

## JUNE 15<sup>TH</sup> - 30<sup>TH</sup> CURRENT AFFAIRS

### TABLE OF CONTENTS

|  |           |
|--|-----------|
| <b>ECONOMIC DEVELOPMENTS .....</b>   | <b>4</b>  |
| SEZ Rules Eased to Boost Semiconductor and Electronics Manufacturing in India .....                                    | 4         |
| India's 2026 GDP Base Year Revision: Significance and Global Implications .....  | 5         |
| India's Growing Import Burden: Escalating Costs of Pulses and Edible Oils Crisis for Pulse and Oilseed Farmers .....   | 7         |
| Predatory Pricing .....  | 9         |
| World Investment Report 2025 — UNCTAD .....  | 11        |
| Compromiso de Sevilla (Seville Commitment) & Fourth International Conference on Financing for Development (FFD4) ..... | 12        |
| Reforming India's Food and Fertiliser Subsidies: A Strategic Imperative.....   | 13        |
| Current Account Balance .....  | 15        |
| Samarth Incubation Programme .....   | 15        |
| Reverse Flipping: Startups Returning to India.....   | 16        |
| <b>CONSTITUTION, POLITY AND GOVERNANCE .....</b>   | <b>18</b> |
| India's 2027 Census: A Historic Digital and Social Mapping Milestone.....  | 18        |
| NITI Aayog's Report: "India's Data Imperative – The Pivot Towards Quality" .....                                       | 19        |
| Understanding the Report.....  | 19        |
| National Turmeric Board Inaugurated in Telangana.....  | 22        |
| Bihar Launches India's First Mobile e-Voting System in Local Body Polls.....   | 23        |
| Estimates Committee of Parliament.....   | 24        |
| <b>INTERNATIONAL RELATIONS AND SECURITY.....</b>   | <b>25</b> |
| Iran-Israel Conflict and its Impact on India.....  | 25        |
| International Civil Aviation Organisation (ICAO): .....  | 26        |
| G-7 .....  | 27        |
| PM Modi's Landmark Visit to Cyprus: Strengthening Bilateral Relations .....  | 27        |
| Grand Cross of the Order of Makarios III.....  | 29        |
| Global Nuclear Arsenal: SIPRI Yearbook 2025 Highlights: .....  | 30        |
| US Issues Level 2 Travel Advisory for India .....  | 31        |
| Madagascar .....   | 32        |

|  |           |
|--|-----------|
| <b>SOCIETY AND SOCIAL JUSTICE .....</b>  | <b>33</b> |
| Integration of Rare Donor Registry with e-Rakt Kosh: Key Highlights .....                                | 33        |
| Pradhan Mantri Ujjwala Yojana (PMUY): .....  | 34        |
| Servants of India Society: Background and Current Dispute .....  | 35        |
| PRASHAD Scheme .....   | 36        |
| MGNREGS Budget Cap: Centre's Justification and Legal Pushback .....                                      | 37        |
| Dharti Aaba Janbhagidari Abhiyan (DAJA) .....  | 39        |
| Football for Schools (F4S) Programme .....   | 40        |
| Khasi People .....   | 41        |
| Central Sector Scheme of Scholarship for College and University Students (CSSS) .....                    | 42        |
| <b>GEOGRAPHY, ENVIRONMENT, BIODIVERSITY AND DISASTER MANAGEMENT .....</b>                                | <b>44</b> |
| Air India Crash Under Investigation as India's Aviation Safety Ratings Remain Robust .....               | 44        |
| Shongtong Karcham Hydroelectric Project .....  | 45        |
| AviList .....  | 46        |
| Indian Rat Snake .....   | 47        |
| Spartaeus Karigiri .....   | 48        |
| Kanchuria Tripuraensis and Kanchuria Priyasankari .....  | 48        |
| Portulaca Bharat .....   | 48        |
| Kali Tiger Reserve – Conservation Concerns .....   | 49        |
| Russell's Viper .....  | 50        |
| Updated Green India Mission (GIM) .....  | 50        |
| Delhi's Artificial Rain Project to Combat Air Pollution .....  | 52        |
| Sharavathi Lion-Tailed Macaque Wildlife Sanctuary .....  | 53        |
| Agarwood: A Fragrant Tree on the Brink .....   | 54        |
| Rajkot's Sustainable Model for Dumpsite Remediation .....  | 55        |
| Sariska Tiger Reserve: Boundary Rationalisation Plan .....   | 55        |
| Western Ghats Conservation: A Community-Centric and Ecologically Just Approach .....                     | 55        |
| Hong Kong International Convention (HKC) for the Safe and Environmentally Sound Recycling of Ships ..... | 57        |
| Begonia nyishiorum .....   | 59        |
| Similipal Tiger Reserve .....  | 59        |
| Sariska Tiger Reserve .....  | 60        |
| <b>SCIENCE AND TECHNOLOGY .....</b>  | <b>62</b> |

|   |           |
|---|-----------|
| Rudrastra .....   | 62        |
| DNA Identification in Air India Crash: The Role of Genetic Testing in Identifying Victims ..... | 62        |
| India's News Ecosystem Transforms with AI and Influencers at the Forefront .....                | 64        |
| Valley Fever .....  | 66        |
| Achal Fast Patrol Vessel .....  | 66        |
| Extended Trajectory-Long Duration Hypersonic Cruise Missile (ET-LDHCM) .....                    | 67        |
| Synthetic Aperture Radar (SAR) .....  | 67        |
| Quantum Communication .....   | 68        |
| Rice Yellow Mottle Virus (RYMV) .....   | 69        |
| Kounis Syndrome: Rare Allergy-Induced Heart Condition .....                                     | 69        |
| "Gwada Negative": Discovery of a New Blood Group .....  | 69        |
| Science and Technology (S&T) Clusters Initiatives .....   | 70        |
| Vera C. Rubin Observatory .....   | 70        |
| Myogenesis .....  | 71        |
| Botrytis Fungi .....  | 72        |
| Trachoma .....  | 72        |
| Exoplanet: TWA 7b .....   | 73        |
| <b>HISTORY, HERITAGE AND CULTURE .....</b>  | <b>74</b> |
| UNESCO Creative Cities Network .....  | 74        |
| Goan Feni .....   | 74        |
| Captain James Cook: Discovery of HMS Endeavour and His Historic Voyages .....                   | 75        |
| 11th International Day of Yoga – June 21, 2025 .....  | 76        |
| Ghumot – Goa's Traditional Heritage Instrument .....  | 76        |
| Sree Narayana Guru .....  | 77        |
| Salkhan Fossil Park Added to UNESCO Tentative List for World Heritage Sites .....               | 78        |
| <b>ETHICS .....</b>   | <b>80</b> |
| Kolhapuri Chappal vs Prada Controversy .....  | 80        |
| UK Parliament Approves Terminally Ill Adults (End of Life) Bill .....                           | 82        |
| Issues around deportation .....   | 85        |

## ECONOMIC DEVELOPMENTS

### SEZ Rules Eased to Boost Semiconductor and Electronics Manufacturing in India

In a major policy move aimed at bolstering domestic semiconductor and electronics manufacturing, the Indian government has relaxed several provisions under the Special Economic Zones (SEZ) Rules, 2006. These changes, notified by the Ministry of Commerce and Industry in June 2025, are designed to support India's goal of technological self-reliance and reduced import dependency—especially in the wake of post-pandemic supply chain vulnerabilities and rising global demand for digital infrastructure.

#### Why Semiconductors and Electronics Matter

Semiconductors are at the heart of modern digital technologies, enabling devices like smartphones, laptops, electric vehicles, and smart home products. As technologies such as Artificial Intelligence (AI) and the Internet of Things (IoT) become mainstream, the importance of secure and reliable access to semiconductors has grown—both economically and strategically.

India's reliance on imports, exposed during the COVID-19 pandemic, revealed the risks of depending heavily on foreign supply chains, especially as China accounted for roughly 35% of global semiconductor output in 2021. The new SEZ reforms are part of India's broader effort to localize this critical industry.

#### Key Amendments to SEZ Rules

The recent updates focus on reducing regulatory constraints and incentivizing high-tech, capital-intensive investments in the semiconductor and electronics sectors.

- **Reduced Land Requirement (Rule 5):** The minimum land size for SEZs dedicated to semiconductors or electronic components has been reduced from 50 hectares to 10 hectares. This allows for smaller, high-value projects to benefit from SEZ perks such as tax breaks and duty-free imports without requiring vast tracts of land.
- **Relaxation of Encumbrance Rules (Rule 7):** SEZ land no longer needs to be entirely "encumbrance-free" if it is mortgaged or leased to government bodies. This change addresses longstanding bottlenecks due to India's complex land ownership and title systems.
- **Permission for Domestic Sales (Rule 18):** Units in electronics and semiconductor SEZs can now sell goods within India (Domestic Tariff Area) by paying applicable duties. Previously, SEZs were export-focused. The amendment provides flexibility amid global trade volatility and strengthens domestic supply chains.
- **New Net Foreign Exchange (NFE) Norms (Rule 53):** The updated rule allows goods received or supplied on a free-of-cost basis to be factored into NFE calculations using customs valuation

norms—especially useful in the semiconductor sector, which often handles high-cost prototypes and design components.

### Early Impact and Industry Response

These regulatory reforms are already attracting major investments. The SEZ Board of Approval has recently approved two major projects:

- **Micron Semiconductor Technology India Pvt. Ltd.** will set up a semiconductor SEZ in Sanand, Gujarat, covering 37.64 hectares, with an investment of ₹13,000 crore.
- **Hubballi Durable Goods Cluster Pvt. Ltd. (Aequus Group)** plans to develop an electronics component SEZ in Dharwad, Karnataka, on 11.55 hectares, investing ₹100 crore.
- These projects support broader initiatives like the ₹76,000 crore Semicon India Programme, aimed at creating a complete semiconductor manufacturing ecosystem in the country.

### Challenges to Implementation

Despite positive momentum, several hurdles remain:

- **Talent Shortage:** The semiconductor sector requires a highly skilled workforce, which India is still building at scale.
- **Infrastructure Gaps:** High-tech manufacturing demands stable electricity, advanced logistics, clean room facilities, and reliable water supply—all of which require significant government and private sector coordination.
- **Global Competition:** Countries like the U.S., South Korea, and Taiwan are also offering aggressive subsidies and incentives, meaning India must stay competitive to attract global players.

### Strategic Importance and Outlook

These SEZ reforms are part of a larger strategy to position India as a global hub for electronics and semiconductor manufacturing. By easing land, sales, and regulatory constraints, and combining these changes with the Production Linked Incentive (PLI) scheme, India is signalling a serious intent to reshape its industrial base for the digital age.

Ultimately, the revised SEZ framework enhances India's attractiveness to global firms looking to diversify manufacturing beyond traditional markets, reinforcing the country's ambition to become a trusted alternative in the global tech supply chain.

## India's 2026 GDP Base Year Revision: Significance and Global Implications

India is set to revise the base year for its Gross Domestic Product (GDP) calculation from **2011–12 to 2022–23**, with the updated series scheduled for release on **February 27, 2026**. This change, led by the **Ministry of Statistics and Programme Implementation**, will be accompanied by updates to the **Index of Industrial Production (IIP)** and **Consumer Price Index (CPI)** base years to **2022–23** and **2023–24** respectively. These revisions reflect broader efforts to ensure economic indicators better reflect today's economic realities.

### Why the GDP Base Year Revision Matters

India's 2026 revision will mark the **eighth** GDP base year update in its economic history. Updating the base year serves several critical purposes:

- **More Accurate Economic Measurement:** Reflects current industry structures by incorporating new sectors and removing outdated ones.
- **Improved Real GDP Estimates:** Enables more accurate inflation adjustment, ensuring GDP reflects actual growth in output, not just price increases.
- **Better Policy and Investment Decisions:** Reliable GDP data is essential for informed policymaking, business strategy, and global economic comparisons.

### Challenges in GDP Estimation

Estimating GDP is inherently complex:

It must **exclude intermediate goods** to avoid double counting.

Only the **market value of final goods and services** is included.

Data gaps and outdated inputs can reduce accuracy, especially in a fast-evolving economy like India's.

### India's Changing Economic Landscape

India's economic structure has changed significantly:

Historically **agrarian**, the economy now sees the **services sector** contributing **over 55% of GDP**, while agriculture's share has declined.

Estimating economic output now requires **sector-specific data and techniques**, especially in areas like the **digital economy**.

With improved data availability and evolving international standards, updated methodologies will:

Broaden sectoral coverage.

Capture emerging activities more effectively.

Enhance the credibility of national accounts.

## Why the Base Year Wasn't Revised Sooner

### Attempted 2017–18 Revision

A base year change was planned in **2017–18**, but it was shelved due to:

**PLFS (2017–18)** showing 45-year high unemployment, leading to initial government hesitation.

**CES (2017–18)** indicating a drop in consumption, contradicting the narrative of poverty reduction.

This data was never released, citing quality concerns.

### Economic Disruptions

**Demonetisation (2016)** and **GST rollout (2017)** made 2017–18 an abnormal year, unsuitable as a statistical baseline.

**COVID-19** further delayed the update, as the following years were marked by extreme volatility and economic contraction.

## Global Significance of the 2026 GDP Revision

- **Restoring Credibility**

The last revision in **2015** was criticized for allegedly inflating GDP figures. Discrepancies, particularly in the manufacturing sector, raised questions from economists, including former Chief Economic Advisor **Arvind Subramanian**.

- **Addressing Data Gaps**

The missed 2017–18 update and ongoing absence of the **Census** have created gaps in key areas like **poverty, inequality, and employment**. The upcoming revision offers an opportunity to rebuild trust in India's macro data.

- **Impact on India's Global Economic Role**

As India is projected to become the **world's third-largest economy by nominal GDP**, the accuracy and transparency of its data will face heightened scrutiny:

- **Investor confidence** hinges on credible statistics.
- **International institutions and credit agencies** will closely monitor the new figures.
- **Policy credibility** and India's standing in global forums depend on statistical reliability.

## India's Growing Import Burden: Escalating Costs of Pulses and Edible Oils Crisis for Pulse and Oilseed Farmers

Pulse and oilseed growers across India continue to struggle due to inadequate government procurement under the Minimum Support Price (MSP) system. Unlike rice and wheat, which benefit



from structured public procurement, crops such as moong, chana, masoor, and soyabean are often sold in open markets at rates far below their MSPs.

This lack of price assurance makes farmers vulnerable to volatile market conditions, often compelling them to sell at losses despite cultivating high-yield varieties. In regions with black cotton soil—naturally suited for pulses and oilseeds—farmers have limited crop options and are thus highly dependent on these underpriced crops.

Despite poor returns, many continue to cultivate them due to the absence of more profitable alternatives, highlighting a serious gap in agricultural policy support.

### **Record Pulse Imports Undermine Domestic Producers:**

- **Unprecedented Import Volumes in 2024–25:** India's pulse imports reached a record 7.3 million tonnes (mt) valued at \$5.5 billion in 2024–25, exceeding the previous high of 6.6 mt (\$4.2 billion) in 2016–17. This is a sharp increase compared to the average of 2.6 mt (\$1.7 billion) annually between 2017–18 and 2022–23.
- **Setback After Progress in Self-Sufficiency:** India had made notable progress in achieving pulse self-sufficiency, with production peaking at 27.3 mt in 2021–22 and slightly dipping to 26.1 mt in 2022–23—thanks to improved short-duration chana and moong varieties. However, an El Niño-driven drought in 2023–24 severely impacted output, bringing it down to 24.2 mt, with only a modest recovery to 25.2 mt in 2024–25.
- **Policy Response Spurs Imports, Hits Farmers:** To combat rising food inflation—particularly double-digit increases in pulse prices by mid-2023—the government lowered import duties. This move led to a spike in imports, which in turn helped bring down inflation (from 3.8% in December 2024 to -8.2% in May 2025). However, this also pushed market prices below MSPs, negatively impacting farmers' incomes.

### **India's Edible Oil Woes: Rising Imports, Farmer Discontent**

- **Rising Import Dependence:** India's reliance on imported vegetable oils has surged dramatically over the past decade. Imports rose from 7.9 mt in 2013–14 to 16.4 mt in 2024–25, with the import bill climbing from \$7.2 billion to \$20.8 billion. Global disruptions, including the Russia-Ukraine war, have contributed to supply issues and price spikes.
- **Heavy Dependence on Foreign Oils:** In 2024–25, India's vegetable oil imports included:



7.9 mt of palm oil (mainly from Indonesia and Malaysia)

4.8 mt of soyabean oil (largely from Argentina and Brazil)

3.5 mt of sunflower oil (sourced from Russia, Ukraine, and Argentina)

Meanwhile, domestic production of oils like cottonseed, rice bran, and maize remains stagnant at around 10 mt—resulting in over 60% import dependency.

- **Tariff Cuts to Tame Inflation:** To address vegetable oil inflation, which hit 17.9% in May 2025, the government halved the basic customs duty on crude palm, soyabean, and sunflower oil from 20% to 10%, lowering the overall import tariff from 27.5% to 16.5%.
- **Global Market Outlook and Domestic Repercussions:** The USDA forecasts global vegetable oil production to reach 235 mt in 2025–26, led by palm (80.7 mt) and soyabean oil (70.8 mt). With lower tariffs, India may see further increases in imports, including new volumes from the U.S.
- **Domestic Farmers at Risk:** The Soyabean Processors Association of India has warned that these cheaper imports could flood the Indian market, suppressing prices and discouraging farmers from growing oilseeds—especially soyabean—in the upcoming kharif season, potentially worsening the domestic supply situation.

### Predatory Pricing

The Competition Commission of India (CCI) has issued the *Determination of Cost of Production Regulations, 2025*, introducing cost norms based on Average Total Cost (ATC) to curb predatory pricing and strengthen competition safeguards.

#### What is Predatory Pricing?

Predatory pricing occurs when a dominant company deliberately lowers its prices below production costs to push competitors out of the market and gain monopoly control.

**Example:** In the **NSE vs. MCX** case, NSE offered stock exchange services at very low prices to undermine its rival.

#### Key Characteristics:

Prices are set below actual production costs.

The goal is to force competitors out of the market.

Consumers may benefit initially, but eventually face higher prices and fewer options once monopoly is established.

### Forms of Predatory Pricing:

- **Direct Predation:** Selling below cost to eliminate competition.
- **Cross-subsidisation:** Using profits from one product to cover losses in another.
- **Discriminatory Pricing:** Offering selective price cuts to specific customer groups or regions.

### Contributing Factors:

- **Market Dominance:** Large firms can afford sustained losses due to scale and deep capital.
- **Network Effects:** Platforms with strong user bases and data control make it hard for new players to enter.
- **Weak Past Enforcement:** Only one case (NSE-MCX) successfully proven prior to 2025.
- **Regulatory Gaps:** Previous rules lacked clarity on appropriate cost standards for legal assessment.
- **Global Enforcement Gaps:** International firms exploit different national competition laws.
- **Consumer Myopia:** Initial discounts disguise long-term harms of monopolisation.

### Challenges in Addressing Predatory Pricing:

- **Consumer Harm Is Delayed:** Initial price cuts mask eventual monopoly-led price hikes.
- **Intent is Hard to Prove:** Under Section 4 of the Competition Act, proving deliberate anti-competitive behavior is complex.
- **Startup Discouragement:** Risk of being undercut deters new entrants, especially in sectors like AI and FinTech.
- **Weak Market Surveillance:** Lack of real-time data tools hampers early detection.
- **Slow Legal Process:** Delays in litigation reduce the impact of enforcement in fast-evolving digital sectors.

### CCI's 2025 Regulations: A New Approach

**Notified on:** May 6, 2025 — replaces outdated 2009 norms.

#### Key Changes:

Introduces **Average Total Cost (ATC)** as the standard for price evaluation.

Removes ambiguous “market value” pricing reference.

Involves experts in evaluating complex technical pricing issues.

Requires CCI to explain any decision deviating from **Average Variable Cost (AVC)**, enhancing transparency.

Empowers real-time market tracking tools for proactive enforcement under Section 4.

**Why These Rules Matter:**

- **Preserve Competitive Markets:** Prevents abuse in both traditional and digital sectors.
- **Support MSMEs:** Shields small and medium enterprises from being priced out by cash-rich players.
- **Global Alignment:** Brings India's rules in line with **OECD** competition standards.
- **Control Digital Giants:** Equips regulators to counter predatory strategies by BigTech in the Indian market.
- **Boost Investor Confidence:** Transparent rules make markets more predictable and attractive to investors.
- **Advance SDG 8 (Decent Work & Growth):** Ensures fair competition, encouraging innovation, job creation, and economic resilience.

**World Investment Report 2025 — UNCTAD**

According to UNCTAD's World Investment Report 2025, India improved its global rank to 15th among the top destinations for foreign direct investment (FDI) in 2024, despite a slight decline in FDI inflows to \$27.6 billion.

**About the Report:**

The World Investment Report is an annual publication by the UN Conference on Trade and Development (UNCTAD) that analyzes global and regional trends in FDI. It also explores new strategies to enhance the developmental impact of investment flows.

**Key Highlights:**

**Global FDI Trends:** Global FDI experienced an 11% decline in 2024, marking a second consecutive year of falling investment flows, signaling a slowdown in productive capital movement worldwide.

Although headline figures suggested a 4% increase to \$1.5 trillion, this was largely driven by volatile financial conduit flows in some European economies. When these are excluded, global FDI actually fell by 11%.

**Investment in Sustainable Development:** FDI targeting Sustainable Development Goals (SDGs) sectors in developing countries decreased by 25–33% across areas such as infrastructure, renewable energy, water, sanitation, and agrifood systems. Only the health sector saw growth, albeit from a small base.

**Digital Economy:** FDI in digital sectors grew by 14%, but 80% of new projects in developing countries were concentrated in just 10 nations, leaving many countries outside the digital transformation.

#### **Regional and Country Insights:**

The United States remained the top FDI destination globally, with inflows rising from \$233 billion to \$279 billion in 2024.

China dropped from second to fourth place due to a 29% reduction in FDI inflows.

Africa saw a 75% surge in FDI, and South-East Asia hit record levels of greenfield projects.

Developing Asia attracted \$605 billion in FDI, despite a 3% decrease from 2023, accounting for 40% of global FDI and 70% of investment in developing economies.

#### **India's Performance:**

- India was the leading FDI recipient in South Asia.
- Though FDI inflows dipped slightly from \$28.1 billion in 2023 to \$27.6 billion in 2024, India improved its global rank from 16th to 15th.
- Greenfield project announcements increased notably, with India ranking 4th globally by announcing 1,080 projects in 2024.
- India was among the top five countries for international project finance deals, securing 97 transactions.
- On the FDI outflow front, India rose to 18th place with outward investments totaling \$24 billion, up from 23rd place and \$14 billion in 2023.

#### **Compromiso de Sevilla (Seville Commitment) & Fourth International Conference on Financing for Development (FFD4)**

The Compromiso de Sevilla is the final declaration from the Fourth International Conference on Financing for Development (FFD4).

**FFD4 Purpose:** To renew and strengthen the global framework for financing sustainable development.

**Location:** Sevilla, Spain.

**Participants:** High-level global government leaders, institutions, businesses, and civil society representatives.

The United States withdrew completely from the process.

The UN's Financing for Development (FFD) process supports follow-up on agreements from three prior FFD conferences.

**Key outcomes in the document:**

- Reinforces commitments from Addis Ababa Action Agenda, Monterrey Consensus, and Doha Declaration.
- Targets closing the \$4 trillion annual Sustainable Development Goals (SDG) funding gap in developing nations.
- Calls for reforms in international financial governance, including IMF quota changes and World Bank shareholding reviews.
- UN to lead development of voluntary principles for responsible sovereign debt management.
- Supports OECD/G20 Pillar II tax reforms, mandating a minimum corporate tax for multinationals and country-specific technical aid for anti-base erosion rules.

### Reforming India's Food and Fertiliser Subsidies: A Strategic Imperative

As India records historic lows in extreme poverty—now down to **5.3%**—the government continues to spend heavily on food and fertiliser subsidies. With food subsidy allocations at **₹2.03 lakh crore** and fertiliser subsidies at **₹1.56 lakh crore** for FY 2025–26 (Ashok Gulati, *Indian Express*), there's an urgent need to revisit subsidy mechanisms to ensure fiscal sustainability, better targeting, and nutritional adequacy.

### Understanding Subsidies

**Subsidies** are financial incentives provided by the government to reduce the cost of essential goods or services, with the aim of promoting social welfare or correcting market failures.

**Direct Subsidies:** Involve cash transfers or direct support (e.g., **PM-KISAN**).

**Indirect Subsidies:** Include price support, tax breaks, or subsidised goods (e.g., **NFSA foodgrains, LPG**).

### Why Reform Is Needed

- **Poverty Has Sharply Declined:** Extreme poverty has fallen from **27.1% in 2011** to **5.3% in 2022**, yet **800 million** people still receive subsidised or free food under the **Public Distribution System (PDS)**. This disconnect creates inefficiency and overextension of benefits.
- **Persistent Leakages Despite Digitisation:** Despite digitisation (~84% Aadhaar-seeded ration cards), leakages remain due to **ghost beneficiaries** and **duplications**, as seen in recent ration card cancellations in **Jharkhand**.
- **Nutritional Inadequacy:** The current system over-emphasises cereals like rice and wheat, while **protein- and micronutrient-rich foods** (pulses, dairy, eggs) are largely absent—undermining India's battle against **hidden hunger**.
- **Fertiliser Misuse:** Heavy subsidy on **urea** has led to its **overuse**, while **phosphatic and potassic fertilisers** remain underutilised, degrading soil health and crop productivity.
- **Mounting Fiscal Burden:** Large subsidies crowd out much-needed **capital investment** in agriculture—like irrigation, storage, rural roads, and research—affecting long-term growth and resilience.

### Reform Measures Already Taken

- **Food Subsidy Sector**  
**PMGKAY Integration:** The COVID-era **free grain scheme** is now part of the NFSA.
- **Digitisation of PDS:** Use of **Aadhaar** and **ePOS machines** to track and authenticate transactions.
- **Targeted PDS (TPDS):** Focuses on **BPL** and **Antyodaya (AAY)** households.  
**Nutritional Expansion in Some States:** Pulses, oil, and iodised salt included in state-level PDS menus.
- **Fertiliser Sector**  
**Neem-Coated Urea:** Reduces black marketing and improves nitrogen use efficiency.  
**Nutrient-Based Subsidy (NBS):** Encourages balanced use of **N, P, K, S** fertilisers (non-urea).  
**DBT Rollout for Fertilisers:** Subsidy provided at point-of-sale through **retailers**, not directly to farmers.
- **Price Regulation:** Continued government control on **urea, DAP**, and **MOP** to stabilise farmer input costs.

### Reform Recommendations: The Way Forward

- **Introduce Food Coupons or Digital Wallets:** Target the **poorest 15% of households** with digital food vouchers (~₹700/month/family) to purchase **diverse and nutritious foods** such as **pulses, dairy, and eggs**, improving dietary outcomes.
- **Improve Targeting Through Gradation:** Use integrated datasets from **Aadhaar, PM-KISAN**, and **SECC** to calibrate subsidy levels according to income or landholding categories.
- **Fertiliser Coupons and Market Deregulation:** Move towards **fertiliser coupons** for farmers while **deregulating fertiliser prices** to incentivise **balanced and eco-friendly use**.
- **Promote Bio-Fertilisers and Natural Farming:** Provide financial and technical incentives for **bio-fertilisers**, composting, and **zero-budget natural farming (ZBNF)** to reduce dependency on chemical inputs.
- **Strengthen Monitoring and Evaluation:** Triangulate **land records, subsidy data**, and **PM-KISAN enrolment** to reduce **inclusion and exclusion errors** and enhance transparency.
- **Manage Political Transition Carefully:** As seen in previous farmer protests, subsidy reforms must be **accompanied by trust-building, transparent communication**, and **gradual phasing** to avoid backlash.

### Current Account Balance

#### Recent Data:

**Q4 FY25:** Surplus of \$13.5 billion (1.3% of GDP)

**FY25 Overall Deficit:** \$23.3 billion (0.6% of GDP), lower than \$26 billion (0.7% of GDP) in FY24

#### What is the Current Account Balance?

Measures trade in **goods, services, income**, and **current transfers** between a country and the world.

It is a **key component of the Balance of Payments (BoP)**.

India usually runs a **trade deficit** on an annual basis.

### Samarth Incubation Programme

The **Centre for Development of Telematics (C-DOT)**, a telecom R&D body under India's **Department of Telecommunications (DoT)**, has launched the **Samarth Program**.

The initiative aims to help startups develop **sustainable and scalable business models** by offering **financial grants, advanced resources, and expert guidance** to move ideas from concept to market.

#### Key Features

Selected startups receive:



- A grant of up to ₹5 lakh.
- Fully equipped **office space for six months** at C-DOT campuses in **Delhi and Bengaluru**.
- Access to C-DOT's **laboratory facilities**.
- Mentorship from C-DOT technologists and external industry experts.
- Supports startups working in areas such as **telecom applications, cybersecurity, 5G/6G, artificial intelligence, IoT, and quantum technologies**.
- The program runs in **two cohorts** of six months each, hosting up to **18 startups per cohort**—supporting a total of **36 startups**.
- Successful startups may qualify for **further collaborations and funding** under the **C-DOT Collaborative Research Program (CCRP)**.
- **Implementation Partners:** The program is implemented with support from: **Software Technology Parks of India (STPI), TiE (The Indus Entrepreneurs)**

### Reverse Flipping: Startups Returning to India

The **Securities and Exchange Board of India (SEBI)** recently introduced measures aimed at reducing regulatory hurdles in the stock market, encouraging more companies to list domestically—especially those considering **reverse flipping**—and attracting more **foreign investment** into government bonds.

### What is Flipping?

**Flipping**, also called an **externalised structure**, is when an **Indian start-up transfers its ownership and core assets (like intellectual property)** to a **foreign entity**, typically in countries such as:

- **Singapore**
- **United States**
- **United Kingdom**
- **Cayman Islands**
- **United Arab Emirates**

Though most of the start-up's market, team, and operations remain in India, the Indian company becomes a **subsidiary** of the foreign parent.

### Why Start-ups Flip Abroad

- **Tax advantages** in host countries
- **Easier access to global capital markets**
- **Higher valuations**

- Stronger intellectual property protection
- Global branding and visibility

### What is Reverse Flipping?

**Reverse flipping**, or **internalisation**, is when a **foreign-incorporated start-up moves its domicile back to India**. This trend is gaining momentum as Indian capital markets and investor interest grow stronger.

### Why Start-ups are Reversing the Flip

- Desire to **list on Indian stock exchanges**
- **Increased domestic investor interest** in start-up shares
- **India's improving regulatory and policy environment**
- A **booming local market** and maturing start-up ecosystem
- Growing **confidence in India's economic fundamentals**

### How Reverse Flipping Works

There are multiple legal and tax structures for executing a reverse flip, depending on the company's profile. The two most common methods are:

**Inbound Merger:** The foreign parent company merges into its Indian subsidiary, transferring assets and operations back to India.

**Share Swap Arrangement:** Shareholders of the foreign entity exchange their shares for shares in the Indian entity, effectively shifting ownership back home.

### SEBI's Role

SEBI's recent reforms aim to:

- **Simplify compliance requirements**
- **Encourage reverse-flipped firms to list in India**
- **Make India a more attractive destination** for both domestic and global investors
- These changes are part of a broader effort to **reclaim high-growth start-ups** that had earlier moved abroad, strengthening India's position as a **global innovation hub**.

## CONSTITUTION, POLITY AND GOVERNANCE

### India's 2027 Census: A Historic Digital and Social Mapping Milestone

India is set to launch its 16th nationwide Census in two phases, beginning with snow-bound areas on **October 1, 2026**, and the rest of the country on **March 1, 2027**. This will be a landmark effort as **India's first digital Census** and the **first caste-based population count since 1931**.

A Gazette notification under the Census Act, 1948, has initiated preparatory steps, including house-listing and housing surveys.

### How the Census Will Be Conducted: Key Phases and Timeline

The Census will proceed in two main stages:

- **House-Listing and Housing Census (2026):** Focuses on gathering data about:
  - Household structure and building use
  - Construction material, number of rooms, and ownership status
  - Access to basic amenities: water, sanitation, electricity
  - Cooking fuel and household assets (TVs, phones, vehicles, etc.)
- **Population Enumeration (February 2027):** Collects detailed information such as:
  - Name, age, sex, and relationship to head of household
  - Marital status, education, job, religion
  - Caste or tribe classification, disabilities, and migration background
  - Even the homeless will be included in the count

### A Digital Leap Forward: The First Technology-Driven Census

This edition marks India's full transition to a **digital enumeration model**, utilizing mobile technology and cloud platforms for real-time data collection and supervision.

### Key Digital Features:

- **Self-Enumeration:** Households can submit their own data via a government website or app. After doing so, they receive a unique code for verification by an enumerator.
- **Smart Tools for Enumerators:** Field workers will use smartphones or handheld devices loaded with a Census app. Though paper forms are still an option, digital data collection is encouraged with better pay incentives and high smartphone penetration.
- **Real-Time Monitoring:** The **Census Management and Monitoring System (CMMS)** enables:
  - Live dashboards
  - Instant issue resolution in the field
  - Automated tracking and quality checks

### Caste-Based Enumeration: A Historic Inclusion

For the first time since colonial times (1931), the Census will collect **caste-related data for all communities**, a major development in understanding India's social composition and informing policy decisions.

### How the 2027 Census Differs from 2011

| Feature          | Census 2011                     | Census 2027                               |
|------------------|---------------------------------|---|
| Format           | Paper-based                     | Digital-first with app, portal, and cloud |
| Self-enumeration | Not available                   | Available for all                         |
| Mapping          | Manual physical maps            | GPS tagging and geofencing                |
| Error handling   | Manual and delayed              | Real-time alerts and corrections          |
| Coding system    | Handwritten, often inconsistent | Standardised digital code directories     |
| Data processing  | Slower, less uniform            | Faster, automated, and more accurate      |

### Overcoming Key Challenges

#### 1. Low Digital Literacy

**Response:** Comprehensive training programs with mock drills and regional language support.

#### 2. Poor Internet Connectivity

**Response:** App functions offline and syncs data once reconnected to the internet.

#### 3. Software and App Errors

**Response:** Real-time tech support and diagnostic tools for enumerators in the field.

#### 4. Inaccurate GPS Data

**Response:** Supervisors will manually verify and correct household coordinates.

#### 5. Public Hesitancy

**Response:** Enumerators trained in communication, data privacy protocols, and trust-building. Refusals are flagged for review.

#### 6. Data Duplication or Errors

**Response:** Automated alerts for anomalies (e.g., implausible ages or duplicate entries) and supervisor audits to maintain accuracy.

### NITI Aayog's Report: "India's Data Imperative – The Pivot Towards Quality"

#### Understanding the Report

The report by NITI Aayog focuses on enhancing the integrity of India's public data ecosystem. This ecosystem comprises a vast web of digital public infrastructure, databases, and platforms that enable

effective governance, efficient welfare distribution, and financial inclusion across both government and private entities.

It brings together various data-driven systems such as **Aadhaar** (identity), **UPI** (digital payments), **Ayushman Bharat** (healthcare), and welfare schemes, creating an integrated framework for service delivery.

### Key Statistics from the Report

- **Aadhaar:** In the fiscal year 2024–25, more than **27 billion Aadhaar authentications** were carried out, highlighting its critical role in identity-based service access.
- **Unified Payments Interface (UPI):** With **₹23.9 trillion in monthly transactions**, UPI stands as the largest real-time payment infrastructure globally.
- **Ayushman Bharat Digital Mission:** So far, **369 million digital health IDs** have been issued, contributing significantly to interoperable digital health records.
- **Direct Benefit Transfers (DBT):** A total of **₹5.47 lakh crore** has been disbursed via DBT mechanisms in FY 2024–25, covering more than **330 welfare programs**.
- **Aadhaar-based e-KYC:** Over **1.8 billion electronic KYC verifications** were completed, helping reduce costs and streamline verification across sectors.
- **Digital Connectivity:** With **1.2 billion mobile users** and around **800 million internet subscribers**, India is among the world's largest digital populations.

### Why India Needs a High-Quality Data Ecosystem

- **Curbing Fiscal Waste:** Inaccurate or outdated data contributes to **duplicate beneficiaries** and errors in targeting, leading to **4–7% excess expenditure** in welfare schemes.
- **Supporting Policy with Evidence:** Reliable data is essential for **data-driven decision-making**, including the use of **AI-powered tools** for precise delivery of government services.
- **Building Public Confidence:** Citizens' faith in digital governance depends heavily on the government's ability to provide accurate and timely services.
- **Strengthening AI Development:** High-quality, verified data is the foundation for building robust AI models, especially in sectors such as **healthcare, agriculture, and digital governance**.
- **Improving Government Efficiency:** When data is interoperable and accurate, different ministries and departments can work in sync, enhancing **inter-departmental coordination** and policy execution.

### Challenges Hindering Data Quality in India

- **Data Silos and Fragmentation:** Many government departments operate on isolated digital systems, using incompatible data formats that prevent smooth integration and sharing.
- **Absence of Clear Responsibility:** No single agency or entity has full accountability for maintaining consistent data quality across all administrative levels.
- **Outdated Digital Infrastructure:** Legacy IT systems in many departments lack the capability for real-time updates or integration with modern platforms, limiting seamless operations.
- **Misaligned Incentives:** Current data entry practices reward **speed over accuracy**, meaning that staff are not held accountable for ensuring data correctness.
- **Lack of a Quality-Driven Culture:** A widely accepted mindset that "80% accuracy is sufficient" fosters complacency and allows data errors to persist across the system.

### Recommendations from NITI Aayog

- **Designate Data Custodians:** Appoint specific officers responsible for data quality at the **national, state, and district** levels to ensure ownership and accountability.
- **Link Quality to Incentives:** Introduce mechanisms where **error rates and data quality scores** influence staff evaluations and departmental funding decisions.
- **Promote Data Interoperability:** Enforce common standards across systems by using frameworks such as **IndEA (India Enterprise Architecture)** and **NDGFP (National Data Governance Framework Policy)** to dismantle data silos.
- **Adopt Practical Tools:** Use NITI Aayog's tools like the **Data Quality Scorecard** and the **Data Maturity Assessment Framework** to help departments regularly evaluate and improve their data practices.
- **Focus on Capacity Building:** Train ground-level personnel and data managers in data validation techniques and instill a culture where **data accuracy is a key professional responsibility**.

### Conclusion

The framework proposed in NITI Aayog's report represents a major step toward **data-driven and precision-focused governance**. With India's digital systems playing an ever-growing role in service delivery, there is a pressing need to embed **data stewardship, validation, and interoperability** across all levels of government. Ensuring these practices will not only improve administrative efficiency but also

enhance public trust in digital governance and unlock the full potential of the country's digital infrastructure.

### National Turmeric Board Inaugurated in Telangana

**Context:**

The Union Home Minister inaugurated the headquarters of the National Turmeric Board in Nizamabad, Telangana, fulfilling a 40-year demand of turmeric farmers.

**About the National Turmeric Board:**

**Type:** Specialized statutory body to promote, regulate, and support the turmeric sector.

**Location:** Nizamabad, Telangana — known as the “Turmeric Capital of India.”

**Governance:** Operates under the Ministry of Commerce and Industry, with coordination from Ministries of AYUSH, Agriculture, Pharmaceuticals, and Cooperation.

**Composition:** Chairperson appointed by Central Government, Secretary from Department of Commerce, members from related ministries, turmeric-producing states, farmer representatives, exporters, and research bodies.

**Objectives:**

- Value addition, branding, and marketing of turmeric products.
- Eliminate middlemen and improve farmer income.
- Promote global awareness of turmeric's medicinal properties.
- Improve logistics and quality to meet international standards.
- Provide training, skill development, and research support.

**Key Functions:**

- Build export infrastructure.
- Promote GI-tagged organic turmeric.
- Ensure compliance with international food and safety standards.
- Coordinate with Spices Board and cooperatives for export facilitation.

**Status of Turmeric in India:**

- India produces over 75% of global turmeric, with 30+ indigenous varieties.
- Grown in 20+ states; major producers include Maharashtra, Telangana, Karnataka, Tamil Nadu, Andhra Pradesh, and Meghalaya.
- Requires tropical climate, well-drained loamy soil.



- 2022–23 stats: 3.24 lakh hectares cultivation area, 11.61 lakh tonnes production, 1.53 lakh tonnes export worth USD 207.45 million.
- Export target: USD 1 billion by 2030.
- Major export destinations: Bangladesh, UAE, USA, Malaysia.

### **Bihar Launches India's First Mobile e-Voting System in Local Body Polls**

**Context:** Bihar became the first Indian state to conduct local body elections using a mobile phone-based e-voting system, achieving 70.2% voter turnout via this platform.

**What is it?** A mobile-based electronic voting system called **E-SECBHR** allowing remote voting during urban local body elections.

**Developed by:** Centre for Development of Advanced Computing (C-DAC).

**Objectives:**

- Facilitate inclusive, accessible, and contactless voting.
- Increase participation among elderly, disabled, pregnant women, and those unable to visit polling stations.
- Promote digital empowerment and ease of voting.

**How it Works:**

- Voters download the E-SECBHR app (Android only).
- Link their mobile number to electoral roll after voter ID verification.
- Vote remotely on election day through the app or SEC website.

**Key Features:**

- Secure and user-friendly app interface.
- Remote voting capability.
- Biometric verification through facial recognition.
- Real-time backend monitoring.
- Multilingual support.

**Security Measures:**

- Blockchain technology ensures vote immutability.
- Facial recognition to verify identity.
- Login restrictions: max two users per mobile, unique voter ID required.
- Digital audit trail for transparency.

**Impact:**

- Bibha Kumari of East Champaran became the first Indian voter to cast vote via mobile.
- Sets a precedent for digital electoral reforms and smart governance.
- Could be a model for future state or national level elections.

### Estimates Committee of Parliament

**Context:** The **Speaker of Lok Sabha** inaugurated a national conference to celebrate **75 years** of the Estimates Committee, held in Mumbai.

♦ **What Is It?** A key financial watchdog in **Lok Sabha**, the Estimates Committee scrutinizes government expenditure to ensure optimal use of public funds and recommend efficiency improvements.

♦ **Key Facts:**

- **Formed:** In **1950**, post-Constitution, under Lok Sabha rules.
- **Composition:** 30 elected **Lok Sabha members**; Ministers are not eligible.
- **Chairperson:** Appointed by the **Speaker** of Lok Sabha.
- **Tenure:** Members serve for one year, renewable.

♦ **Core Functions:**

- **Budget Scrutiny:** Examines annual estimates presented in the Budget to ensure economic and efficient allocation.
- **Policy Recommendations:** Suggests policy changes to improve governance and financial planning.
- **Spending Review:** Evaluates how well funds are being used in line with intended purposes.
- **Presentation Advice:** Recommends better ways to format and display budget data for Parliamentary discussion.
- **Scope:** Does **not** examine **public sector undertakings** — that's the role of the **Public Accounts Committee**.

♦ **How It Works:**

- Selects Ministries/Departments for detailed study.
- Seeks input from officials and experts.
- Conducts **field visits** with prior approval.
- Holds formal hearings and prepares **Reports for Lok Sabha**.
- Government must respond with an **Action Taken Report (ATR)** within 6 months.

## INTERNATIONAL RELATIONS AND SECURITY

### Iran-Israel Conflict and its Impact on India

Just as global shipping was beginning to stabilize with traffic returning to the Red Sea, renewed tensions between Iran and Israel have reignited concerns about rising oil prices and global trade disruptions. These fears recently contributed to a 573-point drop in the Sensex. Analysts warn that Iran might obstruct the Strait of Hormuz — a critical chokepoint for 20–25% of the world's oil flow and major LNG exports from Qatar and the UAE, both vital to India's energy supply.

### Economic Implications of the Iran-Israel Tensions for India

- 1. Threat to Growth and Price Stability:** India's dependence on oil imports makes it particularly vulnerable. A \$10-per-barrel increase in crude oil could reduce India's GDP growth by 0.3 percentage points and push consumer inflation up by 0.4 percentage points. This could undo recent inflationary relief — retail inflation dropped to a 75-month low of 2.82% in May 2025, prompting the RBI to cut the repo rate by 50 basis points.  
Rising oil costs mean Indian refineries need more dollars to pay for crude, weakening the rupee and making imports more expensive — aggravating the current account deficit.
- 2. Energy Supply Risks:** While no direct hits have been reported on oil infrastructure, the risk remains. Iran's refineries (which can process 2.8 million barrels daily) haven't been damaged, but its crude exports may fall below 1.5 million barrels/day, according to S&P Global, adding uncertainty to global markets.
- 3. Broader Energy Price Inflation:** The conflict is pushing up not just crude oil prices but also costs for other essential imports such as LPG, natural gas, petrochemicals, and fertilisers — all of which India heavily depends on.
- 4. Impact on Rural Areas and Agriculture:** Higher prices for fertilisers and LPG could increase living costs in rural regions and reduce farm productivity. This threatens to reverse recent improvements in food inflation.
- 5. Cost Pressure on Industries:** Sectors like aviation, chemicals, logistics, cement, and tyres — all reliant on oil-based inputs — are facing higher raw material costs, squeezing profit margins. Crisil Ratings notes the extent of the impact will vary by sector, depending on their oil dependence.
- 6. Mixed Sectoral Impact:** Upstream oil firms may benefit from higher prices, but downstream refiners could suffer margin compression. Industries like packaging, plastics, and specialty chemicals might pass on rising input costs to customers or absorb them, affecting either demand or profits.

7. **MSMEs and Consumers Under Pressure:** If tensions escalate, transportation and logistics expenses could spike, affecting grocery supply chains. MSMEs may face shrinking margins as they grapple with costlier inputs and subdued demand.
8. **Gold Prices Surge:** With the rupee weakening and uncertainty rising, investors are turning to gold. Futures prices in India surpassed ₹1 lakh per 10 grams. While retail jewellery demand remains low due to high prices, gold as an investment remains attractive.
9. **Brief Relief from Red Sea Recovery:** For India, which imports over 80% of its crude, the return of shipping to the Red Sea offered only temporary respite — the geopolitical crisis has reignited economic vulnerabilities.
10. **Shipping and Insurance Costs Rising:** With many vessels opting for the longer Cape of Good Hope route, shipping times are increasing by 10–14 days. This reduces vessel availability and pushes up freight and insurance expenses.
11. **LNG Transport Disrupted:** LNG shipments through the Suez Canal fell drastically — from 34.94 million tonnes in 2022 to 4.15 million in 2024 — while volumes via the Cape route skyrocketed, indicating growing logistical strain and energy security risks for countries like India.

### International Civil Aviation Organisation (ICAO):

The International Civil Aviation Organization (ICAO) is a specialized intergovernmental agency linked to the United Nations (UN). It was created in 1947 under the Chicago Convention of 1944.

Its headquarters are located in Montreal, Canada.

### Functions of ICAO:

- ICAO is focused on promoting safe and efficient international air transport for peaceful purposes, ensuring that all member states have fair opportunities to operate international airlines.
- It develops and enforces standards and regulations related to aviation safety, security, facilitation, operational efficiency, and the economic growth of air transport. It also works to improve the environmental impact of aviation.
- The organization acts as a platform for cooperation and dialogue on civil aviation matters among its 193 member countries.

- ICAO encourages the formation of regional and global agreements to liberalize aviation markets and helps establish legal frameworks to maintain safety while supporting the sustainable growth of international aviation law.

## G-7

The Prime Minister recently traveled to **Canada** to attend the **G7 Summit**, invited by Canadian Prime Minister **Mark Carney**.

### About the G7 Grouping

- The **Group of Seven (G7)** is an **informal coalition** of seven leading advanced economies:
- **Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.**
- The **European Union (EU)** also participates and is represented by: The **President of the European Council**, The **President of the European Commission**

### History of G7

- Founded in **1975** as a response to the **oil crisis**.
- Russia joined in **1998**, making it the **G8** temporarily.
- In **2014**, Russia was excluded, returning the group to the **G7**.
- Initially focused solely on **global economic development**, the G7 now addresses a wide range of global issues, including: Foreign and security policy, Trade, Climate change and Development

### Governance and Functioning of the G7

- The **G7 presidency rotates annually** among the member countries (the EU does not hold the presidency).
- The **G7 Summit** is the main event, attended by: Heads of State and Government of the seven members, EU representatives and Invited States and International Organizations
- The agenda and priorities are set by the **current presidency**.
- Decisions are generally made by **consensus**.

## PM Modi's Landmark Visit to Cyprus: Strengthening Bilateral Relations

Prime Minister Narendra Modi made a significant state visit to Cyprus, marking the first by an Indian Prime Minister in more than 20 years. During his trip, he engaged in high-level talks with Cypriot President Nikos Christodoulides, highlighting the deep-rooted and strategic partnership between the two democratic nations.

### Major Outcomes of the Visit

1. **Prestigious Honor for PM Modi:** Cyprus bestowed its highest civilian award—the Grand Cross of the Order of Makarios III—on PM Modi, recognizing his efforts to strengthen bilateral ties.
2. **Ocean Governance and the Commonwealth:** A key focus was the implementation of the 2024 Apia Commonwealth Ocean Declaration, which promotes sustainable ocean use, climate resilience, marine biodiversity, and capacity-building among Commonwealth nations. This aligns with the outcomes of the first Commonwealth Ocean Ministers Meeting held in Cyprus in April 2024, which led to the establishment of the Blue Charter Centre of Excellence.
3. **Diplomatic and Institutional Cooperation:** India and Cyprus agreed to deepen diplomatic engagement through regular high-level talks and activate institutional frameworks via their foreign ministries. A comprehensive bilateral Action Plan is in development to guide this collaboration.
4. **Support for Cyprus's Sovereignty:** India reaffirmed its backing for Cyprus's sovereignty, unity, and territorial integrity, and endorsed the UN-backed framework for a bizonal, bicomunal federation. Both sides rejected unilateral measures that could disrupt peace negotiations.
5. **Security and Defence Collaboration:** The two nations strongly condemned terrorism, including recent incidents in Kashmir.  
They pledged to enhance cooperation in counter-terrorism, cybersecurity, defence manufacturing, maritime safety, and coordinated crisis response.
6. **Boosting Connectivity and Trade:** Both leaders supported the India–Middle East–Europe Economic Corridor (IMEC), viewing it as a transformative initiative for global connectivity. Cyprus expressed willingness to become a key logistics hub for Indian exports to Europe.
7. **Enhanced EU–India Relations:** Cyprus committed to bolstering India-EU relations, especially during its upcoming EU Council Presidency in 2026.  
Both sides pushed for finalizing the EU–India Free Trade Agreement by the end of the year and committed to continued engagement through the EU–India Trade and Technology Council and the 2025 Strategic Roadmap.
8. **Economic, Innovation, and Cultural Partnerships:** India and Cyprus agreed to expand their economic ties, including plans for a Cyprus–India Business Forum and a potential MoU focused on innovation, artificial intelligence, digital infrastructure, and joint research.

A Mobility Pilot Program is expected by late 2025, along with efforts to promote tourism, cultural exchange, and explore direct flight routes.

**Action Plan 2025–2029**

A structured five-year roadmap will guide the strategic partnership, with regular monitoring by both countries' foreign ministries to ensure consistent progress.

### **India's Support for Cyprus Sends a Message to Turkey**

India used the visit to reaffirm its unwavering support for Cyprus's independence and sovereignty—an implicit rebuke to Turkey amid strained India-Turkey relations. Tensions have risen due to Ankara's criticism of India's actions in Kashmir and its pro-Pakistan stance following recent attacks and counter-terror operations in India.

PM Modi's visit to the historic heart of Nicosia, which overlooks the Turkish-controlled northern region of the island, was a symbolic gesture of solidarity with Cyprus.

### **Background: The Turkey-Cyprus Conflict**

The division of Cyprus traces back to ethnic tensions between Greek and Turkish Cypriots following independence from British rule in 1960. A 1974 coup favoring unification with Greece led to a Turkish military intervention, resulting in the establishment of the Turkish Republic of Northern Cyprus (TRNC)—recognized only by Turkey.

The island remains split, with a UN buffer zone separating the two sides. Numerous UN-mediated talks have failed to resolve disputes over land, governance, and energy exploration—especially in the resource-rich Eastern Mediterranean.

### **Grand Cross of the Order of Makarios III**

- The **Prime Minister of India** was recently awarded the **Grand Cross of the Order of Makarios III** by Cyprus.
- This is the **highest civilian award** given by Cyprus, named in honor of the nation's first president, **Archbishop Makarios III**.
- The Order includes several ranks, with the **Grand Cross** being among the top distinctions, likely second only to the **Grand Collar**.
- **Key Facts about Cyprus**
- Cyprus is a **Eurasian island nation** situated at the northeastern edge of the **Mediterranean Sea**, just south of the **Anatolian peninsula (modern-day Turkey)**.
- It ranks as the **third largest island** in the Mediterranean, following **Sicily** and **Sardinia**.
- Important cities include **Limassol, Larnaca, Famagusta, and Paphos**.
- The island's highest peak is **Mount Olympus**, standing at **1,952 meters**.
- The capital city is **Nicosia**.



### Global Nuclear Arsenal: SIPRI Yearbook 2025 Highlights:

According to the latest report by the **Stockholm International Peace Research Institute (SIPRI)**, as of **January 1, 2025**, **nine countries** collectively possess an estimated **12,241 nuclear warheads**.

#### Key Findings

- Russia has the most, with 5,459 nuclear weapons, India has 180 and North Korea has the least, with 50 nuclear weapons.
- Of the total inventory, approximately **9,614 warheads** are **in military stockpiles** and **available for potential use**.
- The rest are **retired warheads**, mostly in the process of being dismantled.

#### Trends in Nuclear Development

- All nine countries **continued to modernise** their nuclear arsenals in **2024**:
- **Upgrading old systems**
- **Deploying newer, more advanced warheads and delivery systems**

#### Country-Specific Highlights

- **Russia and the United States** together hold about **90% of the global nuclear arsenal**.
- **China's stockpile** is **expanding the fastest**, adding around **100 new warheads per year** since 2023.
- **India** slightly increased its arsenal in 2024 and is developing:
- **New nuclear delivery systems**
- **Canisterised missiles** capable of carrying **multiple independently targetable warheads (MIRVs)**
- **North Korea** continues to build its arsenal and now holds about **50 warheads**.

#### Global Outlook

Although the **total number of nuclear warheads worldwide continues to decline**, mainly due to the dismantling of **retired warheads by the US and Russia**, the number of **deployed or deployable warheads is increasing**.

This shift signals an **intensifying focus on operational readiness** and the **modernisation** of active nuclear capabilities, raising global security concerns.

## US Issues Level 2 Travel Advisory for India

**Context:** The US State Department has issued a **Level 2 Travel Advisory** for India, urging its citizens to exercise **increased caution** due to rising incidents of violent crime and potential terrorist threats.

### ♦ What is a Level 2 Advisory?

Issued by the **US Department of State, Bureau of Consular Affairs**.

Part of a 4-tier travel warning system:

**Level 1** – Normal Precautions

**Level 2** – Increased Caution

**Level 3** – Reconsider Travel

**Level 4** – Do Not Travel

### ♦ Main Concerns Raised:

**Violent Crime:** Increase in rape and assaults, especially in tourist areas; solo travel, particularly by women, is discouraged.

**Terror Threats:** Risk of sudden attacks in crowded public areas like markets, transport hubs, and places of worship.

**Restricted Access for US Officials:** Travel limitations in parts of **Maharashtra, Telangana, and West Bengal** due to **Naxal insurgency**.

### ♦ High-Risk Regions Highlighted:

**Jammu & Kashmir** – Advised against travel due to terrorism and civil unrest.

**India-Pakistan Border** – Avoid due to conflict risk.

**Central & Eastern India (e.g., Jharkhand, Chhattisgarh)** – Due to left-wing extremism.

**Manipur and some Northeastern states** – Ethnic violence and insurgent activity.

### ♦ Legal/Travel Restrictions:

Satellite phones and GPS devices are prohibited; violations can lead to penalties.

**E-visas** are not valid for **land border crossings**.

Immigration violations may result in deportation.

### ♦ Possible Impacts:

- **Diplomatic Concerns:** Could affect India-US people-to-people relations and bilateral tourism.
- **Tourism Sector:** May deter American visitors, impacting revenue.
- **Security Reputation:** Emphasizes regional safety gaps; may prompt increased domestic security measures.

- **Policy Impetus:** Might push India to enhance public safety and law enforcement mechanisms.
- **Image Challenge:** Can damage India's international reputation as a secure travel and investment destination.

### Madagascar

- **Capital:** Antananarivo
- **Recent Event:** India's Minister of State for Defence represented India at Madagascar's 65th Independence Day celebrations.
- **Political and Geographic Features:**

Located in the Indian Ocean, ~250 miles off southeast Africa.  
Maritime neighbors: Comoros, France (Mayotte and Réunion), Mauritius, Mozambique, Seychelles.  
Fourth largest island globally.  
Hosts about 5% of the world's plant and animal species; ~80% are endemic (found only there).
- **Role in Indian Monsoon:**

The Mascarene High near Madagascar causes the south-west monsoon winds.  
These moisture-rich south-easterly winds move toward Somalia, cross the equator, turn into south-westerlies, and head to India.  
Monsoon retreats via Tibet and dissipates back over Madagascar in September.

## SOCIETY AND SOCIAL JUSTICE

### Integration of Rare Donor Registry with e-Rakt Kosh: Key Highlights

#### Policy Initiative and Objective

- The Ministry of Health and Family Welfare is integrating the *Rare Donor Registry of India (RDRI)* with *e-Rakt Kosh*, a national digital platform for blood bank management.
- The integration aims to:
- Improve access to rare blood types.
- Enhance transfusion safety.
- Strengthen coordination among blood banks, hospitals, and donors.

#### Digital Infrastructure under NHM

- The unified interface will function under the *National Health Mission (NHM)*.
- It will provide a centralized platform for:
- Tracking and locating rare blood donors.
- Facilitating timely blood transfusions, especially in emergencies.

#### Importance for Rare and Genetic Blood Disorders

- The initiative will particularly benefit individuals with:
- Thalassemia.
- Sickle cell anemia.
- Rare blood phenotypes such as Bombay blood group, Rh-null, and P-null.

#### Rare Donor Registry of India (RDRI)

- Developed by *ICMR–National Institute of Immunohaematology (ICMR-NIIH)* and four partner institutes.
- Maintains a database of:
- Over 4,000 rare blood donors.
- Donors tested for more than 300 rare blood group antigens.
- Serves alloimmunised patients by providing precise donor matches.
- A DNA-based **multiplex PCR test** has been developed:
- Designed specifically for the Indian population.
- Enables rapid and accurate identification of rare blood types.

#### e-Rakt Kosh Platform

- Developed by the *Centre for Development of Advanced Computing (CDAC)*.
- Offers:

Real-time tracking of blood stocks.

Information on donation camps.

Donor management tools.

The integration with RDRI will expand its functionality to include rare blood data.

### **Advances in Diagnostics for Hemoglobinopathies**

- ICMR-NIIH has developed:
- Point-of-care (POC) diagnostic kits for **thalassemia** and **sickle cell disease**.
- Rapid test kits for **Hemophilia A** and **Von Willebrand Disease**.
- Cost reduction of sickle cell tests:
- Reduced from ₹350 to under ₹50 per test via Health Technology Assessments (HTA).
- Resulted in potential government savings of ₹1,857 crore.

### **Commercialization and Global Recognition**

- Diagnostic kits transferred to *Bhat Biotech* and commercialized under the brand "**Bio-Scan**" in August 2023.
- Kits have gained interest from the *World Federation for Hemophilia*.
- Enables diagnosis even at primary health care centers.

### **Broader Implications**

- Enhanced safety and efficiency of blood transfusion services.
- Improved healthcare access for patients requiring rare blood or genetic disorder management.
- Reinforces India's position as a leader in:
- Low-cost biotechnology innovation.
- Scalable public health solutions.

### **Pradhan Mantri Ujjwala Yojana (PMUY):**

#### **Increased Petroleum Consumption in Andaman & Nicobar Islands**

In recent years, the Andaman & Nicobar Islands have seen a significant rise in the use of petroleum products—particularly **diesel and LPG (cooking gas)**. This surge is largely attributed to the expansion of the **Pradhan Mantri Ujjwala Yojana (PMUY)**.

#### **About Pradhan Mantri Ujjwala Yojana (PMUY)**

Launched in **May 2016**, PMUY is a flagship initiative of the **Ministry of Petroleum and Natural Gas (MoPNG)** aimed at promoting clean cooking energy for **rural and economically weaker households**, replacing traditional fuels like firewood, coal, and cow dung.

#### **Key Features and Benefits**

- **Financial Support:**  
₹1,600 subsidy for a **14.2 kg LPG cylinder**  
₹1,150 subsidy for a **5 kg cylinder**
- **Free Starter Kit:** Each beneficiary receives a **deposit-free LPG connection**, a **stove (hot plate)**, and the **first LPG refill** at no cost.
- **Priority to Low-Coverage States:** States and regions with **LPG coverage below the national average as of January 1, 2016** are given preference under the scheme.

#### Eligibility Criteria under Ujjwala 2.0

- The applicant must be an **adult woman from a poor household** that **does not already have an LPG connection**.
- She must belong to one of the following categories:
  - Households identified in the **SECC 2011** database
  - **SC/ST** families
  - Beneficiaries of **PM Awas Yojana (PMAY)** or **Antyodaya Anna Yojana (AAY)**
  - **Forest dwellers**
  - **Most Backward Classes (MBC)**
  - **Tea and Ex-Tea Garden Tribes**
  - **Residents of river islands**

If not in the above groups, she can still qualify by submitting a **self-declaration in a 14-point format** confirming that her household falls under the poor category.

Exclusions: Male members from a household cannot apply for the scheme.

#### Servants of India Society: Background and Current Dispute

Tensions have resurfaced between the **Pune-based Gokhale Institute of Politics and Economics (GIPE)** and its founding body, the **Servants of India Society (SIS)**, over the control of a major bank account, with both sides exchanging accusations.

#### About the Servants of India Society (SIS)

- The **Servants of India Society** was established on **June 12, 1905**, in **Pune, Maharashtra**, by **Gopal Krishna Gokhale**, alongside **G.K. Devadhar**, **A.V. Patwardhan**, and **N.A. Dravid**.
- Gokhale envisioned the society as an organization dedicated to training individuals committed to **serving the nation with a spirit of selflessness and dedication**. Its mission focused on promoting **political education**, encouraging **constitutional reform**, and working for **India's national interest** through peaceful and lawful means.

- The society's members were viewed as **missionaries of Indian nationalism**, and several prominent figures such as **V.S. Srinivasa Sastri, Hriday Nath Kunzru, and A.V. Thakkar** were among its early members.
- New recruits underwent a **five-year training period** and committed to working for **very modest remuneration**, reflecting the society's ethos of sacrifice and service.
- After Gokhale's death in 1915, **Srinivasa Sastri** succeeded him as the society's president. SIS maintains its headquarters in **Pune** and has branches in **Chennai, Mumbai, Allahabad, Nagpur**, and other cities.
- Though membership has declined over the years, the Servants of India Society remains notable for its **legacy of public service** and **its role in nurturing patriotic values** during the Indian freedom movement.

### PRASHAD Scheme

After years of negotiations between the Karnataka government and the Central government, progress is finally being made on developing **Chamundi Hills** under the **Pilgrimage Rejuvenation and Spiritual Heritage Augmentation Drive (PRASHAD)**.

Launched in **2014-2015** by the **Ministry of Tourism**, PRASHAD is a Central Sector Scheme focused on the **integrated development of designated pilgrimage sites** across India.

The scheme's main goal is to enhance tourism infrastructure at these religious and heritage locations, providing pilgrims and visitors with a richer and more comfortable experience.

Under PRASHAD, the Ministry of Tourism offers **financial support to state governments and Union Territory administrations** to develop necessary infrastructure at these pilgrimage spots. The scheme also encourages funding through **Corporate Social Responsibility (CSR)** contributions and **Public-Private Partnerships (PPP)**.

Key infrastructure improvements supported by PRASHAD include:

- Access points such as roads, rail, and water transport
- Last-mile connectivity to key sites
- Basic tourism amenities like information and interpretation centers
- Facilities such as ATMs, money exchange counters, eco-friendly transport, renewable energy-based lighting, parking areas, drinking water, toilets, cloakrooms, waiting rooms, and first aid stations
- Commercial and cultural spaces including craft bazaars, souvenir shops, cafeterias, and rain shelters
- Telecom and internet connectivity



### MGNREGS Budget Cap: Centre's Justification and Legal Pushback

For the first time, the Union Finance Ministry has imposed a spending cap on the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), restricting expenditure to 60% of its allocated budget for the first half of FY 2025–26. Traditionally exempt due to its demand-driven nature, MGNREGS is now subject to the Monthly and Quarterly Expenditure Plan (MEP/QEP), a financial control system introduced in 2017.

#### What Is MEP/QEP?

MEP/QEP is a budgeting tool used by government departments to manage and track their spending over the fiscal year. It helps regulate cash flow, monitor expenditures, and ensure that spending aligns with budget allocations.

#### Why the Finance Ministry Imposed a Cap

- **Recurring Budget Overruns:** Historically, over 70% of the MGNREGS budget is spent by September, forcing the government to approve supplementary funds by December — which are typically depleted by January.
- **Rising Pending Dues:** Over the past five years, pending payments at the end of each fiscal year have ranged between ₹15,000 crore and ₹25,000 crore. On average, 20% of the next year's budget goes toward clearing these outstanding dues.

#### Objective

By implementing the cap under MEP/QEP, the ministry aims to smooth out cash flow and prevent the early exhaustion of funds, minimizing the need for additional allocations later in the year.

#### Current Financial Picture (FY 2025–26)

- **Budget:** ₹86,000 crore
- **Funds Released So Far:** 28%
- **Outstanding Dues from FY 2024–25:** ₹19,200 crore
- **Outstanding Dues in FY 2025–26 (as of June 12):** ₹3,262 crore
- This means that nearly half the current year's budget may be consumed by clearing previous dues.

#### Problems With the Spending Cap

**Disregard for Variable Rural Demand:** MGNREGS demand fluctuates with seasons and agricultural cycles, peaking during April–June and post-Kharif (September). Unpredictable weather patterns, like delayed monsoons or droughts, can cause sudden spikes in demand.

*Example:* In 2023, below-normal rainfall led to a 20% increase in job demand during July–August. Karnataka exhausted over 70% of its funds within six months due to a severe drought.

The rigid cap doesn't allow flexibility for such emergencies, undermining MGNREGS's role as a rural safety net.

### **Legal and Constitutional Concerns**

**Not Just a Welfare Scheme—A Legal Guarantee:** Unlike discretionary schemes such as PM-KISAN, MGNREGS is a legally mandated program under the MGNREGA Act, 2005. It guarantees rural households the right to employment on demand.

Limiting funds directly restricts the state's capacity to fulfil this legal obligation, contradicting the very purpose of the Act.

### **Judicial Precedents:**

Indian courts have repeatedly emphasized that lack of funds is not an acceptable reason for failing to meet statutory or constitutional duties.

- *Swaraj Abhiyan v Union of India (2016)*
- *Municipal Council, Ratlam v Vardhichand (1980)*
- *Paschim Banga Khet Mazdoor Samity v State of West Bengal (1996)*

These judgments uphold the principle that financial constraints cannot override legally guaranteed entitlements.

### **Uncertainty and Legal Risks**

**No Guidance on What Happens After 60% Cap Is Reached:** The government has not clarified the course of action if the cap is hit early. Two potential outcomes raise concerns:

States might refuse to provide jobs, even if there is legitimate demand.

Workers may continue working but face indefinite wage delays.

Both outcomes would violate legal provisions of the Act.

### **Risk of Violating Key Rights**

**Section 3:** Guarantees a job within 15 days of application.

**Schedule II, Para 29:** Ensures wage payment within 15 days of completing work.

### **Systemic Challenges Already Exist**

MGNREGS already suffers from wage delays, non-payment of unemployment allowances, and inadequate compensation for late payments — issues acknowledged by the Supreme Court. The new cap could worsen these problems.

### **Conclusion: Weakening a Rights-Based Safety Net**

While the Finance Ministry's goal is to better manage fiscal outflows, the cap undermines the core mission of MGNREGA — to provide timely, legally guaranteed employment and wages to rural populations facing

economic distress. The move may ease budgetary pressures but risks breaching both the letter and spirit of a law designed to protect the vulnerable

### Dharti Aaba Janbhagidari Abhiyan (DAJA)

#### Context:

India has launched its **largest tribal empowerment initiative to date** — the *Dharti Aaba Janbhagidari Abhiyan (DAJA)* — targeting over **1 lakh tribal villages** across **31 States and Union Territories**.

#### Overview of DAJA:

- **What is DAJA?** DAJA is a **landmark tribal outreach and empowerment campaign**, designed to **ensure full coverage of government welfare schemes** among **Scheduled Tribes and Particularly Vulnerable Tribal Groups (PVTGs)**.
- **Nodal Ministry:** Spearheaded by the **Ministry of Tribal Affairs**, Government of India.

#### Objectives of the Campaign:

- **Deliver welfare benefits to the remotest tribal areas**, bridging last-mile gaps in governance.
- **Celebrate the legacy of tribal freedom fighter Bhagwan Birsa Munda**, reinforcing pride in tribal heritage.
- **Empower over 5.5 crore tribal citizens** through a **people-participation model (Janbhagidari)**.

#### Key Features of DAJA:

- **Extensive Coverage:** The campaign spans more than **1 lakh tribal and PVTG habitations** across **31 States/UTs**.
- **Integrated Service Delivery:** A wide range of schemes and entitlements are being delivered in a **single-window format**, including:
  - Aadhaar enrolment
  - Ayushman Bharat health cards
  - PM-Kisan income support
  - PM Ujjwala LPG connections
  - Jan Dhan financial inclusion
  - Pension entitlements
  - Forest Rights Act (FRA) claim facilitation

- **Five Core Pillars of the Abhiyan:**
  1. **Janbhagidari (People's Participation)**
  2. **Saturation of Welfare Schemes**
  3. **Cultural Inclusion**
  4. **Convergence of Government Services**
  5. **Last-Mile Delivery**
- **Technology-Enabled Monitoring:** Real-time **digital dashboards** are being used for tracking progress, ensuring **data transparency** and **accountability**.
- **Cultural Revitalization:** The campaign also celebrates **tribal identity** through community-level events featuring **traditional cuisine, handicrafts, and folk arts**.

### Football for Schools (F4S) Programme

Recently, the Union Minister for Education led the distribution of FIFA-branded footballs under the Football for Schools (F4S) initiative at PM SHRI Kendriya Vidyalaya, located in Fort William, Kolkata, West Bengal.

#### Overview of the Football for Schools (F4S) Programme

- The Football for Schools programme is a large-scale initiative run by the Fédération Internationale de Football Association (FIFA) in partnership with UNESCO. Its goal is to support the education, growth, and empowerment of approximately 700 million children worldwide.
- The programme strives to make football accessible to both boys and girls by integrating football-related activities into school curricula, working closely with relevant educational authorities and other stakeholders. It is designed to foster specific life skills and competencies through football, contributing to the achievement of the United Nations' Sustainable Development Goals (SDGs) and other global priorities.
- F4S aligns with international policies related to sport, education, and health, such as UNESCO's Kazan Action Plan, the Education 2030 agenda including the Incheon Declaration and Framework for Action, and the World Health Organization's Global Action Plan on Physical Activity (GAPPA).

#### Timeline and Implementation

Launched in mid-2019, the programme began with pilot projects in Puerto Rico and Lebanon. It was planned to expand to additional regions starting in 2021 and is set to continue at least until 2023.

In India, the Football for Schools initiative is managed by the Department of School Education and Literacy (DoSEL) under the Ministry of Education. The programme also receives support from the All India Football Federation (AIFF) and the Sports Authority of India (SAI).

### Key Objectives

Empower boys and girls with essential life skills and competencies through football.

Equip coaches and educators with specialized training to effectively deliver sport and life-skills sessions.

Enhance the capacity of stakeholders, including schools, member associations (MAs), and public authorities, to facilitate life skills education through football.

Foster stronger collaboration among governments, MAs, and participating schools to encourage partnerships, alliances, and cross-sector cooperation.

### Khasi People

The Meghalaya High Court has recently accepted a Public Interest Litigation (PIL) concerning the future of hundreds of tribal certificate applications from the Khasi community. This follows a government decision that has effectively stopped the issuance of Scheduled Tribe (ST) certificates to certain applicants.

#### About the Khasi Tribe

The Khasi are an indigenous tribal community primarily inhabiting the Khasi and Jaintia Hills of Meghalaya. Small Khasi populations also live in Assam and parts of Bangladesh.

Believed to have migrated from Tibet or Burma around 500 BCE, the Khasi are among the region's earliest ethnic groups. They consist of several clans, including Lyngdoh, Diengdoh, Marbaniang, Shiemlah, Lapang, and Songkali.

Physically, the Khasi are typically of short stature.

- **Language and Culture**

The Khasi language forms a core part of their identity and remains the primary means of daily communication within the community. While English and Hindi are also spoken, Khasi holds a unique cultural significance.

A distinctive feature of Khasi society is its matrilineal system, where lineage and inheritance pass through the mother's side. Women play a central role in family decision-making and management.

- **Religion**

The majority of Khasi people are Christians, though there are minorities practicing Hinduism and Islam.

- **Livelihood and Profession**

Traditionally, the Khasi have relied on cultivation for their livelihood. However, in contemporary times, many Khasi youths have ventured into professional careers such as medicine, engineering, business, and education.

The Khasi are officially recognized as a Scheduled Tribe in India, granting them specific legal privileges. The Khasi Hills Autonomous District Council serves as the governing body that protects their customary laws.

### Festivals and Traditions

- **Shad Suk Mynsiem:** A spring festival celebrating nature, fertility, and gratitude, featuring traditional dances by men and women in customary attire.
- **Nongkrem Dance Festival:** A five-day religious event involving prayers for a bountiful harvest.
- **Behdienkhlam Festival:** A celebration intended to ward off evil spirits and invoke health and prosperity.
- Traditional Khasi music includes instruments such as the Duitara (a stringed instrument) and the Tangmuri (a bamboo flute).
- **Living Root Bridges:** A remarkable symbol of Khasi harmony with nature is their **living root bridges**, which are formed by guiding the roots of the *Ficus elastica* tree to grow across rivers and ravines, creating strong natural bridges. These bridges can span up to 100 feet and last for centuries. The most renowned example is the **Double-Decker Living Root Bridge** located in Nongriat village.

### Central Sector Scheme of Scholarship for College and University Students (CSSS)

The CBSE has recently announced the application window for the **Central Sector Scheme of Scholarship for College and University Students (CSSS)** for the academic year 2025-26. Eligible students can apply through the National Scholarship Portal at [scholarships.gov.in](https://scholarships.gov.in).

#### About the Scheme

- The **Pradhan Mantri Uchchatar Shiksha Protsahan (PM-USP)**, also known as the Central Sector Scheme of Scholarship for College and University Students, is implemented by the Department of Higher Education under the Ministry of Education. The main goal of this scheme is to provide financial aid to academically meritorious students from economically disadvantaged families, helping them cover part of their daily expenses while pursuing higher education.
- Scholarships under this scheme are awarded based on the students' performance in their Higher Secondary or Class 12 Board Examinations.

#### Scholarship Allocation

Each year, up to 82,000 new scholarships are granted—divided equally with 41,000 for boys and 41,000 for girls—to support students pursuing undergraduate, postgraduate, and professional courses such as medicine and engineering.

The total scholarships are distributed among State Education Boards proportional to the population of the 18–25 age group in each state. Additionally, shares for CBSE and ICSE are determined based on the number of passing students from these boards nationally.

Within each State Education Board's allotment, scholarships are distributed among students from Science, Commerce, and Humanities streams in a 3:2:1 ratio. If there are fewer applicants from one stream, slots can be reallocated to others.

### **Scholarship Benefits**

- At the undergraduate level, recipients receive ₹12,000 per annum for the first three years of study.
- Postgraduate students receive ₹20,000 annually.
- For students in professional courses lasting five years or integrated programs, ₹20,000 per year is awarded during the 4th and 5th years.
- Technical course students, such as those pursuing B.Tech or B.Engg, receive ₹12,000 per year for the first three years and ₹20,000 in the 4th year.
- Payments are made directly into the beneficiaries' bank accounts via Direct Benefit Transfer (DBT).

### **Eligibility Criteria**

- Students must be enrolled in regular degree programs at institutions recognized by the All India Council for Technical Education or other relevant regulatory bodies.
- The combined annual income of the applicant's family should not exceed ₹4,50,000.
- To renew the scholarship annually, students must secure at least 50% marks in their exams and maintain a minimum of 75% attendance.
- Applicants must have their own bank accounts.
- Applications require verification by the student's college or university. Without this institutional verification, the application will be deemed invalid.
- Students may be asked to present original documents to their institution for validation.

### **Exclusions**

- Students enrolled in correspondence, distance education, or diploma courses are not eligible.
- Those already benefiting from other scholarships or state-run fee waiver/reimbursement schemes cannot apply.



## GEOGRAPHY, ENVIRONMENT, BIODIVERSITY AND DISASTER MANAGEMENT

### Air India Crash Under Investigation as India's Aviation Safety Ratings Remain Robust

#### Introduction

- The tragic crash of Air India flight AI-171 in Ahmedabad, which resulted in the loss of 241 lives, has reignited concerns about aviation safety in India.
- Nonetheless, international aviation authorities—the International Civil Aviation Organisation (ICAO) and the U.S. Federal Aviation Administration (FAA)—have reaffirmed India's solid performance in areas such as airworthiness and operational safety.
- The crash investigation is being conducted in accordance with globally accepted protocols.

#### India's Standing in Global Aviation Safety

- As the world's third-largest domestic aviation market, trailing only the U.S. and China, India has made significant strides in civil aviation safety over the past ten years.
- In November 2022, ICAO conducted an audit of India's Directorate General of Civil Aviation (DGCA) under its Universal Safety Oversight Audit Programme (USOAP).
- India earned an Effective Implementation (EI) score of 85.65%, a substantial improvement from 69.95% in 2018.
- This score placed India above the global average in all eight critical safety areas, including legislation, licensing, operations, airworthiness, investigations, and more.

#### Performance Across Core Safety Metrics

Two standout areas in ICAO's audit—**operations** and **airworthiness**—underscored India's robust safety framework:

1. **Operations:** India scored 94.02%, outperforming the global average of 72.28%, and even surpassing the U.S. (86.51%) and China (90%) in their latest assessments.
2. **Airworthiness:** India achieved an impressive 97.06%, ahead of the U.S. (89.13%) and China (94.83%).

#### FAA Category 1 Status

- In October 2021, the U.S. FAA audited India's DGCA, focusing on operational safety, airworthiness, and licensing procedures.
- Following successful evaluation, India retained its **Category 1 status** under the FAA's International Aviation Safety Assessment (IASA).

- By April 2023, the FAA officially confirmed that India remains compliant with ICAO safety oversight standards, enabling Indian airlines to operate and expand services to the U.S. and enter code-sharing agreements with American carriers.

#### **AI-171 Crash and International Investigative Collaboration**

- Given that the crashed aircraft was a U.S.-manufactured Boeing, the U.S. National Transportation Safety Board (NTSB) joined the investigation.
- The UK's Air Accidents Investigation Branch (AAIB) also became involved due to the presence of British nationals among the victims.
- Per ICAO norms, Boeing and engine maker GE are also actively contributing to the inquiry.

#### **Why Global Endorsements Matter**

- Endorsements from ICAO and FAA serve as operational validations, not just reputational markers. They affirm a nation's capability to maintain safe, globally compatible aviation systems.
- For India, such endorsements are essential—not only for maintaining international flight operations and partnerships but also for reinforcing public trust during crises.
- Despite the AI-171 tragedy, India's robust audit outcomes and regulatory compliance illustrate that one-off incidents should not overshadow long-term systemic progress.
- As India continues expanding airports, upgrading fleets, and enhancing regional air connectivity, maintaining global credibility remains crucial.

#### **Way Ahead:**

- India's aviation authority faces the dual responsibility of managing swift industry growth while upholding stringent safety standards.
- The AI-171 crash is a somber reminder of the need for transparency and continuous improvement.
- However, India's strong compliance with international protocols and high safety ratings place it in a good position to recover and advance.
- Steps such as enhanced personnel training, AI-driven predictive maintenance, and routine compliance audits can further bolster safety.
- Ultimately, the goal must be to align growth with vigilance and to keep aviation safety as a foremost national priority.

#### **Shongtong Karcham Hydroelectric Project**

This hydropower project is located on the **Satluj River** in the **Kinnaur District** of **Himachal Pradesh** and is being developed by **Himachal Pradesh Power**.

- It is designed as a **run-of-the-river** facility, meaning it uses the natural flow of the river without the need for large reservoirs.
- The project will operate with **three Francis turbines**, each with a capacity of **150 MW**, totaling **450 MW**. It is expected to generate approximately **1,594 million units (or 1,593.93 GWh)** of electricity annually.
- The system will utilize a **gross head of 128.57 meters** and a **net head of 126.58 meters** to drive the turbines. Water will be delivered to the turbines through **three penstocks**, each with a **length of 5.1 meters**.
- Once operational, this project will contribute significantly to the region's clean energy production.

### AviList

#### AviList Goes Live After Four Years of Development

**AviList** is the **first-ever unified global checklist** of all known bird species worldwide.

It was developed by the **Working Group on Avian Checklists**, a collaboration involving:

- **BirdLife International**
- **Cornell Lab of Ornithology**
- **American Ornithologists' Society**
- **International Ornithologists' Union**

#### Avibase

The checklist brings together diverse global views on avian classification and aims to standardize what constitutes a **bird species**.

#### Key Features of AviList

- **Total entries: 11,131 species, 19,879 subspecies, 2,376 genera, 252 families and 46 orders**
- It will **replace existing lists**, such as:
  - The **International Ornithological Committee (IOC)** list
  - The **Clements Checklist**
- The AviList will be **updated annually** to reflect new research and discoveries.

#### Why AviList Matters

- **Clarity for Conservation:** Helps scientists prioritize species conservation by removing confusion caused by multiple checklists.
- **Unified Platform:** Makes it easier for **birders, researchers, policymakers, and conservationists** to collaborate and share data.

- **Better Integration:** Supports the linking of various **online databases** and tools with consistent taxonomy.
- **Enhanced Understanding:** Contributes to a clearer global picture of **avian diversity, distribution, and ecology.**

### Indian Rat Snake

The **State Board for Wildlife** is set to meet next week to **review a proposal** to declare the **Indian Rat Snake** as the **official state reptile.**

#### About the Indian Rat Snake

- A **non-venomous snake**, widely seen across India.
- Known for its **impressive speed** and **larger size** compared to most other snake species in the country.
- Locally called **Manja Chera** and **Karinchera** in **Kerala.**
- **Key Characteristics**
- **Diet:** Carnivorous—feeds on rodents, birds, and even **hatchlings of venomous snakes** like cobras.
- **Behaviour:** **Diurnal** (active during the day); displays both **arboreal (tree-dwelling)** and **terrestrial (ground-dwelling)** behaviour depending on its needs.
- **Habitat:** Occupies a wide range of environments, including:
  - Forests and forest edges
  - Dry tropical forests, scrublands, and savannas
  - Agricultural fields, plantations, and villages
- **Geographical Range**
- Found throughout **India**, including the **Andaman Islands**, and across **South and Southeast Asia, China, Pakistan, and Turkmenistan.**
- **Ecological Role and Importance**
- Plays a **crucial role in pest control**, especially rodents that:
  - Destroy crops such as grains and tubers
  - Spread diseases in human and animal populations
- Known as the **“farmer’s friend”** due to its agricultural benefits.
- Holds **high conservation value** for maintaining ecological balance in rural and semi-urban areas.
- **Conservation Status**
- **IUCN Red List:** *Least Concern*
- **Wildlife (Protection) Act, 1972** (India): *Schedule I* (offers highest protection)

### Spartaeus Karigiri

- A jumping spider from the **Spartaeinae** subfamily has been discovered in southern India. This marks the first time that the genera **Spartaeus** and **Sonoita**—groups previously known only in Southeast Asia and Africa—have been recorded in India.
- The spider is named after **Karigiri**, also called **Elephant Hill**, located in Devarayanadurga, Karnataka, where it was initially spotted.
- These spiders are notable for their **smart hunting strategies** and ability to invade other spiders' webs. They possess sharp eyesight and use clever tactics such as **mimicking prey** to deceive their targets.
- With this discovery, India's count of Spartaeinae species has increased to **15 species across 10 genera**. Additionally, **Sonoita cf. lightfooti**, a species earlier believed to be limited to Africa, was also identified in Karnataka.

### Kanchuria Tripuraensis and Kanchuria Priyasankari

- **New Discoveries:** Two new earthworm species—Kanchuria tripuraensis and Kanchuria priyasankari—have been identified in Tripura.
- **Conservation Concerns:** Environmental activists have raised concerns about promoting wildlife safaris in the Kali Tiger Reserve, fearing ecological disruption.
- **Naming Significance:**
  - Kanchuria tripuraensis is named after Tripura, where it was found thriving in rubber and pineapple plantations—showcasing the biodiversity potential of cultivated landscapes.
  - Kanchuria priyasankari is named in honor of Prof. Priyasankar Chaudhuri, recognizing his 40+ years of contributions to earthworm taxonomy.
- **Genus Update:** These two additions raise the number of known species in the Kanchuria genus—endemic to Northeast India—to 10.
- **Regional Biodiversity:** With this discovery, Tripura now has 38 documented species of megadrile earthworms, making the Eastern Himalaya–Northeastern Hills the second-richest region in India for earthworm diversity.

### Portulaca Bharat

- **New Discovery:** A newly identified flowering plant species named Portulaca bharat has been discovered in the rocky, semi-arid Aravalli hills near Jaipur.

- **Conservation Status:** As no other populations have been found, the species has been provisionally classified as **"Data Deficient"** under the IUCN Red List criteria.
- **Vulnerability:** The plant's narrow endemism and strict habitat requirements make it highly **susceptible to habitat degradation and climate change**.
- **Genus Overview:** The genus *Portulaca* includes approximately **153 species worldwide**, mostly found in **tropical and subtropical** climates.
- **Adaptations:** These are **succulent plants**, known for their **resilience, water-storing tissues**, and **ability to thrive in extreme environments**.
- **Indian Context:** In India, there are **11 recorded species** of *Portulaca*, including **four endemic species**, typically occurring in **dry and semi-arid regions**.

### Kali Tiger Reserve – Conservation Concerns

**Tourism Concerns:** Environmental activists are raising alarms about the growing promotion of wildlife safaris, fearing negative impacts on the reserve's ecosystem.

- **Location:** Situated in **Uttara Kannada (North Canara) district**, Karnataka. Previously known as the **Dandeli-Anshi Tiger Reserve**. Lies in the **central part of the Western Ghats**, a region recognized for its ecological sensitivity.
- **Constituent Protected Areas:** Formed by the **Dandeli Wildlife Sanctuary** and **Anshi National Park**, which are adjacent and constitute a single protected stretch.
- **Geographic Connectivity:** Borders the **Bhimgad Wildlife Sanctuary** (Karnataka) to the north. Connected to **Radhanagari** and **Koyna wildlife sanctuaries** in Maharashtra, forming a larger wildlife corridor.
- **Water Source:** Named after the **Kali River**, a crucial water source for the region, which flows through the reserve.
- **Vegetation:** Dominated by **moist deciduous** and **semi-evergreen forests**. Contains rich **evergreen patches** in western areas and valleys.
- **Flora:** Hosts a mix of hardwood species such as **teak, silver oak, Malabar tamarind, jamba**, and **lantana**. Dense undergrowth with **bamboo**, shrubs, and varied vegetation.

### Fauna:

Inhabited by diverse wildlife: **Tigers, Leopards, Elephants, Bison, Wild dogs, Sambar, Spotted deer, Sloth bears, Wild boars**, and **monkeys** like **Hanuman langur** and **Bonnet macaque**.

Rich avian diversity includes **all four species of hornbills**.

Known for having one of the **highest populations of Great Indian Hornbills** in the Western Ghats.

A notable habitat for the elusive **black panther**.

### Russell's Viper

- **Recent Research:** Experimental studies in mice have shown that two existing drugs — **varespladib** and **marimastat** — can effectively neutralize the **systemic and potentially fatal effects** of **Russell's viper** (*Daboia russelii*) venom, whether used **individually or in combination**.
- **About the Species:** Russell's viper is a **highly venomous, ground-dwelling snake** belonging to the **Viperidae** family and is commonly found across Asia. It is classified among **India's "big four" deadliest snakes**, along with the **Common krait** (*Bungarus caeruleus*), **Indian cobra** (*Naja naja*), and **Saw-scaled viper** (*Echis carinatus*).
- **Medical Significance:** This species is responsible for **more than half of all snakebite incidents in India**, making it a major public health concern.
- **Geographic Range:** The snake is widely distributed across **India, Sri Lanka, Bangladesh, Nepal, Pakistan, Myanmar, Thailand, Cambodia, Indonesia, Taiwan, and parts of China (Guangxi, Guangdong)**, as well as **Tibet**.
- **Conservation Status:** According to the **IUCN Red List**, the Russell's viper is listed as **Least Concern** due to its wide distribution and stable population.

### Updated Green India Mission (GIM)

The Indian government has released a revised strategy for the National Mission for Green India, enhancing its focus beyond afforestation to include ecological restoration in environmentally sensitive areas like the Aravalli ranges, Western Ghats, the Himalayas, and mangrove zones. This revision strengthens GIM's role in India's broader climate action plan by addressing land degradation and promoting environmental resilience.

#### Overview and Objectives of GIM:

- Launched in 2014 under the National Action Plan on Climate Change (NAPCC), the Green India Mission aims to:
- Increase forest and tree cover by 5 million hectares
- Improve the quality of forest cover across another 5 million hectares
- Restore degraded ecosystems and support forest-dependent livelihoods



### Progress and Implementation:

Between 2015–16 and 2020–21, afforestation and plantation efforts were undertaken on 11.22 million hectares through various government schemes. From 2019–20 to 2023–24, ₹624.71 crore was allocated to 18 states, with ₹575.55 crore utilized for mission activities. Implementation is guided by ecological vulnerability, carbon storage potential, and the extent of land degradation.

### Key Features of the Revised GIM

**Reasons for Update:** The new roadmap responds to on-the-ground climate challenges, state-level feedback, and recommendations from scientific bodies. It adopts an ecologically tailored approach for different regions.

**Priority Regions:** The revised plan focuses on restoring highly vulnerable landscapes, particularly:

- The Aravallis
- The Western Ghats
- The Himalayas
- Mangrove ecosystems
- Restoration will follow locally suitable best practices for greater impact.

**Integration with Aravalli Green Wall Project:** GIM will support the Aravalli Green Wall initiative, which aims to:

Combat land degradation and dust storm risks in Delhi-NCR and Punjab

Bridge 12 ecological gaps

Rehabilitate 8 lakh hectares across 29 districts in four states

Restore native flora, forests, grasslands, and water systems

Create a 5-km-wide green buffer zone over 6.45 million hectares

Project cost: ₹16,053 crore

**Focus on the Western Ghats:** Efforts here will include afforestation, groundwater conservation, and rehabilitation of old mining areas, addressing damage from deforestation and illegal activities.

### Land Restoration and Climate Strategy

India faces a major land degradation challenge, with nearly 97.85 million hectares affected as of 2018–19 (ISRO). Under its international climate pledges (UNFCCC), India has committed to:

Establishing a carbon sink of 2.5–3 billion tonnes of CO<sub>2</sub> by 2030

Restoring 26 million hectares of degraded land by 2030

Natural landscapes like forests, wetlands, grasslands, and mountains play a key role in carbon absorption and climate adaptation.

**Carbon Sink Contributions and Potential:** From 2005 to 2021, India has already created a carbon sink equivalent to 2.29 billion tonnes of CO<sub>2</sub>. The revised GIM identifies open forests as high-impact restoration areas, potentially capturing 1.89 billion tonnes of CO<sub>2</sub> over 15 million hectares.

**Projected Impact:** By aligning various greening schemes and increasing plantation coverage, GIM could expand forest and tree cover to 24.7 million hectares, potentially generating a carbon sink of 3.39 billion tonnes by 2030—surpassing India's current climate targets.

### Delhi's Artificial Rain Project to Combat Air Pollution

The Delhi Government has launched its **first-ever artificial rain pilot project**, valued at ₹3.21 crore, in partnership with **IIT-Kanpur** and the **India Meteorological Department (IMD)**. The initiative aims to reduce air pollution in the city using **cloud seeding technology**.

### What is Artificial Rain?

Artificial rain involves inducing precipitation by injecting specific substances into **moisture-laden clouds** to encourage rainfall — a process intended to **clean the air by washing out pollutants**.

### How It Works:

**Cloud Targeting:** Aircraft will spray seeding materials into **nimbostratus clouds** with at least **50% moisture content**.

**Rain Induction:** The materials serve as **condensation nuclei**, prompting water droplets to form, grow, and eventually fall as rain.

### Key Features of the Project:

- **Advanced Cloud Seeding:** Aircraft-mounted flares will deploy **silver iodide, rock salt, and iodised salt** to stimulate rainfall.
- **Focused Operations:** Five flights, each lasting around **90 minutes**, will cover approximately **100 sq. km** of Delhi's most polluted zones.
- **Scientific Oversight:** Real-time monitoring of **PM2.5 and PM10 levels** will be conducted using **Continuous Ambient Air Quality Monitoring Systems (CAAQMS)**.

- **First Urban Application:** While similar trials by **IIT-Kanpur** have succeeded in drought-hit areas, this marks the **first urban use** of the technology for pollution mitigation.
- **Collaborative Implementation:** The effort involves coordination between the **Delhi Government**, **IIT-Kanpur**, and **IMD**, using **high-precision, military-grade** planning and execution.

### Sharavathi Lion-Tailed Macaque Wildlife Sanctuary

Tensions have risen following the arrest — and subsequent bail — of farmers allegedly found with country-made weapons inside the **Sharavathi Lion-Tailed Macaque Wildlife Sanctuary** in **Sagar taluk**, Karnataka.

#### About the Sanctuary:

- Located in the **Sharavathi River Valley** in **Shivamogga District**, Karnataka, the sanctuary lies within the **Western Ghats**, a recognized **UNESCO World Heritage Site** known for its rich biodiversity.
- The sanctuary was created by merging three conservation areas:
  - **Sharavathi Valley Wildlife Sanctuary**
  - **Aghanashini Lion-Tailed Macaque Conservation Reserve**
  - Adjacent **reserve forest blocks**
- It shares its **southwestern boundary** with the **Mookambika Wildlife Sanctuary**.

#### Ecological Significance:

##### Flora:

The forest is home to diverse tree species including **Dhoopa**, **Gulmavu**, **Surahonne**, **Mavu**, and **Nandi**, reflecting the region's dense and varied vegetation.

##### Fauna:

It serves as a critical habitat for the **lion-tailed macaque (Macaca silenus)** — an **endangered primate species** endemic to the Western Ghats. Other notable wildlife includes:

- **Tigers**
- **Leopards**
- **Wild dogs**
- **Sloth bears**
- **Jackals**

- Spotted deer, sambar, barking deer, mouse deer
- Wild pigs
- Common langurs, bonnet macaques
- Malabar giant squirrels

### Agarwood: A Fragrant Tree on the Brink

The rising global demand for **agarwood** has led to excessive harvesting from the wild, severely threatening its natural populations and pushing the species toward extinction.

#### What is Agarwood?

- **Botanical Name:** *Aquilaria malaccensis*
- **Family:** Thymelaeaceae
- **Common Names:** Agar, Oud, Gaharu
- Agarwood is a **highly aromatic resinous wood** valued for its deep, rich fragrance. It is considered the **most expensive incense** in the world and is widely used in perfumes, traditional medicine, and spiritual rituals.

#### Growth and Distribution:

- **Natural Habitat:** Found in the wild across India's northeastern states — especially **Assam, Tripura, Arunachal Pradesh, Nagaland, Mizoram, and Manipur**.
- **Maturation Period:** Trees typically take around **10 years** to mature in the wild.
- **Cultural Connection:** The city name **Agartala** in Tripura traces its origin to the once-abundant agarwood trees in the region.

#### Traditional and Medicinal Value:

Agarwood has been revered for centuries in **Ayurveda**, with its medicinal properties cited in texts like the **Charaka Samhita**.

#### Conservation Efforts and Legal Protection:

- **IUCN Status:** Critically Endangered
- **CITES Listing:** Appendix II – permits trade under strict regulation.
- **Wildlife (Protection) Act, 1972 (India):** Listed under **Schedule IV**, providing legal protection.

- The **Government of India** has submitted a **Non-Detriment Finding (NDF)** to avoid its inclusion in the **Review of Significant Trade (RST)** under **CITES**, aiming to manage and regulate its trade sustainably.

### Rajkot's Sustainable Model for Dumpsite Remediation

- Transformed Nakrawadi, a 20-acre dumpsite with 1.6 million tonnes of legacy waste, into a green urban forest.
- Part of Swachh Bharat Mission's "Lakshya Zero Dumpsite" initiative for waste remediation and "Garbage Free Cities."
- Planted 235,000 native and fast-growing trees using the Miyawaki method, which rapidly creates dense forests.
- Incorporated waste-to-energy technologies and reused treated water for irrigation.
- Demonstrates a circular economy by turning a polluted dumpsite into an eco-friendly urban green space.

### Sariska Tiger Reserve: Boundary Rationalisation Plan

- **Context:** A plan is under review to **redraw the boundaries** of the *Critical Tiger Habitat (CTH)* of **Sariska Tiger Reserve** (Rajasthan), potentially allowing over **50 marble and dolomite mines**—previously shut by the Supreme Court—to resume operations.
- **Location:** Aravalli Hills, Rajasthan.
- **History:** Declared a reserve in **1955** and a national park in **1979**; formerly a royal hunting ground.
- **Ecology:** Dominated by *dhok trees*; also home to **leopards, sambhars, nilgai**, and other fauna.
- **Cultural Heritage:** Includes sites like *Bhangarh Fort, Pandu Pol*, and *Siliserh Lake*.

### Western Ghats Conservation: A Community-Centric and Ecologically Just Approach

#### Context

Ecologist **Madhav Gadgil** has called for a shift in conservation strategy for the **Western Ghats**, emphasizing **community-led governance** in place of outdated forest bureaucracy and poor implementation of the **Forest Rights Act (FRA), 2006**.

#### About the Western Ghats

**UNESCO World Heritage Site** and one of the world's **eight "hottest hotspots"** of biodiversity. Stretch across **Gujarat, Maharashtra, Goa, Karnataka, Kerala, and Tamil Nadu**.

Serve as the origin for major rivers like **Godavari, Krishna, and Kaveri**.

Play a critical role in **monsoon regulation, climate moderation, and biodiversity conservation**.

### Geological Formation

- **Precambrian Origin:** Part of the Peninsular Shield, over 600 million years old.
- **Deccan Trap Volcanism:** Basaltic lava flows formed step-like terrain.
- **Tectonic Faulting:** The Arabian Sea coast subsided while the Ghats remained uplifted, forming sharp escarpments.
- **Erosion & Fluvial Action:** Monsoon-fed rivers carved valleys and shaped rugged topography.

### Key Ecological Features

- Hosts **7,400+ species**, many endemic.
- Maintains **peninsular India's hydrological balance**.
- Home to diverse **valleys, escarpments, lateritic plateaus**, and peaks like **Anai Mudi (2,695 m)**.

### Challenges to Conservation

- **Flawed Forest Governance:** Use of **inflated and outdated data** undermines planning. Example: Gadgil's 1975 study exposed bamboo stock overestimations in Uttara Kannada.
- **Industrial Pollution:** Industries operate with **state support but no accountability**. Example: **Grasim Rayon's** mercury discharge devastated the Chaliyar River ecosystem.
- **Non-Implementation of FRA**
- **Community Forest Rights (CFRs)** remain pending in most districts. Result: Forest-dependent communities remain **disenfranchised**.
- **Monoculture & Pesticides:** Eucalyptus and acacia plantations **harm native flora, pollinators, and soil microbes**. Example: Wayanad's biodiversity decline due to pesticide-intensive practices.
- **Forest Fires from Unsustainable Harvesting:** Fires are set to collect tendu leaves, **damaging wildlife habitats**. Examples: Frequent fires in **Gadchiroli** and **Karnataka**.
- **Opaque Forest Data:** Forest Survey of India (FSI) provides **delayed, district-level** data. Contrast: Satellite imagery in the 1970s revealed **lower actual forest cover** than official claims.

### Conservation Committees

- **Gadgil Committee (WGEEP), 2011:** Proposed **Ecologically Sensitive Area (ESA)** zoning. Recommended **CFR implementation** and **Gram Sabha-led conservation**.

- **Kasturirangan Committee, 2013:** Diluted ESA zones. Favoured a **development-oriented approach** with **less community participation**.

#### Way Forward: A People-First Strategy

1. **Implement Community Forest Rights (CFRs):** Legally empower communities to **manage, protect, and benefit** from forests. Example: **Pachgaon, Maharashtra**—community earns income from bamboo and prevents fires.
2. **Promote Democratic Decentralisation:** Strengthen **Gram Sabhas** and **forest committees** to lead conservation. Example: **Kerala's Vana Samrakshana Samiti (VSS)** enables joint protection and profit-sharing.
3. **Modernise Forest Data Systems:** Use tools like **Global Forest Watch, Google Earth, and ISRO's Bhuvan** for real-time monitoring. Counter inaccurate official data with **open-access, transparent satellite information**.
4. **Ban Unsustainable Industry in ESA Zones:** Enforce bans on **mining and polluting industries** in biodiversity hotspots. Example: Mining in Goa led to **habitat fragmentation** and **groundwater depletion**.
5. **Promote Biodiversity-Compatible Livelihoods:** Support **Non-Timber Forest Product (NTFP)** enterprises, **eco-tourism**, and **agro-forestry**. Example: **Wayanad's tribal cooperatives** export organic turmeric and wild honey.

#### Conclusion

The **Western Ghats** are not just a biodiversity treasure—they're essential for **India's ecological stability, water security, and cultural heritage**. However, **top-down, bureaucratic conservation has failed**. Real progress depends on **empowering local communities**, respecting their rights, and making **data-driven, ecologically sound decisions**. The future of this vital ecosystem lies in **democratic, inclusive, and transparent governance**.

#### Hong Kong International Convention (HKC) for the Safe and Environmentally Sound Recycling of Ships

##### Context:

The **HKC** officially came into force on **June 26, 2025**, marking a major step toward sustainable ship recycling.



### What is the HKC?

The **Hong Kong Convention** is a **global treaty** adopted under the **International Maritime Organization (IMO)** framework. It establishes **legally binding standards** for the **safe and environmentally sound recycling of end-of-life ships**.

### Objectives

- **Protect worker health and safety** in shipbreaking yards.
- **Prevent environmental contamination** during dismantling.
- **Control and phase out hazardous materials** such as asbestos, PCBs, lead, and hydrocarbons.
- Ensure **safe waste handling, disposal, and recycling** of ship components.

### Key Provisions and Features

- **Inventory of Hazardous Materials (IHM)**
  - Ships must maintain a certified IHM throughout their operational life.
  - Identifies and locates hazardous substances onboard.
- **Ship Recycling Plan (SRP)**
  - Mandatory for all ships prior to dismantling.
  - Must be prepared and approved by the competent authority in the recycling country.
- **Certified Recycling Facilities**
  - Only **authorized and regulated ship recycling yards** can undertake dismantling.
  - Yards must comply with health, safety, and environmental protection standards.
- **Recycling Completion Certificate**
  - Issued by the recycling facility within **14 days** of completion.
  - Confirms compliance with all legal and safety protocols.
- **Independent Audits and Classification:** Certification and periodic inspections are conducted by **recognized classification societies** or approved inspectors.

### Significance

- Aims to **formalize and improve** global shipbreaking practices, especially in countries like India, Bangladesh, and Pakistan, where informal and hazardous dismantling is common.
- Aligns with **Sustainable Development Goals (SDGs)**, particularly SDG 12 (Responsible Consumption and Production) and SDG 14 (Life Below Water).
- Supports a **circular economy** by enabling the recovery of valuable materials from ships.

### Begonia nyishiorum

- Forest officials in Arunachal Pradesh have recently identified a new flowering plant species called *Begonia nyishiorum*, which is native exclusively to the East Kameng district of the state.
- This plant thrives on moist, shaded mountain slopes at altitudes ranging from 1,500 to 3,000 meters above sea level.
- It is distinguished by its dense crimson, fringed scales covering its light green petioles, a feature never before seen in Asian begonias.
- So far, *Begonia nyishiorum* is found only at two forest locations within East Kameng. Its unique petiole fringe differentiates it from over 2,150 begonia species globally.
- The species name "nyishiorum" is a tribute to the Nyishi tribe, who have traditionally protected these high-altitude forests.
- According to the IUCN Red List, this species is currently classified as Data Deficient, indicating insufficient information for an assessment of its conservation status.

### Similipal Tiger Reserve

The Odisha High Court recently issued a notice to the Integrated Tribal Development Agency (ITDA), Baripada, regarding a ban that prevents Munda tribal members from Jamunagarh village from performing sacred rituals at Jayara, a holy site inside Similipal Tiger Reserve.

#### About Similipal Tiger Reserve:

- Located in Mayurbhanj District at Odisha's northern tip, Similipal Tiger Reserve lies within the Deccan Peninsular Biogeographic Zone, hosting a unique blend of biodiversity from the Western Ghats, Eastern Ghats, and the eastern Himalayas.
- The reserve covers an area of 2,750 square kilometers and features scenic waterfalls like Joranda and Barehipani.
- It forms part of the Mayurbhanj Elephant Reserve, alongside Hadgarh and Kuldiha Wildlife Sanctuaries.
- The terrain is mostly hilly and undulating, with the highest peaks being the twin summits of Khairiburu and Meghashini, standing at 1,515 meters above sea level.
- Declared a Tiger Reserve in 1956 and incorporated into Project Tiger in 1973, Similipal was recognized as a UNESCO World Network of Biosphere Reserves site in 2009.

#### Geography and Hydrology:

- At least twelve rivers run through the plains of Similipal, draining into the Bay of Bengal. Important rivers include Burhabalanga, Palpala Bandan, Salandi, Kahairi, and Deo.
- **Inhabitants:**
- The reserve is home to various tribal groups, including Kolha, Santhala, Bhumija, Bhatudi, Gondas, Khadia, Mankadia, and Sahara.

**Flora and Vegetation:**

- The reserve hosts a variety of forest types with northern tropical moist deciduous forests dominating alongside patches of semi-evergreen areas.
- The vegetation reflects a botanical link between South Indian and Northeastern Sub-Himalayan species.
- Sal trees are the most common species.
- Extensive grasslands within the reserve provide grazing areas for herbivorous wildlife.
- Many plants in the forest are valued for their medicinal and aromatic qualities.

**Fauna:**

- Similipal is famous for its populations of tigers, elephants, and hill mynahs. It harbors the largest tiger population in Odisha.
- Other prominent mammals include leopards, sambar deer, barking deer, gaur (Indian bison), jungle cats, wild boars, four-horned antelope, giant squirrels, and common langurs.

**Sariska Tiger Reserve**

**Context:**

The Central Government's proposal to redraw the boundaries of Sariska Tiger Reserve in Rajasthan to allow reopening of 50 closed mines (including marble, dolomite, limestone, and masonic stone) has faced strong opposition from conservationists and local stakeholders.

**About Sariska Tiger Reserve:**

**Location:** Situated in the Alwar district of Rajasthan, within the Aravalli Hills.

**History & Status:**

- Declared a Wildlife Sanctuary in 1958.
- Became a Tiger Reserve under Project Tiger in 1978.
- Upgraded to National Park status in 1982.
- Famous globally for successfully reintroducing tigers after they were locally extinct by 2004.

**Area & Terrain:**

Covers a total of 1,203.34 sq km — Core area of 881 sq km and Buffer area of 322.23 sq km.

Terrain includes scrub-thorn arid forests, dry deciduous forests, grasslands, and rocky hills.

**Ecological Importance:**

Falls within the Khathiar-Gir dry deciduous forest ecoregion.

Acts as a crucial corridor for the Northern Aravalli Leopard and Wildlife Corridor, linking habitats and supporting biodiversity.

**Wildlife:**

Hosts diverse fauna including tigers, leopards, nilgai, sambhar, chital, peafowls, serpent eagles, vultures, and horned owls.

**Tiger Revival:**

- By 2004, Sariska lost all its tigers due to poaching.
- Between 2008 and 2010, tigers were successfully relocated from Ranthambore National Park through aerial translocation.
- By 2025, the tiger population rebounded to 48, highlighting a significant conservation success story.

## SCIENCE AND TECHNOLOGY

### Rudrastra

- Rudrastra is a next-generation hybrid drone with Vertical Take-Off and Landing (VTOL) capabilities, developed by **Solar Aerospace and Defence Limited (SDAL)**.
- It combines the vertical lift of a helicopter with the cruising ability of a fixed-wing aircraft, making it highly adaptable and difficult to detect.
- Designed for precision strikes, Rudrastra is armed with smart warheads primarily for **anti-personnel missions**, allowing it to accurately target enemy troops and installations. It has a strike range exceeding **50 kilometers**.
- During trials at the **Pokhran test range**, Rudrastra showcased an extended range of **170 km** and an impressive **90-minute flight time**, while transmitting real-time video feeds and autonomously returning to base.
- In one test, it deployed an **airburst munition** — detonating close to the ground and causing widespread damage, ideal for neutralizing enemy encampments or artillery units.
- Built for **deep-penetration missions**, Rudrastra is capable of striking targets such as **terrorist bases or enemy artillery positions deep within hostile areas**. Its stealthy, unmanned operation offers the Indian Army a critical **stand-off strike capability**, enabling effective engagement from a safe distance without endangering personnel.

### DNA Identification in Air India Crash: The Role of Genetic Testing in Identifying Victims

In the aftermath of the Air India Boeing 787 crash in Ahmedabad, authorities are relying on DNA testing to identify the remains of those who perished. DNA samples have been collected from relatives of the victims, leading to some successful matches. Since each person's DNA is distinct—except for identical twins—it is considered the most dependable method for identifying individuals, especially in cases involving severe trauma or mass casualties where visual identification isn't possible.

#### Understanding DNA

Deoxyribonucleic Acid (DNA) is the genetic blueprint found in nearly all living organisms. It holds the instructions needed for an organism's growth, functioning, and reproduction.

#### Structure and Components

DNA consists of two intertwined strands forming a double helix, made up of repeating units called nucleotides. Each nucleotide includes a sugar, a phosphate group, and one of four nitrogenous bases: Adenine (A), Thymine (T), Cytosine (C), or Guanine (G). The sequence of these bases encodes genetic information.

## Where DNA Is Found

Most DNA resides in the cell nucleus (nuclear DNA), while a smaller amount is located in the mitochondria (mitochondrial DNA or mtDNA). Nuclear DNA is unique to each person, whereas mtDNA is inherited solely from the mother and exists in multiple copies within each cell.

## Functions of DNA

DNA governs cell activities by directing protein production and is responsible for transmitting hereditary traits from one generation to the next.

## Challenges in DNA Identification After Disasters

- **Decomposition and Damage:** In accidents, remains can be severely damaged, making DNA extraction more difficult.
- **Contamination:** DNA samples may get contaminated by external materials, complicating analysis.
- **Resource Demands:** Identifying victims through DNA can be time-intensive and resource-heavy, particularly after large-scale disasters.
- **Collecting and Preserving DNA Post-Crash**
- **Optimal Conditions:** DNA stays intact longer in cool, dry environments. Samples should be frozen at -20°C or preserved in 95% ethanol, especially soft tissues which degrade faster than hard tissues like bones or teeth.
- **Preferred Sources:** Bones and teeth are often used in forensic investigations due to their durability and resistance to decomposition.
- **Collection Timeline:** Gathering remains for DNA analysis can span several weeks. For instance, after 9/11, DNA collection took about 10 months due to the scale of devastation.
- **The Need for Reference DNA**  
To match unidentified remains, DNA from close biological relatives is crucial. Parents and children share 50% of their DNA with the deceased, making them ideal sources for comparison.
- **Techniques Used in DNA-Based Identification**
- **Short Tandem Repeat (STR) Analysis:** This method looks at repeating DNA segments that differ among individuals. Analyzing at least 15 STR regions provides high accuracy. STRs are part of nuclear DNA, so this method requires relatively intact nuclear material.
- **Mitochondrial DNA (mtDNA) Analysis:** When nuclear DNA is too damaged, mtDNA can be used due to its abundance in cells. Since mtDNA is maternally inherited, matches can be made using samples from the victim's maternal relatives (e.g., mother, siblings, maternal aunts/uncles).

- **Y-Chromosome STR Analysis:** This approach focuses on the Y chromosome, which is passed from father to son. It's helpful for identifying male victims by comparing DNA with male relatives in the paternal line, such as brothers or uncles.
- **Single Nucleotide Polymorphism (SNP) Analysis:** When DNA is extensively degraded, SNP analysis can be employed. It detects single base changes in the DNA sequence. While less precise than STR analysis, it can still help when matched with DNA from personal items like toothbrushes or hairbrushes.

### India's News Ecosystem Transforms with AI and Influencers at the Forefront

India's news consumption habits are undergoing a profound shift, as outlined in the **2025 Reuters Digital News Report**. The convergence of **generative AI** and **social media influencers** is reshaping how Indians—especially the younger generation—access, interpret, and share information.

#### A Fragmented Media Environment Powered by AI and Influencers

- The report highlights the emergence of a fragmented but vibrant alternative news ecosystem, where **AI tools** and **online personalities** play an increasingly central role. Instead of traditional sources like newspapers, TV, or official news websites, people are turning to more **personalized, video-driven, and informal news formats**, often curated or created by **influencers** or **AI platforms**.

#### Generative AI's Growing Role in News Access

- India leads globally in the adoption of **AI for news consumption**. Key findings include:
- **44%** of Indian respondents are comfortable using AI tools like **ChatGPT** or **Perplexity AI** to consume news.
- Nearly **1 in 5 Indians** uses AI chatbots for news updates **weekly**, the highest rate among surveyed countries.
- These tools are praised for simplifying complex issues, offering personalised summaries, and helping users explore topics interactively. However, the growing reliance on AI also raises questions around **content accuracy, editorial integrity, and potential misinformation**.

#### Influencers Redefining News Delivery

- Alongside AI, a new class of **digital news influencers** is gaining prominence on platforms like **YouTube** and **Instagram**. These creators, with millions of followers, offer commentary, analysis, satire, and explainers—often in relatable, entertaining formats.
- They increasingly function as **alternative news anchors**, particularly appealing to younger viewers who distrust or avoid traditional media.

#### India Embraces Video as the Primary News Format



- India is part of a broader global trend where **video has overtaken text** as the preferred news format. Key trends include:
- Platforms like **YouTube** are central hubs for political debates, educational explainers, and ideological content.
- **Young Indians (18–34)** overwhelmingly favour social media and video content over conventional news websites.
- This generational shift is compelling even mainstream media houses to **adopt video-first strategies**, including short-form clips and interactive visual content.

#### Declining Influence of Traditional News Outlets

- Legacy media—TV channels, newspapers, and even established digital news portals—are losing ground:
- Only **24%** of Indian respondents aged 18–34 rely on news websites.
- In contrast, **41%** prefer platforms like YouTube, Instagram, or WhatsApp for news.
- This erosion challenges the economic and editorial foundations of traditional journalism and forces media institutions to **digitally innovate** and **experiment with new formats**, including AI-generated content.

#### Trust and Misinformation: A Persistent Challenge

- Global trust in news remains stagnant at **40%**.
- In India, **WhatsApp**, while not broadly seen as high-risk due to its private nature, has still been involved in high-profile misinformation incidents.
- **11% of Indian users** admit that even **friends and family** contribute to the spread of fake news—highlighting trust gaps in personal networks.

#### Way Forward: The Need for Digital Literacy and Ethical Innovation

- The rise of AI tools and influencer-led news represents a **democratization of information**, making news more **on-demand, vernacular, and accessible**. However, it also creates new vulnerabilities around accuracy, editorial responsibility, and public trust.
- To safeguard the future of informed discourse:
- **Digital literacy** must be strengthened.
- **Content regulation** needs thoughtful implementation.
- **Traditional media** must evolve, embracing new formats without compromising journalistic values.
- India stands at a crossroads, with a chance to lead in **innovative yet responsible news media**, blending technology with credibility.

### Valley Fever

- A recent study indicates that **dogs might help detect the early spread** of Valley Fever, offering a novel public health tool.
- Also known as **acute coccidioidomycosis**. Caused by **Coccidioides fungi**, specifically **two species** commonly found in soil.
- **Geographic Distribution:** Southwestern U.S., Pacific Northwest, Parts of Mexico, Central America, and South America.
- **Transmission:** **Not contagious**—does not spread from person to person or between animals and humans. Infection occurs when people or pets **inhale airborne spores** disturbed by: **Farming, Construction & Strong winds**
- **Risk Factors:** Primarily affects the **lungs**. **Older adults (60+)** are more susceptible.
- **Symptoms of Valley Fever:** Many infected individuals show **no symptoms**. **Cold- or flu-like, Pneumonia-like symptoms**. Symptoms usually appear **5 to 21 days** after exposure.
- **Severe Cases:** In rare cases, the fungus spreads beyond the lungs via the bloodstream, causing **disseminated coccidioidomycosis**. Can affect **skin, bones, joints, lymph nodes, the central nervous system**, or other organs.
- **Treatment of Valley Fever:** **Mild Infections** often resolve **without treatment**. **Moderate to Severe Cases** are treated with **antifungal medications**. In chronic or serious cases, **surgery** may be required to remove infected lung tissue.

### Achal Fast Patrol Vessel

The **Achal Fast Patrol Vessel** was recently officially launched in Goa. It is the **fifth vessel** in a series of eight Fast Patrol Vessels being built by **Goa Shipyard Ltd (GSL)** for the **Indian Coast Guard (ICG)**. The ship has been designed and constructed following strict dual-class certifications from the **American Bureau of Shipping** and the **Indian Register of Shipping**.

#### Key Features:

- Contains more than **60% indigenous components**.
- Measures **52 meters long** and **8 meters wide**, with a displacement of **320 tons**.
- Powered by a **CPP-based propulsion system**, enabling speeds up to **27 knots**.
- Its main functions include **protection, monitoring, control, and surveillance**, aimed at securing offshore assets and island territories.
- The launch represents a significant step in the ongoing collaboration between the Indian Coast Guard and GSL, advancing the goal of **self-reliance (Aatmanirbharta)** in defence manufacturing.

### Extended Trajectory-Long Duration Hypersonic Cruise Missile (ET-LDHCM)

- India is gearing up to test its most advanced **indigenously developed hypersonic missile**, the **ET-LDHCM**.
- Developed by the **Defence Research and Development Organisation (DRDO)** as part of a classified project called '**Project Vishnu**'.
- The missile is designed to be launched from **land, sea, or air**, increasing India's operational flexibility across different platforms and mission types.
- Once deployed, India will join a select group of countries—including the **US, China, and Russia**—that possess hypersonic weapon systems.
- The ET-LDHCM can reach speeds of up to **Mach 8** (around **11,000 km/h**).
- It supports both **conventional and nuclear payloads**, carrying warheads between **1,000 and 2,000 kg**, with an effective range of about **1,500 km**.
- Unlike ballistic missiles, this missile travels at **low altitudes** and can **adjust its flight path mid-course**.
- Its combination of high speed, low-altitude flight, and in-flight manoeuvrability helps it **evade radar detection and air defence systems**, enabling deep penetration strikes.
- Powered by a **scramjet engine** that uses atmospheric oxygen for propulsion, representing a major advancement in missile technology.
- Constructed with materials that resist extreme heat and oxidation, the missile can endure temperatures over **2,000°C**.

### Synthetic Aperture Radar (SAR)

- SAR is a technology that actively collects data by **emitting pulses of energy** and then measuring the energy that bounces back after interacting with the Earth's surface.
- Recently, NASA announced that the **NASA-ISRO SAR mission** has arrived at ISRO's spaceport in Sriharikota.
- SAR captures images based on how the emitted energy pulses reflect off physical features like **mountains, forests, sea ice**, and even environmental factors like **soil moisture**.
- This technology can produce **clear, detailed images** regardless of **darkness or cloud cover**, making it highly valuable for all-weather, day-or-night observations.
- SAR systems send out **microwave pulses**, then receive the echoes reflected from surfaces such as **land, oceans, ice, or man-made structures**.

- Advanced signal processing techniques convert these echoes into high-resolution images.
- A crucial component of SAR is its **antenna**—while larger antennas generally provide better resolution, they are more challenging to build and operate, which is why SAR uses clever processing to simulate a large antenna.

### Quantum Communication

**Recent Development:** Scientists from IIT Delhi, in collaboration with DRDO, successfully demonstrated quantum communication over a distance exceeding 1 km through free space, marking a significant advancement in secure communication technologies.

#### What is Quantum Communication?

- Quantum communication uses fundamental particles like **photons** (light particles) to transmit information with extreme security. It leverages the principles of **quantum physics**, especially **quantum entanglement**, to create communication channels that are virtually impossible to intercept without detection.
- If an eavesdropper tries to intercept the photons, the quantum state changes instantly, alerting users that the channel is compromised.
- A key technique is **Quantum Key Distribution (QKD)**, which securely shares encryption keys.

#### Key Concepts:

- **Quantum Entanglement:** Two particles become linked so that the state of one instantly influences the other, regardless of distance.
- **Security Advantage:** Attempts to tap the channel are revealed immediately, making it highly suitable for sensitive communications.

#### Applications:

- **Military & Government:** Secure transmission of classified information.
- **Banking:** Protects financial transactions using QKD.
- **Power Grids:** Safeguards communication within energy infrastructure.
- **Consumer Privacy:** Enhances security of personal data online.
- **Scientific Collaboration:** Enables secure sharing of research data.
- **Navigation:** Could improve GPS security by preventing signal tampering.

- **Historical Notes:** Quantum theory foundations were laid by **Niels Bohr** and **Max Planck**. In India, **Satyendra Nath Bose** contributed significantly to quantum theory.

### Rice Yellow Mottle Virus (RYMV)

- A new genomic study has confirmed the widespread presence of **Rice Yellow Mottle Virus** across various rice-growing regions in Africa.

#### Overview:

First emerging in the mid-1800s in the Eastern Arc Mountains—now within Tanzania—RYMV is a serious viral disease affecting rice crops and some related grasses. It belongs to the **Sobemovirus** genus and poses a major threat to African rice yields.

#### Modes of Transmission:

- The virus spreads primarily through **insect vectors**, particularly beetles from the **Chrysomelidae** family.
- Other carriers include **grasshoppers** like *Conocephalus merumontanus* and *Oxya* species, as well as **domestic animals** such as cows, rats, and donkeys.
- It can also infect rice plants through **wounded roots**. Although RYMV has been found on seeds, it is **not spread via seed transmission**, according to current research.

### Kounis Syndrome: Rare Allergy-Induced Heart Condition

- **Trigger:** Sparked national attention after the death of a notable industrialist due to a **bee sting**.
- **Definition:** A rare condition where **allergic reactions** (to stings, drugs, or food) trigger **acute coronary syndromes (heart attacks)**.
- **Mechanism:** Involves **mast cell activation**, releasing **histamines and cytokines**, leading to arterial spasms or plaque rupture.

#### Types:

- **Type I:** In people with normal arteries – causes vasospasm.
- **Type II:** In those with existing blockages – causes plaque rupture.
- **Type III:** In patients with **coronary stents** – leads to in-stent thrombosis.
- **Symptoms:** Chest pain, skin rash, breathlessness, low BP, ECG abnormalities.

### “Gwada Negative”: Discovery of a New Blood Group

- **Event:** **French Blood Establishment (EFS)** discovered a new **blood group system**, now globally recognised as **ISBT042 – EMM-negative**.

- **Name Origin:** Informally called “**Gwada negative**” after **Guadeloupe**, the region of the donor.
- **Defining Feature:** Absence of the **EMM antigen**, typically present on red blood cells; considered a **high-incidence antigen**.
- **Significance:** Only **one known individual** in the world currently has this blood group.
- **Criteria for New Blood Group System:**
  - Genetically inherited
  - Detectable via serology/molecular tests
  - Associated antibody presence
- **Institutional Details:**
- **International Society of Blood Transfusion (ISBT):** Founded in 1935, headquartered in **Amsterdam**.

### Science and Technology (S&T) Clusters Initiatives

- The **S&T Clusters Annual Report 2024-2025** highlighted several initiatives under this program, including **Kalaanubhav.in**, an AR/VR-enabled marketplace designed for artisans.

#### About the S&T Clusters Initiative:

- **Origin:** Launched in 2020 following recommendations from the Prime Minister’s Science, Technology, and Innovation Advisory Council (PM-STIAC).
- **Purpose:** To unite various stakeholders—academic institutions, research organizations, industry players, and local governments—to create innovative, demand-driven solutions for regional challenges.
- **Working Model:**
  - Operates via a consortium-based approach.
  - Emphasizes solving regional problems through science and technology.
- **Implementing Agency:** The Office of the Principal Scientific Adviser (PSA), which functions under the Cabinet Secretary.

### Vera C. Rubin Observatory

**Location:** Chile

**Project:**

Conducts the **Legacy Survey of Space and Time (LSST)** – a **10-year mission** to map the southern sky

**Objective:** Capture wide-field images to study **dark matter**, dark energy, transient phenomena, and more

**Named After:**

**Vera C. Rubin**, an American astronomer who provided early **evidence of dark matter** through her research on galaxy rotation curves.

## Myogenesis

Group Captain Shubhanshu Shukla recently initiated pioneering myogenesis experiments aboard the International Space Station (ISS), showcasing India's growing capabilities in space science.

### What is Myogenesis?

- Myogenesis refers to the biological process through which muscle fibers are formed. It is a highly intricate and carefully controlled process vital for the formation and upkeep of skeletal muscle tissue.
- The importance of myogenesis lies in its contribution to building the body's muscles, which are essential for enabling movement, maintaining posture, and regulating metabolism.
- This process involves the transformation of precursor cells called myoblasts into multinucleated muscle fibers. Myogenesis is not only critical during the embryonic phase but also remains important throughout life, as it facilitates muscle repair and regeneration.
- Studying myogenesis helps us better understand how muscles develop, the causes of muscle-related diseases, and how treatments for such conditions can be designed.

### Overview of the Myogenic Process

The myogenic process includes several key stages: proliferation of myoblasts, their differentiation, fusion into multinucleated myotubes, and finally maturation into fully formed muscle fibers. Each phase is controlled by a sophisticated network of transcription factors, signaling molecules, and cellular mechanisms.

### Role of Key Transcription Factors

- Transcription factors like MyoD and Myf5 are central to regulating myogenesis. These myogenic regulatory factors (MRFs) are critical in defining myoblast identity and guiding their development into muscle fibers.
- **MyoD** acts as a master regulator by initiating the expression of muscle-specific genes and driving myoblast differentiation.
- **Myf5** operates primarily during early myogenesis, overseeing myoblast proliferation and commitment.
- **Cellular Processes in Myogenesis**
- Two vital cellular processes regulate myogenesis:
- **Cell Proliferation:** This initial stage ensures enough myoblasts are produced before differentiation begins.



- **Cell Differentiation:** This phase involves molecular changes that prepare myoblasts to merge and create multinucleated myotubes.

### Botrytis Fungi

- Recent studies by researchers at Sichuan University and the University of British Columbia have revealed that Botrytis fungi (Botrytis cinerea) cannot be cloned.

#### About Botrytis Fungi

- Botrytis cinerea is a common necrotrophic fungal pathogen. It requires nutrients from dead or damaged plant tissues to successfully infect and invade plants.
- Such tissues—like aged flower petals—provide the necessary nourishment that strengthens the infection, allowing it to spread into healthy parts of the plant. The fungus causes a characteristic brown rot on newly infected tissues, leading to plant deterioration.
- Though Botrytis fungi mainly target flowers and fruit, they can also cause rot and blight in other plant parts including buds, stems, leaves, roots, bulbs, and tubers. The fungus typically attacks delicate, injured, aging, or dead tissue.
- In grapes, Botrytis penetrates the skin, causing water loss by evaporation which shrivels the berries, concentrating sugars and flavors, a process sometimes desirable in winemaking.
- Moreover, the fungus exhibits a unique behavior by releasing organic acids such as oxalic acid, which acidify its immediate environment to aid infection.

### Trachoma

In a recent episode of the 'Mann Ki Baat' programme, the Prime Minister of India announced that India has been declared free of Trachoma, a bacterial eye disease.

- **What is Trachoma?**  
Trachoma is an infectious eye disease caused by the bacterium *Chlamydia trachomatis*. It primarily affects the eyes and can lead to blindness if untreated.
- **How does Trachoma Spread?**  
The infection is highly contagious and spreads through direct contact with the secretions from the eyes, eyelids, nose, or throat of an infected person. If left untreated, it can cause permanent blindness. Trachoma is commonly found in communities living in poor sanitary and environmental conditions.
- **Global Impact**  
The World Health Organization (WHO) classifies Trachoma as a neglected tropical disease. It is estimated that around 150 million people worldwide suffer from this condition.

### Government of India's Efforts

- India initiated the National Trachoma Control Program in 1963, which was later incorporated into the National Program for Control of Blindness (NPCB).
- Due to sustained efforts, India was declared free of infective Trachoma in 2017. However, surveillance for Trachoma cases continued nationwide from 2019 until 2024.
- Between 2021 and 2024, the National Trachomatous Trichiasis (TT only) Survey was conducted across 200 endemic districts as part of the National Programme for Control of Blindness & Visual Impairment (NPCBVI). This survey was required by WHO to confirm that India had eliminated Trachoma as a public health issue.

### WHO's SAFE Strategy for Trachoma Elimination

- The WHO recommends the SAFE strategy to eliminate Trachoma:
- **Surgery:** To treat the advanced stage of the disease called trachomatous trichiasis, which can cause blindness.
- **Antibiotics:** Use of medicines like azithromycin to clear the infection.
- **Facial cleanliness:** Promoting hygiene to reduce transmission.
- **Environmental improvement:** Enhancing access to clean water and sanitation facilities.

### Exoplanet: TWA 7b

- **Discovery:** First new exoplanet discovered by the James Webb Space Telescope.
- **Location:** Orbits the low-mass star CE Antilae (TWA 7) inside debris rings.
- **Unique Feature:** Ten times lighter than any previously directly imaged exoplanet.
- **Exoplanet Basics:**
  - Planets orbiting stars outside our solar system.
  - Habitable zone exoplanets are prime targets for searching extraterrestrial life.
  - Closest known exoplanet to Earth: Proxima Centauri b, ~4 light-years away.

## HISTORY, HERITAGE AND CULTURE

### UNESCO Creative Cities Network

Recently, Lucknow has officially submitted its nominations for inclusion in the UNESCO Creative Cities Network (UCCN) to be titled "City of Gastronomy".

**Lucknow** has recently submitted its official nomination to join the **UNESCO Creative Cities Network (UCCN)** under the category of "**City of Gastronomy**."

#### About the UNESCO Creative Cities Network (UCCN)

- The UCCN was established in **2004** to foster collaboration among cities that use **creativity as a driver for sustainable urban development**.
- It supports **UNESCO's broader goals**, including promoting **cultural diversity** and helping cities build resilience to challenges such as **climate change, social inequality, and urban expansion**.

#### Objectives of UCCN

- The network seeks to harness the **creative, social, and economic power** of cultural industries.
- It promotes the integration of **creative thinking in urban planning** and encourages innovative approaches to address **urban challenges**.
- Member cities are expected to contribute to achieving the **United Nations Sustainable Development Goals (SDGs)**.

#### Indian Cities in the UCCN

- **Ten Indian cities** are currently part of the network.

Recent additions include:

- **Kozhikode** (Literature)
- **Gwalior** (Music)

Other Indian cities previously recognized are:

- **Jaipur** – Crafts and Folk Arts
- **Varanasi** – Music
- **Chennai** – Music
- **Mumbai** – Film
- **Hyderabad** – Gastronomy
- **Srinagar** – Crafts and Folk Arts

### Goan Feni

**Goan Feni (Ozzo Feni) Receives Geographical Indication (GI) Tag**

### About Goan Feni

- **Origin:** A traditional spirit from **Goa**, India.
- **Type:** A **strong, clear alcoholic beverage** with a distinct flavour.
- **Ingredients:** Made through fermentation and double distillation of either:
- **Cashew apples** (more common)
- **Coconut sap**

### Historical Background

- **Introduced by Portuguese missionaries** in the **1600s** during their trade expeditions to India.
- The Portuguese brought:
  - **Cashew trees**
  - **Distillation techniques**, which were then adopted by local communities.
- **Traditional Production**
- Original distillers were known as **bhatikars**.
- Traditional equipment included **earthen pots** or **bhatis** placed over a fire.
- **Modern methods** now use **copper pots** with a **coil distillation system** for better efficiency and quality.

### Captain James Cook: Discovery of HMS Endeavour and His Historic Voyages

After 250 years, the **long-lost ship of Captain James Cook**, the **HMS Endeavour**, has been discovered off the coast of **Newport Harbour, Rhode Island**.

### Captain Cook's Three Voyages of Discovery

- **First Voyage (1768–1771):**  
Commissioned by the **Royal Society of London** to lead a scientific expedition to the Pacific Ocean.  
During this journey, Cook named the continent **New South Wales** and claimed it for **Great Britain**.
- **Second Voyage (1772–1775):**  
Circumnavigated the globe from west to east in search of a supposed southern continent.  
Although he did not reach Antarctica, Cook became the **first European to cross the Antarctic Circle**.
- **Third Voyage (1776–1779):**

Aimed to find the Northwest Passage, but did not succeed.

Made history as the **first European to visit the Hawaiian Islands**.

### 11th International Day of Yoga – June 21, 2025

The **11th International Day of Yoga** will be observed on **June 21, 2025**, under the theme **“Yoga for One Earth, One Health.”** The event continues to gain global momentum, with participation rising from **9 crore in 2018 to 24.53 crore in 2024**.

#### About the International Day of Yoga (IDY):

The IDY is a worldwide celebration that promotes **yoga as a holistic practice** for physical, mental, and spiritual well-being, emphasizing harmony with oneself and with nature.

**Recognized by:** United Nations General Assembly (UNGA) through Resolution 69/131 on **December 11, 2014**

**First Observed:** June 21, 2015

#### Theme for 2025:

**“Yoga for One Earth, One Health”** This year’s theme highlights the deep connection between individual health and planetary well-being, resonating with India’s **G20 ‘One Earth’ vision**.

#### Key Highlights:

- **Global Reach:** Adopted by **175 UN member countries**, with worldwide participation reaching **24.53 crore** in 2024.
- **Widespread Engagement:** Organised by the **Ministry of AYUSH**, supported by **state governments, Indian embassies, UN agencies**, and international partners.
- **Inclusive Message:** The logo and theme promote **unity, natural harmony**, and **mind-body balance**, accessible to all, regardless of background.
- **Soft Power and Cultural Diplomacy:** Reinforces India’s role as the **birthplace of yoga** and its growing status as a **global leader in wellness**.
- **Sustainability Focus:** Aligns yoga with broader goals of **sustainable living, climate awareness**, and **public health**.

### Ghumot – Goa’s Traditional Heritage Instrument

**Context:**

The **Ghumot**, declared Goa's **State Heritage Instrument** in 2019, is at the centre of a cultural revival, raising debates about traditional craftsmanship and wildlife conservation.

**About Ghumot:**

- A **membranophone percussion instrument** made from **clay** and traditionally covered on one side with **animal skin**.
- Played across **Hindu and Christian communities**, symbolizing Goa's **composite folk traditions**.

**Construction Process:**

- **Clay shaping:** Formed into a pot-like structure using refined clay, shaped in three segments.
- **Firing:** Kiln-baked for strength and sound clarity.
- **Membrane:** Historically used **monitor lizard skin** (now banned under the Wildlife Protection Act, 1972). Replaced with **goat, buffalo skin**, or **synthetic alternatives**.

**Cultural and Legal Relevance:**

- Integral to **Goan festivals** like **Sao Joao, Shigmo, Ganesh Chaturthi**, and Christian wedding rituals.
- Does **not fall under Hindustani or Carnatic classical traditions**, yet remains vital in folk expressions.
- **Legal reforms** post-2019 prompted artisans to adapt ethically, aligning tradition with conservation norms.

**Sree Narayana Guru**

**Who was he?**

A Kerala-born (1856–1928) saint, philosopher, poet, and social reformer from the Ezhava community, known for fighting caste discrimination and untouchability.

**Contributions:**

- Inspired leaders like Mahatma Gandhi.
- Played a role in the Vaikom Satyagraha linked to civil rights and the independence struggle.
- Advocated non-violence, universal brotherhood ("One Caste, One Religion, One God for humanity"), education, and religious harmony.

**Major Reforms:**

- Broke caste monopoly by consecrating a Shiva Lingam in 1888.
- Founded 40+ temples open to all castes.

- Established educational and religious institutions like Sivagiri Mutt and SNDP Yogam.
- Promoted education for marginalized communities.

**Literary Works:** Authored philosophical and devotional texts including *Advaita Deepika*, *Atmavilasam*, *Daiva Dasakam*, and *Brahmavidya Panchakam*.

**Recent Event:** The Prime Minister is set to inaugurate the centenary of the 1925 conversation between Sree Narayana Guru and Mahatma Gandhi.

### Salkhan Fossil Park Added to UNESCO Tentative List for World Heritage Sites

**Location:**

Sonbhadra District, Uttar Pradesh, in the Kaimur Range (part of the Vindhya range), adjacent to Kaimur Wildlife Sanctuary.

**Significance:**

- One of the oldest and best-preserved fossil sites globally, with fossils dating back approximately 1.4 billion years.
- Known for fossilized stromatolites—structures formed by cyanobacteria (blue-green algae).
- Records the Great Oxidation Event, marking the first accumulation of oxygen in Earth's atmosphere.
- Features varied stromatolite forms indicating ancient environmental changes like water depth and wave activity.
- Fills a critical gap in the Precambrian fossil record, representing about 85% of Earth's history, which is underrepresented globally.

**UNESCO Tentative Listing:**

Recognized as a geo-heritage site under IUCN's 2020 guidelines on "Evolution of Life."

Matches UNESCO's 2021 framework on Earth's history and life evolution.

Tentative list status is the first step toward becoming a full UNESCO World Heritage Site.

### Early Harappan Burial Discovery in Gujarat's Lakhapar

**Context:**

A 5,300-year-old Early Harappan settlement and burial site discovered in Lakhapar village, Kutch, Gujarat, is offering fresh insights into cultural interactions between Early Harappan and Chalcolithic communities.

**Location:**

Lakhapar village, Kutch district, Gujarat.



Excavation led by the University of Kerala's Department of Archaeology.

**What was Discovered?**

An Early Harappan habitation and burial site dating from approximately 3300 to 2600 BCE.

This site complements findings from nearby Juna Khatiya, another Early Harappan cemetery with 197 burials.

**Key Findings:**

- **Human Burial with Pre-Prabhas Pottery:**  
First direct pit burial with no markers or architecture found in Gujarat.  
Pottery matches Chalcolithic cultures of Saurashtra like Prabhas Patan and Datrana.
- **Harappan-Style Architecture:**  
Sandstone and shale structures show planned building practices indicating social organization.
- **Cultural Interaction Evidence:**  
Ceramics and habitation patterns resemble Early Harappan sites in Sindh, indicating cross-regional cultural exchanges.
- **Interconnected Settlement Network:**  
Combined with Juna Khatiya burials, suggests a larger Early Harappan cultural sphere in Gujarat.

**Significance:**

- **Expands Early Harappan Geography:** Shows Harappan cultural influence went deeper into western India than previously recognized.
- **Earliest Burial with Pre-Prabhas Pottery:** Provides a crucial link between Chalcolithic and Harappan cultures in Gujarat.
- **Challenges Linear Historical Models:** Suggests co-existence of diverse groups— foragers, agro-pastoralists, and emerging urban communities.
- **Fills Data Gaps:** Most Harappan burials studied before are from the Mature Harappan phase; this site offers rare pre-urban insights.
- **Strengthens Cultural Chronology:** Reinforces Gujarat as a cultural bridge between Sindh (Indus Valley) and peninsular India.

## ETHICS

### Kolhapuri Chappal vs Prada Controversy

#### Context:

Indian artisans protested **Prada's 2026 luxury collection**, claiming it mimics the design of **Kolhapuri chappals** without proper attribution.

#### About Kolhapuri Chappals:

- **Type:** Traditional **handcrafted leather sandals**
- **Design:** Open-toe, **T-strap**, made from **vegetable-tanned buffalo hide**
- **Eco-friendly, breathable, and nail-free**
- **Origin:** Mainly from **Kolhapur (Maharashtra)** and parts of **Karnataka** like **Belgaum, Bagalkot, and Dharwad**
- **GI Tag:**  
Granted in **2019** to artisans from **Maharashtra & Karnataka**  
Protects the **name "Kolhapuri"** but **not the structure/design**
- **Cultural Importance:**  
Dates back to the **13th century**  
Symbol of **rural craftsmanship** and **sustainable fashion**
- **Legal Issue:** **GI laws** don't apply since Prada **didn't use the name "Kolhapuri"**
- **Community-based crafts** face challenges in IP protection:
  - Lack of individual ownership
  - Difficulty in establishing **novelty, documentation, or defined authorship**

### Prada Acknowledges Indian Influence Behind New Footwear Design

Italian luxury fashion house **Prada** has officially recognized that its **Men's Spring/Summer 2026 collection sandals** were inspired by **traditional Indian handcrafted footwear**, known for its **centuries-old legacy**.

This acknowledgment came following widespread criticism for the **uncited resemblance to India's GI-tagged Kolhapuri chappals**—a renowned form of leather footwear with deep cultural and artisanal roots in **Maharashtra, India**.

The controversy underscores growing concerns around **cultural appropriation** and the need for **crediting indigenous craftsmanship** in global fashion.

### 1. Cultural Appropriation vs. Cultural Appreciation

**Appropriation:** Prada showcased luxury sandals resembling traditional Kolhapuri chappals, a handcrafted footwear style from Maharashtra, India. These designs were sold at a premium (around ₹1.2 lakh or ~\$1,800), with no initial acknowledgment of their Indian origins. This led to accusations of cultural theft—profiting from a heritage without crediting its source.

**Appreciation Potential:** Some argue that showcasing Indian craftsmanship on a global stage can draw positive attention and revive interest in traditional arts, *if* done respectfully and collaboratively.

### 2. Intellectual Property & Geographical Indications (GI)

Kolhapuri chappals are protected under India's Geographical Indications Act since 2019. This means only registered artisans from specific regions can market footwear under that name.

Critics argue Prada's design closely mimicked the protected product, violating the spirit—if not the letter—of GI protections.

### 3. Economic Justice and Benefit-Sharing

Indian artisans, who sell genuine Kolhapuris for a fraction of Prada's price, received neither recognition nor financial benefit from the luxury reinterpretation.

Many believe profits derived from traditional knowledge or craftsmanship should be shared with its original creators. Failure to do so raises issues of exploitation and inequity.

### 4. Global Fashion's Power Imbalance

The incident highlights longstanding issues where Western fashion houses adopt "exotic" aesthetics from the Global South without credit or collaboration.

While some view this as a form of flattery or globalization, others see it as reinforcing colonial patterns in culture and commerce—where the West benefits from indigenous labor and ideas with little reciprocity.

### 5. Prada's Response

Following social media backlash and public criticism in India, Prada acknowledged the sandals' Indian inspiration and expressed interest in recognizing and possibly working with Indian artisans.

The sandals remain in concept stage, and it's unclear whether any formal collaboration has been initiated.

### Key Ethical Questions Raised

| Ethical Issue                                     | Questions   |
|---|---|
| <b>Credit vs. Concealment</b>                     | Is it ethical for a global brand to use indigenous designs without acknowledgment?        |
| <b>Profit vs. Fair Share</b>                      | Should profits from traditional crafts be shared with original communities?               |
| <b>Legal Protection vs. Practical Enforcement</b> | Are existing GI protections effective internationally?                                    |
| <b>Representation vs. Reductionism</b>            | Can showcasing a craft be respectful if it's stripped of its cultural and social context? |

### UK Parliament Approves Terminally Ill Adults (End of Life) Bill

The UK Parliament has passed the **Terminally Ill Adults (End of Life) Bill** through the House of Commons. This law provides a legal pathway for **assisted dying** for individuals diagnosed with terminal illnesses and expected to live for **less than six months**, specifically in **England and Wales**.

### Key Provisions of the Bill

- The legislation **permits terminally ill adults** to end their lives legally under strict medical and legal supervision.
- It applies exclusively to **England and Wales**.
- Only individuals who have been **medically certified to have fewer than six months to live** qualify.
- To proceed, the person must obtain approvals from:
  - **Two licensed medical doctors**
  - **One psychiatrist**
  - **One senior legal professional**
  - **One qualified social worker**

### Understanding Euthanasia

The term "**euthanasia**" originates from the Greek language, meaning "**good death**". It refers to the intentional act of ending a person's life to alleviate **unbearable suffering** or **irreversible terminal illness**, particularly when there is **no chance of recovery**.

### Types of Euthanasia

- **Active Euthanasia**
  - Involves direct actions taken to end a patient's life, such as administering a **lethal injection**.
  - *Example:* A medical professional gives a dose of medication specifically to end suffering.
- **Passive Euthanasia**
  - Entails **withdrawing or withholding life-prolonging treatments**, allowing the person to die naturally.
  - *Example:* Turning off a ventilator in the case of a patient in a **persistent vegetative state**.
- **Voluntary Euthanasia**
  - Occurs when the patient **explicitly consents** to end their life to escape intractable suffering.
  - *Example:* A terminally ill individual **requests euthanasia** through formal legal channels.
- **Involuntary Euthanasia**
  - The person's life is ended **without their consent**, which is typically regarded as **illegal** and **morally wrong**, equating it with **homicide**.

### Ethical Debate Around Euthanasia

#### Arguments in Favour

- **Autonomy and Self-Determination:** Individuals should have the right to decide when and how they wish to die, especially in cases of terminal illness.
- **Compassionate Relief:** Ending life in cases of unrelenting pain reflects a **humane and compassionate** response to suffering.
- **Dignified Death:** Euthanasia enables patients to avoid prolonged degradation and preserve **dignity at the end of life**.
- **Support for Families and Caregivers:** Relieves families from the **emotional distress** and **financial burden** of witnessing prolonged suffering.
- **Efficient Use of Medical Resources:** Allows medical systems to redirect scarce resources toward patients with a **greater chance of recovery**.

### Arguments Against

- **Sanctity of Life:** Human life is inherently valuable, and actively ending it contradicts **moral and spiritual principles**.
- **Potential for Coercion:** Vulnerable individuals may feel **pressure** to choose euthanasia to avoid becoming a burden to others.
- **Alternatives in Palliative Care:** Advances in **hospice and palliative medicine** can often manage pain and suffering, making euthanasia unnecessary.
- **Slippery Slope Concern:** Legalisation might open the door to **abuse**, where **non-terminal or incapacitated individuals** are euthanised without clear consent.
- **Undermining Doctor-Patient Trust:** The role of doctors as **healers** may be compromised, potentially diminishing trust in the medical profession.

### Judicial Interpretation in India

- **Gian Kaur v. State of Punjab (1996):** The Supreme Court ruled that the **Right to Die** is **not protected** under **Article 21** (Right to Life) of the Constitution.
- **Aruna Shanbaug v. Union of India (2011):** The court allowed **Passive Euthanasia** in India under specific and tightly controlled circumstances.
- **Common Cause v. Union of India (2018):** Recognised the **Right to Die with Dignity** as part of **Article 21** and permitted **Advance Directives**, allowing terminally ill patients to refuse life support.

### Philosophical Perspectives on Euthanasia

- **Antoine de Saint-Exupéry's Humanism:** Emphasised the importance of **meaningful living** over merely extending biological existence.
- **Hans Jonas' Ethics of Responsibility:** Warned that unchecked use of technology in medicine might lead to a **disrespect for the natural process of life and death**.

### Quotes on Life and Death

- "It is not death that a man should fear, but he should fear never beginning to live." — *Marcus Aurelius*
- "To die will be an awfully big adventure." — *J.M. Barrie, Peter Pan*

### Issues around deportation

- **West Bengal:** At least seven residents, wrongfully identified as Bangladeshis and pushed across the border by the BSF, were brought back to India after the **West Bengal government intervened**.
- **Assam:** Similar incidents occurred where alleged Bangladeshi nationals were pushed into Bangladesh but later returned after being confirmed as **Indian citizens** or having unresolved citizenship cases.

### Why this has become an issue:

- **Post-August 2024**, following a change in government in Bangladesh, India's **Union Home Ministry directed police** nationwide to identify anyone with **forged documents** suspected of being Bangladeshi.
- The crackdown intensified after the **Pahalgam terror attack in April** and **Operation Sindoor**, leading to **mass pushbacks** (nearly 2,500 people so far), instead of formal deportation.
- On **10 May**, Assam's CM **Himanta Biswa Sarma** announced adoption of a "**pushback**" policy to stop perceived infiltration, bypassing lengthy legal procedures.
- Home Minister **Amit Shah** instructed intelligence agencies to **arrest and deport** undocumented migrants, employing pushbacks even without cooperation from neighboring countries.

### Deportation vs. Pushback

| Aspect    | Deportation  | Pushback   |
|-----------|--|--|
| Legality  | Court-supervised, requires due process and identity verification | Unofficial; carried out at border at discretion of BSF personnel |
| Procedure | Detention → court case → identity confirmation → deportation     | Immediate border expulsion, often without legal review           |
| Oversight | Judicial scrutiny, cross-border coordination                     | No formal framework; individuals may lack recourse               |

The **Home Ministry** clarified to Jharkhand HC in 2024 that detection and deportation responsibilities were handed to **State police**, as India lacks a federal-level enforcement agency for foreigners.

### Relevant Laws

- **Immigrants (Expulsion from Assam) Act, 1950**
  - Proposed in early June 2025 by Assam's CM, empowering **district commissioners** to identify and evict illegal immigrants.
  - Although intended mainly for Assam, its language extends to **all of India**.



- Section 2 allows the **Union government** to order the removal of individuals deemed harmful, requiring them to leave within a specified timeframe.
- **Foreigners & Immigration Laws**
  - Prior to April 2025, India used multiple **pre-independence era laws**: the **Foreigners Act (1946)**, **Passport Act (1920)**, **Registration of Foreigners Act (1939)**, and **Immigration (Carriers' Liability) Act (2000)**.
  - These were replaced in April 2025 by the **Immigration and Foreigners Act, 2025**, which consolidated and updated these provisions.

### Border-Specific Regimes

- **Nepal-India & India-Myanmar borders** are governed differently:
- **Nepal**: Open border with **Free Movement Regime** allowing residents within 10 km to move freely.
- **Myanmar**: Post-2023 fencing plan initiated following ethnic violence; over **40,000 Chin (ethnic group) refugees** entered Mizoram after the 2021 coup.
- The **MHA directive (March 2021)** asked four north-eastern states to identify and deport Myanmar-origin refugees, asserting that **state governments cannot grant refugee status**, since India hasn't ratified the **UN Refugee Convention**.

### Recent Enforcement Actions

- The **April 2025** Pahalgam terror attack triggered a renewed crackdown on undocumented migrants.
- Individuals from states like **Rajasthan, Gujarat, and Maharashtra** were **transferred by train or flight to border areas** (e.g., Agartala) and handed over to the **BSF**.
- Border personnel have started **recording biometrics and photos** of those pushed back.
- The **MHA directive** stipulates that migrants claiming Indian nationality must have their claims verified by the **District Magistrate within 30 days**; failure to do so results in deportation by a **Foreigners Regional Registration Officer (FRRO)**.
- In 2022, the **UIDAI** was instructed to maintain a **"negative list"** to prevent undocumented migrants from accessing government-issued identity documents.

### Why It Matters

This situation touches on several critical issues:

- **Legal vs. Arbitrary Practices**: Pushbacks sidestep due process and judicial oversight.
- **Human Rights Concerns**: Citizens and genuine residents risk being wrongly expelled without recourse.

- **Policy and Governance:** The shift from formal legal frameworks to informal state-level enforcement raises questions about accountability, discretion, and the separation of powers.

### Ethical Debates surrounding Deportation:

#### 1. Human Rights vs. National Sovereignty

- **Human Rights Argument:** Deporting individuals—especially refugees or asylum seekers—can violate fundamental human rights, such as the right to life, freedom from torture, and protection from persecution (as outlined in the Universal Declaration of Human Rights and the Refugee Convention).
- **Sovereignty Argument:** States have the right to control their borders and determine who may enter or remain. This includes the authority to deport individuals who are in the country unlawfully or who pose a risk.

#### 2. Rule of Law vs. Moral Responsibility

- **Rule of Law Argument:** Deportation is a legal mechanism to enforce immigration laws. Allowing unauthorized migrants to stay may undermine the legal system and erode public trust.
- **Moral Responsibility Argument:** Even if laws allow deportation, there may be ethical obligations to protect people from harm, poverty, or displacement—especially when laws are perceived as unjust or inhumane.

#### 3. Security vs. Compassion

- **Security Concerns:** Deportation is sometimes justified on grounds of national security, crime prevention, or economic stability.
- **Compassion and Vulnerability:** Many deportees are children, victims of trafficking, or individuals fleeing war, violence, or economic collapse. Critics argue it's unethical to prioritize state security over basic human welfare.

#### 4. Voluntary Migration vs. Forced Displacement

- **Illegal Immigration Framing:** Deportation is often applied to people who entered or stayed without permission. Some view this as a personal choice and responsibility.
- **Refugee/Asylum Context:** Many people migrate not by choice but out of desperation. Deporting them back to dangerous or unstable countries can amount to **refoulement**—a violation of international refugee law.

#### 5. Equality vs. Discrimination

- **Unequal Treatment:** Deportation policies often disproportionately target people from specific racial, ethnic, or religious backgrounds. This raises concerns of systemic bias or xenophobia.
- **Ethical Principle of Fairness:** If deportations are applied inconsistently—e.g., based on political convenience, public pressure, or nationality—it undermines justice and equality.

#### 6. Family and Community Disruption

- **Ethical Concerns:** Deportations often separate families, disrupt communities, and traumatize children—especially when individuals have lived for years or decades in the host country.
- **Legal Justification:** Some states argue that legal residency should not be retroactively justified by the length of unauthorized stay, even if individuals have built lives and families.

#### 7. Economic and Social Impact

- **State Perspective:** Some argue that illegal immigration burdens public services and undercuts legal labor markets.
- **Counterpoint:** Many undocumented immigrants contribute economically and socially. Their deportation can harm industries, weaken local economies, and break vital community ties.

#### Core Ethical Dilemmas

| Dilemma                                      | Question   |
|--|--|
| <b>Protection vs. Exclusion</b>              | Who deserves to be protected, and under what circumstances can exclusion be ethically justified?       |
| <b>Legalism vs. Humanitarianism</b>          | Should ethical decisions always align with the law, or can humanitarian concerns override legal norms? |
| <b>Individual Rights vs. Collective Good</b> | When do the rights of individuals give way to perceived national interests?                            |