort has recently been in the spotlight due to ongoing concerns regarding encroachments and heritage conservation. Judicial monitoring of preservation efforts has highlighted the challenges involved in protecting one of Delhi's most important medieval monuments.

Why is it Important?

Tughlaqabad Fort represents the rise of the Tughlaq Dynasty and the emergence of a new phase in the history of the Delhi Sultanate. Built in the early fourteenth century, it reflects the military priorities and architectural innovations of the period.

The fort was designed not merely as a defensive structure but as an entire fortified city capable of supporting administration, military operations and urban life.

The Unique Feature: A City Built for War

Unlike many Indian forts that evolved gradually, Tughlaqabad was conceived as a planned military city. Massive stone walls, strategic bastions, fortified gates and water storage systems were designed to withstand prolonged sieges.

Its architecture reflects a shift toward functionality and military strength rather than decorative grandeur.

Historical Significance

Founded by Ghiyas-ud-din Tughlaq, the fort became the third historic city of Delhi. Although its active life was relatively short, it remains one of the most impressive examples of Sultanate architecture.

The fort is also associated with the famous legend involving the Sufi saint Nizamuddin Auliya, whose alleged curse is said to have contributed to the city's abandonment. While historians regard this as folklore, the story continues to be an important part of Delhi's cultural memory.

Architectural Features

The complex includes a citadel, residential areas, administrative structures and sophisticated rainwater harvesting systems. The nearby tomb of Ghiyas-ud-din Tughlaq remains one of the finest examples of Indo-Islamic funerary architecture.

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Qom: The Spiritual Heart of Shia Islam

Why in News?

Qom has recently gained attention due to the presence of a large Indian community residing in the city, including thousands of students pursuing religious and academic studies in Iran.

Why is it Important?

Qom is among the most influential centres of Shia Islamic learning in the world. The city plays a central role in shaping religious thought, theological scholarship and clerical leadership across many Shia-majority regions.

Its importance extends beyond religion, as it also occupies a significant place in the political history of modern Iran.

The Unique Feature: Iran's Religious Capital

While Tehran serves as Iran's political capital, Qom functions as its spiritual capital. The city hosts some of the country's most important seminaries and theological institutions, attracting students from across Asia, Africa and the Middle East.

This concentration of religious scholarship has given Qom considerable influence in shaping both religious discourse and public policy.

Historical Significance

Qom emerged as a major centre of Shia Islam during the early medieval period and later became one of the most important pilgrimage destinations in the Islamic world.

The city gained additional prominence during the Iranian Revolution of 1979. It served as a stronghold of revolutionary activity and later became closely associated with Ayatollah Ruhollah Khomeini, the architect of the Islamic Republic of Iran.

Cultural and Economic Role

Apart from its religious significance, Qom is also an important commercial and industrial centre. Its economy includes petrochemicals, cement production, textiles and trade activities, making it a vital component of Iran's domestic economy.

Thadou Tribe: Culture, Identity and the Dynamics of North-East India

Why in News?

The Thadou tribe recently came into the spotlight after the killing of several church leaders in Manipur's Kangpokpi district. The incident has once again drawn attention to the social and ethnic complexities of the state and the significance of tribal communities in the region.

Why is it Important?

The Thadou are among the largest tribal communities of Manipur and form an important part of the broader Chin-Kuki-Mizo cultural group spread across India and Myanmar. Their demographic presence, cultural traditions and political significance make them an important community in the socio-cultural landscape of Northeast India.

Understanding the Thadou tribe is essential for comprehending issues related to tribal identity, ethnic relations and regional politics in the Northeast.

The Unique Feature: A Tribe Beyond Borders

One of the most distinctive features of the Thadou community is its transnational character. Members of the tribe are found not only in Manipur but also in neighbouring states and across the border in Myanmar.

This shared cultural space has helped preserve common traditions, language and customs despite political boundaries.

Social and Cultural Life

The Thadou language belongs to the Tibeto-Burman family and serves as an important marker of community identity. Traditionally, villages are established on hill slopes and ridges, reflecting adaptation to the region's mountainous terrain.

The village chief historically occupied a central role in governance, dispute resolution and community administration. Public platforms located near the chief's residence often served as centres of discussion and collective decision-making.

Economy and Livelihood

Agriculture remains the backbone of the Thadou economy. Jhum or shifting cultivation continues to be widely practised, supplemented by hunting, fishing and livestock rearing.

These activities reflect the community's close relationship with the natural environment and traditional resource-use practices.

Religious Transformation

Historically, the Thadou followed an animistic belief system centred on nature spirits and a supreme deity known as Pathen. Over time, Christianity became the dominant religion, significantly influencing education, social organisation and community life.

The annual Hun-Thadou Festival continues to celebrate the tribe's cultural heritage and collective identity.

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Baiga Tribe: India's First Community to Receive Habitat Rights

Why in News?

The Baiga tribe recently came into focus after several children belonging to the community were rescued from bonded labour in Chhattisgarh. The incident has highlighted the socio-economic challenges that continue to affect Particularly Vulnerable Tribal Groups (PVTGs) despite constitutional protections and welfare schemes.

Why is it Important?

The Baigas are among India's most distinctive indigenous communities and are recognized as a Particularly Vulnerable Tribal Group. Their traditional lifestyle, ecological knowledge and close dependence on forests make them an important case study in tribal welfare, conservation and sustainable living.

The tribe is widely regarded as one of the oldest forest-dwelling communities of central India.

The Unique Feature: First Tribe to Receive Habitat Rights

The most significant distinction of the Baiga community is that it became the first tribal group in India to be granted habitat rights under the Forest Rights Act framework.

This recognition acknowledges not only their dependence on forests for livelihood but also their cultural, spiritual and historical relationship with the landscape. It represents a landmark step in protecting indigenous rights and traditional ways of life.

Traditional Lifestyle and Culture

The Baigas are primarily found in Madhya Pradesh, Chhattisgarh and neighbouring regions. Traditionally, they practised a form of shifting cultivation known as Bewar, which was adapted to local ecological conditions.

Their cultural traditions remain deeply rooted in nature. Tattooing occupies a special place in Baiga society and serves as a marker of identity, beauty and social belonging. Different tattoos are associated with age, status and life stages.

Relationship with Forests

The Baigas view forests not merely as economic resources but as sacred spaces connected to their ancestors and cultural heritage.

The Mahua tree holds immense importance in their daily life. It contributes to food, traditional medicine, cultural ceremonies and local economic activities, making it one of the most valued species in Baiga society.

Contemporary Challenges

Despite legal recognition and welfare measures, many Baiga settlements continue to face challenges related to education, healthcare, livelihood opportunities and social vulnerability. Incidents such as bonded labour

highlight the need for targeted interventions aimed at protecting tribal rights and improving human development indicators.

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Guru Ravidas: The Saint of Equality and the Vision of Begumpura

Why in News?

Guru Ravidas recently came into the national spotlight after the inauguration and renaming of Adampur Airport in Punjab in his honour. The move reflects the continuing relevance of his teachings and his immense contribution to India's spiritual and social reform traditions.

Why is it Important?

Guru Ravidas occupies a distinguished position in the Bhakti Movement and is remembered not only as a saint-poet but also as a powerful advocate of social equality and human dignity. His teachings challenged caste-based discrimination and promoted a vision of society founded on justice, compassion and spiritual freedom.

Centuries after his lifetime, his ideas continue to inspire movements dedicated to social inclusion and equality.

The Unique Feature: The Dream of "Begumpura"

Among Guru Ravidas's most remarkable contributions is his concept of **Begumpura**, literally meaning "the city without sorrow."

In his vision, Begumpura was an ideal society free from fear, discrimination, social hierarchy and suffering. Every individual would enjoy dignity, freedom and equal opportunities irrespective of birth or social status. For many scholars, Begumpura represents one of the earliest expressions of an egalitarian social order in Indian intellectual history.

Life and Historical Background

Born near Varanasi in the fifteenth century, Guru Ravidas emerged during a period marked by rigid social divisions and religious orthodoxy. Influenced by the broader Bhakti tradition, he emphasized direct devotion to God over ritualism and social privilege.

He is traditionally regarded as a disciple of the Bhakti saint Ramananda and is believed to have lived during the same period as Kabir, another major reformer of medieval India.

Philosophy and Teachings

Guru Ravidas advocated a spiritual path based on devotion, moral conduct and inner realization. He rejected untouchability and challenged the notion that social status could determine spiritual worth.

A central aspect of his philosophy was the worship of a **Nirguna** (formless) divine reality rather than reliance on elaborate rituals or external symbols. His teachings emphasized that every human being possesses equal spiritual potential.

Literary Legacy

Guru Ravidas was an accomplished poet whose compositions were written in simple and accessible language. His verses reached ordinary people and helped spread the message of equality and devotion.

A testament to his influence is the inclusion of **41 hymns in the Guru Granth Sahib**, the sacred scripture of Sikhism. His works are also preserved in other devotional traditions, including the Panch Vani literature.

Influence on Society

Guru Ravidas became a symbol of resistance against social exclusion and caste oppression. His teachings inspired generations seeking dignity and justice within society.

Tradition also associates the renowned Bhakti saint Meera Bai with Guru Ravidas, describing him as her spiritual guide and mentor.

The Ravidassia Tradition

The teachings of Guru Ravidas later evolved into the foundation of the Ravidassia religious tradition. Followers continue to preserve his philosophy through devotional practices, community institutions and sacred literature.

The movement remains centred on equality, social harmony and spiritual liberation.

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Somnath Temple

News :-

- Expansion of the Somnath Promenade: In May 2026, the second phase of the Somnath Beachfront Development was completed under the PRASHAD Scheme (Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive). The project focuses on enhancing the 1.5 km sea-facing walkway while ensuring the protection of the temple foundation from coastal erosion.
- Gold Plating Project: The Shree Somnath Trust (SST) announced the completion of the gold-plating of the temple's main shikhara (spire). Over 145 kg of gold has been used to date, contributed by devotees, marking a significant milestone in the temple's modern aesthetic evolution.
- International Museum of Indian Temple Architecture: Discussions were held in May regarding a proposed digital museum at the Somnath complex to showcase the evolution of the Nagara Style of architecture to global tourists.
- 75th Anniversary of Reopening of Somnath Temple
- It also marks 1000 years since the first attack on the temple in 1026 A.D by Mahmud Ghazni.

About Somnath Temple

A. Architectural Style: Māru-Gurjara

- The current structure, rebuilt between 1947 and 1951, follows the Māru-Gurjara style (a sub-style of the Northern Nagara architecture).
- Features: It includes a Garbhagriha (sanctum), Antarala (vestibule), and a Mandapa (hall).
- The Shikhara: The temple features a massive, towering spire with intricate carvings and traditional motifs.
- The Baan Stambh (Arrow Pillar): Located on the sea-facing wall, it claims that there is no land in a straight line from that point to the South Pole (Antarctica).

B. Historical Significance (Timeline)

- Original Structure: Legend says it was built in gold by the Moon God (Soma).
- Major Destructions:
  - 1024 CE: Mahmud of Ghazni (most famous raid).
  - 1299 CE: Alauddin Khalji's army.
  - 1395 CE: Zafar Khan (Gujarat Sultanate).
  - 1665 CE: Aurangzeb.
- Restoration:
- 12th century: Kumarapala

- 13th century: King of Junagadh
- 18th century: Ahilyabai Holkar
- 1951: Pran Pratishtha (consecration) done by Dr. Rajendra Prasad.

Reconstruction (Modern):

- Initiated by Sardar Vallabhbhai Patel in 1947.
- The foundation stone was laid by Dr. Rajendra Prasad (the first President of India) in 1951.
- The design was handled by the Sompura family, traditional temple architects from Gujarat.
- Foreign Travellers Associated: Mentioned by the Arab traveler Al-Biruni.
- Religious Sects Associated: Shaivism, Vaishnavism, Shaktism.

C. Governance: Shree Somnath Trust

- The temple is managed by a high-profile trust. Traditionally, the Prime Minister of India or a prominent national figure serves as the Chairman (currently PM Narendra Modi).

D. Geography & Environment

- Location: Prabhas Patan, Veraval, on the western coast of Gujarat (Saurashtra region).
- Geological Context: It is located at the confluence of three rivers—Hiran, Kapila, and Saraswati—known as the Triveni Sangam.
- Coastal Regulation Zone (CRZ): Modern developments at Somnath are frequently analyzed under CRZ norms due to their proximity to the Arabian Sea.

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Rabindranath Tagore

News:-

- 165th Birth Anniversary: On May 7, 2026 (and May 9 per the Bengali calendar, Pochishe Boishakh), India celebrated his 165th birth anniversary. Prime Minister Modi and national leaders paid tributes, emphasizing his role as a "Vishwa Kobi" (World Poet).

About Rabindranath Tagore:-

A. Literary and Artistic Contributions

- Nobel Prize (1913): The first non-European to win the Nobel Prize in Literature for "Gitanjali" (Song Offerings).
- National Anthems: The only person to have composed the national anthems for two nations:
- India: Jana Gana Mana
- Bangladesh: Amar Shonar Bangla
- Note: He also inspired the anthem of Sri Lanka (Sri Lanka Matha).
- The Painter: He started painting in his 60s. His art is characterized by rhythmic lines and surrealist forms, often escaping traditional Indian styles.

B. Educational Vision: Santiniketan & Visva-Bharati

- Founded Visva-Bharati University (1921) at Santiniketan.
- Philosophy: He advocated for "education under the open sky," rejecting the "factory-like" colonial school system. He sought a synthesis of the East (Spiritualism) and the West (Science/Rationalism).
- Sriniketan: He also founded an Institute for Rural Reconstruction to promote village-based self-reliance (Atmashakti).

C. Political and Philosophical Stance

- Renunciation of Knighthood: In 1919, he returned his Knighthood in protest against the Jallianwala Bagh Massacre.
- Critique of Nationalism: In his lectures on Nationalism (delivered in Japan and the US), he warned that the "nation" is a mechanical construct that often suppresses the moral individuality of humans.
- Relation with Gandhi: Though close friends (Tagore gave Gandhi the title "Mahatma", and Gandhi called him "Gurudev"), they differed on tactics. Tagore was critical of the Swadeshi movement's focus on burning foreign cloth, viewing it as narrow and potentially xenophobic.

D. Example for Ethics

Tagore's life offers excellent examples for:

- Universalism: His concept of "The Religion of Man" emphasizes that true spirituality lies in serving humanity.
- Fearlessness: His famous poem "Where the mind is without fear..." is frequently cited as a vision for an ideal society and ethical governance.
- Environmental Ethics: His works often portray nature not as a resource to be exploited, but as a living teacher.

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Sardar Vallabhbhai Patel

News :-

- Somnath Amrut Mahotsav (May 11, 2026): Prime Minister Narendra Modi paid tributes to Sardar Patel during the 75th-anniversary celebrations of the reconstruction of the Somnath Temple. He highlighted Patel's "vision and resolve" in restoring the temple as a symbol of India's civilizational pride.
- 150th Birth Anniversary Celebrations: The year 2026 marks the culmination of a two-year-long nationwide commemoration (started in 2024) of Patel's 150th birth anniversary.
- Statue of Unity & Tourism: In May 2026, the Prime Minister encouraged citizens to choose the Statue of Unity (Ekta Nagar) as a venue for destination weddings to reduce foreign exchange outflow and promote national heritage, branding it the "Wed in India" initiative.
- Sardar Dham Inauguration: A new "Sardar Dham" facility was inaugurated in Vadodara to support students and community development, emphasizing Patel's focus on social empowerment.

About Sardar Patel:-

A. The Architect of Unification

- Integration of Princely States: As the first Home Minister and Deputy PM, Patel managed the integration of 562 princely states.
- Operation Polo (1948): The police action directed by Patel that led to the integration of Hyderabad into the Indian Union.
- Diplomatic Strategy: He used a combination of "carrot and stick"—offering Privy Purses (financial grants) to rulers while firmly asserting the necessity of a single sovereign India.

B. The "Steel Frame" of India

- Patron Saint of Civil Servants: Patel was instrumental in creating the All India Services (IAS and IPS) to replace the British-era ICS.
- The "Steel Frame" Quote: He famously referred to the civil services as the "steel frame" that would keep the country's administration together and impartial.

C. Major Movements & Titles

- Kheda Satyagraha (1918): His first major leadership role where he organized peasants against tax hikes during a famine.
- Bardoli Satyagraha (1928): It was here that the women of Bardoli bestowed upon him the title "Sardar" (leader) after he successfully led a revolt against a 30% land revenue increase.
- Karachi Session (1931): He presided over this INC session, which passed the landmark resolution on Fundamental Rights and Economic Programme.

D. Organizational & Institutional Legacy

- Amul (Kaira District Co-operative): Patel was the driving force behind the cooperative movement in Anand, Gujarat, which eventually led to the White Revolution.
- Constitutional Role: He chaired the Advisory Committee on Fundamental Rights, Minorities, and Tribal and Excluded Areas in the Constituent Assembly.

E. Ethics (GS IV) Link:

- Sardar Patel is a prime example of administrative efficiency, integrity, and emotional intelligence. His ability to negotiate with diverse monarchs while maintaining a clear national objective is often used as a case study in leadership and conflict resolution.

F. Key facts:-

- Birth October 31, 1875 (Nadiad, Gujarat)
- National Unity Day Celebrated annually on October 31 (Rashtriya Ekta Diwas)
- Statue of Unity World's tallest statue (182m) in Narmada district, Gujarat
- Highest Award Bharat Ratna (Posthumously, 1991)
- Philosophy Pragmatic nationalism, secular citizenship, and economic self-reliance.

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Banda Singh Bahadur

News:-

- Sirhind Fateh Divas has been observed on May 12.
- This day commemorates his historic victory at the Battle of Chappar Chiri in 1710, where he defeated the Mughal forces of Sirhind.

Who was Banda Singh Bahadur? (1670–1716)

- Early Life: Born as Lachman Dev in Rajouri (Jammu & Kashmir). He became an ascetic (Bairagi) and took the name Madho Das.
- Meeting with the Guru: He met Guru Gobind Singh at Nanded in 1708. The Guru initiated him into the Khalsa, gave him the name Banda Singh Bahadur, and appointed him the military commander of the Sikhs to fight Mughal oppression.
- Legacy: He was the first Sikh military leader to wage an offensive war against the Mughal Empire, successfully establishing a brief but sovereign Sikh state.

Key Contributions:-

1. Administrative Reforms

- Abolition of Zamindari: He is credited with abolishing the exploitative Zamindari system in the regions he conquered, granting land ownership rights directly to the actual tillers/peasants.
- Governance: He established his capital at Lohgarh (Iron Fort).

2. Symbols of Sovereignty

- Coinage: He issued coins in the names of Guru Nanak Dev and Guru Gobind Singh (Nanak Shahi coins).
- Official Seal: He introduced an official seal for his edicts, signifying the independence of the Sikh state from Mughal authority.

3. Military Campaigns

- Battle of Chappar Chiri (1710): Defeated Wazir Khan, the Governor of Sirhind, which led to the liberation of a large part of Punjab.
- Territorial Reach: His influence extended from the vicinity of Lahore to the gates of Delhi, including areas like Sonipat, Saharanpur, and Amritsar.

4. Martyrdom

- He was captured during the siege of Gurdas Nangal in 1715.
- In 1716, he was executed in Delhi on the orders of Mughal Emperor Farrukhsiyar after refusing to convert to Islam. He endured extreme torture, which remains a symbol of sacrifice in Sikh history.

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Neanderthals

News :-

Prehistoric Dentistry (World's Earliest Invasive Dental Work)

- The Discovery: A study published in PLOS One analyzed a 59,000-year-old Neanderthal molar (known as the Chagyrskaya 64 molar) found in Chagyrskaya Cave, Siberia (Russia).
- Key Finding: Micro-CT scans revealed a deep cavity that was intentionally drilled out using a sharp stone tool (made of local jasper) to remove infected pulp and alleviate pain.
- Significance:- This pushes back the earliest known evidence of invasive dental treatment by over 40,000 years (previously credited to Homo sapiens in Italy around 14,000 years ago). It proves Neanderthals had advanced manual dexterity, understood the anatomical source of pain, and were willing to endure short-term pain for long-term therapeutic relief.

Who were they?

- Neanderthals (Homo neanderthalensis) are our closest extinct human relatives. They lived across Europe and Southwest/Central Asia from approximately 400,000 to 40,000 years ago.
- Evolutionary Relationship: They are not the direct ancestors of modern humans (Homo sapiens). Instead, both shared a common ancestor (likely Homo heidelbergensis) before splitting into distinct branches.
- The Denisovan Connection: Neanderthals also shared the Eurasian landmass and interbred with Denisovans, another distinct, archaic hominin group.
- Genetic Legacy: Due to prehistoric interbreeding, modern non-African human populations still carry about 1% to 2% Neanderthal DNA.

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SUKHDEV THAPAR

Sukhdev Thapar is in the news on the occasion of his 118th birth anniversary (May 15).

- Birth: Born on May 15, 1907, in Naughara Mohalla, Ludhiana, Punjab.
- Associates: He was a peer and exceptionally close comrade of Bhagat Singh and Shivaram Rajguru.

- Ideology: Strongly rooted in socialism, anti-imperialism, and the complete, uncompromised independence of India (Purna Swaraj) through revolutionary means.

Role in Key Revolutionary Organizations

A. Hindustan Socialist Republican Association (HSRA)

- Sukhdev was not just a foot soldier; he was a chief strategist and the Punjab provincial chief of the HSRA.
- He was instrumental in handling ideological education, resource distribution, and coordinating clandestine cells across North India.
- Note for Prelims: The organization was initially founded as HRA (Hindustan Republican Association) by Ram Prasad Bismil and Sachindranath Sanyal in 1924, and re-organized as HSRA in 1928 at Feroz Shah Kotla, Delhi, under Chandrashekhar Azad and Bhagat Singh, introducing Socialism into its core objectives.

B. Naujawan Bharat Sabha

- He helped Bhagat Singh form the Naujawan Bharat Sabha in Lahore (1926).
- Objective: To mobilize the youth, peasants, and workers against British rule and to foster a secular, rationalist consciousness to combat communalism.

Major Revolutionary Actions

A. Lahore Conspiracy Case (1928)

- The Incident: To avenge the brutal death of nationalist leader Lala Lajpat Rai (who died after a lathi charge during anti-Simon Commission protests), the HSRA planned to assassinate the police chief, James A. Scott.
- The Execution: Due to a case of mistaken identity, assistant superintendent of police John P. Saunders was shot dead in Lahore in December 1928. Sukhdev was a key mastermind behind the logistics and escape plan of this operation.

B. Central Legislative Assembly Bomb Case (1929)

- While Bhagat Singh and Batukeshwar Dutt threw low-intensity bombs in the Delhi Assembly to "make the deaf hear" against the Public Safety Bill and Trade Disputes Bill, Sukhdev was the backbone organizing the bomb-manufacturing factories in Lahore and Saharanpur.

C. Trial and Martyrdom

- Following the discovery of the HSRA bomb factory in Lahore, Sukhdev was arrested.
- He was tried under the infamous Lahore Conspiracy Case (1929–1930).
- Execution: Sukhdev, along with Bhagat Singh and Rajguru, was sentenced to death. They were hanged on March 23, 1931 in the Lahore Central Jail (a day earlier than scheduled). This day is observed nationally as Shaheed Diwas (Martyrs' Day).

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BHOJSHALA

News :- The Bhojshala complex, located in the Dhar district of Madhya Pradesh, is in the news following a landmark verdict delivered by the Indore Bench of the Madhya Pradesh High Court.

- The High Court declared the 11th-century monument to be legally recognized as a temple dedicated to Goddess Vagdevi (Saraswati) and an ancient center of Sanskrit learning, granting the Hindu community unrestricted access to worship.

Historical Context (Art & Culture)

- The Founder: The complex was built by Raja Bhoj (1010–1055 CE), the most celebrated monarch of the Paramara Dynasty of Malwa.
- The Purpose: Originally established around 1034 CE, it served as a premier Sanskrit college (Sharda Sadan) and a temple dedicated to Saraswati (Saraswati/Vagdevi). It was a renowned hub for scholars studying grammar, astronomy, poetry, and literature.
- Subsequent Modifications: Historical and archaeological data suggest that during medieval invasions (under the Delhi Sultanate and later regional sultanates between 1305 and 1514 CE), the temple structure was damaged, modified, and partially converted into a mosque complex, later referred to by the Muslim side as the Kamal Maula Mosque.

The May 2026 High Court Verdict

- settled the long-standing dispute based primarily on a multi-disciplinary, scientific survey conducted by the Archaeological Survey of India (ASI).
- Quashing of the 2003 Arrangement: The court completely set aside an ASI directive from April 7, 2003, which had enforced a split-use arrangement (allowing Hindus to pray only on Tuesdays/Basant Panchami and Muslims to offer Namaz on Fridays).
- Unrestricted Hindu Access: The court directed the ASI to grant unrestricted access to Hindus to observe ancient practices of learning and worship.
- Alternative Land Suggestion: To ensure complete justice, the court noted that the Muslim community could approach the state government for the allotment of an alternative plot of land within the district to construct a mosque.

Scientific Evidence Evidentiary Value (Prelims/Mains Linkage):-

- The High Court emphasized that its verdict relied strictly on scientific and historical evidence rather than sentiment, aligning with the evidentiary benchmarks established by the Supreme Court in the Ayodhya Judgment.
- Stratigraphic Excavation: Ground Penetrating Radar (GPR) and excavations revealed multiple structural layers. Beneath the visible upper layers lay a much larger, precisely proportioned base extending 4 to 5 meters underground, characteristic of deliberate temple construction.
- Sculptural Artifacts: The ASI cataloged 94 sculptures and fragments (including images of Ganesha, Brahma, and Narasimha) embedded or defaced throughout the structure. The court noted that human and animal depictions are strictly impermissible in Islamic religious architecture.
- Architectural Pillars: The complex features 106 pillars and 82 pilasters that show clear signs of being temple-style materials stacked together during hasty medieval remodeling.
- Epigraphic Evidence: A Khilji-period inscription recovered from the site explicitly references the destruction of idols and the modification of the site.

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Chola era copper plate inscriptions

News:- During Prime Minister Narendra Modi's official visit to the Netherlands, the Leiden University Library formally restituted the 11th-century Chola Copper Plates (internationally known as the Leiden Plates) back to the Government of India, culminating a 14-year diplomatic effort.

What are the Leiden Copper Plates?

- The Artifacts: The returned set consists of 21 large copper plates and 3 small copper plates. They are bound together by a massive bronze ring secured with an authentic royal Chola seal.
- Language & Script: They are bilingual royal charters written in Sanskrit (detailing royal genealogies using the Grantha script) and Tamil (detailing local administration, village boundaries, and taxes).
- The Core Subject: Issued primarily during the reigns of Rajaraja Chola I (985–1014 CE) and his son Rajendra Chola I (1014–1044 CE), these plates formalize the land revenue grant of Anaimangalam village (near Nagapattinam, Tamil Nadu) to a Buddhist monastery.

Crucial Historical Takeaways

A. Secular Statecraft & Religious Harmony

- The plates offer concrete evidence of the pluralistic nature of the Chola state. Despite being devout Shaivites (worshippers of Shiva), Rajaraja Chola I and Rajendra Chola I generously patronized the Chulamanivarma Vihara, a Buddhist monastery built at Nagapattinam by King Maravijayottungavarman of the Srivijaya Kingdom (modern-day Sumatra/Indonesia).

B. Proof of Ancient Maritime & Geopolitical Links

- The inscriptions act as primary archival proof of the extensive maritime, trade, and diplomatic linkages between the Chola Empire of South India and the Srivijaya Empire of Southeast Asia nearly a thousand years ago.

C. Anatomy of Chola Royal Seals

- To prevent tampering, the metal rings holding the plates were soldered shut with a heavy royal seal. The symbols on the seal represented Chola imperial supremacy over neighboring dynasties:
- Tiger (Seated): The primary emblem of the Cholas.
- Two Fish: Representing the submission/conquest of the Pandyas.
- Bow: Representing the Cheras.
- Other elements: A royal parasol (umbrella), fly-whisks (chamaran), and lamps, symbolizing divine authority and prosperity.

D. Administrative & Revenue Insights

- The Tamil portions provide unparalleled primary source data on agrarian economy:
- They describe exact village boundaries, types of land, and irrigation systems.
- They detail precise measurements of grain, specifying allocations of thousands of kalam of paddy and detailing exactly which local taxes were remitted or diverted to maintain the Buddhist monastery.

How Did They Reach the Netherlands?

- In 1712, during the era of Dutch colonial presence along the Coromandel Coast, the plates were acquired from Nagapattinam by a Dutch missionary traveler, Florentius Camper.
- In 1862, his descendants donated them to Leiden University, where they were preserved for over 160 years until their restitution in May 2026.

Constitutional Links

- Article 49 (DPSP to protect monuments) and
- Article 51A(f) (Fundamental Duty to value and preserve rich heritage).

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Shaheed Veer Gundadhur

Shaheed Veer Gundadhur is in the news due to the inauguration of the "Shaheed Veer Gundadhur Seva Dera Jan Suvidha Kendra" in Netanar village (Bastar district, Chhattisgarh) by the Union Home Minister.

- This marks a strategic transition where former security/CRPF camps are being converted into public utility hubs to deliver development and welfare services (under the state's Niyad Nellanar scheme) following the decline of Naxalism in the region.

About Veer Gundadhur

- Shaheed Veer Gundadhur was a legendary tribal leader belonging to the Dhurva tribal community of Netanar village in Bastar.
- He is celebrated for spearheading the historic Bhumkal Rebellion of 1910 against British colonial exploitation

Key Terms for Prelims

- Bhumkal Rebellion (1910): Specifically located in the Bastar region; triggered primarily by colonial forest reservation acts.
- Dhurva Tribe: The specific Scheduled Tribe (ST) community to which Veer Gundadhur belonged.
- Dara Miri: The traditional, covert communication system (red chillies and mango twigs) used during the 1910 uprising.
- Niyad Nellanar Scheme: A modern Chhattisgarh government initiative (meaning "Your Good Village") aimed at providing sub-centers, basic amenities, and welfare benefits to areas formerly dominated by Naxalism.

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Gift diplomacy/ Cultural diplomacy

News:- During Prime Minister Narendra Modi's multi-nation diplomatic tour in May 2026 (covering the UAE, the Netherlands, Sweden, Norway, Italy, and the India-Nordic Summit capitals), India's foreign policy heavily leveraged "Gift Diplomacy" (Cultural Diplomacy).

"Vocal for Local" on the Global Stage

The gifts chosen for world leaders specifically highlight three areas:-

- Geographical Indication (GI) Tags: Highlighting region-specific legal protection of Indian crafts and agricultural products.
- Tribal and Folk Art Support: Showcasing the economic empowerment of indigenous artisans (One District One Product - ODOP initiative).
- Sustainability and Lifestyle for Environment (LiFE): Gifting millets, natural fibers, and eco-friendly art.

Country-Wise Breakdown of Cultural Gifts

A. Italy (PM Giorgia Meloni & President)

- Muga Silk Stole (Assam): Known as the "Golden Silk" of the Brahmaputra Valley, Muga silk holds a GI Tag and is famous for its natural golden hue and extreme durability.
- Shirui Lily Silk Stole (Manipur): Handcrafted by the Tangkhul Naga tribal community, its design is inspired by the rare, endangered Shirui Lily—Manipur's state flower found exclusively on the Shirui Kashong peak.
- Pietra Dura Marble Inlay Box (Agra): It features the Mughal-era architectural art form of inlaying polished, semi-precious stones into marble. This mirrors the historic artistic connections between Renaissance Italy and India.

B. Sweden (PM Ulf Kristersson & Crown Princess)

- The Tagore Commemorative Exchange: Marking the centenary of Rabindranath Tagore's historic 1926 visit to Sweden, PM Modi gifted Kristersson a collected set of Tagore's works alongside a handcrafted Shantiniketan Leather Bag. (In return, Sweden gifted replicas of Tagore's handwritten epigrams recently discovered in their National Archives).
- Gond Painting (Madhya Pradesh): Gifted to Crown Princess Victoria. Created by the Gond tribal community of Central India, this art form uses intricate dots and lines to depict nature, folklore, and wildlife.
- Ladakhi Pure Wool Stole: Highlighting the traditional high-altitude pastoralist handloom of Ladakh.

C. The Netherlands (King Willem-Alexander & PM Rob Jetten)

- Madhubani Painting (Bihar): A GI-tagged folk art form from the Mithila region. The specific painting featured a fish motif, which traditionally symbolizes fertility, abundance, and ecological balance.
- Jaipur Blue Pottery: A distinctive GI-tagged ceramic craft made from a mix of quartz, raw glaze, and cobalt oxide (giving it the blue color), notable because it is made without using clay.
- Meenakari-Kundan Earrings: Gifted to Queen Máxima, demonstrating the complex Mughal-origin art of enameling metal surfaces (Meenakari) paired with refined gem-setting.

D. Nordic Capitals (Norway, Denmark, Iceland, Finland)

- Tarakasi Silver Filigree Sailboat (Odisha): Gifted to King Harald V of Norway. This intricate silverwork from Cuttack (GI-tagged) represents ancient Kalinga's maritime trading history (Bali Jatra).
- Bidri Silver Work Vase (Karnataka): Gifted to Denmark's PM. Originating from Bidar, this 14th-century craft involves inlaying pure silver wire into a blackened alloy of zinc and copper.
- Kamal Talai Pichwai Painting (Rajasthan): Gifted to Finland's PM. A traditional art form from Nathdwara, depicting a serene pond of lotuses (Kamal Talai), heavily rooted in Vaishnavite devotional art.
- Sherpa Tenzing Norgay Ice Axe Replica: Gifted to Iceland's PM as a symbolic tribute to mountaineering and cold-climate resilience.

E. United Arab Emirates (President & Crown Prince)

- Rogan Painting (Gujarat): Gifted to the UAE President. A rare, centuries-old textile art from the Kutch region practiced by only a single family. It uses a paste made from boiled castor oil and natural pigments applied with a metal stylus to create a "Tree of Life" motif.
- Koftgari Ceremonial Dagger: Gifted to the Crown Prince. An example of India's martial heritage involving the damascening (inlaying) of gold or silver wire into hard steel.
- GI-Aromatic Foods: Gifting of Mithila Makhana (Foxnuts from Bihar), Chak-Hao (Manipur's black aromatic rice), and Gir Kesar Mangoes to spotlight India's agricultural diversity.

Mains Analytical Point:

Cultural diplomacy is no longer a peripheral element of India's foreign policy; it is integrated into bilateral statecraft. By utilizing GI-tagged and tribal-made products, the Indian state achieves a dual objective: projecting its civilizational wealth abroad while providing direct global market validation and livelihood support to rural and indigenous communities at home.

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DAYS & AWARDS IN NEWS

International Labour Day (May 1)

- Thematic Focus: Labor Rights, Decent Work, and Socio-Economic Welfare.

Points to remember:-

- The 4 Labour Codes: India is progressively operationalizing its unified codes—Code on Wages, Industrial Relations Code, Social Security Code, and Occupational Safety, Health and Working Conditions Code.
- Constitutional Provisions: Article 21 (Right to Livelihood), Article 23 (Prohibition of forced labor), Article 39 (Equal pay for equal work), and Article 43 (Living wage for workers).
- International Bodies: International Labour Organization (ILO) Conventions—specifically core conventions 138 and 182 concerning child labor (both ratified by India).

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World Press Freedom Day (May 3)

- Thematic Focus: Freedom of Expression, Media Ethics, and Democratic Governance.

Points to remember:-

- Constitutional Angle: Article 19(1)(a) guarantees freedom of speech and expression. However, press freedom is not explicitly mentioned but implied under it. It is subject to "reasonable restrictions" under Article 19(2) (e.g., sovereignty, public order, decency).
- Global Index : The World Press Freedom Index published annually by Reporters Without Borders (RSF).

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National Technology Day (May 11)

- Thematic Focus: Indigenous Innovation, Strategic Autonomy, and Defense Technology.

Points to remember:-

- Historical Linkage: Commemorates the Pokhran-II (Operation Shakti) nuclear tests conducted on May 11, 1998, under PM Atal Bihari Vajpayee.
- Strategic Doctrine: It marks India's emergence as a full nuclear weapon state and the subsequent adoption of its No First Use (NFU) doctrine and "Credible Minimum Deterrence."
- Frontier Tech Core: shift from IT service delivery to Deep Tech and Agentic AI ecosystems, and the proliferation of Global Capability Centres (GCCs) in India.

Key PIB Releases & Takeaways:

- CSIR-CBRI Technology Transfer: The CSIR-Central Building Research Institute (CBRI), Roorkee officially transferred 13 indigenous technologies to commercial industries.
- Key Innovations Highlighted:
- Foldable Shelter Technology engineered specifically for salt workers.
- Solar-Assisted Heat Pump Water Geysers built for high-altitude regions, capable of functional delivery at temperatures as low as -25°C.
- Fire-retardant intumescent coatings, low-carbon footprint brick manufacturing tech, and IPN coating systems for reinforced concrete structures.

- Smart Village Initiative: The Ministry of Science & Technology emphasized using science-driven solutions to actively elevate rural livelihoods and improve socio-economic conditions across varied climatic zones.
- Forestry Tech : The Forest Research Institute (FRI) showcased innovative hydroponic and aeroponic techniques for bamboo propagation alongside the identification of three novel fungal species:
- Calonectria populi
- Calonectria caudovesiculata
- Trichoderma frianum.

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International Booker Prize, 2026

News:- The prestigious award was won by the novel "Taiwan Travelogue", written by Taiwanese author Yáng Shuāng-zǐ and translated into English by Lin King.

Significance :-

- First for Mandarin Chinese: Taiwan Travelogue is the first-ever novel translated from Mandarin Chinese to win the International Booker Prize since its inception.
- First Taiwanese Winner: Yáng Shuāng-zǐ is the first writer from Taiwan to win the award, bringing Taiwanese post-colonial literature into global prominence.

Differences between Booker Prize and International Booker Prize

Feature	The Booker Prize	The International Booker Prize
Eligibility	Best sustained novel written originally in English.	Best work of fiction translated into English from any language.
Publication Rule	Must be published in the UK or Ireland.	Must be translated and published in the UK or Ireland.
Prize Distribution	£50,000 awarded entirely to the author.	£50,000 divided equally (£25,000 each) between the author and the translator.
Core Objective	To honor outstanding English literature.	To elevate the profile of translated global fiction and salute the vital art of literary translation.

Analysis for mains:-

- Soft Power and Sovereignty: The win highlights how a nation's distinct literary voice acts as a potent instrument of soft power, establishing unique cultural boundaries and historical narratives independently of modern geopolitical tensions.
- The Role of the Translator: The prize explicitly recognizes translation not as a mechanical conversion of words, but as a deep act of cross-cultural mediation that fosters empathy across borders.

Indian Winners of International Booker Prize

- Geetanjali Shree-Tomb of Sand (2022), translated by Daisy Rockwell. It was the first Hindi work to win this prize.
- Banu Mushtaq- Heart Lamp (2025), translated by Deepa Bhasthi which was the first Kannada work to win this prize.

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ANURAG BACHAN'S
DROANACHARYA-IAS

SOME OF SUCCESSFUL GEMS WITH ANURAG SIR

AASTHA SINGH
Rank 61st (IAS)

ANJALI GARG
Rank 79th (IAS)

ANKUR
Rank 37th (IAS)
(IGP)

SANYA
Rank 84th (IAS)
(IGP)

SAWAN
Rank 89th (IAS)

JYOTINDER BAJWA
Rank 256th (IAS) / 20th (PCS)

ASHOK
Rank 325th (IAS)

AFTAAB RASOOL
Rank 412nd (IAS)

MANISH YADAV
(IAS)

KHUSHDIL SANDHU
Rank 5th (PCS)

AMAN CHAWLA
Rank 6th (PCS)

HARPREET SINGH SIDHU
(PCS)

PRIYA KHERA
Rank 45th (DSP)

JASPREET
(INDUSTRY OFFICER)

SANKALP GAUTAM
Rank 2nd (HAS)

TEHSEEN
(IPS)

SAMAY SINGH
(IPS)

AREEBA
Rank 109th (IPS)

MAYANK MISHRA
Rank 228th (IPS)

DILMIL SINGH
(IRS)

RANVIR SINGH
(IRS)

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