NEXT IAS

THE CRUX

March Issue; 2026

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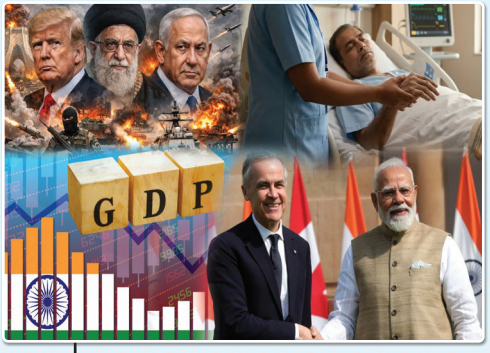

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US-ISRAEL-IRAN CONFLICT

The United States and Israel launched joint military operations named Operation Epic Fury and Operation Roaring Lion against Iran.

Background

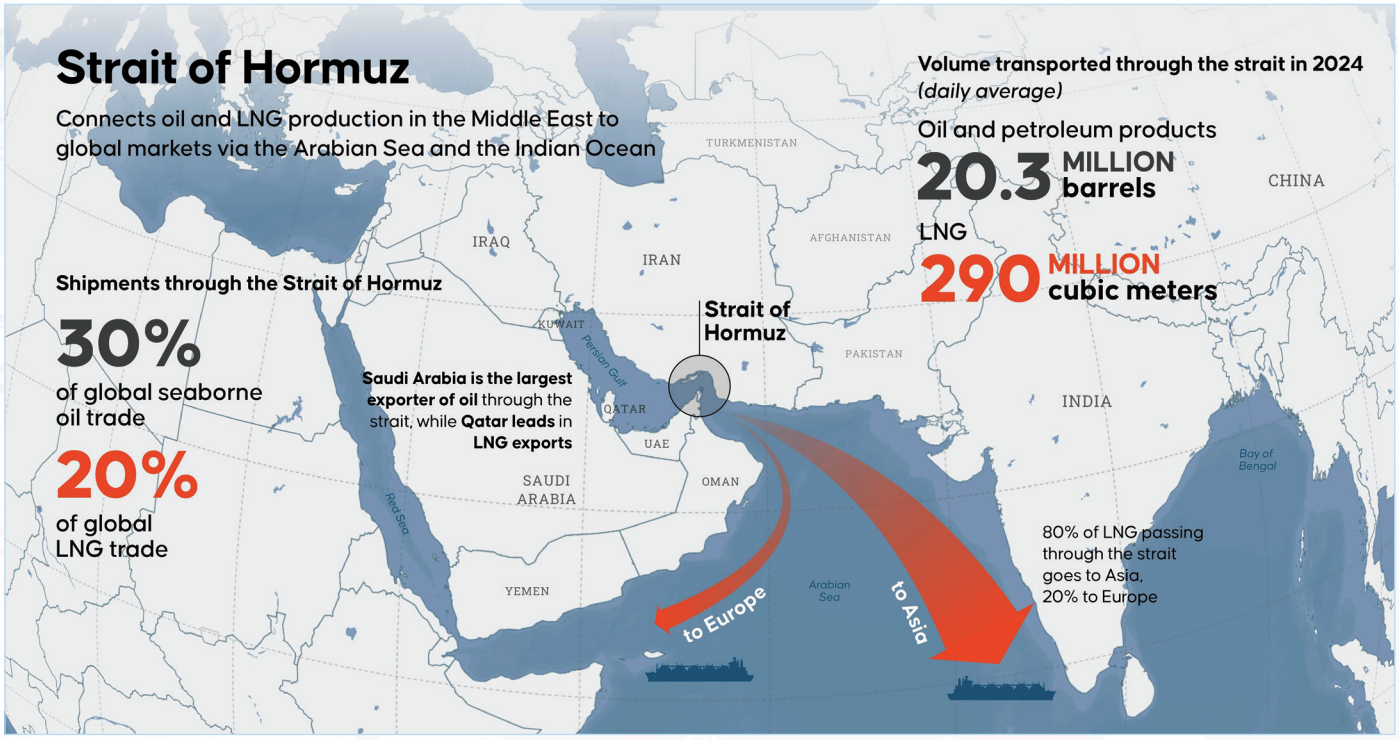
- The conflict originated from the **1979 Islamic Revolution** (transition of Iran to an Islamic political system) which led to long-term hostility with the United States.
- The collapse of the **JCPOA** (Joint Comprehensive Plan of Action – nuclear agreement with Iran) in 2018 resulted in a **maximum pressure campaign** (strict sanctions and diplomatic isolation).
- Iran responded by increasing uranium enrichment levels, raising fears of a **nuclear breakout(ability to rapidly develop nuclear weapons)**.
- The conflict was earlier conducted in the **gray zone** (indirect conflict without full-scale war) through proxy groups across West Asia.
- The conflict escalated significantly after the death of **Ayatollah Ali Khamenei (Iran's Supreme Leader and highest political-religious authority)** during follow-up strikes.
- Iran retaliated through missile and drone attacks on U.S. military installations across West Asia and disrupted the **Strait of Hormuz which is a key global oil transit chokepoint**.
- Shipping traffic through the Strait has reduced by nearly 70 percent, raising concerns about global oil supply disruptions and rising energy prices.

West Asia

- West Asia holds significant geopolitical importance. The region includes countries such as **Iran, Iraq, Israel, Saudi Arabia, UAE, Qatar, and others.**
- It contains vast energy resources **(oil and gas reserves)** essential for global supply.
- Important **choke points** include the **Strait of Hormuz, Bab-el-Mandeb** (strategic Red Sea route), and **Suez Canal.**
- The region has major **religious centres** (Jerusalem, Mecca, and Medina) and is a focal point of global geopolitical competition.
- It is currently undergoing structural transformation due to shifting alliances, proxy conflicts, and strategic rivalries.

Contributing Factors

- The United States aimed at halting Iran's **nuclear programme** (development of nuclear weapons capability) due to concerns over uranium enrichment flagged by the **International Atomic Energy Agency.**
- The objective included containing Iran's **missile programme** which was perceived to be capable of targeting distant regions including Europe and U.S. bases.



- The United States also focused on eliminating **proxy threats** (armed groups indirectly supported by a state) such as **Hamas, Hezbollah,** and **the Houthis.**
- The conflict reflected elements of **attempted regime change** as political statements indicated support for internal change in Iran.

Iranian Retaliation

- Iran launched **ballistic missiles** and **armed drones** targeting U.S. and Israeli interests across multiple countries including Bahrain, Iraq, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, and the UAE.
- The attacks included military bases and strategic infrastructure, indicating an expansion of the conflict beyond bilateral confrontation.
- Iran announced the closure of the **Strait of Hormuz**, escalating the situation from a regional conflict to a global economic concern.

Strait of Hormuz

- The **Strait of Hormuz** *(narrow waterway connecting the Persian Gulf to the Arabian Sea)* is one of the world's most critical **maritime chokepoints**(strategic trade routes for energy transport).
- Nearly one-fourth of globally traded crude oil and a large share of LNG shipments pass through this route daily.
- Major exporters such as Saudi Arabia, UAE, Kuwait, Iraq, Qatar, and Iran depend on uninterrupted access to this route.

Economic Aspects

- The closure of the **Strait of Hormuz** has resulted in significant delays in the transportation of crude oil and LNG shipments across Asia, Europe, and North America.
- Tanker movement declined due to **security risks** (threat of attacks on commercial vessels) and has reduced the volume of maritime trade.
- **Marine insurance premiums** and **freight charges have** increased significantly due to heightened risk perception among shipping companies.
- Commercial shipping operations are diverted to **longer routes** or **temporarily suspended**, increasing both time and cost of transportation.
- Speculative trading in global oil markets leads to an increase in crude oil prices even before actual shortages occur.

Global Reactions

- Financial markets experiencing persistent volatility in currencies and stock exchanges due to uncertainty in global energy supply. The conflict has created an **energy shock** leading to inflation across major economies.
- There is an increased risk of **stagflation** (slow economic growth combined with high inflation) at the global level.
- Global supply chains for oil, LNG, fertilizers, and petrochemicals are disrupted due to rerouting of shipping.
- The conflict has created **divisions** within the **international community** regarding its legitimacy and consequences.
- Iran's response is increasingly influenced by the **Revolutionary Guards** (elite military organisation responsible for strategic operations in Iran).
- Concerns have increased regarding **human rights violations.**

Impacts on India

- India imports nearly 85 percent of its crude oil, making it highly vulnerable to rising energy prices.
- Around 50 percent of India's crude oil imports, approximately 2.6 million barrels per day, pass through the **Strait of Hormuz**.
- Every one dollar increase in crude oil prices adds nearly 2 billion dollars to India's annual import bill, increasing fiscal pressure.
- Around 8–9 million Indians living in Gulf countries face safety concerns, requiring evacuation planning.
- Trade disruptions affect exports and imports, particularly fertilizers and agricultural goods.
- Strategic projects such as **Chabahar Port** (India's connectivity project in Iran), **IMEC** (India-Middle East-Europe Corridor), and **I2U2** (India-Israel-UAE-USA grouping) face uncertainty due to instability in the region.

India's Energy Security Strategy

Strategic Petroleum Reserves	Capacity Expansion *(Approved)*
Total existing capacity: 5.33 MMT ➲ **Visakhapatnam:** 1.33 MMT ➲ **Mangaluru:** 1.50 MMT ➲ **Padur:** 2.50 MMT	➲ **Additional capacity:** 6.5 MMT (PPP mode) ➲ **Chandikhol, Odisha:** 4.0 MMT ➲ **Padur, Karnataka:** 2.5 MMT

Way Forward

- The escalation has increased uncertainty in global markets and security dynamics.
- For India, the situation has direct implications for energy security, economic stability, and diaspora safety, requiring a balanced and strategic response.
- India should diversify its energy imports towards regions such as Africa and Latin America to reduce dependency on West Asia.
- Strategic Petroleum Reserves should be strengthened to provide a buffer against supply disruptions.
- India should enhance diplomatic engagement with all stakeholders to promote stability.
- Maritime security in the Arabian Sea should be strengthened to ensure safe passage of trade routes.
- Contingency planning should be undertaken to protect the Indian diaspora in conflict zones.
- India should promote ceasefire and dialogue through platforms such as the UN **(United Nations)**, **SCO (Shanghai Cooperation Organisation)**, and **BRICS.**

PASSIVE EUTHANASIA

The Supreme Court, in the Harish Rana case 2026, permitted the withdrawal of clinically-assisted nutrition and hydration (CANH). This marked the first real implementation of passive euthanasia in India.

Background

- This decision operationalised the principles laid down earlier in the **Common Cause case (2018) judgment** that recognised the right to die with dignity under constitutional law.
- Harish Rana suffered a severe accident in **2013**, which caused irreversible brain damage and left him in a **Permanent Vegetative State (PVS)** for nearly **13 years**.
- He developed **complete quadriplegia** (total paralysis of all four limbs) and survived only through **Clinically Assisted Nutrition and Hydration** (CANH – artificial feeding through medical tubes).
- After prolonged suffering and no signs of improvement, the family approached the Court, which ultimately allowed withdrawal of life support based on medical recommendations.

Euthanasia

- Euthanasia is the intentional ending of life to relieve suffering. It is generally classified into two forms.
  - Passive euthanasia involves withdrawal of treatment allowing natural death and it is legally permitted under safeguards.
  - Active euthanasia is direct action to cause death, it is illegal.
  - It may further be classified as **voluntary** (with patient consent), non-voluntary (patient unable to consent), or **involuntary** (without consent, illegal and unethical).

Court's Reasoning

- The Court emphasised that decisions regarding withdrawal of life support must be guided by the **best interests of the patient** (overall welfare, dignity, and quality of life).
- It clarified that when medical treatment only prolongs biological existence without any meaningful recovery, such treatment may not serve the patient's interests.
- The Court recognised that **CANH administered through PEG *(Percutaneous Endoscopic Gastrostomy)* tubes** qualifies as medical treatment and not merely basic care.
- Therefore, withdrawal of such treatment falls within the scope of **passive euthanasia** (withholding or withdrawing life-sustaining interventions).
- The Court also directed that the patient must continue to receive **palliative care** (medical care focused on relieving pain and suffering) to ensure dignity until death.
- **Procedural Relaxation:**
  - The Supreme Court waived the standard **30-day waiting period** to prevent unnecessary prolongation of suffering.
  - The Court accepted the unanimous recommendation of medical boards and family members, thereby ensuring that the process remained humane and compassionate.

Legal Position of Euthanasia

- In India, **passive euthanasia is legally permitted** under judicial guidelines.
- However, active euthanasia (deliberate act to cause death, such as administering a lethal injection) remains illegal under the **Bharatiya Nyaya Sanhita, 2023.**
- The Supreme Court has clearly held that the **right to die with dignity is an integral part of Article 21.**

Role of Living Will

- A **living will** (advance medical directive specifying future treatment preferences) allows individuals to decide in advance whether life support should be continued in case they become incapable of expressing consent.
- This mechanism strengthens patient autonomy by ensuring that medical decisions reflect the individual's wishes even in incapacitated conditions.

Procedural Framework of Passive Euthanasia

- The process requires approval from a **Primary Medical Board** to assess the patient's condition.
- A **Secondary Medical Board** (independent panel of doctors appointed by district authorities**)** must review and confirm the decision.
- Both boards are expected to provide their opinion within **48 hours**, ensuring timely decision-making.
- The final decision must be communicated to a **Judicial Magistrate** along with consent from the patient's family.

Evolution of Judicial Interpretation

- In the **Maruti Dubal case (1987 judgment),** the right to die was initially interpreted as part of personal liberty.
- In the **Gian Kaur case (1996 judgment),** the Supreme Court rejected this interpretation and upheld the sanctity of life.
- In the **Aruna Shanbaug case (2011 judgment)**, passive euthanasia was allowed under strict judicial supervision.
- In **Common Cause case (2018 judgment),** the Court recognised the right to die with dignity and validated living wills.

Passive Euthanasia	
Arguments in Support	**Arguments Against**
➲ It is argued that euthanasia upholds **individual autonomy** (right to make personal life decisions), especially in cases of terminal illness. ➲ It provides **relief from prolonged suffering** (continuous physical or mental pain without recovery) and allows a dignified end to life. ➲ It also reduces e**motional and financial burden on families** caring for critically ill patients.	➲ Critics highlight serious ethical concerns and the sanctity of human life. ➲ There is a **risk of coercion**, especially in socio-economically weak conditions. ➲ It may conflict with medical ethics. ➲ It is also argued that better **palliative care** (pain management and supportive treatment) can address suffering without ending life.

Systemic Gaps

➲ India still lacks a comprehensive law governing **end-of-life care.**

➲ Decisions may be influenced by external factors such as **financial hardship or lack of medical infrastructure.**

➲ Awareness about **living wills** and **legal rights** remains low among the general population.

Way Forward

➲ The Harish Rana judgment represents a humane and significant step in recognising dignity in death within India's constitutional framework.

➲ Moving forward, a balanced approach combining legal safeguards, ethical considerations, and strong healthcare systems will be essential to ensure compassionate and just end-of-life care.

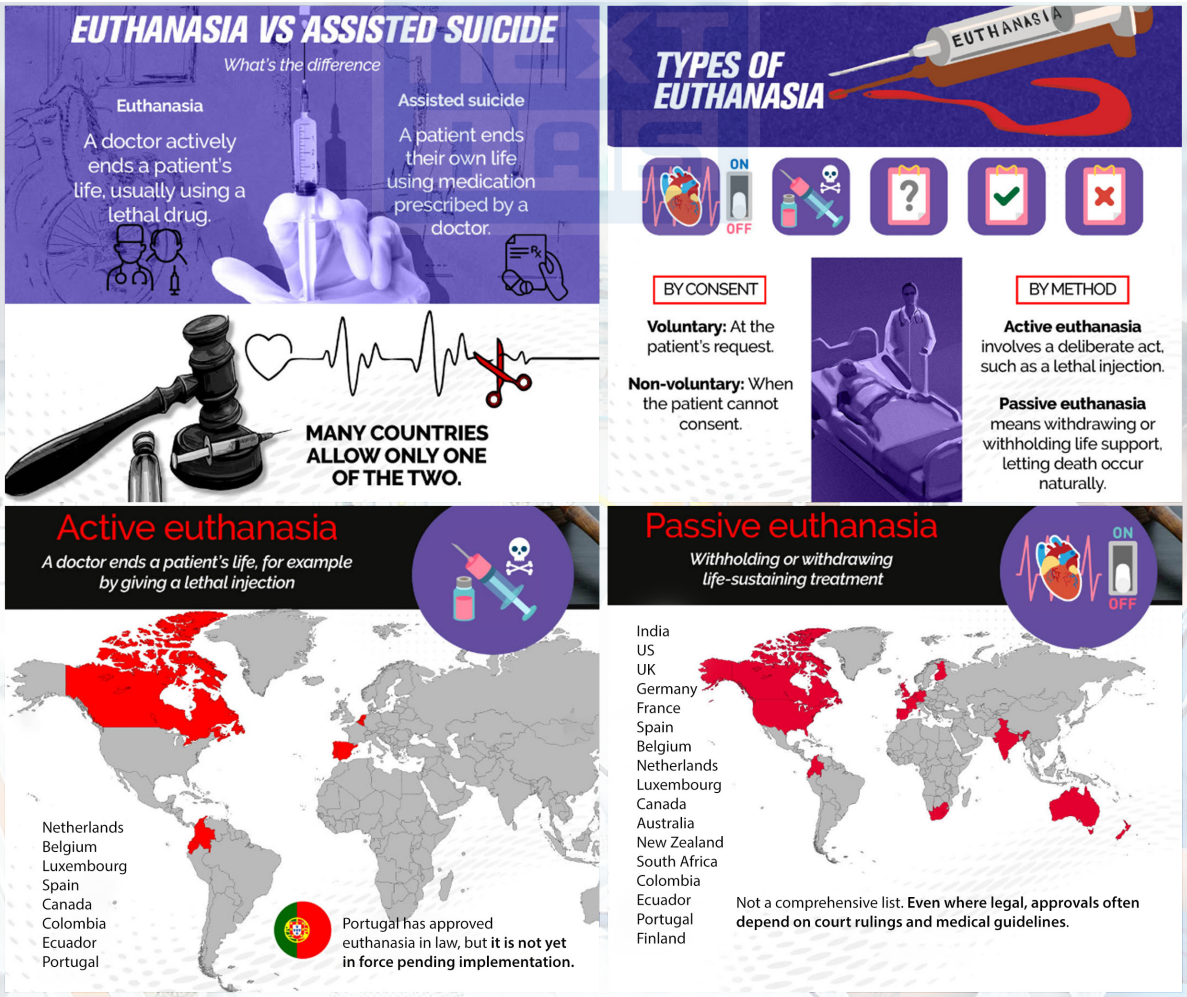
➲ There is a need to expand **palliative care systems** across all levels of healthcare, including rural areas.

➲ Public awareness programmes should be conducted to educate citizens about **living wills** and patient rights.

➲ Financial protection schemes such as **Ayushman Bharat** should cover end-of-life care.

➲ Community-based support systems and caregiver assistance programmes should be strengthened.

➲ A comprehensive legal framework must be established to ensure clarity, safeguards, and uniform implementation.



GDP BASE REVISION

Ministry of Statistics and Programme Implementation (MoSPI) released revised GDP series with base year 2022–23, replacing 2011–12.

Key Highlights of New (GDP) Series

- **Real GDP Growth:** Real GDP (output after removing price increase) grew about 7.6 percent in Financial Year 2025–26, compared to about 7.2 percent and 7.1 percent earlier
  - This shows actual increase in goods and services produced, meaning economic activity is expanding in real terms.
- **Nominal GDP Growth:** Nominal GDP (output measured at current prices including inflation) grew about 8.6 percent in Financial Year 2025–26.
  - Lower growth compared to earlier years (about 11.0 percent and 9.7 percent) shows price increase has reduced, so current growth reflects more real production.
- **Quarterly Growth Pattern:** Growth in Financial Year 2025–26 was driven by second quarter growth of about 8.4 percent and third quarter growth of about 7.8 percent.
  - This shows economic activity is consistently increasing across time, not limited to one short period.
- **Manufacturing Sector Role:** Manufacturing sector recorded double-digit growth in multiple years after revision.
  - This means factories are producing more goods, increasing value added, and contributing significantly to overall economic growth.
- **Broad-Based Sectoral Growth:** Secondary sector (industry) and tertiary sector (services) both recorded growth above 9 percent in Financial Year 2025–26.
  - This shows growth is coming from multiple sectors, reducing dependence on any single sector.
- **High Growth in Core Services:** Trade, transport, hotels, and communication services grew about 10.1 percent in Financial Year 2025–26.
  - This reflects increase in consumption demand, movement of people and goods, and expansion of service activities
- **Strong Consumption and Investment:** Private Final Consumption Expenditure (household spending) and Gross Fixed Capital Formation (investment in machines, infrastructure) grew above 7 percent. This shows both spending and investment are supporting economic growth, making it more sustainable.

Why GDP Base Year Revised to 2022–23

- **Normal Economic Base:** Gross Domestic Product growth is calculated relative to a base year; if the base year reflects abnormal output levels, the growth rate becomes mathematically distorted.
  - Covid-affected years had suppressed production and demand, so using 2022–23 ensures the base represents equilibrium output, not temporary contraction.
- **Updated Economic Structure:** GDP measures value added across sectors; when sectoral composition changes, an outdated base year assigns incorrect weights to sectors.
  - Rebasing (updating base year for comparison) incorporates expansion of digital economy, renewable energy, and gig economy (short-term contract-based employment), ensuring correct sectoral contribution in GDP.
- **Use of Better Data Sources:** Earlier GDP relied on proxy data (indirect estimates), which introduced systematic underestimation of informal and unorganised sectors.
  - Use of Annual Survey of Unincorporated Sector Enterprises, Periodic Labour Force Survey, Goods and Services Tax, and Public Financial Management System enables direct observation, reducing estimation error.
- **Improved Methodology:** GDP intends to measure real value added; if output value rises due to higher input cost, it does not indicate real production increase.
  - Double deflation (separate adjustment of output prices and input costs) isolates real output by removing price effect from both sides, ensuring value added reflects actual increase in production.
- **Better State-Level Estimation:** Fixed ratios assumed identical economic structure across states, which created systematic mismeasurement of regional output.
  - Direct data-based estimation improves Gross State Domestic Product (state-level GDP), while National Statistical Office ensures uniform methodology for valid comparison across states.

Implications of New (GDP) Series

- **Reduction in Nominal GDP:** Nominal GDP (total value of goods and services at current prices) reduced by about 3 to 4 percent for Financial Year 2025–26 after revision.
  - This means earlier GDP size was statistically overestimated due to weaker data and methods; revision corrects measurement without changing actual production.
- **Increase in Fiscal Deficit Ratio:**
  - Fiscal deficit ratio (government borrowing divided by GDP) increases automatically when GDP decreases, even if borrowing remains unchanged.
  - For Financial Year 2025–26, fiscal deficit rose from about 4.4 percent to around 4.5 percent, making it harder to achieve future fiscal targets.
- **Rise in Debt-to-GDP Ratio:** Debt-to-GDP ratio (total government debt compared to economic size) rises when GDP is revised downward without change in actual debt.

- Central government debt increased from about 56.2 percent to around 58.1 percent of GDP, indicating reduced fiscal space for new spending.

➲ **Increased Difficulty in Achieving Economic Targets:**
- India's GDP estimated around 3.8 trillion dollars in 2025–26, leaving limited gap to reach 4 trillion dollars target.
- After revision, achieving this requires sustained nominal growth (growth at current prices) near 10 percent and stable exchange rate, increasing dependence on macroeconomic conditions.

➲ **Sectoral Re-estimation (More Accurate Sector Contribution):**
- Improved data increased agriculture sector size by about 5 percent due to better measurement of output and input costs.
- This does not indicate sudden growth; it corrects earlier underestimation, making sectoral contribution more accurate.

Measures to Advance India's Economic Measurement Framework

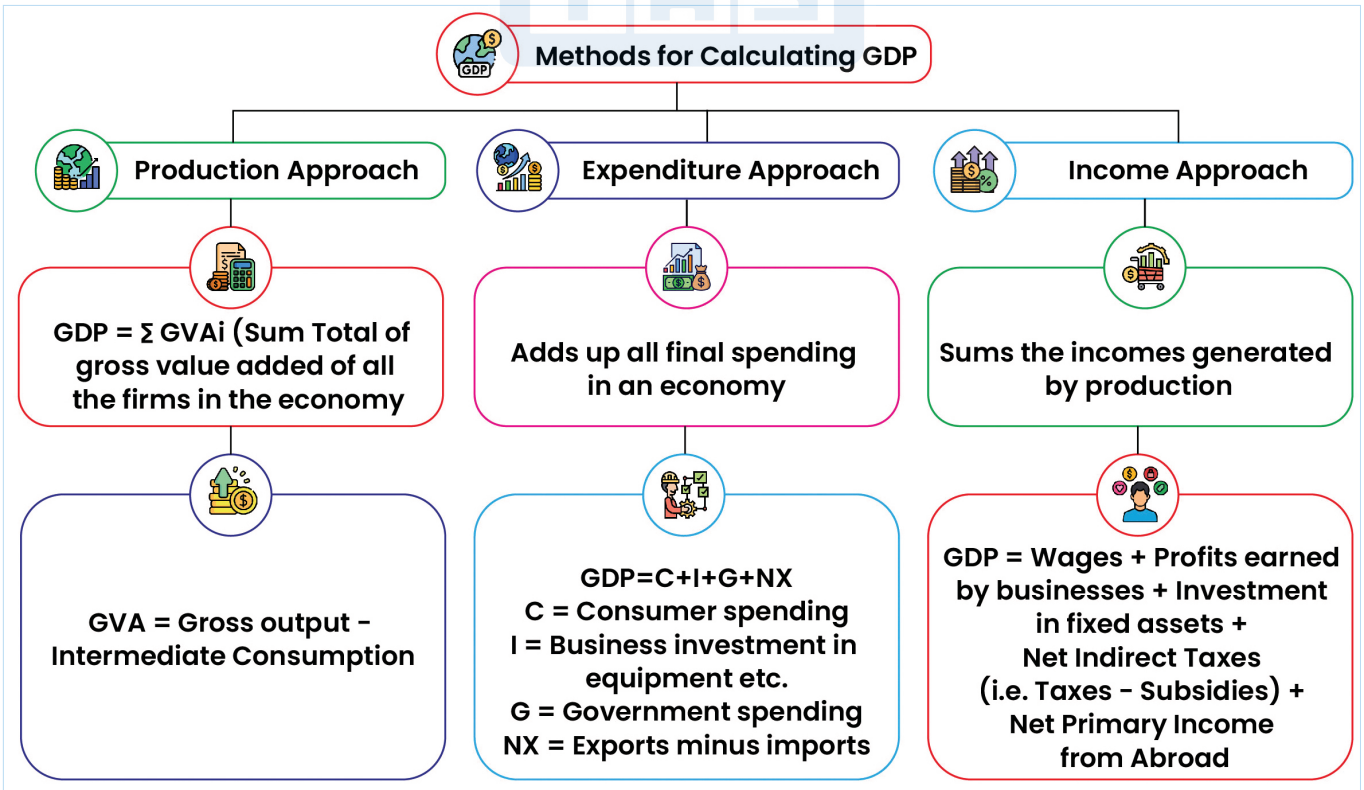
➲ **Introduce Producer Price Index (PPI):** Consumer Price Index (CPI) measures prices paid by consumers and Wholesale Price Index (WPI) measures bulk prices, but both miss actual prices received by producers.
- Producer Price Index (PPI) (price received by producers) helps measure true production cost and output inflation, improving accuracy of real GDP calculation.

➲ **Update Wholesale Price Index (WPI) Base Year:**
- Real GDP is calculated by removing inflation using deflators; if WPI base year is outdated, price adjustment becomes incorrect.
- Updating WPI ensures inflation is measured using current prices, so real growth reflects actual increase in production, not outdated price structure.

➲ **Align with System of National Accounts (SNA) 2025:**
- India currently follows System of National Accounts (SNA) 2008, while global system is shifting to SNA 2025 by 2029–30.
- Adopting SNA 2025 allows proper measurement of digital economy, crypto assets, and environmental factors, ensuring global comparability of GDP data.

➲ **Reduce Large Firm Bias:** Current GDP estimation uses Ministry of Corporate Affairs data, which mainly covers large firms and misses many small businesses.
- Improving data for Micro, Small and Medium Enterprises ensures GDP reflects actual economic activity, not only formal sector output.

➲ **Strengthen Data and Survey Systems:**
- GDP accuracy depends on quality of data; incomplete or outdated data leads to incorrect estimation of output and growth.
- Expanding surveys, administrative data, and sector studies improves reliability, timeliness, and consistency of national accounts data.



INDIA–CANADA RELATIONS

The rencent visit of Canada's Prime Minister to India marked a strategic reset with the signing of a long-term uranium supply agreement worth about $1.9–2.6 billion.

Key Outcomes of the Visit

- Canada's Cameco Corporation will supply about **10,000 tonnes of uranium** to India from **2027 to 2035**, ensuring long-term fuel availability.
- Both countries agreed to resume CEPA negotiations with a target to **double bilateral trade to $50 billion by 2030**, focusing on trade expansion, investment promotion, and supply-chain cooperation.
- A **Strategic Energy Partnership** was announced, covering uranium supply, nuclear energy, renewable energy, Liquefied Petroleum Gas, and emerging technologies.
- Canada agreed to join the **International Solar Alliance** and the **Global Biofuel Alliance**, strengthening collaboration in clean and renewable energy.
- Institutional mechanisms include the **India–Canada Defence Dialogue**, **CEO Forum revival**, and **India–Canada Parliament Friendship Group**.
- Innovation and talent initiatives include the **India–Canada–Australia trilateral partnership** (technology cooperation framework), **AICTE–Mitacs internships**, and a **Pulse Protein Centre at** National Institute of Food Technology Entrepreneurship and Management.

Significance of the Agreement

- The uranium agreement strengthens **energy security** and supports India's goal of expanding nuclear capacity from **about 9 GW to 100 GW by 2047**.
- It promotes **low-carbon energy** and supports India's climate commitments and energy transition.
- Diversification of imports enhances **supply resilience** and reduces dependence on limited suppliers.
- The partnership strengthens ties with a **G7 country** and enhances India's global strategic and economic position.

Historical Background

- India and Canada established **diplomatic relations** in **1947**, and both are members of the **Commonwealth of Nations.**
- Early cooperation (1950s–1970s) included development assistance and nuclear collaboration through the **CIRUS reactor** (Canada–India research reactor for peaceful purposes) and Rajasthan Atomic Power Project.
- Relations deteriorated after the **1974 Pokhran-I nuclear test,** leading Canada to suspend nuclear cooperation.
- Tensions were also visible after the **Air India Flight 182 bombing** (1985 terrorist incident involving Canadian-based extremists).
- Relations improved in the 2000s with the **2008 NSG waiver (approval for India's global nuclear trade)**, followed by the **2010 Civil Nuclear Cooperation Agreement** and **2015 uranium supply deal**.
- The relationship was elevated to a **Strategic Partnership** in **2018**, expanding cooperation across sectors.

Geopolitical Cooperation

- Both countries support a **free and open Indo-Pacific** i.e. a rules-based regional order ensuring stability and security and cooperate in global institutions such as the **United Nations**, **World Trade Organization**, and **International Civil Aviation Organization**.
- Canada's Indo-Pacific strategy identifies India as a key partner, reflecting convergence in regional and global priorities.
- India supports Canada's participation in **IORA (Indian Ocean Rim Association)**, strengthening regional and maritime cooperation.

Defence Cooperation

- The **India–Canada Defence Dialogue** marks a new phase of security cooperation.
- Both countries are strengthening collaboration in **counterterrorism**, intelligence sharing, and tackling organised crime.
- Security cooperation is anchored in the **Joint Working Group on Counter Terrorism (1997)** and the **Framework for Countering Terrorism (2018)**.
- Legal cooperation is supported by the **Extradition Treaty (1987)** and **Mutual Legal Assistance Treaty (1994)**.

Geo-Economic Cooperation

- India and Canada share strong **economic complementarity**, with India offering a large market and skilled workforce, and Canada providing natural resources, capital, and advanced technology.

- Bilateral trade reached about **$30.9 billion in 2024**, with India maintaining a **trade surplus.**
- India exports pharmaceuticals, machinery, electronics, precious stones, and metals, while Canada exports fertilisers, pulses, timber, pulp, and energy resources.
- Canada is India's **7th largest trading partner**, though trade still represents a small share of Canada's global trade, indicating untapped potential.
- Canadian pension funds have invested over **$75 billion in India**, while Canada has invested about **$3,306 million** as **Foreign Direct Investment** since 2000.

People to People Relations

- The Indian diaspora in Canada exceeds **1.8 million people (around 4% of population)**, acting as a strong bridge for economic, cultural, and political ties.
- Canada recognises this link through initiatives such as **Sikh Heritage Month**, and Indian-origin leaders hold important political positions.
- India remains the largest source of international students in Canada, strengthening **educational cooperation (academic and research exchange)**.
- Institutions such as the **Shastri Indo-Canadian Institute** (academic collaboration platform established in 1968) promote research and educational exchange.
- Tourism and migration further enhance **people-to-people connectivity** (social and cultural interaction), with Canada contributing significantly to foreign tourist arrivals in India.

Technological Cooperation

- India and Canada collaborate in **research and development (joint innovation and scientific advancement)** through initiatives like **IC-IMPACTS (research collaboration centre)**.
- Space cooperation includes agreements between **Indian Space Research Organisation(ISRO)** and **Canadian Space Agency**, including satellite launches and space research.
- Nuclear cooperation is supported by the **Nuclear Cooperation Agreement (2010)** and collaboration between regulatory bodies for safety and standards.

Challenges

- Relations have been strained due to **Khalistani extremism** and diplomatic tensions.
- Trade negotiations face hurdles due to **tariffs, non-tariff barriers, and mobility of professionals**.
- Visa delays and diplomatic staff reductions have disrupted travel, education, and business exchanges.
- Differences on geopolitical issues such as Afghanistan, China, and human rights concerns have created friction.
- Nuclear energy faces challenges such as **high costs, safety concerns, environmental risks, and slow progress in advanced technologies**.
- Domestic political pressures in both countries and perceived lack of focus on bilateral ties have also affected relations.

Way Forward

- India–Canada relations are transitioning from a phase of tension to **pragmatic cooperation** across energy, trade, and strategic domains.
- A stable and comprehensive partnership will strengthen energy security, economic growth, and geopolitical alignment while contributing to a resilient Indo-Pacific and sustainable global energy future.
- Strengthening **security cooperation** is essential to rebuild trust and address sensitive issues like Khalistan.
- An **early harvest trade agreement** can boost trade while CEPA negotiations continue.
- Expanding cooperation in clean energy, critical minerals, infrastructure, and emerging technologies will deepen long-term engagement.
- Enhancing cultural, educational, and academic exchanges will improve trust and facilitate smoother mobility.
- Sustained high-level dialogue, including **Track-II diplomacy**, is necessary to address differences and build mutual understanding.

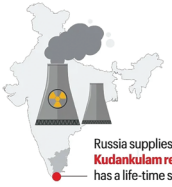
India's Import Dependence for Uranium

- India consumes about **1,500–2,000 tonnes of uranium annually**, with demand expected to rise to around **5,400 tonnes** as nuclear capacity expands.
- Domestic uranium ore is low grade (**0.02 – 0.45%**) compared to global averages (**1–2%**) and Canadian deposits (up to **15%**), making imports more economical.
- Over **70% of India's uranium requirement is met through imports**, despite total reserves of about **4.3 lakh tonnes**, of which over **80,000 tonnes are allocated** and about **40% already extracted**.
- Uranium mining is concentrated in states like **Jharkhand and Andhra Pradesh**, with operations managed by **Uranium Corporation of India Limited (public sector mining company)**.
- India follows a **three-stage nuclear programme:**
  - **Stage 1:** Pressurised Heavy Water Reactors (reactors using natural uranium as fuel and producing plutonium)
  - **Stage 2:** Fast Breeder Reactors (reactors producing more fissile material than they consume)
  - **Stage 3:** Thorium-based reactors (use of thorium to generate uranium-233 for long-term sustainability)

• RELIANCE ON IMPORTED URANIUM

India's uranium imports in previous years

Year	Company, Country	Quantity (metric tonnes)
2020-21	Kazatomprom (Kazakhstan)	1,000
2020-21	Cameco (Canada)	1,000
2023-24	Navoiyuran (Uzbekistan)	350
2024-25	Navoiyuran (Uzbekistan)	250



INDIA'S MAIN SUPPLIERS
- Russia
- Uzbekistan
- Kazakhstan
- Canada

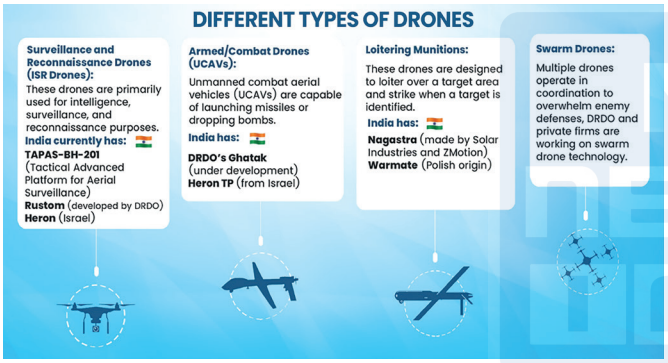
Russia supplies uranium for the **Kudankulam reactors**, for which it has a life-time supply agreement.

ERA OF DRONE WARFARE

Recent conflicts in West Asia have shown the rapid rise of UAVs and precision systems in modern warfare. These developments highlight a shift towards technology-driven warfare, requiring India to adapt its military strategy.

What are Drones?

- **Unmanned Aerial Vehicles (UAVs)** or Drones are aircraft that fly without any crew or passengers on board. These can work as fully automated **devices** or be operated from a distance as **Remotely Piloted Vehicles (RPVs)**.
- **Evolution and Applications:**
  - **Military Roots:** First created for **military reconnaissance** and **combat operations** during World War 1, since then drone technology has seen massive growth.
  - **Civilian and Commercial Use:** Modern advancements have moved drones into various sectors, providing new solutions for **agriculture**, **infrastructure**, **transportation**, and **disaster response**.



Key Features of Unmanned Aerial Vehicles (UAVs)

- **Unmanned Aerial Vehicles (UAVs)** have several key features that allow them to be used for both **civilian and military applications**.
- **Vertical Landing Capability:** This is specific to certain types, like rotary-wing drones (quadcopters) or **VTOL (Vertical Take-Off and Landing)** aircraft. Most **fixed-wing UAVs** still need a runway and cannot land vertically.
- **Automated Hovering:** Only rotary-wing UAVs can stay still in the air. **Fixed-wing UAVs** must always move forward to stay flying and cannot hover.
- **Power Sources:** While small **drones** often use **batteries**, others run on gasoline engines, hybrid systems, or alternative energy sources like fuel cells and solar power.
- **Autonomous Operation:** Modern systems include **GPS navigation**, **obstacle avoidance**, and pre-set flight paths. These autonomous capabilities mean they don't always need a human pilot for every move.
- **Payload Versatility:** These aircraft can carry different equipment, such as **cameras**, **sensors**, or **delivery packages**, making them useful for everything from photography to **logistics**.

Effectiveness of Drones

- Warfare is increasingly defined by **low-cost, high-impact systems**, where inexpensive drones can destroy costly military assets such as tanks and air defence systems.
- A key feature is **swarm warfare** (deployment of large numbers of drones simultaneously), which overwhelms traditional defence systems.
- Conventional systems face limitations due to **reload time, interception capacity, and cost constraints**, making them less effective against mass drone attacks.
- In the **Russia–Ukraine War**, over **1,000 drones** have been used extensively, demonstrating how first-person view drones can destroy expensive armoured vehicles.
- The **Nagorno-Karabakh conflict (2020)** showed that 30–40% of battlefield destruction was caused by **loitering munitions** (drones that hover and strike targets).
- In the **Gaza conflict**, hundreds of **drones** were used by **non-state actors** for surveillance and targeted attacks.

Challenges of Drone Warfare and Technology

- **Military and Strategic Challenges:**
  - **Swarm Saturation:** The biggest threat is an attack by hundreds of drones at once, which can overwhelm **air defence systems**.
  - **Detection Difficulties:** Drones have a **low radar cross-section**, meaning their small size makes them very hard for radar to find and track.
  - **Cost Asymmetry:** This reflects a shift in **military economics** where very cheap drones can be used to destroy extremely expensive military assets.
  - **Asymmetric Warfare:** This technology allows **non-state actors** or weaker forces to challenge stronger militaries, making **attribution** (identifying the attacker) much harder.
  - **Interception Gaps:** Current success rates for stopping these threats remain below optimal levels, exposing specific **vulnerabilities** in national security.
- **Technology and Governance Challenges:**
  - **Privacy Concerns:** High-resolution cameras on drones can easily record people without consent, leading to an invasion of personal space.
  - **Ethical Concerns:** The rise of **remote warfare** where humans do not engage in direct battle raises serious moral questions about accountability in conflict zones.

- **Legal and Regulatory Gaps:** Technology has moved faster than the law. The lack of clear **legal and regulatory frameworks** creates confusion regarding **international law** and transparency.
- **Airspace Issues:** As drones fly higher, they can interfere with traditional aircraft, raising the risk of mid-air disasters.
- **Environmental Impact:** Drones powered by fossil fuels contribute to **carbon emissions**, though many are now moving toward greener energy.

Indian Scenario

Background

- India's **UAV** journey started in 1998 with the Israeli **Searcher Mark 1**. While most military drones are currently bought from Israel and the USA, the domestic market is booming.

Government Initiatives

- India aims to be a **drone superpower** by 2030 through several **policy** and **governance** measures:
- **Make in India & PLI Scheme:** These provide **financial aid** to manufacturers and software developers to boost **indigenous manufacturing**.
- **Drone (Amendment) Rules 2022:** This simplified **licensing requirements**. Notably, a certificate from the **Director General of Civil Aviation** is no longer needed for non-commercial flying of **micro and nano drones**.
- **Digital Sky Platform:** An online portal that handles **licensing** for flying and manufacturing while providing essential drone information.
- **Drone Shakti Scheme:** A program designed to support **startups** and encourage the use of drones as a service across different industries.
- **Agricultural SOPs:** Specific guidelines created to ensure the safe use of **agricultural drones** for farming.

Defence and Counter-Drone Technology

- **To secure the airspace, India has developed advanced defensive and offensive capabilities:**
  - **IDD&IS (Integrated Drone Detection and Interdiction System):** This can find drones 5–8 km away and use **laser systems** or signal jamming to stop them.
  - **Bhargavastra:** An **indigenous anti-swarm solution** that uses micro-rockets to take down multiple drones at once.
  - **Modern Induction:** The military is currently adding **surveillance drones** and **loitering munitions** (suicide drones) to its arsenal.
- **Economic Aspects**
  - India's defence budget is about **₹5.94 lakh crore (2023–24)**, with around **25% allocated for modernisation**.
  - The global drone market is projected to reach **$29.06 billion by 2027**, showing rapid technological growth.
  - India's drone industry is growing at around **20% annually**, supported by policy initiatives. However, India remains dependent on imports for about **70% of advanced drone components**, affecting strategic autonomy.
- **Critical Gaps:**
  - India lacks a **unified counter-drone doctrine** integrating all forces and agencies.
  - There is limited integration of **artificial intelligence and electronic warfare with existing systems**.
  - Coordination gaps exist between military services and civilian agencies, leading to operational inefficiencies.
  - Lack of **simulation-based training and preparedness for swarm warfare scenarios** reduces operational readiness.

Legal and Institutional Framework

Legel Framework

- India's drone regulation is spread across multiple laws, creating a fragmented governance structure.
- The Defence of India Act, 1962, Arms Act, 1959, and Information Technology Act, 2000 regulate different aspects of drone use and security.
- The Defence Procurement Procedure 2020 governs acquisition but lacks specific provisions for swarm defence and emerging threats.

Institutional Structure

- The Defence Research and Development Organisation (DRDO – India's defence research agency) leads development of drone technologies.
- The Indian Air Force, Indian Army, and Indian Navy use drones for surveillance and combat roles but lack a unified counter-drone doctrine.
- The Ministry of Defence handles strategy and procurement, while the Ministry of Civil Aviation regulates civilian drone usage, leading to coordination gaps.

Way Ahead

- **Technological Self-Reliance:** India must increase investment in indigenous research and development to reduce import dependence, specifically integrating artificial intelligence and electronic warfare for real-time detection and response.
- **Integrated Defence Systems:** Developing a comprehensive counter-drone doctrine and integrated counter-drone systems is essential to neutralize swarm threats through both active and passive defence measures (like camouflage and underground infrastructure).
- **Structural Reforms:** To ensure a faster response, the military should move toward decentralised command structures and establish **Integrated Theatre Commands** to improve coordination across all armed forces.
- **National Security Focus:** Adopting a forward-looking, technology-driven approach will ensure the protection of critical assets in the rapidly evolving battlefield environment.

JUDICIAL DISSENT

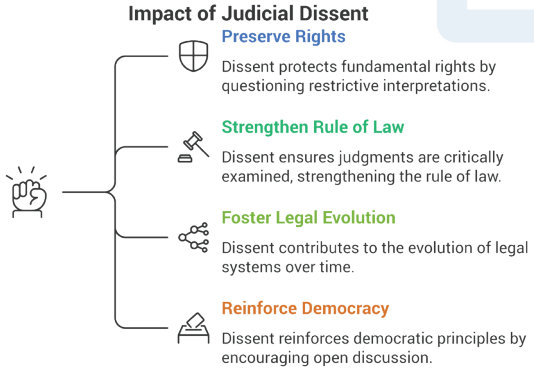
Recently, Supreme Court judge B V Nagarathna highlighted that judicial independence also includes the right of individual judges to record dissenting opinions.

What is Judicial Dissent?

- **Judicial dissent** refers to a situation where a judge expresses a view different from the majority decision of the court.
- A dissenting opinion provides detailed reasoning explaining why the judge disagrees with the outcome or logic of the majority judgment.
- Dissent represents **independent judicial thinking** even when it differs from consensus.

Types of Judicial Dissent

- **Political Dissent:** Judges disagree on cases that have **political implications**. An example is the **P.V. Narasimha Rao case (1998)**, where Justices S.C. Agarwal and A.S. Anand had a conflict of opinion regarding parliamentary immunity in cases of bribery.
- **Social Dissent:** This occurs when there are differing views on **social issues**. In **Shayara Bano v. Union of India (2017)**, the varying views on triple talaq showed different ways of looking at social justice and gender equality.
- **Intellectual Dissent:** This happens when judges have different **legal interpretations** of the law. For instance, **Justice B.V. Nagarathna** issued a dissent in **Lalta Prasad Vaish (2024)** concerning the power of States regarding the taxation of industrial alcohol.



Notable Dissent Cases

- In **A.K. Gopalan v. State of Madras (1950)**, Justice Fazl Ali supported a broader interpretation of personal liberty, which later influenced later judgments.
- In **Kharak Singh v. State of Uttar Pradesh (1962)**, Justice Subba Rao argued that police surveillance violated the **right to privacy (protection of personal life)**.
- In **ADM Jabalpur v. Shivkant Shukla (1976)**, Justice H.R. Khanna defended the **right to life and liberty** even during Emergency.
- In **NJAC case (judicial appointments case)**, Justice Chelameswar dissented by criticising the **collegium system**.

Constitutional Provisions

- **Article 19(1)(a) (freedom of speech and expression)** supports open and reasoned judicial opinions.
- **Article 50 (separation of judiciary and executive)** ensures institutional independence of courts.
- **Articles 124 and 217 (security of tenure of judges)** protect judges from arbitrary removal and support independent decision-making.

Challenges

- Judges expressing dissent may face **institutional challenges** (professional or career-related pressure).
- Dissenting opinions may be misinterpreted as personal bias in politically sensitive matters. Heavy case backlog reduces time available for writing detailed dissenting opinions.
- Excessive dissent may lead to **judicial fragmentation** (lack of unity in decisions).
- Frequent dissent can affect **public trust**. Dissenting opinions are **non-binding** and may have limited impact.

Global Examples

- In the United States, dissent is a regular feature reflecting **judicial autonomy.**
- In the United Kingdom, dissent contributes to the evolution of **common law.** In South Africa, dissent strengthens **transformative constitutionalism** (use of law for social transformation).

Significance

- Dissent strengthens **judicial independence** by allowing judges to express autonomous views.
- It promotes **constitutional debate** by enriching legal reasoning.
- It acts as a **guide for future law** as many dissents later become accepted principles.
- It protects **minority rights** by highlighting issues ignored by the majority.
- It enhances **transparency** and accountability in judicial functioning.

Way Forward

- Encouraging dissent within institutional limits will strengthen judicial credibility and long-term development of law.
- Courts should promote a culture of **constructive dissent.**
- Institutional mechanisms should ensure proper consideration of dissenting views.
- **Public awareness** should be increased about the importance of dissent in democracy. **Judicial processes** should balance efficiency with the need for independent reasoning.

FREE TRADE AGREEMENTS

The Union Minister of Commerce and Industry said that India now enjoys preferential trade access to nearly two-thirds of global trade through a series of free trade agreements.

Free Trade Agreement (FTA)

- FTAs are arrangements between two or more countries or trading blocs that primarily agree to **reduce or eliminate customs tariff and non-tariff barriers** on substantial trade between them.
  - They can **cover both goods and services**. It also addresses issues such as investment, mobility of professionals, and regulatory cooperation.
- **India uses different terms** to denote the scope and depth of trade agreements.
- India has secured preferential tariff access to markets covering **roughly 70% of global GDP** and trade flows. India now has **trade arrangements with 38 high-income economies,** many complementary to its export strengths.

Major Free Trade Agreements of India in Recent Years

- **India–United Arab Emirates CEPA, 2022:**
  - **Status:** Implemented (May 2022)
  - Provides duty-free access on about 90% of tariff lines
  - Covers goods, services, investment, and mobility of professionals
- **India–Australia ECTA, 2022:**
  - **Status:** Implemented (December 2022)
  - India receives duty-free access on about 96% tariff lines, rising to near full coverage over time
  - Covers goods, services, and mobility provisions
- **India–European TEPA, 2024:**
  - **Status:** Signed (March 2024), in force from October 2025
  - Covers goods, services, investment, and sustainability provisions
  - Includes investment commitment of USD 100 billion over 15 years
- **India–United Kingdom CETA, 2025:**
  - **Status:** Signed (July 2025), not yet implemented as of April 2026.
  - Provides duty-free access to about 99% of Indian exports after implementation
  - Covers goods, services, investment, labour, and regulatory standards
- **India–Oman CEPA, 2025:**
  - **Status:** Signed (December 2025), awaiting implementation
  - Oman offers duty-free access on about 98% tariff lines, covering nearly all Indian exports
  - Covers goods, services, investment, and workforce mobility

India's Trade Agreements *(From Least Depth to Highest Depth)*

Agreement	Stage	Why this Stage Exists	What is Included	Example
Economic Cooperation and Trade Agreement (ECTA)	Starting stage	Low trust and high risk; countries start small to gain quick trade benefits safely	Reduction of import duties on goods and limited services	India and Australia Economic Cooperation and Trade Agreement (2022)
Comprehensive Economic Cooperation Agreement (CECA)	Basic expansion stage	Trust improves; countries expand trade but still protect sensitive sectors	Goods, some services, and limited investment provisions	India–Singapore Comprehensive Economic Cooperation Agreement (2005)
Comprehensive Economic Partnership Agreement (CEPA)	Full partnership stage	High interdependence; countries integrate multiple sectors for growth and efficiency	Goods, services, investment, intellectual property rights, and regulatory rules	India–United Arab Emirates Comprehensive Economic Partnership Agreement (2022); India–Oman CEPA (2025)
Trade and Economic Partnership Agreement (TEPA)	Strategic stage	Trade becomes strategic; focus shifts to investment, jobs, and supply chain security	Trade, investment, and long-term commitments such as supply chains and technology	India–European Free Trade Association Trade and Economic Partnership Agreement (2024; in force 2025)
Comprehensive Economic and Trade Agreement (CETA)	Highest integration stage	Mature stage; countries aim for near single-market integration with strong rules	Goods, services, investment, government procurement, and regulatory alignment	India–United Kingdom Comprehensive Economic and Trade Agreement (2025)

- **India–European Union FTA, 2026:**
  - **Status:** Negotiations concluded (January 2026), not yet signed as of April 2026. Covers over 90% of trade by value with wide sectoral coverage
  - Expected to be one of India's largest trade agreements due to the size of the European market

FTAs under Negotiation

- **Gulf Cooperation Council (GCC):** Negotiations formally launched in February 2026 with the Gulf Cooperation Council. The bloc includes Saudi Arabia, UAE, Oman, Qatar, Kuwait, and Bahrain.
- **Israel:** India and Israel have initiated FTA negotiations, with the first round already held.
- **Chile:** Terms of Reference signed in 2025 to launch negotiations with Chile.
- **Canada:** Negotiations with Canada have been revived after earlier disruptions.

Significance

- **Export Growth as Starting Point:** Free Trade Agreements reduce import duties in partner markets, lowering prices of Indian goods and increasing demand across sectors
  - India's exports were approximately 714 to 790 billion dollars in 2025 to 2026, and India–UAE trade reached around 100 billion dollars, indicating expanded market access (PIB 2026; IBEF 2025)
- **Production Expansion through Global Value Chains:** Increased external demand requires cost efficient production supported by lower tariff access to intermediate goods under trade agreements
  - Electronics and mobile exports expanded during 2025, showing integration into cross-border production systems through import of components and export of finished goods (PIB 2025)
- **Employment Generation in Labour Intensive Sectors:** Expansion of output increases activity in textiles, leather, and jewellery sectors which require high labour per unit of production
  - Micro Small and Medium Enterprises account for approximately 40 to 45 percent of exports, linking trade expansion directly with employment generation (MSME data 2025; Economic Times 2026)
- **Investment Attraction due to Market Stability:** Trade agreements define tariff schedules and market access conditions, reducing uncertainty for long term investors
  - Foreign investment inflows remain above approximately 70 billion dollars annually, and agreements like EFTA include around 100 billion dollar commitments, strengthening industrial capacity (IBEF 2025)
- **Global Competitiveness as Final Outcome:** Lower input costs, larger production scale, and capital inflows reduce average production cost and improve product quality
  - India maintained export growth during global slowdown in 2025, with diversified exports improving resilience and positioning in sectors like engineering and electronics (Economic Survey 2025 to 2026)

Concerns

- **Risk of Trade Imbalance:** Tariff reductions increase import volumes when domestic industries cannot match cost, productivity, or scale of partner countries under liberalised trade conditions
  - Imports from FTA partners were about 69 to 70 billion dollars versus exports around 38 billion dollars in one quarter of 2025 to 2026 (NITI Aayog 2026)
- **ASEAN Agreement Experience:** Tariff reductions under ASEAN Goods Agreement increased imports of electronics and machinery faster than India's exports in those product categories
  - India's exports to ASEAN declined by approximately 16 to 17 percent during 2025 while import levels remained high (NITI Aayog 2026)
- **Competitive Pressure on Domestic Industries:** Lower tariffs allow entry of goods produced at lower cost or higher technology levels, increasing price and quality competition for domestic producers
  - Dairy, steel, automobiles, and electronics sectors face measurable cost disadvantages due to higher input cost structures (Economic Survey 2025 to 2026)
- **Structural Constraints in Manufacturing:** Domestic production faces higher logistics cost, smaller average firm size, and limited technology adoption, reducing export competitiveness under open trade conditions
  - Manufacturing exports remain concentrated in limited sectors, restricting broad based export response to tariff reductions (Economic Survey 2025 to 2026)
- **Unequal Gains Across Partners:** Countries with higher export capacity and diversified production utilise tariff reductions more effectively, leading to asymmetric trade outcomes
  - India records trade deficits with multiple FTA partners, contributing a substantial share to overall merchandise trade deficit (NITI Aayog 2026)

Way Forward

- **Reducing Logistics Costs:** India must reduce logistics costs from 7.97 percent GDP to 6–7 percent via PM Gati Shakti improving export competitiveness.
- **Strengthening Manufacturing:** Manufacturing competitiveness requires scale, technology, energy efficiency; Economic Survey highlights productivity gaps; targeted reforms can raise output per worker significantly.
- **Expanding MSME Exports:** MSMEs contribute 40–45 percent exports, face compliance and logistics barriers; expanding RoDTEP and digital systems reduces costs, increases participation.

CROP DIVERSIFICATION

The Supreme Court directed the Union Government to revise agricultural policy to incentivise crop diversification from wheat and paddy to pulses in North India.

Crop Diversification

- Crop diversification refers to the cultivation of different crops instead of depending on a single crop pattern in a region.
- It involves shifting from the rice–wheat cropping system to pulses, oilseeds, millets, horticulture, and fodder crops.

Issues Highlighted by the Court

- **Lack of Adequate MSP Incentives:**
  - Farmers often prefer **wheat and paddy** because government procurement is strong for these crops.
  - However, **pulse farmers rarely receive effective MSP support**, reducing their incentive to cultivate pulses.
  - **MSP policies historically favoured rice and wheat**, discouraging diversification into pulses and oilseeds.
- **Uncertainty in Procurement and Market Access:**
  - Pulses lack the robust, guaranteed procurement systems seen for cereals like rice and wheat, where agencies like FCI buy most output at MSP.
  - For pulses, procurement under the Price Support Scheme (PSS) covers only a fraction, often under 30% in key states like Maharashtra leaving most farmers exposed to private traders.
- **Impact of Imports on Domestic Producers:**
  - India imports pulses such as **yellow peas** to stabilise prices.
  - However, imports can depress domestic prices, and discourage farmers from growing pulses.
  - The Court suggested **fixing the import price of yellow peas** to ensure it does not harm domestic producers.

Why Crop Diversification Necessary

- **Environmental Sustainability:**
  - The rice–wheat cropping system has caused **groundwater depletion, soil degradation, and stubble burning.**
  - Pulses require **less water and improve soil fertility through nitrogen fixation**, making them environmentally beneficial.
- **Nutritional Security:**
  - Pulses are a **major protein source** in India's predominantly vegetarian diet.
  - However, domestic production often falls short of demand, leading to imports.
  - Major importing sources include Canada, Australia & Myanmar.
  - Increasing domestic production **improves food security and reduces import bills.**
- **Economic Benefits For Farmers:** Crop diversification can reduce dependence on a few crops, improve farm resilience, and enhance farm incomes through diversified production systems.
- **Importance of Pulses in Crop Diversification:** Pulse crops fix atmospheric nitrogen through symbiotic bacteria (Rhizobium), improving soil fertility.

Challenges in Crop Diversification in India

- **Assured vs. Uncertain Income:**
  - Farmers prefer rice and wheat because MSP and government procurement guarantee sales and stable income; about 80% of procurement spending in 2025 focused on cereals.
  - Pulses and oilseeds lack assured buyers, so diversification becomes financially risky and less attractive.
- **Lack of Strong Market Systems:**
  - Diversified crops need proper storage and transport, but India loses 15–20% of horticultural produce annually (MoFPI 2025).
  - For example, tomato prices fell below ₹2/kg in 2024 due to oversupply and no storage, showing how weak markets directly cause farmer losses.
- **Subsidy Bias and Wrong Incentives:**
  - Subsidies on electricity and fertilizers make paddy more profitable. Punjab uses about 5,000 litres of water per kg of rice (ICAR 2025), but farmers do not bear this cost.
  - Millets get less support, so farmers continue cereal farming as it feels safer and more profitable.
- **Lack of Knowledge and Training:**
  - Only 30–35% of farmers receive proper guidance (Agriculture Ministry 2026). Different crops need different skills for sowing, pest control, and selling.
  - Without training, farmers face early losses, so they avoid shifting from familiar crops like rice and wheat.
- **Weak Policy Implementation:**
  - Schemes like PM-AASHA and PMFBY exist but are not effectively implemented. Delays in insurance payments and weak support for non-cereal crops increase risk.
  - NITI Aayog (2025) highlights coordination gaps, making diversification less secure than traditional cereal farming.

Government Efforts Driving Crop Diversification in India

- **PM-AASHA (Pradhan Mantri Annadata Aay Sanrakshan Abhiyan) & MSP (Minimum Support Price) Support:**
  - PM-AASHA extends MSP-based procurement to pulses and oilseeds, ensuring better price security.

- In 2025, pulses buffer stocks exceeded 4 million tonnes (Consumer Affairs), helping stabilize prices and encouraging farmers to diversify beyond rice–wheat systems.

- **NFSM (National Food Security Mission—Productivity & Area Expansion):**
  - NFSM promotes pulses and oilseeds through improved seeds, field demonstrations, and subsidies.
  - India produced ~27–28 million tonnes of pulses in 2025 (Agriculture Ministry), reducing import dependence and making diversified crops more economically reliable for farmers.
- **MIDH (Mission for Integrated Development of Horticulture) & AIF (Agriculture Infrastructure Fund):**
  - MIDH and AIF develop storage, grading, and processing infrastructure; over ₹1 lakh crore sanctioned by 2025.
  - This strengthens value chains, reduces post-harvest losses, and supports farmers in shifting to high-value crops like fruits and vegetables.
- **PM-KUSUM (Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan):**
  - PM-KUSUM promotes solar-powered irrigation pumps, reducing dependence on subsidized electricity.
  - It improves water-use efficiency and supports a gradual shift away from water-intensive crops, encouraging sustainable and diversified agricultural practices.
- **PMFBY (Pradhan Mantri Fasal Bima Yojana) & Digital Agriculture Mission:**
  - PMFBY provides crop insurance against losses, while the Digital Agriculture Mission delivers real-time advisories on weather and markets.
  - Increased farmer enrolment and access (Agriculture Ministry 2026) improve decision-making and reduce risks in diversified farming.

Way Forward

- **Expand MSP Coverage & Decentralised Procurement:** Extending MSP-backed procurement for pulses, oilseeds, and millets through state agencies can reduce income risk.
  - NITI Aayog (2025) recommends decentralised models like MP's pulse procurement, which increased farmer participation, showing strong potential to shift cropping patterns sustainably.
- **Build Integrated Value Chains:** Investing in cold chains, food processing, and Farmer Producer Organisations (FPOs—collective farmer groups) can reduce 15–20% post-harvest losses (MoFPI 2025).
  - ***Example:*** Operation Greens expansion stabilised tomato-onion prices, proving value chain strengthening directly improves farmer income and diversification.
- **Rationalise Subsidies:** Shifting from input subsidies to Direct Benefit Transfers (DBT—cash support) can remove bias toward paddy. Economic Survey (2025) suggests this improves crop choice efficiency. States like Haryana promoting millets show that better incentives can significantly change farmer behaviour.
- **Strengthen Extension & Digital Advisory:** Expanding digital platforms and Krishi Vigyan Kendras (KVKs—farm science centres) can improve farmer awareness.
  - ICAR (2026) shows targeted advisories increase yields by 10–15%, making diversified crops more reliable and reducing initial failure risks.
- **Improve Risk Management Systems:** Reforming PMFBY with faster claim settlement using satellite data can build farmer trust. CAG (2025) highlights delays as a key issue; pilot projects using remote sensing reduced settlement time significantly, encouraging farmers to adopt diversified and higher-risk crops.

Case Studies of Crop Diversification in India

Case Study	Intervention	Outcome	Key Learning
Punjab , Maize Diversification (2024–25)	State gave financial incentives (~₹17,500/ha) and assured procurement for maize to replace paddy	Maize area increased; maize uses ~70% less water than paddy (PAU, 2025), directly reducing groundwater extraction	Assured price + incentive = farmer shift; water-saving crops adopted when income risk is reduced
Haryana – Mera Pani Meri Virasat Scheme	₹7,000/acre Direct Benefit Transfer (DBT) given to farmers shifting from paddy to millets, pulses, oilseeds	Paddy area reduced in overexploited blocks (Haryana Govt, 2025), with measurable groundwater stress reduction	Direct cash incentive works effectively in changing cropping patterns in water-stressed regions
Maharashtra – FPO-led Grape/ Pomegranate Model	Farmer Producer Organisations (FPOs) provided aggregation, cold storage, and export linkages (APEDA support)	India exported >₹3,000 crore grapes annually (APEDA, 2025); farmers earned significantly higher incomes than cereals	Strong market linkage + collective farming = successful diversification into high-value crops

MEDICAL TOURISM INDUSTRY IN INDIA

India's state-of-the-art healthcare has attracted patients from across the world over the last few decades, but the travel disruptions caused by the ongoing conflict in West Asia are creating new challenges.

What is Medical Tourism?

- Medical tourism refers to the **practice of traveling** to another country or region for medical treatment, procedures, or health-related services.
- **Reasons:** Individuals seek medical care in countries where the quality of treatment is high, but the costs are significantly lower than in their home country.
  - Travel for specialized treatments not available locally or for services that have long wait times.

Medical Tourism in India

- **The medical tourism industry** in India is valued at **approximately $9 billion**, the country attracts patients from across the globe fo**r advanced treatments in cardiology, orthopedics, oncology, and organ transplants.**
- Medical tourism in India increased by around **33% year-on-year in 2023.**
- **Popular destinations for medical tourism in India** include cities like Delhi, Mumbai, Chennai, Bangalore, and Hyderabad, which are home to premier healthcare facilities.
- **India has been ranked 10th** in the Medical Tourism Index (MTI) for 2020-21 out of 46 destinations in the world by the Medical Tourism Association.

Factors Responsible for the Growth of Medical Tourism in India

- **Cost-Effective Treatment:** India offers medical procedures at a fraction of the cost compared to countries like the US or Europe.
- **High-Quality Healthcare:** India has a well-established healthcare infrastructure with internationally accredited hospitals and skilled medical professionals.
- **Availability of Advanced Medical Technology:** Indian hospitals are equipped with state-of-the-art medical technology and cutting-edge treatments, particularly in fields like cardiology, oncology, and orthopedics.
- **Shorter Wait Times:** Medical tourists can access timely treatment, often avoiding long wait times common in some Western healthcare systems.
- **Government Support and Policies:** The Indian government has implemented policies that encourage medical tourism, including medical visa facilitation and promoting the sector internationally.

Significance for India

- **Economic Growth:** It boosts the economy by generating revenue from international patients, contributing to the healthcare sector and related industries (e.g., hospitality, transportation).
- **Improved Healthcare Infrastructure:** To cater to medical tourists, hospitals invest in state-of-the-art facilities, which also benefits local patients by improving overall healthcare quality.
- **Promotion of India's Global Image:** It enhances India's reputation as a global healthcare destination, attracting more foreign investment and partnerships in the medical field.
- **Technological Advancements:** The demand for advanced treatments and international standards of care drives innovation and the adoption of new medical technologies in Indian healthcare.
- **Skill Development:** It fosters the development of a highly skilled workforce, as healthcare professionals gain exposure to international standards and diverse patient needs.
- **Diplomatic Ties:**
  - As patients from different nations seek treatment in India, they are exposed to rich cultural heritage and hospitality.
  - This exchange of experiences can foster greater understanding and goodwill between nations, paving the way for strengthened diplomatic ties.

Challenges

- **Strong competition** from Malaysia, Thailand and Singapore.
- Most of the medical care is **not covered by insurance** and it makes Medical Value Travel (MVT) less attractive.
- **The MVT facilitators are not well organized** and accredited. Many unprofessional agents exploit the travellers.
- **Lack of Regulations:** There are no comprehensive regulations to govern the MVT sector, which leaves the sector unorganised and lacks monitoring of the quality of services.
- **Lack of Promotion:** Individual Hospitals are carrying out their publicity but there is no effective campaign to establish India as a brand for medical value travel.
- **Accreditation:**
  - India maintains a robust accreditation system through National Accreditation Board for Hospitals and Healthcare Providers (NABH).
  - There is not much awareness about NABH in foreign countries and international patients still attach much greater value to Joint Commission International (JCI) accreditation.

Government Efforts for Medical Tourism in India			
Initiative	**What exactly it is**	**How it works**	**How much effective**
Heal in India Initiative (Flagship Programme)	Government-led programme to position India as a global hub for Medical Value Travel (MVT)	Creates centralised digital portal, standard pricing, hospital listings, grievance redressal, integrates AYUSH + modern medicine	Core pillar of policy; strengthened via Budget 2025 push and PPP model, improving global visibility and trust
E-Medical Visa & Medical Attendant Visa Expansion	Dedicated visa system allowing foreign patients + attendants to enter India for treatment	Fully online, faster processing, expanded to many countries, reduces entry barriers	Critical enabler—covers patients from 170+ countries; significantly reduces travel friction
AYUSH Visa & Wellness Integration (2023 onwards)	Special visa category for Ayurveda, Yoga, Unani, Siddha, Homeopathy treatments	Promotes holistic healthcare model combining traditional + modern systems	Creates India's unique comparative advantage; attracts wellness tourists globally
Medical Tourism Hubs (Union Budget 2026)	Establishment of 5 integrated regional medical hubs with diagnostics, treatment, rehabilitation	PPP-based infrastructure development to create end-to-end healthcare ecosystems	Major supply-side reform; expected to boost capacity, jobs, and global competitiveness
National Strategy for Medical & Wellness Tourism (MoT)	Comprehensive policy roadmap focusing on branding, digitalisation, governance, and ecosystem building	Focus on Incredible India branding, MVT portal, accreditation, accessibility reforms	Provides long-term institutional framework; aligns all stakeholders under one strategy

Learnings for India from Global Medical Tourism Models			
Country / Model	**What They Did**	**Outcome**	**What India Should Learn**
Thailand – Integrated Healthcare + Tourism Model	Combined hospital care + hospitality + tourism packages (end-to-end patient experience: airport → hospital → recovery resort)	~2.5+ million medical tourists annually; treatments 30–70% cheaper than West	India focuses on treatment, not experience → must build "healing ecosystem" (hospital + hotel + travel integration)
Malaysia – Government-Led Coordinated Model	Created central agency (Malaysia Healthcare Travel Council) for branding, facilitation, and policy coordination	~1.2 million medical tourists annually; strong ASEAN positioning	India lacks unified authority → needs single nodal body + branding + seamless visa/ logistics system
Turkey – Niche Specialisation + Aggressive Marketing	Focused on high-demand niche (hair transplant, cosmetic surgery) + global digital marketing	Revenue grew from ~$0.2B (2003) to ~$2.2B (2022)	India is generalist → must build global centres of excellence (cardiac, oncology, IVF clusters)

Way Ahead

- **Opportunities for India:**
  - **Demand from Countries with Aging Population:** There will be increased demand for healthcare services from countries with an aging population.
  - **Long waiting periods in Developed Countries:** In many developed countries, there is a shortage of supply, which results in long waiting periods.
- India has invested heavily in AYUSH and is in a unique position to attract medical value travellers for a cure through AYUSH and also for enhancing wellness.
- There is a need for greater support from the Government towards regulation, facilitation and marketing of India as a Medical Value Travel destination.

Conclusion

- India's medical tourism sector reflects strong synergy between affordability, quality healthcare, and policy support, positioning it as a key global destination.
- However, regulatory gaps and weak ecosystem integration constrain its full potential.
- Strengthening governance, branding, and integrated healthcare systems is essential for sustained global leadership.

EMPOWERING WOMEN FARMERS IN AGRICULTURE

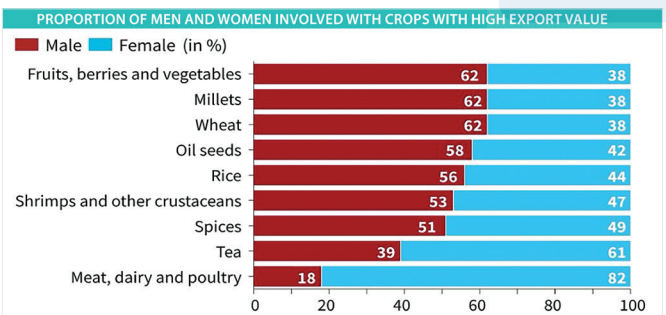
Rural women form the backbone of India's agriculture, with 80% engaged in farming and allied activities.

About

- Women participate across the entire agricultural value chain: crop production, livestock management, agroforestry, fishing, horticulture, post-harvest processing, packaging, and marketing.
- Women are increasingly recognized as key agents in achieving **sustainable agriculture and food security**, especially under frameworks like the Sustainable Development Goals, particularly **SDG 2 (Zero Hunger)** and **SDG 5 (Gender Equality).**
- The United Nations has **designated 2026 as the International Year of the Woman Farmer (IYWF 2026)**, in recognition of the vital and indispensable role of women in global agriculture.

Global Scenario

- Women constitute nearly **43% of the agricultural workforce** in developing countries, according to the Food and Agriculture Organization (FAO).
  - In regions like Sub-Saharan Africa and South Asia, their share is even higher, indicating the **feminisation of agriculture.**
- The FAO estimates that if women had equal access to productive resources, farm yields could **increase by 20–30%**, potentially reducing global hunger by up to **150 million people.**



Challenges

Despite their critical role, women farmers face structural and institutional constraints:

- **Limited Land Ownership and Credit Gap:** Though nearly **80% of rural women** are engaged in agriculture, only about **13% own land**, limiting their access to credit, farm loans, and government schemes, and leading to a significant gender gap in institutional finance.
- **Technological Exclusion:** Women farmers face limited access to mechanisation and digital tools, as farm equipment is often designed for male ergonomics, restricting effective use by women.
- **Unpaid Labour:** A large share of women's agricultural work remains unpaid; in many countries, women account for **over 50% of unpaid farm labour**, reflecting significant under-recognition.
- **Socio-cultural Constraints:** Gender norms restrict women's mobility and decision-making, with studies showing limited participation in leadership and access to markets due to entrenched social barriers.

Government Initiatives

- **Financial Support and Credit:**
  - **Agriculture Infrastructure Fund (AIF):** Over 8,000+ projects sanctioned for women, improving storage and logistics.
  - **PM-KISAN:** Around 25% beneficiaries are women; over ₹1 lakh crore transferred to women since inception.
  - **Modified Interest Subvention Scheme:** The Modified Interest Subvention Scheme (MISS) is a central sector scheme that ensures the availability of short-term credit to farmers at affordable rates through the Kisan Credit Card (KCC).
- **Technology and Skill Development:**
  - **Namo Drone Didi:** Target to provide 15,000 drones to women SHGs.
  - **NBHM:** Promotes beekeeping as a low-investment, high-return livelihood.
  - **DAY-NRLM:** Over ₹11 lakh crore credit disbursed to women SHGs.
- **Institutional Support:**
  - **ICAR–CIWA:** Develops women-friendly tools to reduce drudgery.
  - **MANAGE & NGRCA:** Promote gender-responsive agricultural policies.

Way Forward

- **Land Ownership and Legal Rights Reform:** Ensure joint land titles and digitised land records for women farmers, enabling direct access to institutional credit, subsidies, and insurance, thereby addressing structural exclusion in agricultural entitlement systems.
- **Gender-Responsive Credit and Financial Inclusion:** Expand Kisan Credit Cards for women, mandate priority-sector lending targets, and integrate Self-Help Groups with formal banking systems to effectively reduce gender disparities in agricultural finance access.
- **Technology Access and Mechanisation Design:** Scale women-friendly agricultural tools through ICAR institutions, promote digital agriculture platforms, and expand drone-based

services to enhance productivity and reduce drudgery in feminised agricultural systems.

- **Market Linkages and Value Chain Integration:** Strengthen women-led Farmer Producer Organisations, ensure direct market access through e-NAM, and support processing, storage, and branding to transform women from labourers into agri-entrepreneurs.
- **Institutional Governance and Gender Mainstreaming:** Establish a dedicated national mission for women farmers aligned with global frameworks like IYWF 2026, ensuring convergence across schemes and measurable gender outcomes in agricultural policy implementation.

Conclusion

- As India moves towards sustainable and inclusive development, empowering women farmers must remain central to agricultural policy.
- Ensuring their access to land rights, credit, technology, and training will not only enhance productivity but also strengthen rural livelihoods and food security.
- Aligning efforts with the vision of the International Year of the Woman Farmer (2026) can accelerate the transition towards resilient, equitable, and gender-responsive agri-food systems.

Case Studies – Empowering Women Farmers

Case Study	Intervention	Outcome	Key Learning
Kudumbashree Collective Farming (Kerala)	Women Self-Help Groups under Kudumbashree adopted collective land leasing + group farming + technology integration (K-TAP 2025)	Over 48 lakh women network, with lakhs engaged in farming; recent technology programme integrates 180+ agri-technologies, enhancing productivity and value addition	Collective institutions combined with technology access overcome land, scale, and productivity constraints simultaneously
Mahila Kisan Sashaktikaran Pariyojana (MKSP) – National	Implemented under National Rural Livelihood Mission focusing on capacity building, sustainable agriculture, and women-led extension systems	Reached ~2 million women farmers across multiple states; improved yields, income, and food security through low-cost sustainable practices	Institutional support + skill development transforms women from labourers to decision-makers and productivity drivers
Community Managed Sustainable Agriculture (CMSA) – Andhra Pradesh/ Telangana	Women SHGs promoted non-pesticide management (NPM), low-cost farming, and peer learning systems	Reduced input costs, improved soil health, and enhanced resilience; women became technology carriers and trainers in agriculture	Women-led agro-ecological models ensure cost reduction, sustainability, and knowledge diffusion at scale
Deccan Development Society (DDS) – Telangana	Women-led sanghams (collectives) promoted millets, seed sovereignty, and community-managed farming systems	Enhanced nutritional security, biodiversity conservation, and women's control over resources	Community-led agro-biodiversity models strengthen resilience, food security, and women's autonomy simultaneously
Self-Employed Women's Association (SEWA) – Gujarat	Organised women farmers into cooperatives, provided credit, insurance, market linkages, and capacity building	Improved income stability, financial inclusion, and market participation among women farmers	Combining financial inclusion with collective organisation enables women to transition from informal labour to agri-entrepreneurs

INDIA–ISRAEL RELATIONS

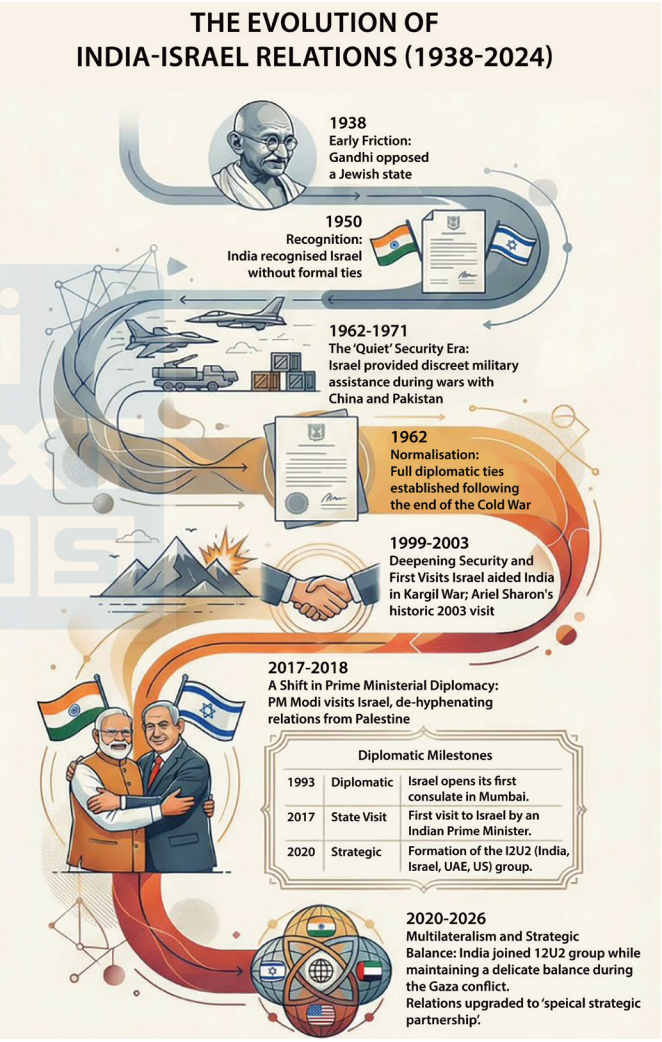
The Prime Minister's state visit to Israel in February 2026 marked a historic milestone with his address to the Knesset (Israel's Parliament). He became the first Indian Prime Minister to do so.

Key Outcomes of the Visit

- The visit elevated relations to a **Special Strategic Partnership**, reflecting expansion across technology, defence, economy, and people-level engagement.
- A major **Memorandum of Understanding** on **Artificial Intelligence** was signed, covering ethical use, academic collaboration, and innovation ecosystems, while the **Joint Commission on Science and Technology** was upgraded to ministerial level.
- Strategic initiatives such as the **India–Israel Industrial Research and Development and Innovation Fund** saw enhanced contributions, along with the launch of the **Critical and Emerging Technologies Initiative** (cooperation in advanced sectors like AI and cybersecurity).
- A **Cyber Centre of Excellence** will be established in India, alongside cooperation in geophysical exploration using advanced sensors and data-driven technologies.
- Economic engagement deepened with the launch of **Free Trade Agreement negotiations**, and plans to link India's **Unified Payments Interface** with Israel's **MASAV** system for smoother financial transactions.
- Regulatory cooperation between the **International Financial Services Centres Authority** and **Israel Securities Authority** (Israel's capital market regulator) will strengthen fintech and regulatory technology collaboration.
- Agricultural cooperation expanded through the **India–Israel Innovation Centre for Agriculture**, additional **Centres of Excellence**, and new focus areas such as mariculture and seaweed cultivation.
- Labour mobility agreements will facilitate employment opportunities for up to **50,000 Indian workers** in sectors like construction, manufacturing, logistics, and hospitality over five years.
- Academic and cultural ties were strengthened through the **India–Israel Academic Cooperation Forum**, a **Cultural Exchange Programme (2026–2029)**, and institutional partnerships such as **Nalanda University and Hebrew University of Jerusalem** for research exchanges.

Significance

- The partnership enhances India's **defence capability** and supports **defence indigenisation.**
- It strengthens **water and agricultural security** through Israeli expertise in drip irrigation, desalination, and precision farming.
- The relationship supports India's **multi-alignment strategy** in West Asia, balancing ties with Israel, Gulf countries, and Iran.
- For Israel, India represents a **large and growing economic market**, while also providing skilled manpower to address labour shortages in key sectors.



Historical Background

- India recognised Israel in **1950**, and early engagement included the establishment of an immigration office in Mumbai, later upgraded to a consulate, reflecting gradual institutionalisation of ties.
- Full diplomatic relations were established in **1992**, after which embassies were opened and bilateral cooperation expanded rapidly.

- Civilisational ties date back over **two millennia**, with Jewish communities living in India and contributing to its cultural diversity.
- A major shift occurred in **2017** with the adoption of the **de-hyphenation policy** (independent engagement with Israel and Palestine), enabling deeper bilateral cooperation.
- High-level engagements, including reciprocal visits by leaders and frequent ministerial interactions, have institutionalised the partnership across sectors.

Geopolitical Cooperation

- Both countries engage in regional and global platforms such as **I2U2** (India, Israel, United Arab Emirates, United States grouping) and **India–Middle East–Europe Economic Corridor** (connectivity initiative linking Asia, Middle East, and Europe).
- India consistently emphasises peace and stability in West Asia, given its dependence on the region for energy, trade, and diaspora welfare.
- Regular high-level dialogues, including Foreign Service Consultations and Cyber Policy Dialogues, strengthen strategic coordination and policy alignment.

Defence Cooperation

- Israel is a major defence partner, supplying advanced systems such as **Phalcon Airborne Warning and Control Systems (AWACS)**, **Heron and Searcher drones** (unmanned aerial vehicles), and **SPYDER air defence systems.**
- Joint development projects like the **Barak-8 missile system** highlight the transition from buyer–seller relations to **co-development and co-production.**
- Defence cooperation is institutionalised through mechanisms like the **Joint Working Group on Defence Cooperation**, along with regular military exercises such as **Blue Flag** and naval port calls.

Geo-Economic Cooperation

- Bilateral trade has grown from about **USD 200 million in 1992 to USD 3.75 billion in 2024–25**, although recent fluctuations reflect regional security challenges.
- Trade composition includes Indian exports of **chemicals, machinery, textiles, and pearls**, while imports include **diamonds, fertilisers, petroleum products, and defence equipment**
- India's **Overseas Direct Investment** in Israel stands at about **USD 443 million**, while Israeli **Foreign Direct Investment** is around **USD 334 million.**
- Cooperation is expanding into high-technology sectors such as electronics, communication systems, and medical equipment, supported by innovation platforms like I4F.

People to People and Cultural Relations

- Around **42,000 Indian citizens** live in Israel, including caregivers, professionals, students, and workers in construction and agriculture, contributing to economic and social linkages.
- Israel hosts over **100,000 Jews of Indian origin**, reflecting deep historical and cultural connections between the two societies.
- Cultural initiatives such as the **Cultural Exchange Programme**, promotion of **Yoga and Ayurveda**, and the establishment of the **Indian Cultural Centre in Tel Aviv** strengthen mutual understanding.
- Academic collaboration includes research exchanges, India-focused courses in Israeli universities, and institutional partnerships promoting knowledge sharing.
- Evacuation efforts like **Operation Ajay (2023)** and **Operation Sindhu (2025)** highlight India's commitment to protecting its diaspora during crises.

Challenges

- The **Iran factor** (India's strategic and energy ties with Iran) creates diplomatic complexity while balancing relations with Israel.
- India's commitment to a **two-state solution** requires careful diplomatic balancing during regional conflicts.
- The **China factor** (China's growing economic and technological presence in Israel) raises concerns over strategic competition and technology security.
- Issues related to **Intellectual Property Rights** limit technology sharing and affect deeper industrial cooperation.
- Regional instability and conflicts in West Asia pose risks to connectivity projects like IMEC and disrupt trade flows.

Way Forward

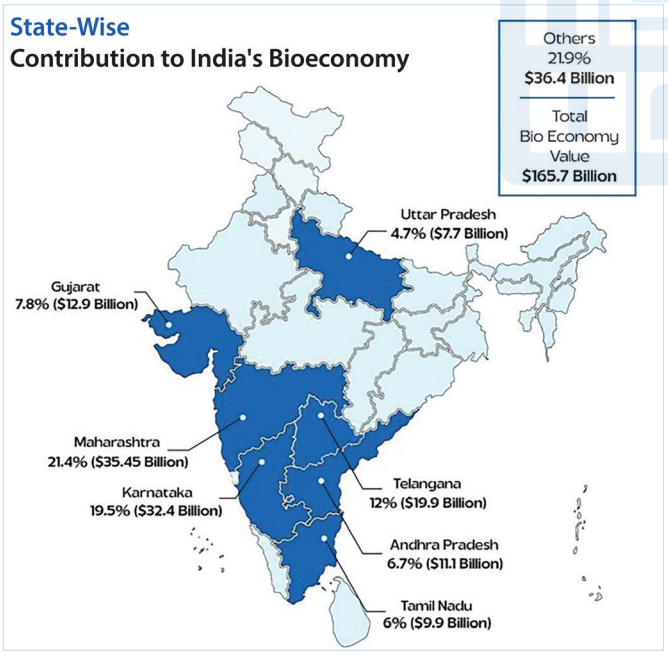
- India–Israel relations have evolved into a **multi-dimensional and forward-looking partnership**, rooted in historical ties and driven by shared strategic interests.
- Strengthening cooperation under platforms like **I2U2 and India–Middle East–Europe Economic Corridor** can enhance connectivity, trade, and strategic coordination.
- Expanding **defence co-production and joint research** will support India's goal of self-reliance in defence manufacturing.
- Accelerating **Free Trade Agreement negotiations** can diversify trade and unlock new economic opportunities.
- Deepening collaboration in **emerging sectors such as semiconductors, green energy, and digital technologies** will strengthen long-term economic ties.
- Promoting **academic exchanges, innovation partnerships, and Track 1.5 diplomacy** (semi-formal dialogue involving experts and policymakers) will sustain long-term engagement.

INDIA'S BIOECONOMY

Union Minister Dr. Jitendra Singh said India's bioeconomy has witnessed a remarkable surge from around $10 billion in 2014 to over $195 billion in 2025, underlining the country's emergence as a fast-growing global biotechnology hub.

What is BioEconomy

- The BioEconomy is the **knowledge-based production and use of biological resources to provide products, processes and services** in all economic sectors within the frame of a sustainable economic system.
- It encompasses sectors like **agriculture, forestry, fisheries, food production, biotechnology, and bioenergy.**
- **Subsectors of the BioEconomy in India are;**
  - **BioPharma or BioMedical:** It includes the development and production of medical products and services, such as pharmaceuticals, medical devices, and lab-grown organoids.
  - **BioAgri:** It includes the development and production of genetically modified crops and animals, precision agriculture technologies, and bio-based products. ***Example:*** **Bt Cotton.**
  - **BioIndustrial:** It includes the development and production of biobased chemicals and products using enzymes, biosynthetic routes, and recombinant DNA technology.



Growth Trajectory of India's Bioeconomy

- India's bioeconomy has expanded nearly **20-fold over a decade**, reflecting strong structural growth in the biotechnology sector. India ranks **3rd in the Asia-Pacific region** and **12th** globally in terms of biomanufacturing.
- It currently contributes around **5% to India's GDP,** indicating its increasing macroeconomic significance.
- **Four key subsectors:** BioIndustrial (47%), BioPharma (35%), BioAgri (8%), and BioResearch (9%).

Major Government Initiatives

- **BioE3 Policy (Biotechnology for Economy, Environment and Employment):**
  - Promotes sustainable biomanufacturing and bio-based industries.
  - The focus areas include smart proteins, precision therapeutics, and climate-resilient agriculture.
- **Research, Development and Innovation (RDI) Fund:** ₹1 lakh crore corpus aimed at supporting deep-tech innovation and scaling startups.
- **Startup and Incubation Support:** Strengthening biotech clusters and innovation hubs across India.
- **Inclusive Talent Development:** Special focus on tier-2 and tier-3 cities, women entrepreneurs, and young researchers.

Challenges for BioEconomy of India

- **Global Competition:** India's BioEconomy faces stiff competition from more established bio Economies in countries like the USA, EU, and China, which have more advanced infrastructure, funding, and R&D capabilities.
- **Intellectual Property (IP) Protection:** Protecting intellectual property in the biotech sector is challenging, leading to concerns over innovation theft and lack of incentives for research.
- **Lack of Infrastructure:** Insufficient infrastructure for research, development, and commercialization of biotechnology innovations.
- **Brain Drain:** Talented scientists and researchers leave India for better opportunities abroad, reducing the country's capacity for innovation.

Way Ahead

- **Strengthening Regulatory Frameworks:** Streamlining approval mechanisms while ensuring biosafety and ethical compliance.
- **Scaling Deep-Tech Financing:** Efficient deployment of the RDI Fund to support high-risk, high-reward innovations.
- **Expanding Global Integration:** Positioning India as a global hub for biomanufacturing and biotech exports.
- **Capacity Building:** Investment in advanced skill development, especially in frontier technologies like synthetic biology and bioinformatics.

TROPICAL FOREST FOREVER FACILITY

The COP30 held in Belém brought global attention that effective forest conservation requires not only financial commitments but also a redistribution of decision-making power.

What is the Tropical Forest Forever Facility (TFFF)

- Brazil introduced the **Tropical Forest Forever Facility (TFFF)** as a new model of forest finance aimed at transforming conservation efforts.
- The TFFF is a **performance-based financial mechanism** that seeks to reward countries for **maintaining standing forests** rather than merely reducing deforestation rates.
  - Unlike traditional donor-based climate funds, the TFFF is designed to **generate financial returns** while supporting long-term forest conservation.
- The fund has already secured more than **$5.5 billion** in initial commitments, including a significant contribution of $3 billion from Norway.
- The framework mandates that **at least 20% of performance-based payments** are allocated to **indigenous peoples and local communities,** recognising their critical role in forest stewardship.

Rationale behind the TFFF

- Tropical forests, particularly the **Amazon Rainforest,** act as major **carbon sinks and biodiversity hotspots,** making them central to achieving global climate targets under the Paris Agreement.
- However, **existing mechanisms such as REDD+ have faced criticism** for weak outcomes, inadequate funding, and limited community participation, necessitating a new model of forest finance.
- The fund attempts to **embed equity and climate justice** within global climate finance as forest conservation efforts have historically overlooked the **deep-rooted power imbalances** that marginalise indigenous and local communities.

What are the Concerns with TFFF

- **Limited Decision-Making Power:** Despite provisions for inclusion, indigenous communities **do not have formal voting rights** within the core governing bodies of the TFFF, raising concerns that participation may remain consultative rather than truly empowering.
- **The Global Forest Coalition** has **criticised the TFFF as colonialistic,** arguing that it reflects a market-driven approach that may prioritise financial returns over ecological justice.
  - It is contended that the model **does not adequately address** the structural drivers of deforestation, such as **agribusiness expansion, extractive industries, and large-scale infrastructure development.**
- **Weak Accountability Mechanisms:** Concerns persist regarding the transparency and effectiveness of fund disbursement mechanisms under the TFFF.

Other Measures for Forest Conservation

- **REDD and REDD+ Mechanism:**
  - The United Nations Framework Convention on Climate Change introduced REDD to **reduce emissions from deforestation and forest degradation** in developing countries, which was **later expanded into REDD+** to include conservation, sustainable forest management, and enhancement of **forest carbon stocks.**
  - Adopted at COP19, the **Warsaw Framework** provides the operational architecture for implementing REDD+.
- **The Glasgow Leaders' Declaration on Forests and Land Use:**
  - It is an international commitment made in 2021 during the **COP26** in Glasgow.
  - It aims to halt and reverse forest loss and land degradation by 2030.
- **Bonn Challenge:**
  - It is a global initiative aimed at restoring degraded and deforested land on a large scale.
  - It targets the restoration of **350 million hectares of land by 2030**, contributing to both climate mitigation and biodiversity conservation.

Way Ahead

- **Strengthen Community Governance:** Indigenous and local communities should be granted formal voting rights and **meaningful representation** in governance structures.
- **Secure Land Tenure:** Legal recognition of land rights for indigenous and forest-dependent communities must be prioritised.
- **Improve Accountability:** Transparent monitoring and evaluation systems should be established to track fund utilisation and conservation outcomes.
- **Increase Financial Value:** Compensation rates should be revised to reflect the full ecological and economic value of forests, including carbon sequestration and biodiversity conservation.
- **Institutionalise Formal Representation:** Move beyond consultative roles by granting indigenous peoples and local communities (IPLCs) formal voting rights within the TFFF governing bodies to ensure equitable decision-making.
- **Enhance Operational Transparency:** Establish independent, multi-stakeholder monitoring systems to track fund utilisation, ensuring high accountability and addressing concerns regarding fund disbursement effectiveness.

INDIA'S CARBON CREDIT PLAN

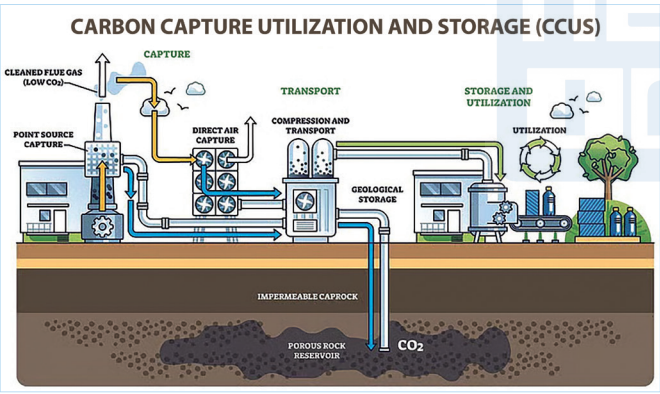
Union Budget 2026's ₹20,000 crore carbon credit programme has sparked debate over CCUS (Carbon Capture, Utilisation and Storage) and farmer-led sustainable agriculture credits.

About Carbon Credit Programme

- Under the Union Budget 2026-27, the Union government announced a **Rs 20,000 crore** outlay over the next five years through a dedicated scheme for **Carbon Capture, Storage and Utilisation (CCUS).**
- The scheme will support CCUS initiatives to aid the decarbonisation goals of five industrial sectors of the economy, namely, **power, steel, cement, refineries and chemicals.**

Carbon Capture, Storage and Utilisation (CCUS)

- CCUS refers to a set of technologies that **capture carbon dioxide emissions from industrial processes** or power plants and either reuse them or store them safely underground, helping reduce the amount of climate-warming gases released into the atmosphere.
- In practice, this involves capturing CO2 at the source, transporting it via pipelines or other means, and then either using it in industrial applications or **storing it deep underground** to prevent its release into the atmosphere.



Roadmap on CCUS

- The roadmap proposes a **three-phase R&D strategy** for developing CCUS technologies in India.
  - **First, near-term efforts** focus on scaling up and deploying existing, proven carbon capture and storage technologies across industrial sectors.
  - **Second**, mid-term work prioritises the demonstration and validation of next-generation capture, utilisation and storage solutions that improve performance and cost efficiency.
  - **Third**, long-term investments support fundamental research into breakthrough concepts and disruptive innovations that could transform CCUS capabilities and reduce costs over time.

Concern over Carbon Credit Plan

- The **carbon credit programme** created an impression that it would have a broad, economy-wide scope, including sectors such as agriculture. However, in practice, the budgetary provisions are primarily aligned with the **CCUS (Carbon Capture, Utilisation and Storage)** roadmap.
- This has led to confusion because the term **carbon credit programme** is commonly associated with agriculture-based carbon markets, where farmers can earn income through practices like **soil carbon sequestration and agroforestry.**

Why Agriculture is Not Included

- The roadmap excludes agriculture from the scope of CCUS, despite recognising it as a contributor to greenhouse gas emissions.
- **Reasons:** Agricultural emissions are **largely diffuse in nature**, arising from dispersed sources such as **fields, livestock, and soil processes.** These emissions are biologically mediated, primarily in the form of **methane and nitrous oxide**, which cannot be captured using point-source technologies.
- As a result, agriculture falls under **Carbon Dioxide Removal (CDR)** rather than CCUS, where the focus is on removing existing carbon dioxide from the atmosphere instead of capturing new emissions.
  - This is achieved through practices such as **soil carbon sequestration, agroforestry, and biochar application**, which enhance carbon storage in natural ecosystems.

Way Ahead

- **Establish Integrated Policy Frameworks:** Develop a unified yet distinct policy architecture that clearly categorises Carbon Capture, Utilisation, and Storage for industrial point-source emissions and Carbon Dioxide Removal (CDR) for diffuse agricultural emissions to eliminate regulatory ambiguity.
- **Operationalise Carbon Farming Incentives:** Launch dedicated financial mechanisms and technical extension services to support farmers in adopting soil carbon sequestration and agroforestry, ensuring they can access high-quality carbon markets.
- **Accelerate R&D for Indigenous CCUS:** Prioritise the three-phase Research and Development (R&D) roadmap to scale domestic technologies, reducing cost barriers for critical sectors like steel and cement.
- **Strengthen Verification Protocols:** Implement robust Monitoring, Reporting, and Verification (MRV) standards for both industrial and nature-based credits to ensure environmental integrity and global market credibility.

WOMEN IN INDIAN ARMED FORCES

On International Women's Day (8 March), the expanding leadership and operational roles of women in the Indian Armed Forces highlight their growing contribution to national defence and gender equality.

Historical Trajectory

- The role of women in India's defence services has evolved steadily from limited support functions to increasingly diverse operational and leadership positions.
- **Pre-independence:**
  - **1888:** Formation of Military Nursing Service (MNS); 10 British nurses arrived in Bombay to establish organised military nursing services in India.
  - **1926:** Indian Military Nursing Service (IMNS) established as a permanent nursing service for Indian troops.
  - **1914:** First Indian women nurses enrolled and at-tached to the service, marking the beginning of Indian participation.
  - **1943:** IMNS officers granted Commissioned Officer status and formally integrated into the Indian Army.
- **Post-independence:**
  - In **1958,** for the first time, women doctors were granted Regular Commissions in the Army Medical Corps on the same terms as men.
  - In **1992**, the armed forces opened **officer-level entry to women**. The **Indian Army** introduced the **Women Special Entry Scheme (WSES)**, enabling women to serve in non-combat branches and extending eligibility to widows of personnel killed in action as a compassionate measure. Parallel progress also occurred in the **Indian Navy** and the **Indian Air Force.**

Importance of Women in Armed Forces

- Women constitute roughly **4–5% of officers in the Army**, **6–7% in the Navy**, and **13–14% in the Air Force**.
- **Community Engagement:** Women peacekeepers often improve communication with local populations, particularly with women and children in conflict zones. India deployed the **first all-women police unit** to **Liberia** in 2007 under **UN Peacekeeping**, which strengthened trust with local communities.
- **Enhances Operational Capability:** Studies by the **United Nations** indicate that gender-diverse security teams improve operational performance, problem-solving, and decision-making.
- In countries like the **UK**, **France**, **Australia**, **Germany**, **Japan**, **South Korea**, and **Turkey,** women can pursue careers across various military roles.
- **Inspiration:** Officers such as **Sophia Qureshi** and **Vyomika Singh** gained national attention during **Operation Sindoor**, highlighting the expanding role of women in India's defence forces.

Awards and Recognitions

- **UN Recognition (2023): Radhika Sen** was named the **"Military Gender Advocate of the Year 2023"** by the **United Nations**.
- **UN Secretary-General's Gender Award (2025): Major Swathi Shanthakumar** received the **UN Secretary-General's Award (Gender Category)** for her work under the **"Equal Partners, Lasting Peace"** initiative during her service with the **United Nations Mission in South Sudan.**
- **Army Day Awards (2025):** The **National Cadet Corps** girls' contingent received recognition for marching in the **Indian Army Day Parade**.

Major Policy Reforms/Milestones

- **Kargil Review Committee (1999):** Recommended expanding women's roles in logistics, engineering, and intelligence within the armed forces.
- **Supreme Court of India Judgment (2020):** Directed the grant of **Permanent Commission** to women officers in the **Indian Army**, strengthening career prospects and gender equality.
- **Agnipath Scheme (2022):** Enabled the entry of women as Agniveers across the Army, Navy, and Air Force.
- **Entry into the National Defence Academy:** Women cadets were admitted following judicial intervention, with the first batches graduating in **2025.**
- **Rising Strength:** The number of women officers across the three services has increased from **around 3,000 in 2014 to over 11,000**.
- **Military Nursing Service:** Remains the only all-women corps.

Challenges Faced

- **Limited Combat Roles:** Women's entry into core combat arms in India remains gradual; the IAF's 2015 experimental fighter pilot scheme was made permanent in 2022.
- **Infrastructure Gaps:** Inadequate gender-sensitive facilities in remote and field areas hinder smooth integration.
- Earlier short-service commission policies restricted long-term command and growth opportunities for women officers.
- **Cultural & Social Resistance:** Traditional mindsets still challenge full acceptance and integration within military ranks.

Way Forward

- Women's participation in the Indian Armed Forces has grown from medical roles to wider operational and leadership positions.
- Further progress requires expanding leadership opportunities, improving field infrastructure, strengthening training and mentorship, and ensuring reforms in line with Article 15, which prohibits gender-based discrimination.

"MOONSHOT" PROJECT

The Indian Institute of Science (IISc) launched a moonshot project to develop brain co-processors that combine neuromorphic hardware and AI algorithms to enhance or restore brain function.

What are Brain Co-Processors

- Brain co-processors are **advanced devices** designed to interact directly with the human brain.
- They **decode neural signals, process them using AI algorithms, and re-encode them back into the brain** through neural stimulation or neurofeedback.
- These systems function as **AI-powered closed-loop devices** that assist the brain in restoring or enhancing cognitive and motor functions.

Key Objectives of the Project

- Develop **implantable and non-invasive brain co-processors** capable of decoding and processing brain activity.
- Use **AI algorithms and neuromorphic hardware** to interpret neural signals and stimulate the brain accordingly.
- Enable **cognitive and motor rehabilitation**, particularly for stroke survivors who lose sensorimotor abilities such as reaching and grasping objects.

Core Technologies Enabling Brain Co-Processors

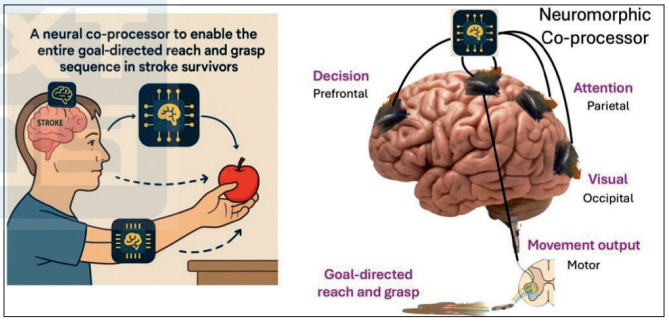
- **Brain–Machine Interface (BMI):**
  - Brain co-processors rely on brain–machine interfaces, which create a communication pathway between the brain and external devices.
  - These interfaces **translate neural signals into digital commands** that machines can interpret.
- **Neuromorphic Computing:**
  - The project integrates neuromorphic hardware, which mimics the structure and functioning of biological neurons.
  - It enables energy-efficient processing of neural signals and **allows real-time interaction** between AI systems and the human brain.
- **Neural Recording Technologies:** The system will utilise advanced neural recording techniques such as:
  - **Stereo EEG (sEEG):** It records deep brain electrical activity.
  - **Electrocorticography (ECoG):** It records signals directly from the brain's cortical surface.
- **Closed-Loop Feedback:**
  - AI algorithms **analyse neural signals and identify patterns** associated with motor or cognitive functions.
  - Once decoded, the **system re-encodes signals** and sends them back to the brain through electrical stimulation or feedback mechanisms.

Significance of the Initiative

- Strengthens India's capabilities in neuroscience and neurotechnology research.
- Promotes indigenisation of medical technology, including implants, hardware, and AI stacks.
- Builds India-specific neural datasets and open-source digital public goods for research.
- Supports development of affordable neurological treatments suited for low-resource healthcare settings.

Challenges and Ethical Concerns

- **Ethical and Privacy Issues:** Neural data is extremely sensitive and can raise privacy concerns.
- **Regulatory and Clinical Validation:** Medical implants require rigorous testing and regulatory approvals.
- **Technical Complexity:** The human brain contains about 86 billion neurons, making accurate decoding extremely challenging.
- **Cost and Accessibility:** Advanced neurotechnology initially remains expensive and limited to specialised healthcare centres.



Indian Institute of Science (IISc)

- The IISc is a premier public research university located in Bengaluru, Karnataka, India.
- Established in 1909 with the support of Jamsetji Tata, the founder of the Tata Group, IISc is widely regarded as one of the finest institutions for advanced scientific and technological research and education in India.

Academics and Research:

- IISc offers a wide range of academic programs. The institute has six divisions:
  - Biological Sciences
  - Chemical Sciences
  - Electrical, Electronics, and Computer Sciences
  - Interdisciplinary Research
  - Mechanical Sciences
  - Physical and Mathematical Sciences

AI IN HEALTHCARE

The use of Artificial Intelligence in healthcare is expanding rapidly in India. A report has shown that 89 percent of data policy violations in generative AI involve sensitive healthcare data such as patient records.

Potential of AI in Healthcare

- AI significantly improves **disease diagnosis** by analysing medical imaging and clinical data with high speed and accuracy.
- It enhances **efficiency** by automating administrative tasks such as paperwork and hospital workflows.
- AI enables better **healthcare access** in remote areas through telemedicine and digital consultations.
- It supports **public health planning** by identifying trends and predicting disease outbreaks.
- AI promotes **preventive care** through risk prediction and continuous monitoring.
- It strengthens referral systems by directing patients to appropriate facilities, thereby reducing pressure on hospitals.
- AI improves **patient awareness** by simplifying medical information. It encourages **rational drug use** by monitoring treatment patterns.
- It reduces long-term costs through better **resource allocation** and avoidance of unnecessary tests. AI accelerates **medical research** and enables personalised healthcare solutions.

Benefits of AI in Healthcare

- **Better Diagnostic Accuracy:** AI helps in the correct identification of diseases by reviewing massive amounts of medical data much faster than humans.
- **Increased Time Efficiency:** Doctors achieve faster completion of tasks because AI handles the repetitive administrative work.
- **Tailored Care:** AI uses a patient's unique history to provide customised healthcare based on individual data.
- **Proactive Medicine:** AI models assist in identifying illnesses before symptoms worsen, allowing for much earlier intervention.
- **Faster Innovation:** The system contributes to the development of new medicines and speeds up the timeline for clinical trials.
- **Wider Reach:** Technology ensures better healthcare accessibility and availability across regions and populations, especially in rural areas.
- **Stronger Governance:** AI aids in the monitoring and control of diseases at population level, helping the government manage public health more effectively.

AI Applications in Use

- **Cancer Detection:** Tools like iOncology.ai (an AI-based cancer detection tool) help doctors with the early identification of cancer cases.
- **Imaging Analysis:** Companies like Qure.ai (an AI diagnostic company) use technology to analyse X-rays to detect lung diseases more accurately.
- **Telemedicine:** AI improves remote healthcare services through digital platforms by utilizing interactive chatbots and virtual assistants.
- **Treatment and Monitoring:** AI is vital in drug development for the creation of new treatments and is used in systems like SAANS (a neonatal care system for newborn health monitoring).
- **Chronic Disease Management:** AI-enabled wearables act as devices that monitor health parameters, helping patients track conditions like diabetes and heart disease in real-time.
- **Operational Efficiency:** Many hospitals use AI to streamline the management of hospital processes and daily logistics.
- **Training:** The technology also improves medical education by offering advanced training through simulations and digital tools.

India's AI-Health Policies

- **2017 National Health Policy:** Ministry of Health and Family Welfare Mandates a federated national digital health architecture, national health registries, a unique health ID, and a health information exchange
- **2018 National Program on AI:** Government of India Budget announcement directing NITI Aayog to establish India's national AI programme.
- **2018 National Strategy for Artificial Intelligence #AIforAll:** NITI Aayog positions AI as a democratising technology for universal health coverage, prioritising diagnostics, personalised treatment, etc., particularly for rural and underserved communities.
- **2018 National Health Stack: Strategy and Approach:** NITI Aayog Translates the NHP mandate into a digital health architecture registries, digital health ID, health records, and claims platform with AI, Big Data, and Machine Learning also deployed.
- **2020 National Digital Health Mission:** National Health Authority commits to AI tools for data interoperability and government standards to ensure AI reliability and safety.
- **SAHI (Strategy for AI in Healthcare for India – national framework for AI integration)** guides AI adoption.
- **BODH (Benchmarking Open Data Platform for Health AI)** provides a system for testing AI solutions.
- The **Indian Council of Medical Research (ICMR)** has set priorities for AI in health.
  - Collating quality data across research institutions.
  - Forging private sector partnerships.
  - Generating real-world evidence through ICMR's network of institutes. Urgently integrating health and medical professionals into the AI workforce pipeline.

Digital Initiatives

- The **Ayushman Bharat Digital Mission (ABDM)** provides unique digital health IDs for individuals.
- **Personal Health Records (PHR)** create a nationwide database for better care coordination.
- The **National Health Stack** supports data-driven healthcare delivery.
- Global initiatives like **WHO's S.A.R.A.H.** (AI health assistant for public health awareness) provides information on diseases and preventive practices.

Key Concerns

- Issues of **data ownership** raise questions about who benefits from AI systems. Patients must have **informed consent** and the right to withdraw their data. There is a risk of **digital extractivism** (exploitation of data without fair benefit sharing).
- AI systems may develop **bias** if trained on restricted datasets.
- **Security Risks:**
  - There is a significant risk of **data leakage** through AI tools and prompts. Use of **personal accounts** by healthcare workers increases vulnerability to breaches.
  - The healthcare sector faces growing **cybersecurity threats** due to increasing digitalisation.
  - Lack of training among healthcare workers increases the likelihood of accidental data misuse.
  - These risks can violate **medical confidentiality** and reduce trust in healthcare systems.
- **Systemic Limitations:** India faces structural challenges such as **underinvestment in public healthcare.**
  - There is a shortage of trained healthcare professionals and weak regulation of private healthcare providers.
  - High **out-of-pocket expenditure** continues to burden households.
- There is a risk of **over-commercialisation** if AI is dominated by private players.
- Over-reliance on AI may lead to **techno-solutionism** (treating complex health issues as purely technical problems) without addressing underlying social factors.

Challenges in Adoption

- Lack of **standardised data** (uniform and quality datasets) affects the performance and reliability of AI systems.
- Limited **digital infrastructure** in rural areas restricts adoption.
- A weak **regulatory framework** creates uncertainty and risks misuse. India's **language diversity** poses challenges for localisation of AI tools.
- Healthcare professionals may resist AI adoption.

Ethical Principles

- The ICMR guidelines outline principles such as accountability, data privacy, fairness, and transparency.
- They emphasise human oversight to ensure AI supports rather than replaces medical professionals.
- Ethical frameworks ensure that AI systems remain safe, reliable, and patient-centric.

Way Forward

- Follow a rights-based framework in adopting AI for healthcare.
- Reinforce public health systems with technological progress.
- Maintain transparency and strong regulation to ensure accountability. Use diverse and inclusive data to reduce bias.
- Keep medical professionals at the core of decision-making.
- Introduce measures to safeguard jobs amid AI integration.
- Ensure local data processing to protect data sovereignty.
- Make AI cost-effective and widely accessible, especially in public healthcare.

WHO's Six Core Principles for AI in Health

Guidance on the Ethics and Governance of Artificial Intelligence for Health

01	02	03	04	05	06
Protect Human Autonomy Humans must remain in control of healthcare systems and medical decisions. Patient privacy, confidentiality, and informed consent are non-negotiable.	**Promote Well-Being, Safety, and Public Interest** AI tools must meet regulatory requirements for safety, accuracy, and efficacy. Quality control and continuous improvement mechanisms must be in place.	**Ensure Transparency and Explainability** Sufficient information about how an AI system works must be publicly available before is deployed enabling it meaningful public consultation and informed debate.	**Foster Responsibility and Accountability** AI must be used under appropriate conditions by appropriately trained people. Those adversely affected algorithmic by decisions must have mechanisms redress. clear for redress.	**Ensure Inclusiveness and Equity** AI for health must be designed for the widest possible equitable access regardless of age, gender, sex, income, race, ethnicity, or any other protected characteristic.	**Be Responsive and Sustainable** AI applications must be continuously assessed in real-world use. Systems should minimise environmental impact, and governments must prepare workforces health for AI-driven change.

SOCIAL MEDIA BAN FOR CHILDREN

Karnataka has proposed a ban on social media use for children below 16 years, while Andhra Pradesh has planned restrictions for those below 13 years within 90 days.

Background

- The **Economic Survey 2025–26** had recommended age-based restrictions on social media and digital advertisements targeting children.
- The Karnataka government announced the ban as part of its **Budget policy** and linked it with an education reform programme.
- Andhra Pradesh has proposed a stricter age threshold of **below 13 years** and is considering a **graded access system** for children aged 13–16 years.
- These developments reflect growing concern about **digital addiction**, cyber risks, and mental health issues among children.

Rationale behind the Decision

- Rising **digital addiction** among children is affecting mental health and academic performance.
- Increasing cases of **cyberbullying** and online exploitation have raised safety concerns.
- Social media platforms are designed using **algorithmic engagement systems** (technology that maximises user attention) which can create addictive behaviour patterns.
  - Scientific evidence shows that adolescents have underdeveloped **impulse control** (ability to regulate behaviour), making them more vulnerable to such designs.
- **Health Risks:** Excessive social media use leads to **mental health issues** (anxiety, depression, stress) among adolescents.
  - Children are exposed to **unrealistic social standards**, affecting self-esteem.
  - Increased screen time reduces **physical activity** and impacts sleep patterns.
  - Academic performance declines due to reduced attention span and concentration.
- **Concerns of Safety:**
  - Children face risks of **online predators** and cyber exploitation.
  - Exposure to **harmful content** (violent, explicit, or misleading material) can negatively influence behaviour.
  - Personal data shared by minors leads to **privacy risks** and identity theft.
  - Spread of **misinformation** can affect children's understanding and decision-making.

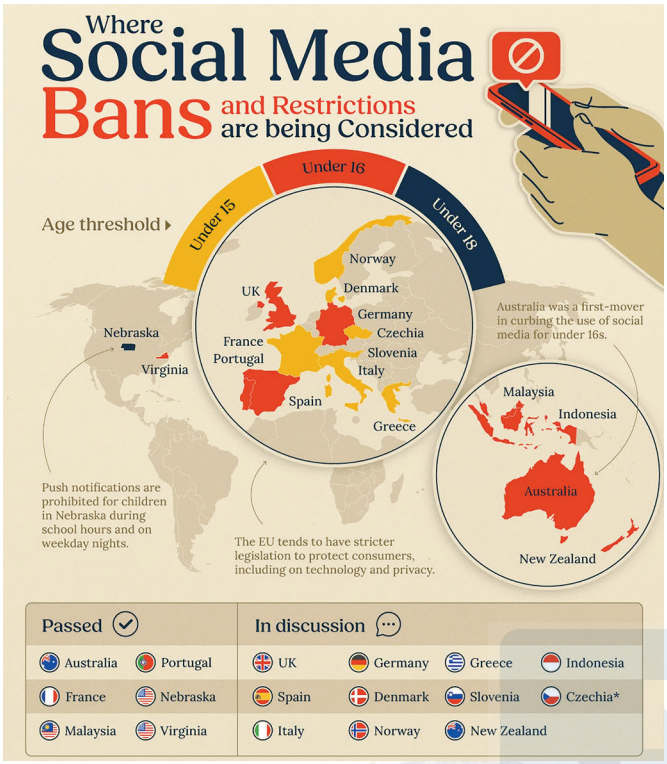
Regulation

- Regulation of digital platforms falls under the **Union List**, specifically communication and internet services.
- Laws such as the **Information Technology Act, 2000** and **Information Technology Rules, 2021** are used to regulate social media activities.
- States may justify action under **public health** or **child welfare**, but direct regulation of platforms may face constitutional challenges.
- Judicial precedents such as the **All India Gaming Federation case (2022)** suggest that blanket bans may violate **Article 19(1)(a)** (freedom of speech and expression).

Global Examples

Governments worldwide are increasingly moving from 'parental consent' models to strict age-based bans to address mental health, cyberbullying, and data privacy. By early 2026, many jurisdictions have proposed or implemented age-based restrictions.

- **Australia:** In a landmark move, Australia implemented a nationwide ban on December 10, 2025, for children under 16. Parental consent cannot override this ban. Around 4.7 million underage accounts were removed in the first phase of implementation. Platforms like TikTok, Instagram, and X face fines up to $50 million AUD for non-compliance.
- **France:** Following legislation passed in early 2025, France now requires platforms to block children under 15 without parental authorization. It also features a unique ***"influencer law"*** where earnings for child influencers are held in trust until age 16.
- **Norway:** In February 2026, Norway moved to raise the minimum age for social media from 13 to 15 to better protect minors from algorithmic harms.
- **United Kingdom:** Under the Online Safety Act 2023, the UK was initially debating a total ban for under-16s. Now, the House of Commons has voted down a total ban for under-16s. Instead, the government is consulting on age assurance, curfews, and design restrictions.
- **United States:** The Children's Online Privacy Protection Act (COPPA), 1998 remains the baseline, requiring parental consent for data collection under 13.
- **China:** Operates strict age-based minors mode with time limits and curfews. Since 2023, screen time is capped by age: 16–18 (2 hours), 8–15 (1 hour), and under 8 (40 minutes), with a total internet curfew from 10 PM to 6 AM.
- **European Union:** The General Data Protection Regulation (GDPR), 2018 set the digital age of consent at 16 (allowing member states to lower it to 13). By 2026, the EU is discussing a unified EU-wide benchmark of 16 to harmonize safety standards.

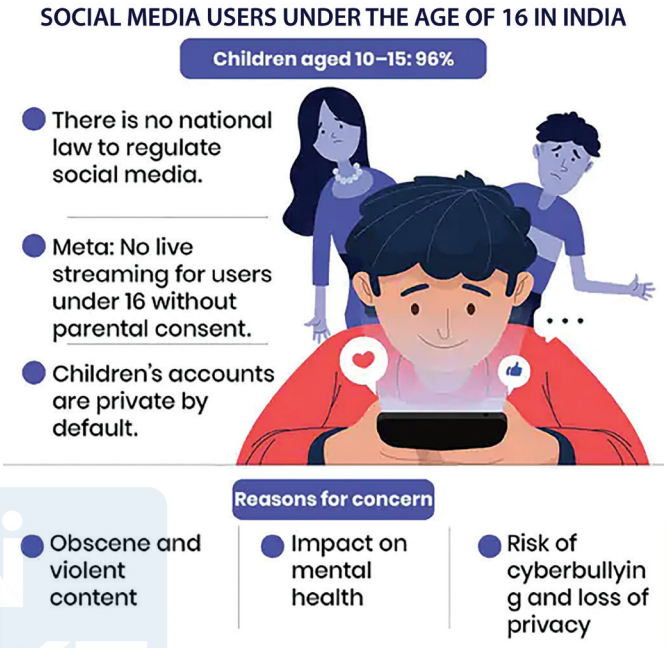


Associated Challenges

- Verifying age is difficult due to reliance on **self-declared data** (user-provided information) on platforms.
- Strict verification may require identity documents, raising **privacy concerns.**
- Enforcement is complex due to multiple platforms and possibility of bypassing rules using **Virtual Private Networks**.
- Different state-level rules may create **policy inconsistency.**
- **Rights Concerns:** Blanket bans may restrict freedom of expression for children.
  - It may limit **access to information**.
  - Restrictions may widen the **digital divide**, especially for disadvantaged groups.
  - There is a risk of increasing the **gender digital divide** if families restrict girls' internet access disproportionately.
- **Structural Issues:**
  - Digital harms are linked to broader issues such as **platform design** and lack of regulation.
  - In India, challenges such as **weak digital infrastructure** and limited awareness further complicate implementation.
  - A ban alone cannot address deeper behavioural and social factors influencing children's digital use.

Views of Different Stakeholder

- Technology companies support compliance but prefer **platform-neutral regulation** and parental control mechanisms.
- Civil society groups argue that blanket bans are **disproportionate** and do not address root causes.
- Experts highlight the need for **digital literacy** and parental awareness.
- Educators point out that social media is also used for academic communication, creating practical challenges.



Way Forward

- The proposed measures by Karnataka and Andhra Pradesh reflect a significant policy shift towards protecting children in the digital space. However, effective regulation requires a balanced strategy that ensures safety while protecting rights, access, and inclusivity.
- **Develop Graded Access Frameworks:** Transition from blanket bans to age-appropriate access systems that allow for supervised digital participation, ensuring children's right to information and academic communication is preserved.
- **Mandate Safety by Design:** Hold social media platforms accountable for re-engineering algorithmic engagement systems to mitigate addictive behaviour patterns and exposure to harmful content specifically for minor users.
- **Implement Privacy-First Age Verification:** Adopt robust, privacy-preserving age verification technologies that do not require excessive collection of personal identity documents, balancing security with data protection.
- **Synchronise Centre-State Policy:** Foster coordination between the Union government and States to create uniform regulations under the Information Technology Act, 2000, preventing policy inconsistency and legal challenges related to Article 19(1)(a) of the Constitution of India.
- **Promote Digital Literacy and Parental Awareness:** Strengthen school-level awareness programmes to build digital resilience in adolescents while empowering parents with effective tools for monitoring and guidance.

PROTESTS IN LADAKH

Recently, protests were organised in Leh and Kargil demanding statehood and inclusion under the Sixth Schedule. These protests were led jointly by the Leh Apex Body and the Kargil Democratic Alliance.

Background

- Ladakh was made a **Union Territory** in **2019** after the abrogation of **Article 370.**
- Unlike Delhi and Puducherry, Ladakh does not have a **Legislative Assembly** , which has created a perceived **representation deficit.** Earlier, Ladakh had representation through **four Members of Legislative Assembly** in the Jammu and Kashmir Assembly.

The Sixth Schedule and ADCs

- The **Sixth Schedule** (constitutional framework under Article 244 for tribal autonomy) provides for creation of **Autonomous District Councils (ADCs)**.
  - ADCs have **30 members** (26 elected and 4 nominated) with a tenure of **5 years**. These councils have powers over **land, forest, water, agriculture, social customs, local governance, and taxation.**
  - They can also establish **village courts** and regulate local institutions.
- It currently applies to tribal areas in **Assam, Meghalaya, Mizoram, and Tripura**, covering 10 autonomous regions.

Key Demands of the Protestors

- Inclusion under the **Sixth Schedule** to protect land, culture, and resources. Grant of **statehood or a Legislative Assembly** for better representation.
- Creation of a **dedicated Public Service Commission** to ensure employment opportunities for locals. Provision of **job reservation** for Ladakh residents.
- Allocation of **two Parliamentary seats** for Leh and Kargil separately. Introduction of strict **environmental protection laws.**

Rationale behind the Demands

Issues of Representation

- The demand for statehood arises from the need to restore **democratic representation.** More than **97 percent** of Ladakh's population belongs to **tribal communities**, making protection under the Sixth Schedule a key demand.
- The removal of earlier protections after Article 370 has increased fears about **loss of land rights** and **job opportunities.**
- The absence of a **Public Service Commission** has limited local control over employment policies. Economic concerns are reflected in **graduate unemployment** of around 26.5 percent, which is significantly higher than the national average.

Issues of Autonomy

- As a Union Territory without a legislature, governance is controlled by the **Lieutenant Governor** and central ministries.
- Existing institutions like **Ladakh Autonomous Hill Development Councils (LAHDCs)** lack adequate legislative powers.
- This has resulted in limited participation of local people in policy-making and governance.

Cultural Concerns

- There are fears of **demographic change,** which may affect the cultural identity of Ladakh.
- The region's **Tibetan-Buddhist heritage**, particularly in Leh, is seen as vulnerable. There is also concern about preserving **local languages and customs.**

Environmental Risks

- Ladakh is a fragile **cold desert ecosystem.**
- Rapid infrastructure development and tourism have led to **water scarcity** and ecological stress.
- Locals demand stronger environmental safeguards to prevent unsustainable development.

Challenges

- Granting statehood may create **strategic challenges** (impact on national security management) in a sensitive border region.
- Extension of the Sixth Schedule would require a **constitutional amendment** as it currently applies only to northeastern states.
- There is a risk that similar demands may arise from other regions, affecting the **federal balance.**
- Administrative feasibility is questioned due to Ladakh's small population of around **3 lakh people**.
- Differences between **Leh** (Buddhist-majority) and **Kargil** (Muslim-majority) may create internal political complexities.

Existing Framework

- The **Ladakh Reservation (Amendment) Regulation, 2025 (law providing local reservation benefits)** ensures 85 percent reservation in jobs for local residents.
  - It defines **domicile criteria** such as 15 years of residence.
  - It also recognises multiple official languages including **English, Hindi, Urdu, Bhoti, and Purgi**.
- Provision for **one-third reservation for women** in LAHDCs has been introduced.

Way Forward

- Strengthening **LAHDCs** by granting them greater legislative and financial powers can improve grassroots democracy.
- A customised framework similar to **Article 371** (special provisions for certain states) can be explored instead of direct Sixth Schedule inclusion.
- Strong **land protection laws** and environmental safeguards should be implemented.

Indian States Formation Dates in Chronological Order		
State Name (Formation Date)	**Formed By**	**Significance**
Bihar (22 March 1912)	Government of India Act 1935	In 1950, Achieved statehood as State of Bihar
Odisha (1 April 1936)	Government of India Act 1935	Renamed as Odisha by the Orissa (Alteration of Name) Act, 2011
West Bengal (15 August 1947)	–	In 1950, Gained statehood as the State of West Bengal
Rajasthan (30 March 1949)	States Reorganisation Act, 1956	In 1950, Renamed Rajasthan In 1956, Reorganized by States Reorganisation Act, 1956
Assam (26 January 1950)	–	Achieved statehood as State of Assam
Uttar Pradesh (24 January 1950)	United Provinces of Agra and Oudh	Reorganised as the state of Uttar Pradesh with the addition of parts of Delhi Territory
Tamil Nadu (1 November 1956)	States Reorganisation Act, 1956	Renamed as Tamil Nadu by Madras State (Alteration of name) Act, 1968
Andhra Pradesh (November 1, 1956)	States Reorganisation Act, 1956	First state to be formed on linguistic lines, catering to the Telugu-speaking population.
Kerala (November 1, 1956)	States Reorganisation Act, 1956	A state formed to consolidate Malayalam-speaking regions.
Karnataka (November 1, 1956)	States Reorganisation Act, 1956	Renamed Karnataka in 1973, it unified Kannada-speaking areas.
Maharashtra (May 1, 1960)	Bifurcation of Bombay State	Created to address the Marathi-speaking population's demand for a separate state.
Gujarat (May 1, 1960)	Bifurcation of Bombay State	Formed as a Gujarati-speaking state following separation from Maharashtra.
Nagaland (December 1, 1963)	State of Nagaland Act, 1962	Formed after years of demand for a separate state for the Naga people.
Haryana (November 1, 1966)	Punjab Reorganisation Act, 1966	Carved out from Punjab to create a Hindi-speaking state.
Himachal Pradesh (January 25, 1971)	Himachal Pradesh State Act, 1970	Achieved full statehood from Union Territory status, catering to regional demands.
Meghalaya (January 21, 1972)	North-Eastern Areas (Reorganisation) Act, 1971	Created to accommodate the Khasi, Garo, and Jaintia tribes' demands for autonomy.
Manipur (January 21, 1972)	North-Eastern Areas (Reorganisation) Act, 1971	Achieved statehood after long-standing demands by the local population.
Tripura (January 21, 1972)	North-Eastern Areas (Reorganisation) Act, 1971	Formed to address the aspirations of the tribal populations.
Mizoram (February 20, 1987)	State of Mizoram Act, 1986	Attained statehood after the Mizo peace accord with the Indian government.
Arunachal Pradesh (February 20, 1987)	State of Arunachal Pradesh Act, 1987	Formed to cater to the unique cultural and linguistic needs of the northeastern region.
Goa (May 30, 1987)	Goa, Daman, and Diu Reorganisation Act, 1987	Achieved statehood after being liberated from Portuguese rule in 1961.
Chhattisgarh (November 1, 2000)	Madhya Pradesh Reorganisation Act, 2000	Created to address the tribal population's regional and developmental aspirations.
Uttarakhand (November 9, 2000)	Uttar Pradesh Reorganisation Act, 2000	Carved out from Uttar Pradesh to cater to the distinct cultural and geographical identity of the hill areas.
Jharkhand (November 15, 2000)	Bihar Reorganisation Act, 2000	Formed to accommodate the long-standing demand for a state for the tribal population in the region.
Telangana (June 2, 2014)	Andhra Pradesh Reorganisation Act, 2014	Formed after decades of agitation for a separate state for the Telugu-speaking population of Telangana.

LEVELS AND TRENDS IN CHILD MORTALITY

The United Nations Inter-Agency Group for Child Mortality Estimation (UNIGME) released the Levels and Trends in Child Mortality Report 2025, highlighting both achievements and emerging concerns.

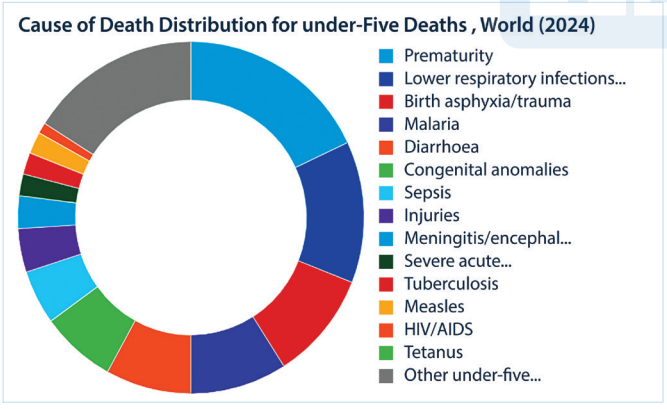
FEATURE ARTICLE | SOCIAL ISSUE

Key Findings

- The report shows a **slowdown in progress** despite long-term reductions, making child survival a key global development priority. Around **4.9 million** children died before the age of five in 2024, including **2.3 million neonatal deaths** (deaths within the first 28 days of life).
- An additional **2.1 million deaths** occurred among children and youth **aged 5–24 years**, indicating broader vulnerability beyond early childhood.
- Mortality remains highly concentrated, with **sub-Saharan Africa** accounting for **58%** and **Southern Asia for 25%** of global under-five deaths.

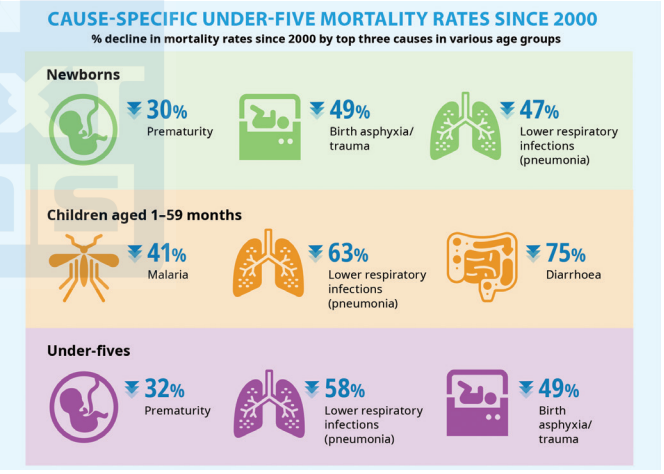
Causes of Mortality

- Among newborns, major causes include **prematurity** i.e birth before full term **(accounting for about 36%)**, **complications during labour** issues during childbirth **(around 21%)**, and **neonatal infections** (infections in the first month of life).
- Among children aged **1–59 months**, leading causes are **pneumonia**, **diarrhoea**, and **malaria**.
- **Severe Acute Malnutrition (SAM)** is now recognised as a direct cause of over **100,000 deaths annually**, while also increasing vulnerability to infections.



Global Trends

- Since **1990**, the **under-five mortality rate** has declined by about **60%**, while **neonatal mortality** has declined by about **45%**, reflecting sustained global health interventions.
- Since **2000**, under-five deaths have reduced by more than half; however, **progress has slowed by over 60% after 2015**, indicating stagnation in gains.
- At the current pace, around **27.3 million** under-five deaths are projected between **2025 and 2030**, showing that global targets are at risk.
- Between **2000 and 2022**, the world lost about **221 million children, adolescents, and youth**, which is comparable to the population of a large country such as Nigeria.
- In **2022 alone**, deaths included about 2.3 million neonatal deaths, 2.6 million deaths among children aged 1–59 months, and 2.1 million among youth aged 5–24 years.
- The share of neonatal deaths increased from **41% in 2000 to 47% in 2022**, showing that mortality is increasingly concentrated in the earliest stage of life.
- There are deep **inequalities** in child survival, with poorer and conflict-affected regions facing higher mortality.
- About **59 countries** are projected to miss under-five mortality targets, and **64 countries** will miss neonatal mortality targets under global goals. If all countries achieved targets, **around 9 million additional children could survive**, indicating the scale of preventable deaths.



Health Achievements

- India has successfully eliminated diseases such as **smallpox** (viral disease eradicated globally), **polio** , and maternal and neonatal tetanus.
- These achievements demonstrate the effectiveness of large-scale public health interventions.

India's Performance

- India has made significant progress, with the Neonatal **Mortality Rate (NMR –** deaths within 28 days per 1,000 live births) declining from **57 in 1990 to 17 in 2024**.
- The **Under-Five Mortality Rate (U5MR** – deaths before age five per 1,000 live births) declined from **127 in 1990 to 27 in 2024**, representing about a **79% reduction**.

- The **Infant Mortality Rate (IMR** – deaths before one year per 1,000 live births) declined to about **23.3 in 2024**, showing consistent improvement.
- India is recognised as a **global exemplar** due to sustained policy interventions and health system strengthening.

Mortality Indicators

- **Neonatal Mortality Rate (NMR)** measures deaths within the first 28 days, with NFHS-5 reporting about **24.9 per 1,000 live births**.
- **Infant Mortality Rate (IMR)** measures deaths before one year, with NFHS-5 reporting about **35.2 per 1,000 live births**.
- **Under-Five Mortality Rate (U5MR)** measures deaths before age five, with NFHS-5 reporting about **41.9 per 1,000 live births**.
- **Maternal Mortality Ratio (MMR** – maternal deaths per 1 lakh live births) declined to **97 (2018–20)**, approaching the **Sustainable Development Goal** target of below **70** by 2030.

Drivers of Progress in India

- Expansion of **institutional deliveries** through schemes like **Janani Suraksha Yojana** (cash incentive scheme for safe deliveries) and **Janani Shishu Suraksha Karyakram** (free maternal and newborn care programme) has improved survival outcomes.
- Strengthening of immunisation coverage through **Universal Immunisation Programme** and **Mission Indradhanush** has reduced disease-related deaths.
- Development of **Special Newborn Care Units (SNCUs** – hospital units for critically ill newborns) along with innovations like **Tele-SNCU** (digital monitoring of neonatal care) has improved survival of premature infants.
- Implementation of **Integrated Management of Neonatal and Childhood Illnesses (IMNCI)** has strengthened primary healthcare response.
- Nutrition initiatives such as **POSHAN Abhiyaan**, **Anaemia Mukt Bharat**, **MAA Programme** (breastfeeding promotion initiative), and **National Food Security Act** have improved child health outcomes.

Government Initiatives

- **Pradhan Mantri Surakshit Matritva Abhiyan:** It is a programme for free antenatal care on fixed days, it ensures quality pregnancy monitoring.
- **Pradhan Mantri Matru Vandana Yojana:** Involves cash support scheme for pregnant and lactating women and improves maternal nutrition and health.
- **Rashtriya Bal Swasthya Karyakram** screens children for **32 health conditions**.
- **Nutrition Rehabilitation Centres** are facilities for treating Severe Acute Malnutrition, they provide specialised care.
- **LaQshya Programme:** It is an initiative for improving labour room quality and ensures safe childbirth practices.
- **Kangaroo Mother Care** method of skin-to-skin care for low birth weight babies. and **Early Essential Newborn Care** improves neonatal survival.
- **Breast milk banks** i.e. facilities for providing safe donor milk. It ensures nutrition for vulnerable infants.

Key Challenges

- A major concern is the **high neonatal mortality burden** due to prematurity and birth complications.
- **Malnutrition and anaemia** remain critical, with about **57% of women and 52.2% of pregnant women** affected by anaemia, impacting child survival.
- **Regional and intra-state inequalities** persist, especially in rural and tribal areas.
- Limited access to **quality healthcare infrastructure** and delays during the **golden hour** increase mortality risks.
- Poor **water, sanitation, and hygiene (WASH)** contribute to diseases like diarrhoea and infections.
- Social determinants such as **poverty, education, and caste inequalities** continue to influence child health outcomes.

Way Forward

- **Political and Financial Support:** Increasing funding for health programmes and building stronger political commitment is vital to speed up progress.
- **Access to Quality Care:** Expanding primary healthcare systems and the frontline workforce will provide affordable and quality healthcare services, helping to reduce preventable deaths.
- **Targeted Interventions:** It is necessary to focus on high-risk populations to fix existing inequalities.
- **Strengthened Data and Accountability:** Using the International Classification of Diseases, death surveillance systems, and real-time digital data systems will improve accountability and policy response.
- **Early Life Focus:** Prioritizing the first 28 days (critical neonatal period) through better labour care and emergency response is key to lowering mortality.
- **Nutritional Foundation:** To stop the cycle of malnutrition, we must improve nutrition during the first 1,000 days (from pregnancy to early childhood).
- **Integrated Care:** Combining family planning and maternal health interventions will lead to better overall results.

UNIGME

- It was formed in **2004** to share data on child mortality, improve methods for child mortality estimation, and report on progress towards child survival goals.
- It is led by the **United Nations Children's Fund (UNICEF)** and includes the WHO, the World Bank Group and the United Nations Population Division of the Department of Economic and Social Affairs as full members.

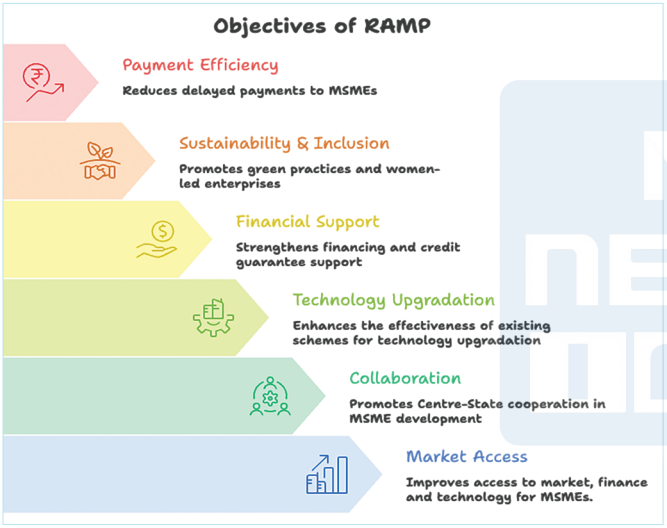
1 POLITY & GOVERNANCE

RAMP PROGRAMME

The 5th National MSME Council reviewed progress of the World Bank supported RAMP programme.

About

- **Raising and Accelerating MSME Performance (RAMP)** is a **Central Sector Scheme (fully funded by the central government)** launched in 2022–23 to strengthen Micro, Small and Medium Enterprises (MSME).
- It is supported by the World Bank and implemented by the Ministry of Micro, Small and Medium Enterprises.



Functioning

- States prepare Strategic Investment Plans for MSME development. Plans identify gaps, set targets and allocate budgets for priority sectors.
- Focus areas include **renewable energy, rural industries, trade** and **women enterprises**.
- Funds are released based on Disbursement Linked Indicators. These include reforms, technology upgradation, credit support and reducing delayed payments.
- The National MSME Council provides overall monitoring and policy direction.

Significance

- The programme addresses structural and post-pandemic challenges of MSMEs. It enhances productivity and sustainability of the MSME sector in India.
- It improves competitiveness through technology, digitisation and innovation. It supports job creation and formalisation.
- It strengthens market access and financial support for MSMEs. It complements the Atmanirbhar Bharat Mission.

PRADHAN MANTRI GARIB KALYAN ANNA YOJANA

Recently, the Government launched a Central Bank Digital Currency based Digital Food Currency pilot for Direct Benefit Transfer under Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY).

About PMGKAY

- Pradhan Mantri Garib Kalyan Anna Yojana is a flagship food security scheme launched in 2020 during the Covid-19 pandemic.
- It provides **free food grains** to vulnerable sections covered under the National Food Security Act, 2013.
- The scheme has been implemented in multiple phases and extended for five years from 2024.
- It aims to ensure food security for poor, migrant and vulnerable households during crises.
- It supplements existing food entitlements under the National Food Security Act.
- **Beneficiaries:** Antyodaya Anna Yojana households (poorest families) receive 35 kilograms of food grains per household per month. Priority Household families receive 5 kilograms of food grains per person per month.
- Distribution is done through the **Public Distribution System.**

Digital Pilot

The **Digital Food Curreny** pilot uses Central Bank Digital Currency for delivering food subsidies. It aims to improve **transparency, reduce leakages** and **enhance efficiency** in welfare delivery.

NFSA Framework

- The National Food Security Act, 2013 legally covers about 67% of India's population, including 75% of rural and 50% of urban population.
- It provides subsidised food grains at ₹3 per kg for rice, ₹2 per kg for wheat and ₹1 per kg for coarse grains.
- PMGKAY provides additional food grains free of cost over and above these entitlements.

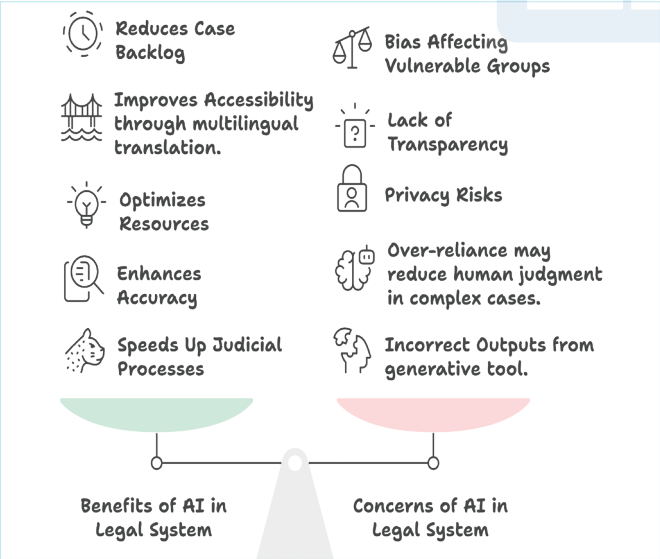
AI IN LEGAL SYSTEMS

The India Artificial Intelligence Impact Summit 2026 highlighted rapid adoption of Artificial Intelligence in India's legal ecosystem.

Use of AI in Legal Set-up

- India's judiciary has evolved from basic computerisation to digital courts, real-time data systems and virtual hearings.
- AI tools are now integrated into court processes for efficiency and accessibility.

- In the Supreme Court and High Courts, AI assists in transcription (converting speech to text), translation of judgments and legal research.
  - Tools like **SUPACE** (legal research platform) and **SUVAS** (translation software) enhance judicial functioning.
- It helps identify defects in electronic filing (online case submission) and extract metadata (structured case information).
- Systems use **Machine Learning** (learning from data), **Natural Language Processing** (understanding human language) and **Optical Character Recognition** (converting images to text).
- The e-Courts Project integrates these technologies for case management and efficiency.



Use in Criminal Justice System

- AI supports crime **detection, surveillance and forensic analysis**.
- Technologies include **facial recognition, drones and speech-to-text** tools for filing complaints. It improves investigation quality and evidence evaluation.

Technology Integration in Judiciary

- **Supreme Court AI Committee:**
  - The committee is chaired by a sitting Supreme Court judge.
  - The committee makes sure AI is introduced to the courts in an organized way and used fairly and responsibly.
- **eSCR (Electronic Supreme Court Reports) Portal:** A free online website where anyone can easily search for, read, and save copies of Supreme Court judgments.
- **e-Courts Project Phase III:**
  - A major national plan to build a single digital platform for all courts.
  - It focuses on using modern tools, like Artificial Intelligence, to make everything work together smoothly.

Way Ahead

- We need to find a middle ground where AI tools protect personal privacy, rights, and morals while stopping any potential abuse.
- By using AI, India's legal system can work faster and be easier for people to use. However, we must keep strong rules in place to handle any problems that come up.

NCERT CHAPTER ON JUDICIAL CORRUPTION BANNED

The Supreme Court of India imposed a blanket ban on a Class 8 NCERT chapter on judicial corruption and warned of serious consequences for non-compliance.

Observations of the Court

- The Bench headed by Chief Justice Surya Kant observed that the chapter appeared to be a **calculated move** to undermine the judiciary.
- It stated that the content could amount to **criminal contempt**.
- The Court emphasised that such material could erode public faith, which is essential for judicial legitimacy.

Legal Framework

- Judicial independence is part of the **Basic Structure Doctrine**, established in the Kesavananda Bharati case (1973).
- Contempt of court is governed by the **Contempt of Courts Act, 1971**, which includes acts that scandalise or lower the authority of the court, interfere with proceedings or obstruct justice.
  - The Bench indicated that the chapter may fall within this definition.
  - **Articles 129 and 215** give the Supreme Court and High Courts the power to punish for contempt, respectively.
- **Article 19(1)(a)** guarantees **freedom of speech** but **Article 19(2)** allows restrictions including contempt of court, defamation and public order.

Concerns

- **Constitutional Debate:** Critics argue that the ban affects free speech because judicial orders are not "law" under Article 19(2), raising questions on the validity of restrictions.
  - Judicial independence ensures rule of law, but without accountability it may lead to institutional opacity. It raises concerns about **judicial overreach**.
- **Judicial Corruption:** Judicial corruption refers to misuse of authority for private gain such as bribery, favouritism or case manipulation.
  - In **K. Veeraswami vs Union of India (1991),** the Court held that judges fall under 'public servants' for corruption prosecution. This shows that the judiciary is not beyond scrutiny.
- **Institutional Challenges:** The collegium system is criticised for lack of transparency and possible **elite capture** (wherein influential individuals or groups (elites) hijack public resources, aid, or policy decisions for their own benefit).
  - In-house inquiry mechanisms lack statutory backing and clear procedures.
  - Contempt jurisdiction sometimes restricts legitimate criticism of the judiciary.
- **Concerns of Governance:** The NCERT develops curriculum. Curriculum content often becomes politically and constitutionally sensitive.
  - The ban raises concerns regarding academic autonomy, consultation processes and accountability in curriculum design.

Significance

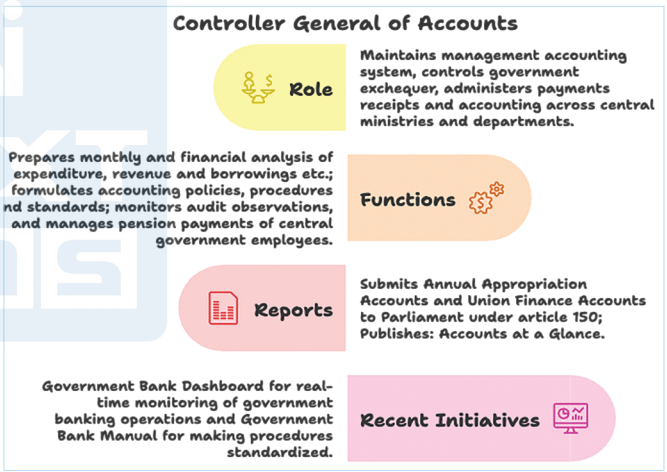
- The issue reflects a critical balance between **institutional integrity** and democratic freedoms.
- It underlines that public trust depends both on protecting judicial authority and ensuring transparency and accountability.

CONTROLLER GENERAL OF ACCOUNTS

The Controller General of Accounts has launched the Government Bank Dashboard and Government Bank Manual to improve efficiency and governance of banks handling government transactions.

About

- The Controller General of Accounts is the Principal Accounting Adviser to the Government of India.
- It functions under the Department of Expenditure in the Ministry of Finance.
- It was established in 1975 to manage departmentalisation of accounts.



STATE INNOVATION MISSION

The Atal Innovation Mission under NITI Aayog, recently, launched India's first State Innovation Mission in Tripura.

About

- The State Innovation Mission is a long-term institutional mechanism under AIM 2.0 to strengthen **innovation ecosystems** at the state level.
- It focuses on policy support, capacity building, partnerships and region-specific interventions. The mission aligns with the vision of Viksit Bharat.
- It aims to enhance innovation capacity and promote entrepreneurship across sectors like science, technology and digital innovation.
- It seeks to support startups, encourage patenting and enable commercialization.

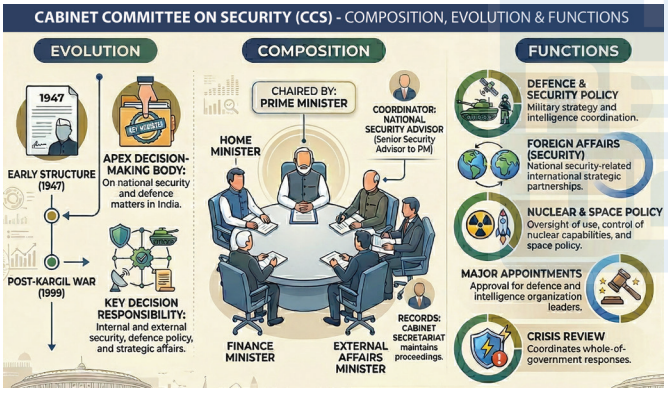
- It promotes collaboration among government, academia, industry and innovators.
- It promotes public-private partnerships and connects startups with investors.
- **Expected Impact:**
  - As the mission marks a shift towards decentralised innovation and supports inclusive growth by promoting local talent and region-specific solutions.
  - It will strengthen regional innovation and integrate the states into India's broader startup ecosystem.

CABINET COMMITTEE ON SECURITY

Recently, the Prime Minister chaired a meeting of the Cabinet Committee on Security to review the evolving situation in West Asia.

About

- The Cabinet Committee on Security is the apex decision-making body on national security and defence matters in India.
- It is responsible for key decisions related to internal and external security, defence policy and strategic affairs.



DRAFT POLICY TO ADDRESS THE DECLINING FERTILITY RATE

Government of Andhra Pradesh proposed a Draft Population Management Policy to address declining fertility and future demographic risks.

About

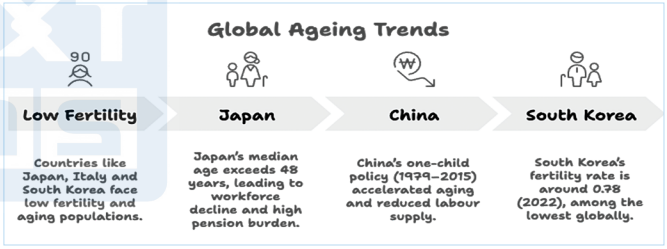
- The policy aims to raise the **Total Fertility Rate** from about 1.5 to 2.1, which is the replacement level (level needed to maintain a stable population).
- The Draft Policy encourages families to have a third child through financial and social incentives.
- It reflects a shift from population control to population stabilisation.
- **Key Aspects of the Draft Policy:**
  - The policy proposes a '**Poshana–Shiksha–Suraksha**' package for families having a third child.
  - The government will provide ₹25,000 at the birth of a third child and ₹1,000 per month for five years for childcare and nutrition.
  - It ensures free education for the third child up to 18 years of age.

Ageing Population- Economic Impact

- Aging populations **increase pension** and **social security burden** on governments.
- Healthcare demand rises due to age-related diseases, stressing infrastructure.
- Consumer demand declines as older populations spend less.
- India's demographic dividend may weaken.
- Southern states account for about 32% of out-of-pocket spending on cardiovascular diseases despite having around one-fifth population.

Challenges

- Higher fertility incentives may reduce women's labour force participation.
- Fiscal burden may rise due to sustained subsidies and welfare support.
- Population growth may increase pressure on natural resources like water, land and energy.



ESSENTIAL COMMODITIES ACT

The Centre invoked the Essential Commodities Act, 1955 amid the oil crisis triggered by disruptions in the Strait of Hormuz, to secure domestic Liquefied Petroleum Gas supply.

Background

- India's Liquefied Petroleum Gas demand is about 31.3 million tonnes, while domestic production is only about 12.8 million tonnes, meeting around 41% demand.
- Around 90% of Liquefied Petroleum Gas imports pass through the Strait of Hormuz. This increases vulnerability.

Key Aspects of the Act

- The Essential Commodities Act, 1955 empowers the government to regulate **production, supply and distribution** of essential goolds.
- It aims to ensure availability at fair prices and prevent **hoarding** (stockpiling for profit) and **black marketing** (illegal sale at high prices).

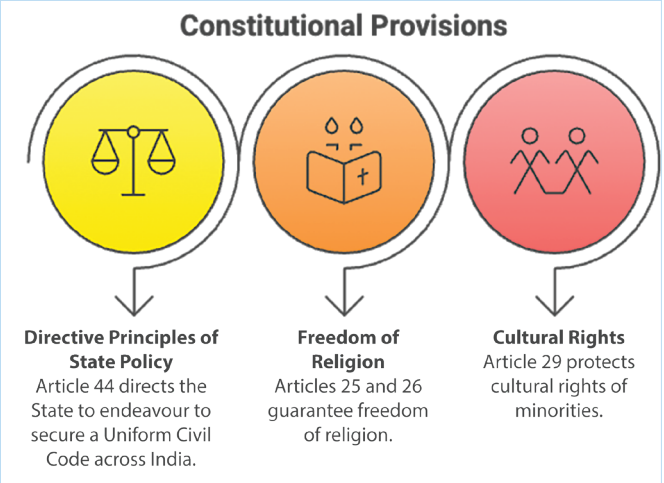
- The Act covers key items such as **drugs, fertilizers, foodstuffs, petroleum products, seeds, raw jute and textiles.**
  - Under Section 3 of the Act, the government can impose price controls, fix stock limits and regulate storage, transport and distribution.
  - It can prioritise production and restrict diversion of resources to ensure essential supply.
- **Amendment:** The 2020 amendment limited regulation of agricultural commodities to **extraordinary situations**. Stock limits can be imposed only when prices rise by 100% for horticultural goods and 50% for non-perishable food items.

UNIFORM CIVIL CODE

The Supreme Court of India reiterated support for a Uniform Civil Code, stating that a common civil law framework would address complexities arising from multiple personal laws governing marriage, divorce and succession.

Background Courts Observations

- A petition before the Court challenged the **Muslim Personal Law (Shariat) Application Act, 1937** for discrimination against Muslim women in inheritance.
  - The 1937 Act governs inheritance among Muslims. It provides daughters half the share of sons and widows one-eighth share or one-fourth if no children.
- The Court observed that Parliament should decide on introducing the Uniform Civil Code instead of courts striking down existing personal laws as that would create a **legal vacuum** in inheritance rules.
- It also warned that such removal may deprive Muslim women of rights currently available under existing law.
- The Court emphasised that a Uniform Civil Code offers a clearer and comprehensive solution ensuring equality.
- It noted that even if the 1937 Act is struck down, personal laws may continue under Article 372 which allows continuity of pre-Constitution laws and customs.



What is Uniform Civil Code?

- A Uniform Civil Code refers to one common law applicable to all citizens (irrespective of faith) in matters such as marriage, divorce, inheritance and adoption.
- It aims to replace diverse religion-based personal laws with a uniform framework.
- It also seeks to reduce discrimination and promote harmony among different communities.
- B. R. Ambedkar supported UCC but suggested it should initially be voluntary rather than compulsory.

States with UCC in India

- Goa follows a Uniform Civil Code under the **Portuguese Civil Code, 1867** applicable to all religions.
  - The Goa, Daman and Diu Administration Act, 1962 allowed continuation of this code after integration in 1961.
- The **Uniform Civil Code of Uttarakhand Act, 2024** made Uttarakhand the first state post-independence to adopt UCC.

Uniform Civil Code

Arguments For	Arguments Against
➲ It simplifies administration of justice and laws and ensures uniformity in governance. ➲ It promotes gender justice by removing discriminatory provisions in personal laws. ➲ It strengthens secularism by treating all citizens equally irrespective of religion. It promotes national integration by creating a common legal framework. ➲ The Supreme Court in cases like Mohd. Ahmed Khan v. Shah Bano Begum (1985) and Sarla Mudgal v/s Union of India supported UCC. ➲ The Union Government argues that different personal laws create inequality and hinder national unity.	➲ Implementation is difficult due to India's diversity and varied personal laws. Tribal customs related to marriage and death may be affected. ➲ It may create law and order issues and be perceived as imposition on minorities. ➲ It may violate religious freedom under Articles 25, 26 and provisions like the Sixth Schedule. ➲ Article 29 protections and minority concerns raise fears of cultural erosion. ➲ The 21st Law Commission in one of its Consultation Paper opined that UCC is "neither necessary nor desirable at this stage".

OFFICE OF CHIEF ELECTION COMMISSIONER

Opposition parties are considering a removal motion against Chief Election Commissioner(CEC) Gyanesh Kumar over allegations of biased conduct.

About

- **Article 324** provides for the Election Commission consisting of the Chief Election Commissioner and other Election Commissioners as decided by the President.
  - In a multi-member Election Commission, the Chief Election Commissioner acts as the **Chairman**.
- The President may appoint **Regional Commissioners** after consultation with the Election Commission to assist in its functions.
- **Function:**The Election Commission conducts elections to Parliament, State Legislatures, and the offices of President and Vice-President.
- **Decision-Making:** In case of differences among the Chief Election Commissioner and other Election Commissioners, decisions are taken by **majority.**

Removal

- **Grounds:** Article 324(5) states that the Chief Election Commissioner can be removed only on grounds of **proved misbehaviour or incapacity**. These are the same grounds as for removal of a judge of the Supreme Court.
- **Nature:** The Constitution uses the term **removal**, not impeachment, for the Chief Election Commissioner. The term impeachment is used only for the President under Article 61.
- **Motion:** A removal motion can be introduced in either House of Parliament. It must be supported by at least 100 members in Lok Sabha or 50 members in Rajya Sabha.
  - The motion is submitted to the Speaker or Chairman of the respective House.
- **Investigation:**
  - The Presiding Officer may admit or reject the motion.
  - If admitted, a three-member committee consisting of a Supreme Court judge, a Chief Justice of a High Court and a distinguished jurist is constituted.
  - The committee investigates the charges and allows the Chief Election Commissioner to defend themselves.
- **Possible Outcomes:**
  - If charges are not proved, the motion is dropped.
  - If charges are proved, the report is submitted to the House where the motion was introduced.
- **Approval:** The motion must be passed in both Houses by a **special majority**. Both Houses must pass the motion in the same session.
- **Final Order:** After passage in both Houses, an address is presented to the President. The President issues the final order for removal.
- **Other Members:** Election Commissioners and Regional Commissioners can be removed only on the recommendation of the Chief Election Commissioner.
  - The Chief Election Commissioner and other Election Commissioners (Appointment, Conditions of Service and Term of Office) Act, 2023 provides for appointment, resignation and removal consistent with constitutional provisions.

CREAMY LAYER

The Supreme Court of India ruled that parental income alone cannot determine creamy layer status for Other Backward Classes candidates and that such classification must follow constitutional equality principles.

Background

- The issue arose from disputes in the Civil Services Examination regarding OBC Non-Creamy Layer status.
- Candidates claimed wrongful exclusion because their parents worked in Public Sector Undertakings, banks and private sector organisations.
- High Courts including Madras, Kerala and Delhi ruled in favour of candidates.
- The Union Government challenged these rulings, but the Supreme Court upheld the High Courts' decisions.

Constitutional Provisions

- Article 14 ensures equality before law and prohibits arbitrary classification.
- Article 15 allows special provisions for backward classes but requires non-arbitrary policy design.
- Article 16 ensures equality in public employment while permitting reservation under Article 16(4).

Concept of Creamy Layer

- The concept of creamy layer was introduced in **Indra Sawhney v. Union of India (1992)**.
- As per the concept of creamy layer, socially advanced individuals within OBCs are excluded from reservation benefits to ensure benefits reach genuinely backward sections.
- The Office Memorandum, 1993 implemented the Indra Sawhney judgment and prescribed **criteria based on social status, occupation and income**.
  - It excluded salary income and agricultural income from the income test.
  - It linked determination of creamy layer based on parents' position and category of posts (Group A, B, C, D).
- **Clarificatory Letter, 2004** changed the interpretation and directed that the salary income of parents employed in PSUs and the private sector should be included while determining the creamy layer. ***It resulted in:***

- Different treatment of similarly placed individuals;
- Government employees' salary excluded;
- PSU/private sector salary included;

Court's Observation

- The Court held that **income alone cannot determine creamy layer status** and that determination must consider social status, occupation and post category.
- It clarified that creamy layer determination is **status-based rather than purely income-based.**
- The Court ruled that differential treatment between government and PSU/private sector employees amounts to **hostile discrimination**.
  - It held that such classification violates Articles 14, 15 and 16 of the Constitution.

Existing Criteria	Clarifications by the Judgement
➲ Children of Group A officers or those promoted before age 40 are excluded from reservation. ➲ Children of two Group B officers also fall under the creamy layer. ➲ For non-government occupations, the income limit is ₹8 lakh annually (since 2017).	➲ The judgment quashed the anomaly created by the 2004 clarification. ➲ It reaffirmed that creamy layer exclusion is meant to prevent elite capture, not create artificial distinctions. ➲ It recognised that similarly placed individuals must be treated equally irrespective of the employment sector.

FISCAL HEALTH INDEX

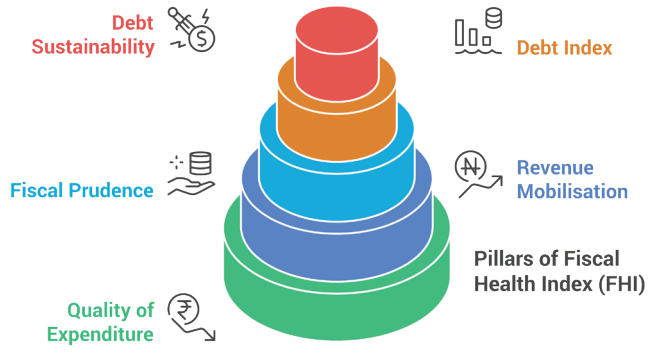
Recently, the NITI Aayog released the second edition of Fiscal Health Index.

About

- FHI assesses fiscal performance of states amid rising global public debt of about USD 102 trillion in 2024 .
- Fiscal Health Index is a comprehensive framework to evaluate and compare fiscal performance of Indian states.
- It provides a data-driven approach for fiscal sustainability, peer comparison and policy reforms.
- It uses data verified by the Comptroller and Auditor General of India ensuring transparency.
- It analyses fiscal trends over a decade from 2014–15 to 2023–24.

Enhanced Coverage

- The second edition expands coverage from 18 general category states to include 10 North-Eastern and Himalayan states.
- These states are ranked separately due to unique challenges like geographic remoteness, low population density, limited own-revenue capacity, high committed expenditure and dependence on Union transfers.



Overall Rankings

- Odisha- Top-performing State.
- Goa and Jharkhand- Achiever States.
- Gujarat and Maharashtra- Continued in Top 5
- Haryana- Improved by 3 ranks.
- Bihar, Karnataka and Telangana- Moderate Improvement.
- Punjab, West Bengal and Kerala- The Bottom 3

State Categories

States have been classified on the basis of the FHI score as per below categories. FHI scores have been rounded off to the nearest number for the below classification.

FHI Score Categories for States	
FHI Score Range	**Category**
Above 50	Achiever
Greater than 40 & less than equal to 50	Front Runner
Greater than 25 & less than equal to 40	Performer
Less than equal to 25	Aspirational

- **Achievers States:**
  - Characterised by controlled deficits, stable revenues and improving scores.
  - These states maintain their own-tax share above 60 percent, capital expenditure around 4–5 percent of Gross State Domestic Product, fiscal deficit below 3 percent and debt below 25 percent of Gross State Domestic Product.
- **Front Runners:** Gujarat, Maharashtra, Chhattisgarh, Telangana, Uttar Pradesh and Karnataka (Low debt and controlled interest burden).
- **Performers:** Madhya Pradesh, Haryana, Bihar, Tamil Nadu and Rajasthan (Recorded Improvement)
- **Aspirational States:** West Bengal, Kerala, Andhra Pradesh and Punjab.

Fiscal Concerns

- Aspirational states often breach Fiscal Responsibility and Budget Management norms.
- Their debt ranges around 35–45 percent of Gross State Domestic Product.
- Committed expenditure forms 50–60 percent of revenue receipts, limiting development spending.
- Interest payments exceed 15–20 percent of revenue receipts, reducing fiscal flexibility.

North-Eastern States

- North-Eastern and Himalayan states are evaluated separately for the first time.
- **Arunachal Pradesh** ranks as an achiever due to **strong revenue growth**, followed by **Uttarakhand.**
- Himachal Pradesh and Manipur lag due to weak own revenues below 5 percent of Gross State Domestic Product and high committed expenditure.

Key Recommendations

- **Improving own-tax capacity** through property and excise reforms.
- **Increasing capital expenditure** to above 5 percent of Gross State Domestic Product.
- Better public financial management through **digitisation.**
- **Reducing off-budget borrowings** and maintaining debt within 25–30 percent of GSDP.

NATIONAL SHIPPING BOARD (NSB)

Amid new problems in India's shipping industry caused by changing world politics and conflicts, a high-level interaction was held between the Government and National Shipping Board (NSB).

About

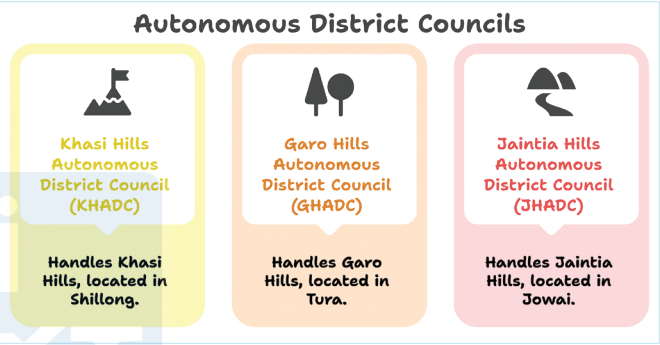
- **What it is:** It is the top group that advises on shipping and sea-related issues in India. It was created under Section 4 of the **Merchant Shipping Act of 1958.**
- **Ministry:** It operates under the Ministry of Ports, Shipping, and Waterways.
- **Role:** Its main job is to give suggestions to the central government about shipping rules and how to grow the maritime industry.
- The head of the board (the chairperson) is chosen by the Central Government.

AUTONOMOUS DISTRICT COUNCILS IN MEGHALAYA

Election for the Garo Hills Autonomous District Council (GHADC) was delayed because of recent unrest and trouble in the West Garo Hills district.

About

- The **Sixth Schedule** (**Articles 244(2)** and **275(1)**) of the **Constitution** sets up **autonomous administrative arrangements** for **tribal areas** in Assam, Meghalaya, Tripura, and Mizoram.
- In Meghalaya, **Autonomous District Councils (ADCs)** are **local self-governing institutions** that safeguard the rights of tribal communities.
  - These councils hold **legislative**, **executive**, **judicial**, and **financial powers**.
- **Objectives:**
  - Guard **tribal land** and traditions.
  - Enable **self-governance** for **indigenous communities**.
  - Stop **external groups** from taking advantage of them.



- **Composition of ADCs:**
  - **Structure:** Each council has 30 **Members of District Council (MDCs)**.
  - **Selection:** 29 are elected from **territorial constituencies**, while 1 is nominated by the **Governor**.
  - **Tenure:** They serve a 5-year term unless the council is dissolved sooner.

UPSC'S NEW RULE ON APPOINTMENT OF STATE DGPS

The Union Public Service Commission has revised the rules for the empanelment of the State Director General of Police and Head of Police Force.

Key Changes

- Prior approval of the Supreme Court required for any delay in sending the list of eligible DGP-rank officers to the Union Public Service Commission.
- States must send **proposals at least three months before** the retirement of the incumbent DGP.
- States can **no longer appoint an acting DGP**.
- As there is no legal provision allowing UPSC to overlook major delays and proceed with empanelment.
  - Therefore delays may be considered only in exceptional situations such as **death, resignation** or **premature relieving from office.**

Rationale behind the Changes

- The rules changed because **State governments** delayed sending **IPS officer** names to the **UPSC**, ignoring **Supreme Court** timelines from **Prakash Singh vs Union of India**.
- By appointing **acting Directors General of Police**, states bypassed **merit-based** rules, weakening **politically insulated appointments** and the **transparency** of top police leadership.

Additional Information

Prakash Singh Judgment on Police Reforms:

- The judgment in the **Prakash Singh vs Union of India case (2006)** laid down police reforms, including guidelines for appointing State DGPs. Key directions include:
  - DGP must be selected from a panel of three senior IPS officers shortlisted by UPSC.
  - The selected DGP should have a minimum tenure of two years. The process should ensure merit-based selection and insulation from political interference.

Governance Aspect:

- Police is a **State subject under Entry 2 of the State List** in the 7th Schedule of the Constitution.
- The directions issued by the Supreme Court are binding under **Articles 141 and 142**, which require States to follow a uniform procedure for DGP appointments.
- This creates a governance challenge as States sometimes perceive such judicially mandated procedures as limiting their discretion in managing their own police forces.

RAJASTHAN PROPERTY BILL

The Rajasthan Legislative Assembly passed the Rajasthan Disturbed Areas (Control of Transfer of Immovable Property) Bill, 2026 and Rajasthan became the second state after Gujarat to implement such a law.

About

- The Bill aims to regulate property transactions in areas declared as **disturbed areas** (regions affected by riots or public disorder).
- Under **Section 3(1,2)**, the State government can declare any area as disturbed if communal violence, riots or public disorder exist or are likely to occur.
- Once notified, any transfer of immovable property requires prior approval from the **District Magistrate** or **District Collector.**
  - Property transfers without such permission are treated as legally invalid.
- The law provides penalties, including imprisonment up to two years or fine, for violations.
- It seeks to prevent forced migration of communities due to communal tensions and aims to curb distress sales(sale under pressure).
- With an aim to preserve communal harmony and public order, it intends to maintain demographic balance.

Procedure of Transfer

- Prior written permission of the District Collector is mandatory before any sale, gift or lease of property in notified areas.
- The Collector must conduct an inquiry to ensure that the transfer is voluntary and not due to coercion, threat or distress sale.

Additional Information

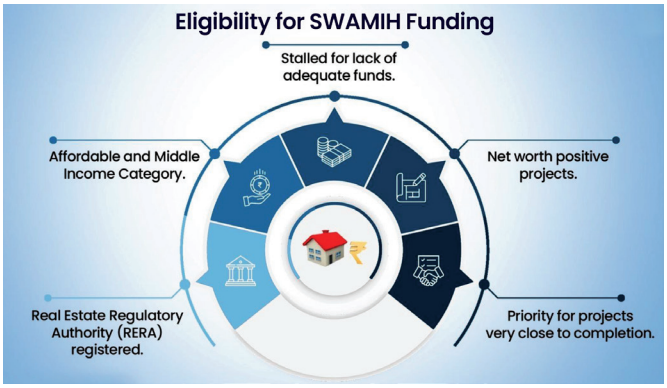
- The **Right to Property** is no longer a fundamental right after the **44th Constitutional Amendment (1978).**
- It is protected under **Article 300A**, which allows deprivation of property only by authority of law.
- **Article 14** guarantees equality before law and prohibits arbitrary classification. If the law disproportionately affects certain communities or areas, it may be challenged as discriminatory.

SWAMIH FUND

The Special Window for Affordable and Mid-Income Housing Investment Fund has emerged as a key policy initiative for India's housing sector.

About

- SWAMIH was launched in 2019 to provide **last-mile financing** to **stalled housing projects.**
- It is sponsored by the Ministry of Finance and managed by **SBICAP Ventures Limited**, a State Bank Group company.
- It is structured as a **Category-II Alternative Investment Fund** registered with the Securities and Exchange Board of India.
- It is a government-backed fund operating as a debt fund.



Impact

- Over **58,596 homes** have been completed under the fund.
- More than 1 lakh homes are expected to be completed and around 2.38 lakh people have benefited from the scheme.
- Revival of projects has generated over 30,000 jobs and it has also increased demand for **construction materials.**

Alternative Investment Fund

- An AIF pools money from investors to invest in **non-traditional assets like real estate, private equity** and **commodities**.
- It is generally meant for high-net-worth individuals and institutional investors.
- It is defined under **Regulation 2(1)(b) of the Securities and Exchange Board of India Regulations, 2012.**
- It excludes funds covered under Mutual Fund Regulations 1996 and Collective Investment Schemes Regulations 1999.

PM POSHAN SCHEME

A Parliamentary Standing Committee has recommended the inclusion of breakfast in the PM POSHAN Scheme & extension of coverage up to Class 12.

PM POSHAN (Pradhan Mantri Poshan Shakti Nirman)

- Formerly called the **Mid-Day Meal Scheme (MDMS)**, it was renamed as **PM POSHAN** in 2021.
- It operates under the **Ministry of Education** and is approved for the period 2021-22 to 2025-26.
- As a **centrally sponsored scheme**, it is paid for by both the **Centre and States**. It provides one hot cooked meal to students in **government and aided schools** from preschool up to **Class 8**.
- The goal is to tackle **hunger** while improving **educational outcomes**, such as student **attendance**, **retention**, and overall **learning**.

Key Recommendations

- The Parliamentary Standing Committee recommended enhancing the midday meal program by adding a **light breakfast** to current midday meals and extending coverage to **Classes 10 (immediate) and 12 (in phased manner)**.
  - This ensures nutritional continuity through the critical adolescent phase, reducing dropout rates—particularly among girls—and boosting **cognitive performance** for board exams.
- The committee recommended reducing **resource concentration in select schools, expanding PM-SHRI benefits** and ensuring the timely release of Samagra Shiksha funds to specific states for equity.

Additional Information

- **Parliamentary Committee** means a committee which is appointed or elected by the House or nominated by the Speaker and which works under the direction of the Speaker and presents its report to the House or to the Speaker and the Secretariat for which is provided by the Lok Sabha Secretariat.
- By their nature, Parliamentary Committees are of two kinds: **Standing Committees and Ad hoc Committees.**
  - **Standing Committees** are **permanent and regular committees** which are constituted from time to time in pursuance of the provisions of an Act of Parliament or Rules of Procedure and Conduct of Business in Lok Sabha. The work of these Committees is of **continuous nature.**
    - ***Example:*** Financial Committees and Departmentally Related Standing Committees etc.
  - **Ad hoc Committees** are appointed for a specific purpose and they cease to exist when they finish the task assigned to them and submit a report.
    - ***Example:*** Select and Joint Committees on Bills, Railway Convention Committee etc.

Role of Parliamentary Standing Committees:

- **Detailed Financial Scrutiny Beyond Parliament:** Parliamentary debates often lack time for detailed examination of budgetary provisions. Standing Committees undertake **granular scrutiny of Demands for Grants,** expenditure trends, and utilisation patterns.
- **Evidence-Based and Non-Partisan Oversight:** Committees function in a non-partisan manner, relying on **expert inputs and data-driven analysis**. Their reports provide objective evaluation of policy implementation and fiscal discipline.
- **Monitoring of Executive Functioning:** Committees operate throughout the year and ensure continuous oversight over ministries and departments. This enhances transparency and accountability in governance.

MATERNITY RIGHTS OF ADOPTIVE MOTHERS

The Supreme Court of India held that all female employees adopting children are entitled to 12 weeks of paid maternity leave, regardless of the child's age.

Background

- **Maternity benefits** law in India began with the **Maternity Benefit Act, 1961**.
- The **2017 Amendment** updated this by giving **adoptive and commissioning mothers** 12 weeks of **maternity leave** for the first time. However, a strict rule was added that this leave only applies if the **adopted child** is under 3 months old.
- This same rule was later included in **Section 60(4)** of the **Code on Social Security, 2020**.

Supreme Court Ruling

- **Concern:** India's **adoption process**, managed by the **Central Adoption Resource Authority guidelines**, rarely allows the **adoption** of children younger than three months. Because of this, most **adoptive mothers** could not actually get **maternity benefits.**

- **The Ruling:** The **court** ruled that classification based on child's age was **discriminatory** and a violation of **Articles 14 and 21** of the **Constitution**.
- The ruling highlighted that **adoption** is just as valid a way to become a parent as **biological childbirth.**

RELIEF SCHEME

The Union Government launched the Resilience and Logistics Intervention for Export Facilitation Scheme (RELIEF) to support exporters affected by disruptions due to the West Asia crisis.

About

- RELIEF is a **time-bound financial and risk mitigation intervention** under the **Export Promotion Mission**, approved in March 2026.
- It is implemented by **Export Credit Guarantee Corporation of India** under the **Ministry of Commerce and Industry.**
- The scheme provides **credit insurance cover** (protection against export losses) for shipments affected by geopolitical disruptions.

Features

- It offers up to **100% risk coverage** for already insured consignments during the disruption period. It provides up to **95% coverage** for future shipments to ensure continuity of exports.
- It ensures insurance premiums at pre-conflict rates, reducing cost burden.
- It includes reimbursement of up to **50% of freight and insurance cost escalation** (capped at ₹50 lakh per exporter), especially for **Micro, Small and Medium Enterprises.**
- Coverage spans both past shipments (February–March 2026) and future exports till June 2026.

SUPREME COURT PUSH FOR PRISON REFORMS

The Supreme Court of India has directed all States and Union Territories to submit updated and comprehensive data on prison conditions.

Directions to States

- States to **specify both ongoing and proposed measures** to address overcrowding.
- **Ensure education, healthcare, and welfare of children** living with incarcerated mothers.
- Provide details of sanctioned staff strength, vacancies, and steps taken for recruitment.

Issues in Indian Prisons

- **Overcrowding:** India's prisons operate at an average occupancy rate of **120.8%** (Prison Statistics India 2023 by NCRB).
- High Proportion of Undertrial Prisoners reflects **delays in investigation** and **trial processes.**
- Poor Infrastructure and Hygiene. **Absence of separate category of detention facilities** for economic offenders, foreign nationals, or high-risk fugitives. Cases of custodial violence, delayed medical attention, and limited legal access.

Committees on Prison Reforms

- **A. N. Mulla Committee or All India Committee on Jail Reforms (1980–83)** - Separation of undertrial prisoners from convicts and improvement of prison conditions, nutrition, and sanitation.
- **Justice Amitava Roy Committee-** Decongestion of prisons, speedy trials and legal aid reforms and use of technology for prison management.
- **Krishna Iyer Committee- Separate jail facilities for women**

Do you Know?

"Prisons/persons detained therein" is a **'State-list'** subject as per ***Entry 4*** of ***List II*** of the Seventh Schedule of the Constitution of India.

Measures taken for Prison Reforms

- **The State Legal Services Authorities** have established Legal Service Clinics in jails, who provide free legal assistance to persons in need.
- **The Ministry of Home Affairs** had prepared a '**Model Prisons and Correctional Services Act' in the year 2023.**
  - The Model Act has appropriate provisions for reformation, rehabilitation and integration of prisoners in the society.
  - It also has provision for **'Welfare Programs for Prisoners' and 'After-Care and Rehabilitation Services'**, as an integral part of institutional care.
- **Judicial Interventions:**
  - **Hussainara Khatoon v. State of Bihar:** Right to a speedy trial is a fundamental right under Article 21.
  - **In State of Rajasthan vs. Balchand**: "Bail is the rule and jail is the exception" principle.

COMPULSORY VOTING IN INDIA

Recently, the Chief Justice of India observed that India may need to explore a mechanism for compulsory voting to enhance voter participation.

Right to Vote in India

- **Article 326** of the Indian Constitution provides that every citizen of India, not less than **18 years of age** is entitled to be registered as a voter for Elections to the House of the People and Legislative Assembly of every State on the basis of **adult suffrage.**
- Voting is a statutory right, not a fundamental right (as held by the Supreme Court of India in various judgments). *[N.P. Ponnuswami (1952), Jyoti Basu (1982), PUCL v UOI (2003)]*

Compulsory Voting

- In this concept, voting is mandatory for eligible citizens and non-compliance attracts penalties.
- It is practised in over **20 countries** including;
  - **Australia:** Fines for non-voters; turnout consistently above 90% since 1924
  - **Belgium:** Oldest system (1893); turnout often 85–90%
  - **Brazil:** Mandatory for 18–70 age group.
- **Indian Experience:** In a first, Gujarat, through the **Gujarat Local Authorities Laws (Amendment) Act, 2009** introduced compulsory voting in local bodies. However, the Gujarat High Court stayed its implementation.

Compulsory Voting

Arguments in Favour	Arguments Against
Voter Turnout Increase: The Law Commission of India (255th Report, 2015) observed that compulsory voting can increase turnout by around 7% on average.	Forcing voting may violate Article 19(1)(a) (freedom of expression, including right not to vote).
Enhances democratic legitimacy by greater voter participation.	**Logistical Constraints:** Vast electorate (~96+ crore voters) and high internal migration creates practical challenges.
Encourages citizens for democratic participation. Improves civic sense.	Risk of random/invalid voting by unwilling voters.
With higher and more uniform turnout, dependence on costly voter mobilisation campaigns declines.	Indian socio-economic conditions do not justify harsh penalties/punishments such as denial of services etc.
	B. R. Ambedkar rejected the compulsory voting idea during debates on the Representation of the People Bill (1951).

- The **Dinesh Goswami Committee** opposed compulsory voting citing implementation challenges.
- **Law Commission of India (255th Report)**: Effective only with strict penalties, hence not suitable for India.

CONSUMER JUSTICE REPORT 2026

Recently, the India Justice Report's (IJR) released the 'Consumer Justice Report 2026: Assessing Capacity of Redressal Commissions in India'.

About

- This is the first nationwide check on how well the **consumer dispute redressal system** is working under the **Consumer Protection Act, 2019**.
- It ranks states based on several factors, including their **budget**, **infrastructure**, **human resources**, current **workload**, and **gender diversity**.
- **Top Performing States**: **Andhra Pradesh (1st),** followed by Madhya Pradesh, Rajasthan, Karnataka, West Bengal.

India Justice Report (IJR)

- The **IJR** is a first-of-its-kind national study that gathers data from different areas, which were previously kept separate, to check the strength of the justice system.
- It measures four main "pillars": the **police**, **prisons**, **judiciary**, and **legal aid.**

Large and Mid-sized States

S. No.	State	Consumer Justice Rank
1	Andhra Pradesh	1
2	Madhya Pradesh	2
3	Rajasthan	3
4	Karnataka	4
5	West Bengal	5
6	Haryana	6
7	Tamil Nadu	7
8	Assam	8
9	Uttarakhand	9
10	Uttar Pradesh	10

Small States

S. No.	State	Consumer Justice Rank
1	Meghalaya	1
2	Sikkim	2
3	Himachal Pradesh	3
4	Goa	4
5	Nagaland	5
6	Mizoram	6
7	Tripura	7
8	Arunachal Pradesh	8
9	Manipur	9

Consumer Redressal in India

- It is governed by the **Consumer Protection Act, 2019** ***(replaced 1986 Act)*** with objectives to protect consumer rights, and provide **simple, speedy & inexpensive redressal.**
- **Three-Tier System:**
  - **District Commission (DCDRC)**: Deals with cases up to **₹1 crore** (latest revised limits may apply); **first point of complaint** (original jurisdiction);
  - **State Commission (SCDRC)**: Appeals & higher-value cases;
  - **National Commission (NCDRC)**: Apex body (New Delhi);

- These are **quasi-judicial bodies** designed for **speedy justice and accessibility**.
- Consumer Redressal is regulated by the **Consumer Protection Act, 2019.** It is aimed at defending consumer rights and offers a quick, easy, and low-cost redressal to settle complaints.

IVFRT SCHEME

The Union Cabinet has approved the continuation of the Immigration, Visa, Foreigners Registration & Tracking (IVFRT) Scheme beyond March 31, for a period of five years, till 2031.

About

- **Ministry:** It is managed by the **Ministry of Home Affairs** as part of the **National e-Governance Plan (NeGP)**.
- **Objective:** The goal is to update **immigration** and **visa services** to help travelers while also making **national security** stronger.
- **Focus Areas:** It concentrates on using **emerging technology**, improving basic **infrastructure**, and making services work more efficiently.
- **Integration:** The scheme connects **visa issuance**, **immigration**, and the **registration and tracking of foreigners** in India into one system.
- **Significance:** It helps **tourism**, **international business**, and medical travel.
  - The system allows for a **100% contactless and faceless visa process** and uses **automated e-gates** to speed up travel.
  - It helps manage **illegal migration** and aligns with the new **Immigration and Foreigners Act, 2025.**

INQUIRY AND PROSECUTION WING OF LOKPAL

A Parliamentary Standing Committee has sought details on the operationalisation of inquiry and prosecution wings provision in the Lokpal and Lokayukta Act 2013, highlighting delays even after a decade of enactment.

About Lokpal

- **Status & Mandate:** Statutory anti-corruption body (Lokpal and Lokayuktas Act, 2013). Functional since 2019. Mandate: To inquire into corruption allegations against public functionaries.
- **Structure:** Consists of a Chairperson (former CJI, former SC Judge, or eminent person) and eight Members (four Judicial). At least 50% of Members must be from SC/ST/OBC/Minorities/ women.
- **Appointment & Term:** Appointed by the President based on the recommendation of a selection committee chaired by the Prime Minister. The term is 5 years or until 70 years of age.
- **Jurisdiction:** Covers current or former **PM, Union Ministers, MPs, and Union Government officials (Groups A, B, C, D)**. Also includes heads and members of bodies funded by Union/ State or receiving foreign contributions over ₹10 lakh.
- **Powers:** It has powers to superintendence over and to give direction to the CBI. Can refer complaints against Central government servants to the CVC.
- **PM Exemptions:** Cannot inquire into allegations against the PM regarding international relations, security, public order, atomic energy, or space. Initiation of a PM inquiry requires consideration by the full Lokpal bench and approval by at least 2/3rds of the members.

Inquiry Wing	Prosecution Wing
Section 11 of the Act mandates to constitute an **inquiry wing (to be headed by a Director of Inquiry)** for conducting a preliminary inquiry into corruption-related offences.	**Section 12 of the Act** obligates the Lokpal to constitute a **Prosecution Wing (headed by a Director of Prosecution)** for the purpose of prosecution of public servants in relation to any complaint by the Lokpal.
The Department-related Parliamentary Standing Committee on Personnel, Public Grievances, Law and Justice noted that the appointment of the director of inquiry and staffing of the inquiry wing is **still in process.**	The Prosecution Wing was formally constituted in **June 2025**.
	At present, prosecution functions are largely handled by the **Central Bureau of Investigation (CBI).**

PATERNITY LEAVE

The Supreme Court of India urged the Union government to consider a formal law recognising paternity leave for biological and adoptive fathers.

About

- Paternity leave refers to leave granted to a father to care for a **newborn or adopted child** and support the mother after childbirth. India lacks a universal law on paternity leave.
- Under the **Central Civil Services Leave Rules, 1972,** male government employees get 15 days of leave within six months of childbirth or adoption. The Court called for a dedicated law and recognition of paternity leave as a **social security benefit**.

Challenges

- The absence of paternity leave reinforces **gender inequality** by placing childcare burden mainly on women.
- Only about 10% of the workforce in the formal sector has maternity benefits, while 90% in the informal sector lacks such support.
- Women face **workplace discrimination** in hiring, wages and promotions due to maternity responsibilities.

- Implementation is difficult due to small enterprises, informal employment and patriarchal norms.

Global Practices

- Countries like Sweden, Iceland and Germany provide paid parental leave.
- Sweden offers about 480 days of shared parental leave with incentives for both parents.

CENSUS 2027

India will conduct its next population Census digitally, beginning in 2026 and concluding by March 1, 2027.

About Census

- A census is a comprehensive survey that collects demographic details such as age, sex and occupation of the population.
- It is conducted every ten years, but the 2021 Census was postponed due to the COVID-19 pandemic.
- The Constitution mandates population enumeration, although the **Census of India Act, 1948** does not specify timing or periodicity.
- The exercise is conducted by the Office of the Registrar General and Census Commissioner under the Ministry of Home Affairs.

NPR Link

- The National Population Register is prepared under the Citizenship Act, 1955 and Citizenship Rules, 2003.
- It is mandatory for every ***"usual resident of India"*** to register in the National Population Register.

Historical Background

- The first synchronous decennial census was conducted in **1881 under W.C. Plowden.**
- Independent India's first census was held in 1951 and has since been conducted in the first year of every decade.

Key Features

- Census 2027 will be India's first **digital census**, using mobile phones and laptops for data collection.
- A self-enumeration portal will be available in 16 languages to improve accessibility.
- It will include detailed caste enumeration, marking the first such exercise since 1931 beyond Scheduled Castes and Scheduled Tribes categories.

Significance of Census 2027

- Updated population data will enable delimitation, redefining Lok Sabha and State Assembly constituencies frozen since 1971, potentially altering political representation.
- Detailed socio-economic data will improve targeted delivery of welfare schemes and strengthen evidence-based governance.
- Geo-tagged data will enhance disaster management by mapping population distribution and infrastructure.
- Data on water, sanitation and energy will support monitoring of Sustainable Development Goals, especially Goals 6 and 7.

NEW RULES FOR LOOK OUT CIRCULAR (LOC)

The Ministry of Home Affairs has revised guidelines governing Look Out Circulars to streamline procedures for preventing individuals from leaving India.

Key Changes

- **Statutory bodies** without criminal jurisdiction, such as **National Commission for Women, National Human Rights Commission, National Commission for Protection of Child Rights** and **National Company Law Tribunal**, cannot directly request issuance of LOCs.
- These bodies must route requests through law enforcement agencies like **police, Central Bureau of Investigation** or other authorised agencies, which will evaluate and forward them if justified.
- If the **Bureau of Immigration** receives direct requests from such bodies, it **must return** them and advise proper routing.

Look Out Circular (LOC)

- A Look Out Circular is a notice issued to track or restrict the movement of individuals at international borders.
- It is issued through the **Bureau of Immigration (BoI)** under the **Ministry of Home Affairs** and enforced at airports, seaports and land borders.
- It is used against individuals involved in criminal investigations, economic offences or activities affecting national security.

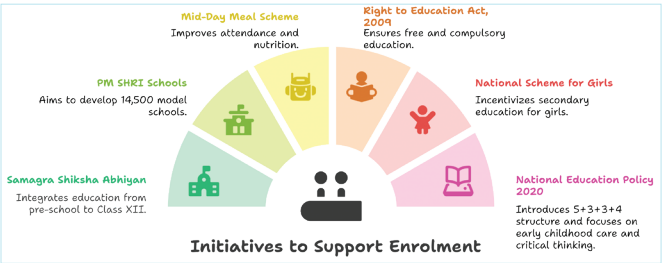
GLOBAL OUT-OF-SCHOOL POPULATION

According to the United Nations Educational, Scientific and Cultural Organization Global Education Monitoring Report 2026 titled "Access and Equity: Countdown to 2030", the global out-of-school population reached 273 million in 2024.

Key Findings

- Around one in six school-age children remains out of school, and only two-thirds of students globally complete secondary education.
- No country has achieved universal secondary education despite it being a target under **Sustainable Development Goal 4.**
- The figure excludes an additional 13 million children in conflict-affected countries, indicating deeper exclusion.

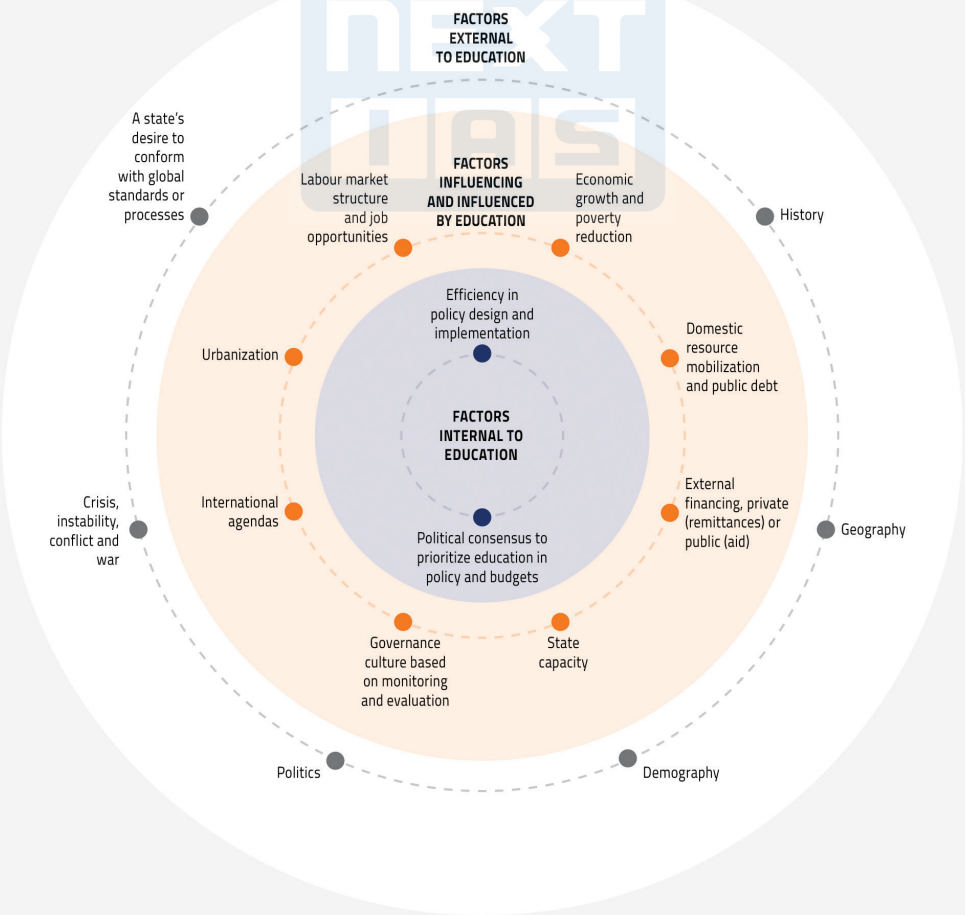
- **Increased enrollment does not ensure meaningful learning** due to overcrowded classrooms, lack of trained teachers and inadequate learning materials.
- Poor and misdirected public financing remains a major constraint to achieving universal education.
- **Global Trends:**
  - Several countries have significantly reduced out-of-school rates since 2000.
  - Madagascar and Togo reduced child exclusion by over 80 percent.
  - Morocco and Vietnam improved adolescent education, while Georgia and Türkiye improved youth outcomes.
  - Côte d'Ivoire halved out-of-school rates across all age groups.
- **Indian Scenario:**
  - India runs one of the world's largest school systems with 24.69 crore students, 14.71 lakh schools and over 1.01 crore teachers.
  - Gross enrolment ratio is 95.4 at preparatory level, 90.3 at middle level and 68.5 at secondary level.



Key Recommendations

- Legally recognizing education as a right and removing fees, such as the Right to Education Act, 2009.
- Programs like scholarships in Karnataka that increase student participation. Giving school supplies and improving health/ nutrition.
- Building more public preschools to lower dependence on paid private schools. Expanding open and distance education to increase access to higher learning.
- Setting National Targets for equity and climate goals, like the 1.5°C limit.

FACTORS THAT EXPLAIN AN INCREASE IN ACCESS TO EDUCATION IN THE LONG TERM



2 INTERNATIONAL RELATIONS

INDIA–SWEDEN AI PARTNERSHIP

The IndiaAI Mission and Business Sweden signed a Statement of Intent (SoI) (non-binding cooperation agreement) during the India AI Impact Summit 2026 to strengthen Artificial Intelligence collaboration.

About

- The partnership creates a structured framework for development and deployment of AI solutions with focus on real-world outcomes.
- Both countries will establish the **Sweden–India Technology and Artificial Intelligence Corridor (SITAC)** as a **flagship platform**. Under SITAC, both departments will take initiatives including:
  - Organisation of conferences, seminars and thematic workshops
  - Facilitation of exchanges between Indian and Swedish AI ecosystems
  - Field visits to innovation hubs and centres of excellence
  - Engagements among companies, investors, researchers and policymakers
  - Identification of opportunities for joint innovation platforms and investment corridors
  - Promotion of bilateral deployment of AI solutions across priority sectors
- It emphasises **AI deployment** (practical application of AI systems) across industry and public sectors.
- It supports the IndiaAI Mission goal of building an AI ecosystem through compute (high-performance computing), data (digital information) and talent (skilled workforce).
- It leverages Sweden's strengths in innovation and responsible AI.

HEXAGON ALLIANCE

Israel's Prime Minister Benjamin Netanyahu proposed the Hexagon Alliance, placing India at its centre amid rising geopolitical competition in West Asia and the Mediterranean.

About

- The Hexagon Alliance is a proposed grouping of like-minded nations for coordinated cooperation across regions.
- Core members include Israel, India, Greece and Cyprus, along with potential Arab, African and Asian partners such as UAE and Ethiopia.
- It aims to function as a multi-regional network linking the Indo-Pacific, Mediterranean and Africa.
- **Objective:** The alliance seeks to counter the **Axis of Resistance** (Iran-led grouping including Hezbollah, Hamas and Houthis).
  - It also aims to address the **radical Sunni axis** (extremist groups like ISIS remnants and affiliated networks).
  - The broader goal is to ensure regional stability and security cooperation among moderate powers.
- **Structure:** The framework is based on three tracks, namely, **economic cooperation, diplomatic alignment** and **security collaboration**. It promotes coordination in defence, intelligence sharing, technology and strategic policy.
- It builds on existing frameworks such as the **Abraham Accords** (normalisation agreements between Israel and Arab states) and **I2U2 (India-Israel-UAE-USA** grouping).
- It complements initiatives like the **India–Middle East–Europe Economic Corridor (IMEC).**
- **India Positioning:** India is positioned as a central pillar due to its growing presence in West Asia and the Mediterranean. Participation reflects India's expanding **strategic footprint**.

Concerns

- Closer alignment may affect India's relations with Iran, a key partner in energy and connectivity.
- Countries like Turkey and Pakistan view the grouping as potentially anti-Muslim in orientation.

CHINA'S ONE COUNTRY–TWO SYSTEMS

China has tightened control over Hong Kong, especially after the 2020 National Security Law (NSL), reshaping its political and media landscape.

Background

- The "one country, two systems" framework was introduced during Hong Kong's transfer from the United Kingdom to China in 1997.
- It is enshrined in the Basic Law (mini-constitution governing Hong Kong).
- It guaranteed a **high degree of autonomy, independent judiciary, civil liberties and a capitalist system** until 2047.
- Hong Kong retained separate legal and economic systems despite being part of China.
- It enjoyed **judicial independence** (courts functioning without external interference) and political freedoms.

New Developments

- Tensions increased after 2014 protests (Umbrella Movement) demanding democratic reforms.
- The 2019 protests against the extradition law further escalated conflict between citizens and Beijing. These developments marked growing resistance to central control.

- China imposed the **National Security Law in 2020** to address internal security concerns.
  - The law criminalises **secession** (breaking away from China), **subversion** (undermining state authority), terrorism and collusion with foreign forces.
  - It has led to arrests, restrictions on protests and tighter regulation of civil society.

Impact

- Media freedom has declined due to closure of independent outlets and legal action against journalists.
- Judicial independence has been affected by increased central oversight.
- Hong Kong's distinct identity is increasingly aligned with a centralized Chinese national identity.

INDIA BHUTAN COOPERATION ON HYDROPOWER PROJECTS

India and Bhutan reaffirmed cooperation in water resources and hydropower during a recent high-level visit by an Indian delegation.

Evolution

- Hydropower cooperation began in **1961** with the **Jaldhaka agreement**, marking the start of bilateral energy collaboration.
  - The Jaldhaka project is located on the Indian side of the border in **West Bengal**, and most of the power generated was exported to southern Bhutan.
- The **Chukha project (336 MW)** commissioned in **1987** was Bhutan's first major hydropower project funded by India under a **60:40 grant-loan model.**
- The **Tala project (1,020 MW)** expanded cooperation and significantly increased Bhutan's export revenue.
- These projects established a long-term pattern of infrastructure and financial collaboration.

Institutional Framework between India-Bhutan

- Agreement on Cooperation in the Field of Hydroelectric Power (HEP)- July 2006
- Framework Inter-Governmental Agreement- April 2014
- Major Projects
- Punatsangchhu-I (1,200 MW)
- 600 MW Kholongchhu Hydroelectric Project
- 180 MW Bunakha Hydroelectric Project
- 570 MW Wangchu Hydroelectric Project
- 770 MW Chamkharchu Hydroelectric Project

Hydrological Strengths of Bhutan

- Bhutan's topography and climate uniquely favor large-scale hydropower.
- Major Bhutanese rivers like Punatsangchhu, Wang Chhu/ Raidak, Drangme Chhu/Manas, Amochhu/Sankosh, etc. are snow- and monsoon-fed and have steep gradients.
- Bhutan's glacial lakes and snowmelt are additional water sources, though they also pose Glacial Lake Outburst Flood (GLOF) risks.

Significance for India

- Bhutan's renewable energy assists India in meeting climate commitments while providing stable, flexible power that complements domestic solar and wind capacities.
- The collaboration enhances grid stability and reliability across India's Northeast, effectively managing seasonal demand and renewable energy variability.
- Importing hydropower reduces India's coal dependence and carbon emissions while serving as Bhutan's primary revenue source.
- This partnership strengthens India's strategic regional influence and economic ties amidst growing Himalayan geopolitical competition.

Challenges

- **Environmental Risks:** Climate change increases the threat of Glacial Lake Outburst Flood (GLOF) and ecological damage.
- **Hydrological Variability:** Changing rainfall and glacier melt patterns impacts long-term generation.
- **Local Concerns:** Land acquisition, ecological impacts, and livelihood issues require sensitive handling.
- **Debt Sustainability for Bhutan:** High borrowing for hydropower projects has raised concerns about external debt levels.

Way Forward

- Sustainable hydropower development with environmental safeguards is essential.
- Improved transboundary river management can enhance long-term cooperation.
- The partnership remains a key pillar of bilateral relations based on trust and strategic interdependence.

DURAND LINE

Pakistan launched Operation Ghazab lil-Haq along the Durand Line amid clashes with Afghan Taliban over fencing, TTP (Tehrik-i-Taliban Pakistan: militant group) presence and refugee issues.

About

- The Durand Line is a 2,640 km **porous border** (loosely controlled boundary) between Pakistan and Afghanistan.
- It was drawn in **1893** by **Sir Mortimer Durand** and **Afghan Emir Abdur Rahman Khan**.
- It originally marked spheres of influence between **British India** and **Afghanistan** during the "**Great Game**" (strategic rivalry between British and Russian empires).
- It stretches from the **Karakoram region near China** to the **Registan Desert** near **Iran**, passing through strategic areas like the **Khyber Pass.**

- It divides **Pashtun tribes**, creating long-standing ethnic and political tensions.

Issues

- Afghanistan does not recognise it as a legitimate **international border** (legally accepted boundary).
- Disputes include fencing, militant crossovers and frequent Taliban–Pakistan clashes.
- The region remains highly unstable due to insurgency and security concerns.

INDIA–EU MOST FAVOURED NATION

India and the European Union agreed to grant each other Most Favoured Nation (MFN) status (equal trade treatment among partners) for five years under the Free Trade Agreement (FTA) finalised in January 2026.

About

- The FTA reduces or removes tariffs on most goods, improving market access for both sides.
- It includes cooperation in **digital trade, customs facilitation** and **food safety standards.**
- The MFN clause ensures neither side gives better trade terms to other partners without extending them mutually during five years.

Most Favoured Nation (MFN)

- MFN is a core principle of the World Trade Organization requiring **non-discrimination** (equal treatment of trading partners).
- If a country offers lower tariffs to one partner, it must extend the same to all WTO members.
- It is embedded in the General Agreement on Tariffs and Trade (GATT) , General Agreement on Trade in Services (GATS) and Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement.

Role of FTA

- In FTAs, MFN acts as a **time-bound safeguard** (temporary protection clause) to prevent better deals with third countries.
- It ensures stability and prevents trade diversion (shift of trade benefits to other partners).

European Union (EU)

- The **EU** is a 27-member economic and political bloc headquartered in **Brussels.**
- It was established by the **Maastricht Treaty (1993)** to promote integration and cooperation.

UNCLOS

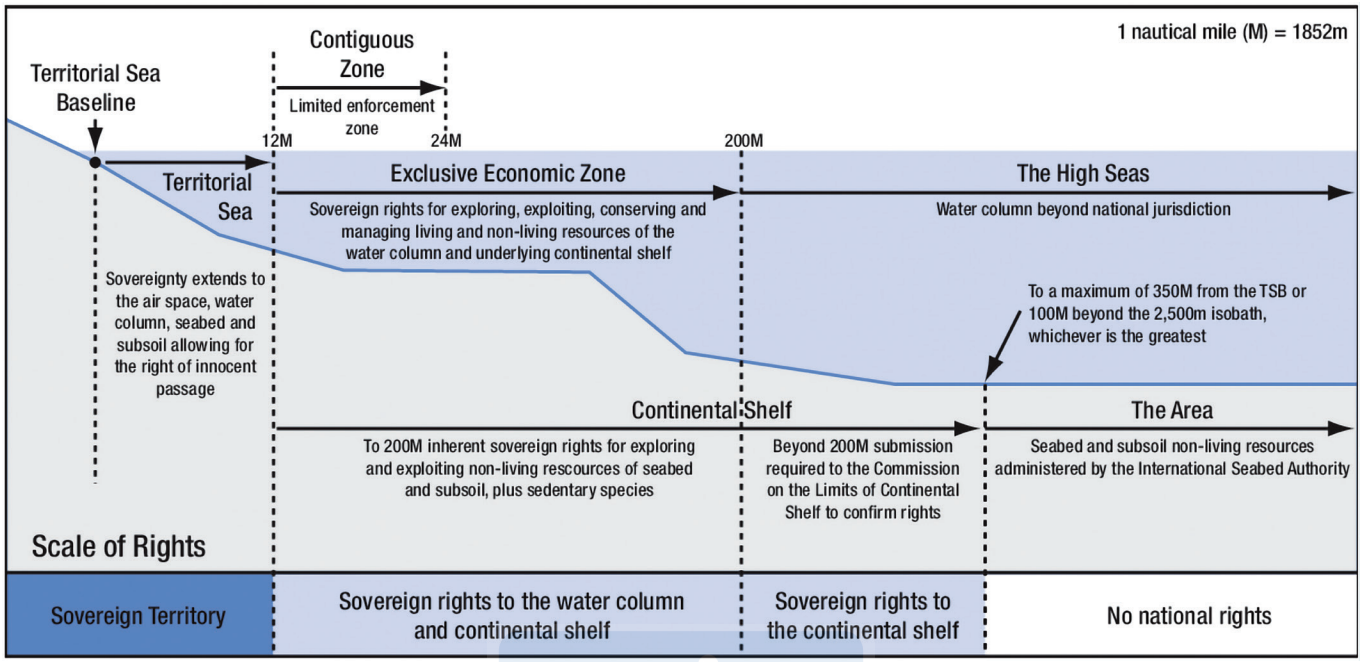
The sinking of an Iranian frigate IRIS Dena near Sri Lanka has raised concerns over legality of military action in international waters (areas beyond national jurisdiction) under the United Nations Convention on the Law of the Sea.

About

- UNCLOS is a comprehensive treaty governing oceans and seas, often called the **Constitution of the Oceans** (global legal framework for maritime rules).
- It was adopted in 1982 at **Montego Bay, Jamaica** and came into force in 1994.
- It defines rights and duties of states regarding maritime zones, navigation, resources and environment.
- **Members:** It has 168 parties including the European Union. India is a member, while the United States has signed but not ratified it.
- **Aim:** It ensures peaceful use of oceans, equitable resource sharing and protection of marine environment.
- **Significance:** Provides a uniform legal framework for maritime governance. It is crucial for managing global trade routes, energy security and ocean sustainability.

Functions

- It guarantees **freedom of navigation and overflight** (air movement over seas).
- It regulates resource use like fisheries, oil and minerals.
- It provides environmental protection against marine pollution.
- It enables dispute settlement through **International Tribunal for the Law of the Sea (ITLOS)**.
- It establishes the International **Seabed Authority**(authority regulating seabed resources beyond national jurisdiction).



INTERNATIONAL ATOMIC ENERGY AGENCY

The Director General of the International Atomic Energy Agency stated that there is no evidence of Iran building a nuclear bomb.

About

- The IAEA is an **intergovernmental** organisation promoting peaceful use of nuclear energy (non-military atomic applications) and preventing nuclear weapons proliferation.
- It was established in **1957** under the "**Atoms for Peace**" initiative and is governed by its Statute..
- It functions as the UN's nuclear watchdog (monitoring authority for nuclear activities).
- **Organisation:** It reports to the UN General Assembly (UNGA) and UN Security Council (UNSC).
  - It is headquartered in **Vienna**, Austria.
  - It has 178 member states, with **India as a founding member.**
- **Role:** IAEA verifies **nuclear safeguards** (inspection system to prevent diversion to weapons).
- It promotes safe and peaceful nuclear technology and supports non-proliferation.
- **Recognition:** It received the Nobel Peace Prize in 2005 for its role in promoting nuclear safety and preventing proliferation.

INDIA–JAPAN BSA

India and Japan have renewed the Bilateral Swap Arrangement (BSA) to strengthen financial stability.

About

- A **currency swap** (exchange of currencies under agreed terms) allows conversion between rupee, yen and US dollar.
- It is a two-way arrangement between the Reserve Bank of India and the Bank of Japan.
- The total size remains unchanged at 75 billion US dollars.
- **Purpose:** It acts as a **financial safety net** (backup liquidity support) during currency stress. It helps manage exchange rate volatility and deters speculative attacks (sudden currency destabilisation by investors).
- **Mechanism:** Both countries can exchange local currencies for US dollars when required. This provides immediate liquidity (availability of cash/foreign currency) support.
- **Other Currency Swap Arrangements:** India maintains multiple Currency Swap Arrangements (CSAs) including the **SAARC framework** (2024-27, $2 billion total), **India-UAE** ($50 billion equivalent), and **India-Sri Lanka** ($4 billion).
- **Significance:** It strengthens India–Japan Special Strategic Partnership and boosts investor confidence and supports regional financial stability.

IRANIAN KURDS

US President Donald Trump encouraged Kurdish groups to act against Iran amid the widening West Asia conflict, while reports indicate possible engagement by United States intelligence agencies. A new Coalition of Political Forces of Iranian Kurdistan was formed in February 2026, bringing Kurdish groups back into focus.

About

- The Kurds are an **ethnic group** (people sharing common culture and identity) without an independent state and are considered the world's largest **stateless population**.
- Their population ranges between 25 and 45 million globally, mainly across **Turkey, Iran, Iraq, Syria** and parts of **Armenia.**

- Turkey has the largest Kurdish population (15–20 million), followed by Iran (8–12 million).

- They speak **Kurdish**, an Indo-European language, distinct from Arabic and Turkish.
- Most Kurds are **Sunni Muslims**, though the community also includes Shia Muslims, Christians, Alevis and Yazidis.
- The Kurdish homeland, Kurdistan, spans mountainous regions across West Asia including the Zagros Mountains and Mesopotamian highlands.

History

- The Kurds trace their origins to ancient tribes of the **Zagros region** (western Iran, northern Iraq, and southeastern Turkey).
- After the First World War, the **Treaty of Sèvres (1920)** proposed a Kurdish state.
- The **Treaty of Lausanne (1923)** replaced it and divided Kurdish regions among Turkey, Iraq and Syria, leaving them without a nation.

Geopolitical Struggles and Regional Autonomy

- Kurds have faced **state suppression** (restrictions on language, culture and political rights) and repeated rebellions.
- In Iran, groups like the **Kurdistan Free Life Party** and **Kurdistan Democratic Party of Iran** have engaged in insurgency against the state.
- The Kurdistan Regional Government in Iraq is a **constitutionally recognised autonomous region** (self-governing unit within a country). In Syria, Kurdish groups established a de facto autonomous region during the civil war with support from the United States against the Islamic State.

Role in the Conflict

- Kurdish groups have historically been used as strategic allies by external powers in regional conflicts.
- The Kurdish issue is central to West Asian geopolitics due to its cross-border nature.
- Iran has targeted Kurdish groups along its borders, accusing them of separatist activity.
- In the current **Israel–Iran–United States** conflict, they may view an opportunity to weaken the Iranian regime and push for autonomy.

RAISINA DIALOGUE 2026

Prime Minister Narendra Modi attended the 11th edition of the Raisina Dialogue 2026 held in New Delhi. The theme of this edition was "Samskara: Assertion, Accommodation, Advancement."

About

- The Raisina Dialogue is India's premier conference on geopolitics and geoeconomics.
- It was launched in **2016** and is organised by the **Ministry of External Affairs** with the **Observer Research Foundation**.
- It brings together global leaders, policymakers, diplomats, scholars and experts.

Key Takeaways from 11th Edition

- The **Raisina Science Diplomacy Initiative** was launched.
  - It focuses on **Artificial Intelligence governance** , semiconductor supply chains and **Digital Public Infrastructure.**
- The dialogue highlighted a shift towards a **multipolar world**.
  - The Global South is emerging as a key actor in shaping global governance. **South-South cooperation** and plurilateral groupings are gaining importance.
  - India is strengthening engagement through **BRICS**, India–Middle East – Europe Corridor and India–France–UAE trilateral. It positions India as a major voice of the Global South.
- There were strong calls for **reformed multilateralism**, reform in the United Nations Security Council and India's permanent membership gained support.
- Focus was also placed on **maritime security** wherein **secured supply chains,** undersea cables and key regions like the **Indo-Pacific and Red Sea** were emphasised.

INDIA–US DEFENCE AGREEMENTS

India denied assisting the United States in targeting an Iranian vessel near Sri Lanka.

About

- India–United States defence ties have evolved into a **Major Defense Partnership** since 2016.
- Cooperation is guided by mechanisms like the **2+2 Ministerial Dialogue** (joint foreign and defence talks) and **Defence Technology and Trade Initiative** (framework for defence technology collaboration).
- India has also been granted **Strategic Trade Authorization-1 status**.

Agreements

India's foundational agreements with the United States:

- General Security of Military Information Agreement (2002),
- Logistics Exchange Memorandum of Agreement (2016),

- Communications Compatibility and Security Agreement (2018)
- Basic Exchange and Cooperation Agreement (2020).

LEMOA

- The Logistics Exchange Memorandum of Agreement allows **logistical support** (refuelling, supplies and repairs) between both countries.
- It applies only to mutually agreed activities like exercises or port visits. Each request requires prior consent and does not grant automatic access or obligation.

COMCASA

- The Communications Compatibility and Security Agreement enables use of **secure encrypted communication systems** (protected military communication networks).
- It allows operation of advanced equipment on United States-origin platforms. It does not mandate data sharing or automatic technology transfer.

Functioning of the Agreements

- Both agreements operate on a **case-by-case basis** (each request evaluated individually).
- No support is provided without explicit approval from India.
- Data from platforms like P-8I aircraft, C-17 and MQ-9B drones remains under Indian control.
- These agreements do not create a **military alliance** and preserve India's strategic autonomy.
- India is not obligated to support United States military operations or share operational data.

DECLINE IN US F-1 VISA ISSUANCE

F-1 visa issuances to Indian students dropped by 69% in June–July 2025 to 12,776 from 41,336 in 2024 due to stricter screening and policy changes.

About

- The F-1 visa allows foreign students to pursue full-time education in the United States at approved institutions.
- It was created under the **Immigration and Nationality Act (1952)** and serves as a key **talent pipeline** (source of skilled workforce).
- It permits temporary stay after graduation for academic and professional purposes. It applies to universities, colleges, schools and language training programmes.
- Institutions must be certified under the **Student and Exchange Visitor Program** (government-approved system for international students).

International Students in US

- Indian students form the largest international student group in the US with over 3.50 lakh students (around 31% share).
- China remains the second-largest contributor but saw a smaller decline of about 56%.

Reasons for the Decline

- Temporary pause on visa interviews in May 2025 reduced processing capacity.
- Mandatory **social media screening** (review of applicants' online activity) increased scrutiny.
- Additional vetting requirements and disclosure of social media history added delays.
- Termination of student records in some cases created uncertainty among applicants.

Difference between F1 and M Visas

F-1 visa	M visa
The 'F' category visa is used for university or college, high school, private elementary school, seminary, conservatory, and other academic institutions, including a language training programme.	The 'M' category visa is used for vocational or other recognised nonacademic institutions, other than a language training programme.

SPECIAL 301 REPORT

The United States initiated Section 301 investigations against major trading partners including India, the European Union and China over trade practices.

About

- The Special 301 Report is an annual report by the Office of the United States Trade Representative. It has been issued under the Trade Act of 1974 since 1989.
- It identifies countries that do not provide adequate **intellectual property rights** or fair market access.
- **Section 301:** Section 301 is a provision allowing the United States to investigate unfair or discriminatory trade practices. It enables actions like tariffs, sanctions and market restrictions after investigation.

Categories as per the Report

- **Priority Foreign Country** refers to the most severe category triggering investigation and possible sanctions.
- **Priority Watch List** includes countries with serious intellectual property rights concerns needing close monitoring.
- **Watch List** includes countries with moderate issues in intellectual property protection.

Issues and India's Stand

- The report is criticised for being **unilateral**. It is seen as biased towards United States industry concerns and lacking objective analysis.
- India maintains that its intellectual property regime complies with the World Trade Organization **Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)**.

UNSC RESOLUTION CONDEMNING IRANIAN ATTACKS ON GULF COUNTRIES

India has recently co-sponsored a resolution at the United Nations Security Council condemning Iran's attacks on Gulf countries and threats to maritime navigation.

About the Resolution

- The resolution was supported by nearly 140 countries demanding immediate cessation of Iranian attacks.
- It was passed with 13 votes in favour, while **Russia and China abstained.**
- It condemned threats to navigation through the **Strait of Hormuz.** It reaffirmed freedom of navigation.
- The resolution covered **Gulf Cooperation Council** members: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates, along with Jordan.

India's Stand

- India emphasised protection of civilians and stability in West Asia. Around 10 million Indians live in the Gulf region, making diaspora safety a key concern.
- It condemned specific Iranian attacks but avoided direct criticism of United States and Israeli actions.
- Though about 70 percent of crude imports of India are now coming from routes outside the Strait of Hormuz, 90% of India's liquefied petroleum gas still comes through the Strait of Hormuz.

NORTH ATLANTIC TREATY ORGANISATION

United States President Donald Trump warned of exiting the North Atlantic Treaty Organization (NATO) after allies declined support in securing the Strait of Hormuz.

About

- NATO is a military alliance formed in 1949 under the **North Atlantic Treaty (Washington Treaty)** after the Second World War.
- It aims to ensure collective security **(joint defence of members)** against threats.
- It is headquartered in **Brussels, Belgium.**
- **Origin:** It was created to counter Soviet expansion during the Cold War. It later came to be seen as the Western military counterweight during the Cold War.
- **Members:** NATO began with 12 founding members including the United States, United Kingdom and France. It currently has 32 members, with Finland and Sweden as recent members.
- **Principle:** The core of NATO is **collective defence** (attack on one is attack on all) under Article 5.
  - Article 5 has been invoked only once after the 2001 terrorist attacks in the United States.
- **Structure:** The **North Atlantic Council** is the main decision-making body with all members represented. Decisions are taken by consensus.
  - NATO has an integrated military command structure but forces remain under national control unless deployed.
- **Partnerships:** NATO engages with partners through forums like **Euro-Atlantic Partnership Council** and **Partnership for Peace.** It also runs the Mediterranean Dialogue and Istanbul Cooperation Initiative for broader regional cooperation.

SHADOW FLEET

Amid disruption in the Strait of Hormuz during the recent Iran-US-Israel conflict, a "shadow fleet" continues oil transport despite restrictions.

Shadow Fleet

- The shadow fleet, also called the dark fleet, refers to ships using **deceptive practices** to transport sanctioned or high-risk commodities.
- These vessels conceal origin, ownership or destination to bypass global trade restrictions.
- Ships disable tracking systems such as transponders (devices that broadcast location and identity).
- They operate under **flags of convenience** (registration in countries with lax regulations). They use shell companies and opaque insurance systems.
- Some vessels change names or identification numbers to avoid detection.
- **Challenges:** Shadow fleets undermine sanctions and global trade rules. They pose environmental risks due to poor compliance with safety standards.
  - They also increase opacity in global energy markets.

SOLAS, 1974

- The **International Convention for the Safety of Life at Sea (SOLAS), 1974** mandates ships to carry tracking transponders.
- The Convention was adopted on 1 November 1974 and entered into force on 25 May 1980.
- The main objective of the SOLAS Convention is to specify minimum standards for the construction, equipment and operation of ships, compatible with their safety. Flag States are responsible for ensuring that ships under their flag comply with its requirements.

GlobE NETWORK

India recently hosted the 12th Steering Committee Meeting of the Global Operational Network of Anti-Corruption Law Enforcement Authorities in New Delhi.

About

- The GlobE Network is a global platform for **anti-corruption law enforcement.**

- It was established in 2021 under the **Riyadh Initiative** endorsed during the Group of Twenty (G20) Anti-Corruption Ministerial Meeting 2020.
- It operates under the **United Nations Convention against Corruption.**
- **Members:**
  - It includes 135 countries and around 250 law enforcement authorities, along with observers like **Europol** and the **World Bank.**
  - Membership is open to all United Nations member states and parties to the anti-corruption convention.
- **Structure:**
  - It is governed by a Steering Committee with one chair, one vice-chair and 13 members.
  - The United Nations Office on Drugs and Crime provides the secretariat.
- **Functions:**
  - The network enables **direct cooperation** for investigation and prosecution of corruption cases.
  - It supports recovery of illicit assets and complements formal legal assistance by providing faster and flexible coordination.

India and GlobE Network

- India joined the network in 2022.
- The **Central Bureau of Investigation** and the **Enforcement Directorate** are designated member agencies.
- India was elected to the Steering Committee in 2024.
- The **Ministry of Home Affairs** acts as the central coordinating authority.

NUCLEAR NON-PROLIFERATION TREATY

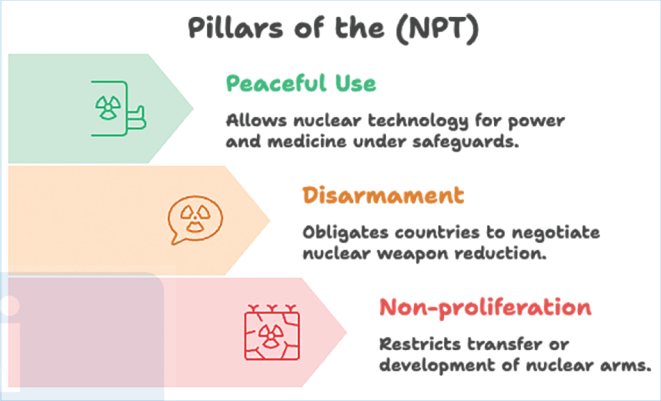
Iran's Parliament is reviewing a possible exit from the Nuclear Non-Proliferation Treaty amid rising tensions and strikes on its nuclear facilities.

About NPT

- The Nuclear Non-Proliferation Treaty is a global agreement to prevent the spread of nuclear weapons and promote peaceful nuclear use.
- It was signed in 1968 and came into force in 1970.
- NPT is the only global multilateral treaty with a binding commitment by the parties to pursue nuclear disarmament.
- **Members:**
  - It has around 191 parties including major powers like the United States, Russia, United Kingdom, France and China.
  - India, Israel and Pakistan have not signed, while North Korea withdrew in 2003.
- **Verification:** The International Atomic Energy Agency conducts inspections to ensure compliance.

Key Issues

- Iran argues that attacks on its facilities violate its right to peaceful nuclear use.
- Exit from the treaty would end international inspections and weaken the non-proliferation regime.
- It may encourage other countries to reconsider their commitments.
- **India's Stand:** India considers the treaty discriminatory (division between nuclear and non-nuclear states). It supports global disarmament but outside the treaty framework.



JCPOA

- The **Joint Comprehensive Plan of Action (2015)** involved Iran, five permanent members of the United Nations Security Council plus Germany, and the European Union.
- Iran agreed to cap enrichment levels, limit stockpiles, and accept enhanced inspections. In return, sanctions were lifted, though some restrictions remained.
- The United States withdrew in 2018, after which Iran resumed nuclear activities.

ARAB LEAGUE

The Council of the League of Arab States condemned Iran's attacks on several Arab countries, reflecting regional unity on security concerns.

About

- The Arab League is an intergovernmental pan-Arab organisation formed in 1945 in **Cairo**.
- It began with seven founding members: **Egypt, Iraq, Jordan, Lebanon, Saudi Arabia, Syria** and **Yemen.**
- **Members:**
  - It currently has 22 member states across the **Middle East** and **North Africa**.
  - **Observer states** include Brazil, Eritrea, India and Venezuela.
- **Aim:**
  - It aims to strengthen political, economic, cultural and social cooperation among member states.

- It also promotes coordination in defence and regional security.

- **Issues:** The League is criticised for weak enforcement and limited effectiveness in resolving conflicts.
  - **Internal divisions among members** reduce its cohesion and influence.
- **Governance of the Arab League:** It operates through a structured administrative and decision-making framework:
  - **The Council:** This is the highest body within the organization, consisting of representatives from every member state.
  - **Decision-Making:** The League makes its choices based on a majority basis. However, these decisions are binding (legally mandatory) only for the specific states that voted in favor of them.
  - **The General Secretariat:** Serving as the administrative and executive body, it manages the daily operations of the organization.
  - **Secretary-General:** This official leads the General Secretariat and is appointed by the Arab League Council for a five-year term.

DESALINATION PLANTS

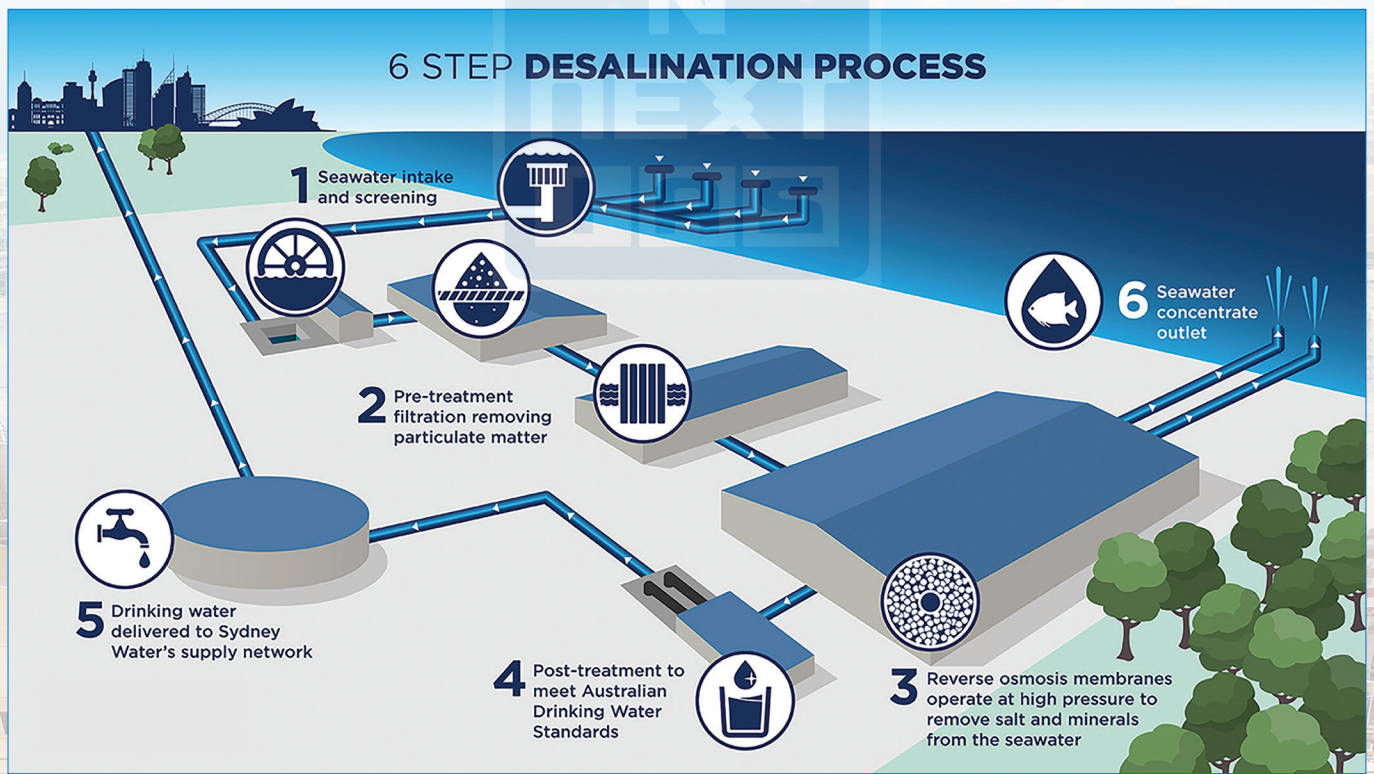
Desalination plants have emerged as critical targets in the ongoing West Asia conflict, raising concerns over water security.

Desalination Plants

- Desalination plants convert seawater into freshwater by removing salts and impurities.
- The most common method is reverse osmosis (forcing water through a semi-permeable membrane to filter salt).
- These plants supply water for households, industries and limited agriculture.

Importance for the Gulf Region

- Gulf countries depend heavily on desalination due to lack of natural freshwater sources. Desalination provides about 42% of water in the United Arab Emirates, 90% in Kuwait, 86% in Oman and 70% in Saudi Arabia.
- A large share of desalinated water comes from a limited number of plants, damage to key plants can cause severe water shortages within days.



3 ECONOMY

CONTRADICTION IN GOLD PRICES

Gold prices declined sharply despite West Asia conflict due to changing interest rate expectations and global economic factors.

Why Gold usually Rises in Crisis

- **Safe Haven Asset:** Gold is considered a **safe store of value (asset that retains value during uncertainty)**, so demand rises during war or crisis.
- **Low Interest Rate Effect:** Gold gives **no fixed return (no interest or dividend)**. When interest rates fall, other assets give low returns, so gold becomes attractive.
- **Inflation Protection:** During high inflation, gold is used as a **hedge (protection against loss of purchasing power).**

Why Gold Prices are Falling Now

- **Rising Interest Rates:** Central banks are expected to keep **high interest rates (cost of borrowing)** due to inflation.
  - Higher rates increase returns on bonds, so investors shift away from gold.
- **Opportunity Cost of Gold:** Gold gives no return, while bonds and deposits give interest.
- When interest rates rise, holding gold becomes **less attractive compared to income-generating assets.**
- **Oil Price Shock and Inflation:** Conflict increased oil prices above 100 dollars per barrel.
- Higher oil prices increase inflation, leading to **tight monetary policy (higher interest rates).**
- **Shift in Investor Behaviour:** Investors are moving funds to **bonds and dollar assets (which give better returns)** instead of gold.
- **Profit Booking:** Gold prices had already risen sharply earlier, so investors are **selling to book profits**, leading to price fall.
- **Macroeconomic Dominance:** Current market behaviour shows that **interest rates and bond yields influence gold prices more than crisis demand.**

Additional information

- **Top Producers:** China, Australia, Russia.
- **India's Position:**
  - **Production:** Less than 1 percent of global output
  - **Consumption:** Second largest consumer
- **Gold Reserves in India:** Bihar, Rajasthan, Karnataka.
- **Major Mining Areas:**
  - **Karnataka:** Hutti Gold Mines, Kolar Gold Fields (closed)
  - **Jharkhand:** Alluvial gold in Subarnarekha basin

Value Addition

- **Core Principle:** Gold prices depend more on **real interest rates (interest rate adjusted for inflation)** than crisis alone.
- **Inverse Relation:**
  - Higher interest rates → gold price falls
  - Lower interest rates → gold price rises
- **Market Insight:** Gold may fall in the short term despite crisis if **monetary conditions are tight**.

COCONUT PROMOTION SCHEME

Union Budget 2026–27 announced Coconut Promotion Scheme to enhance productivity and competitiveness of the coconut sector.

About

- **Launch & Objective:** To increase **production (total output), productivity (output per tree/area), and farmers' income**.
- **Core Intervention:** Replaces **senile palms (trees around 60–80 years with very low yield)** with high-yielding varieties to ensure long-term output increase.
- **Core Problem:** India has a large cultivation area but **low yield per tree due to ageing plantations, pests, and poor planting material**.
- **Economic Logic:** Improving productivity (more output from the same land) is more efficient than expanding area because **land is limited and costly**.
- **Integrated Approach:** Includes replanting, expansion, intercropping (growing crops between coconut trees), and value chain (production to marketing) to increase farmer income.

Coconut Development Board

- **Nature:** Statutory body under **Ministry of Agriculture and Farmers Welfare** for coconut sector development.
- **Establishment:** Set up in **1981 under Coconut Development Board Act, 1979**; headquarters at Kochi.
- **Core Role:** Works for **integrated development (production, processing, and marketing)** of the coconut sector.
- **Key Functions:** Provides **technical support, financial assistance, promotes research, area expansion, and value-added products**.
- **Link with Scheme:** Acts as the **implementing agency for rejuvenation and expansion programmes**.

Value Addition

- **Global Position:** India is the **largest coconut producer**, supporting about **30 million livelihoods**, showing high economic importance.

- **Structural Issue:** Old trees reduce yield over time, leading to **declining productivity without replacement**.
- **Policy Shift:** Focus shifts from **area expansion to productivity improvement and value addition**, increasing income from the same land.
- **Economic Impact:** Higher productivity leads to **greater output, better supply, and higher farmer income**.

PURPLE POTATOES

A Punjab farmer cultivated purple potatoes using imported seed tubers, highlighting demand for nutrient-rich crop varieties.

About

- **Origin:** Purple potatoes were first cultivated in the **Andean region (mountain region of South America) in Peru and Bolivia**.
- **What Makes Them Different:** These are potato varieties with **natural purple colour in both skin and flesh**, unlike normal white potatoes.
- **Reason for Colour:** Colour is due to **anthocyanins (natural plant pigments with antioxidant properties)** present in high concentration.
- **Nutritional Logic:** High anthocyanin content leads to **lower glycaemic index (slower increase in blood sugar after eating)** and better health value.
- **Storage Advantage:** Thicker peel reduces moisture loss, giving **longer shelf life (can be stored for longer without spoilage)**.
- **Crop Duration:** Matures in **90–100 days**, making it suitable for seasonal farming.

Why It Matters

- **Health Benefit:** Higher antioxidants help in **reducing oxidative stress (damage caused by harmful molecules in the body)**.
- **Diet Advantage:** Lower glycaemic index makes it suitable for **people with diabetes (controlled sugar release)**.
- **Farmer Benefit:** Speciality crops have **higher market price due to unique quality**, increasing income.
- **Agricultural Shift:** Shows movement towards **biofortified crops (crops developed with higher nutritional value)**.

India-Specific Development

- **Indian Variety: Kufri Jamunia**, a purple-fleshed potato, was developed by ICAR in 2024.
- **Key Features:**
  - High anthocyanin and vitamin C content (improves nutritional value)
  - Good yield and storability (can be stored without major loss)
  - Suitable for Indian climatic conditions

Potato Cultivation

- Potato is a cool-season crop (grows best in moderate temperature conditions).
- Requires well-drained sandy loam soil (soil that allows water to pass easily).
- India is the second largest producer after China, with major production in Uttar Pradesh, West Bengal, and Bihar.

RICE FORTIFICATION SCHEME SUSPENDED

The government suspended rice fortification under Pradhan Mantri Garib Kalyan Anna Yojana after review of nutrient stability.

About

- **Core Idea: Rice fortification means adding nutrients (iron, folic acid, vitamin B12)** to rice to reduce hidden hunger (lack of essential nutrients).
- **How it is Done:** Special grains called **Fortified Rice Kernels (FRK)** are mixed with normal rice; made using **extrusion (machine process to form nutrient-rich rice grains)**.
- **Main Problem: Heat, moisture, humidity, and long storage time** reduce nutrient quality in fortified rice.
- **Scientific Finding:** When rice is stored for **2–3 years**, nutrients break down and health benefits decrease.
- **Final Outcome:** Nutrient loss → less health benefit → scheme becomes less effective, even if cost is low.

Pradhan Mantri Garib Kalyan Anna Yojana

- **What it is:** A **central government food security scheme** started during COVID-19 to support poor households.
- **Objective:** Provide **free foodgrains (rice or wheat)** to people covered under the **National Food Security Act (NFSA)**.
- **Scale:** Covers **about 80 crore beneficiaries**, making it one of the largest food distribution programmes in the world.
- **Role in Fortification:** Used as the **main delivery system to supply fortified rice** to a large population.
- **Current Clarification:** Only fortification is stopped; **free foodgrain distribution continues without any reduction**.

Value Addition

- **Why Fortification:** India faces **micronutrient deficiency (iron, folic acid, vitamin deficiency)** even when food quantity is sufficient.
- **Why Rice:** Rice is eaten daily by most people, so it is the **best medium to deliver nutrients at large scale**.
- **Key Limitation:** Long storage in government warehouses reduces nutrient stability, affecting final outcomes.
- **Policy Learning:**
- Government shifted from theoretical solution → real ground effectiveness (based on storage results).

COAL GASIFICATION PROJECTS

The Environment Ministry declined exemption for underground coal gasification projects due to environmental risks and safety concerns.

About

- Coal gasification converts coal into gas (syngas = hydrogen + carbon monoxide + carbon dioxide) for industrial use.
- **Use of Output:** Syngas is used to make methanol, synthetic natural gas, fertilizers, petrochemicals, and electricity.
- **Process Logic:** Instead of burning coal directly, it is converted into gas, which is cleaner and more flexible in use.
- **Underground coal gasification** converts coal into gas inside the earth, without mining it to the surface.
- **Strategic Importance:** Helps use deep coal reserves that cannot be mined, reducing dependence on imported fuels.
- **Environmental Concern:** Gasification underground may cause groundwater contamination and land instability, leading to regulatory restrictions.

Underground Coal Gasification

- **Working:** Air or oxygen is injected into underground coal → coal reacts → produces combustible gas → gas is brought to surface.
- **Advantage:** No need for traditional mining → lower surface disturbance.
- **Limitation:** Difficult to control reactions underground → risk of pollution and leakage.

Financial Incentive Scheme

- **Launch:** Introduced in **2024** to promote coal gasification projects.
- **Outlay:** Total financial support of ₹8,500 crore.
- **Target:** Achieve 100 million tonnes of coal gasification by 2030.
- **Participation:** Encourages both public and private sector investment.

Value Addition

- **Energy Logic:** Converts solid coal into gas → easier transport and cleaner usage.
- **Economic Benefit:** Reduces import dependence on natural gas and crude oil.
- **Industrial Use:** Supports sectors like fertilizer and chemicals, which need gas as raw material.
- **Policy Balance:** Government promotes gasification, but also ensures environmental safety through strict approvals.

STRATEGIC OIL RESERVES

India declined the International Energy Agency proposal to release oil reserves despite rising crude prices due to West Asia tensions.

About

- **Policy Stand:** India refused to release strategic oil reserves because it is not legally bound by International Energy Agency decisions.
- **Reason for Proposal:** Crude oil prices increased to around 120 dollars per barrel due to West Asia conflict, creating global supply concerns.
- **India's Position:** As a non-member of the International Energy Agency, India is not required to follow coordinated emergency actions.
- **Reserve Status:** India has about 5.33 million tonnes of underground strategic oil reserves, with around 80 percent storage filled.
- **Global Context:** G7 countries are discussing coordinated release of oil reserves to reduce international oil prices.

India's Oil Dependence

- India imports about **88 percent of its crude oil requirement**, showing high external dependence.
- Around **half of imports pass through Strait of Hormuz**, making supply vulnerable to geopolitical risks.
- Major suppliers include **Russia (largest), Saudi Arabia, Iraq, United Arab Emirates, Kuwait, and Qatar**.
- High import dependence means price rise directly increases inflation and current account deficit.

International Energy Agency

- **Established:** 1974 after global oil crisis to ensure stable energy supply.
- **Purpose:** Maintain energy security and coordinated response during supply disruptions.
- **Key Rule:** Member countries must maintain **minimum strategic oil reserves** for emergencies.
- **Membership:** Limited to Organisation for Economic Co-operation and Development countries; currently 33 members.
- **India's Status:** India is an **associate member (since 2017)** with participation rights but no decision-making power.

Additional Information

Organisation for Economic Co-operation and Development

- **Nature:** Intergovernmental organisation for economic cooperation and policy coordination.
- Established in 1961; headquarters in Paris, has 38 members, mostly developed economies; India is not a member.

Value Addition

- **Strategic Logic:** Strategic reserves are meant for national emergencies, not routine price control.
- **Geopolitical Risk:** Dependence on West Asia increases vulnerability to **conflict-driven supply shocks**.
- **Economic Impact:** Oil price rise affects inflation, fiscal balance, and currency stability.
- **Policy Insight:** India follows an independent **energy security strategy**, not collective obligations.

OPEN MARKET OPERATION PURCHASE TO INJECT LIQUIDITY AMID RUPEE PRESSURE

The Reserve Bank of India bought Government Securities worth ₹50,000 crore to increase money in the banking system.

About

- Reserve Bank of India **bought government bonds**, so it gave money to banks directly.
- Open Market Operations mean buying or selling government bonds to control money in the economy.
- **Most Important Logic (Remember This):**
  - RBI buys bonds → banks get money → liquidity increases
  - RBI sells bonds → banks give money → liquidity decreases
- Banks were facing **less money due to tax payments and market pressure**, so RBI added money.
- **Rupee Connection:** More money in the system reduces pressure and **helps keep the rupee stable.**
- **Final Effect:** More money → cheaper loans → more borrowing → more economic activity.

Government Security

- **Meaning:** The government borrows money from the market and gives a paper called a **bond**.
- **Types:**
  - **Treasury Bills:** Short-term (less than one year)
  - **Government Bonds:** Long-term (more than one year)
- **State Version:** Called **State Development Loans**
- **Safety:** Called **risk-free** because government repayment is very safe.

Value Addition

- **Main Use:** Keeps enough money in banks so the system works smoothly.
- **Economic Benefit:** Banks can **give more loans to people and businesses**.
- **Market Effect:** Helps control **interest rates in the bond market**.
- **Special Point:** Reserve Bank of India can do this **without changing the repo rate**.

NATIONAL INVESTMENT AND INFRASTRUCTURE FUND

National Investment and Infrastructure Fund raised 750 million dollars for its Second Private Market Fund.

About

- National Investment and Infrastructure Fund raised **750 million dollars** for its Second Private Market Fund to invest in infrastructure.
- It is India's **sovereign wealth fund (government-owned investment fund)** created to fund large infrastructure projects.
- **Purpose:** Brings **long-term foreign and domestic investment** into sectors like roads, energy, ports, and logistics.
- **Ownership Structure:** Government holds 49 percent stake, while 51 percent comes from global institutional investors (foreign pension funds, sovereign funds).
- **Working Model:** Government acts as an anchor investor, which builds trust and attracts private and global investors.
- **Investment Logic:** Pooling large funds allows financing of capital-intensive (high-cost, long-term) infrastructure projects.

Structure of Funds

- **Master Fund:** Invests in core infrastructure such as transport and energy.
- **Fund of Funds:** Invests in other funds to support different sectors.
- **Private Market Fund:** Focuses on growth investments in infrastructure-related businesses.

Value Addition

- **Establishment:** Set up in **2015** to support infrastructure financing gap in India.
- **Management:** Managed by National Investment and Infrastructure Fund Limited, a professional investment manager.
- **Economic Need:** Infrastructure projects require **large funds and long time**, which normal banks cannot fully support.
- **Policy Role:** Helps reduce burden on the government budget by bringing private capital into public projects.

INDIA'S FIRST SEMICONDUCTOR PLANT

The Prime Minister inaugurated India's first semiconductor plant at Sanand in Gujarat to boost domestic chip manufacturing.

About

- **What Happened:** Set up at Sanand by Micron Technology (United States-based chip company) with investment of ₹22,516 crore.
- **Nature of Plant:** It is an Assembly, Testing, Marking and Packaging facility (final stage of chip production process), not full semiconductor fabrication.
- **Products:** The plant will produce memory and storage chips such as Dynamic Random Access Memory (short-term data storage), NAND Flash (permanent storage), and Solid State Drives (data storage devices).
- **Policy Link:** It is part of Semicon India Programme (government scheme to develop semiconductor ecosystem) under which multiple projects have been approved.
- **Other Projects:** Additional semiconductor units are being developed in **Noida, Assam, Odisha, and Punjab**, expanding manufacturing capacity.

Why it Matters

- **Import Dependence:** India currently imports almost 100 percent of semiconductors (electronic chips used in devices), mainly from East Asian countries.
- **Self-Reliance:** Domestic production supports Atmanirbhar Bharat (reducing dependence on imports) and builds local technological capacity.
- **Supply Security:** Local production reduces risk from global supply disruptions (war, trade conflict, pandemic).
- **Strategic Importance:** Semiconductors are essential for defence systems, telecom networks, artificial intelligence, space missions, and digital services.
- **Economic Impact:** The project will create high-skill jobs and attract foreign investment, strengthening industrial growth.

Value Addition

- **Industry Nature:** Semiconductor manufacturing is capital-intensive (requires large investment) and technology-intensive.
- **Global Market:** Semiconductor demand is growing due to the digital economy, electric vehicles, and advanced electronics.
- **India's Goal:** Target to capture a share in the global semiconductor value chain (complete process from design to manufacturing).
- **Policy Insight:** Focus is currently on backend processes (assembly and packaging) before moving to full chip fabrication.

FOREIGN DIRECT INVESTMENT NORMS LINKED TO LAND BORDERING COUNTRIES

The government revised foreign investment rules for neighbouring countries to allow limited investment while maintaining national security safeguards.

About

- India changed rules for Foreign Direct Investment (investment by a foreign entity to gain ownership in an Indian company) from land bordering countries.
- **Change:** Investment is now judged using a beneficial owner (final person or entity that actually controls the investment) instead of only the investing company.
- If ownership from land bordering countries is 10 percent or less and without control (no decision-making power), investment is allowed under automatic route (no prior government approval required).
- **Control-Based Logic:**
  - Low ownership + no control → no security risk → no approval needed
  - Higher ownership or control → possible risk → approval required
- **Approval Timeline:** Investments requiring approval in selected sectors will be decided within **60 days (fixed time limit).**

Background

- **2020 Rule (Press Note 3):** All investments from neighbouring countries required government approval (permission before investment).
- **Reason:** Prevent opportunistic takeover (buying weak companies cheaply during crisis) during COVID-19.
- **Problem Created:** Even very small ownership (1–2 percent) required approval, which delayed investments and reduced capital inflow.
- **Current Solution:** Distinguishes between ownership size and control, removing unnecessary restrictions.

Value Addition

- **Security Principle:** Risk depends on control (ability to take decisions), not just ownership percentage.
- **Economic Effect:** Easier rules → more foreign investment → higher production → more employment.
- **Technology Impact:** Foreign investment brings advanced technology and management practices.
- **Global Role:** Helps India integrate into global supply chains (international production networks).

SUJVIKA PORTAL

Department of Biotechnology launched SUJVIKA portal to provide biotechnology import data for better domestic production planning.

About

- **What it is:** SUJVIKA is an AI-driven platform (uses artificial intelligence to analyse data) that provides information on biotechnology imports.
- **Core Function:** It presents authenticated import data (verified and reliable data on goods imported into India) in a structured format.
- **Data Coverage:** It includes biochemical products (chemicals used in biological processes), industrial enzymes (proteins used to speed up industrial reactions), and other biotechnology imports.
- **Key Use:** Helps identify high-value imports (costly products) and high-volume imports (large quantity products) for better decision-making.
- **Decision Logic:** Import data helps identify dependency on foreign products, which supports planning for **indigenisation (producing goods within the country instead of importing)**.
- **Users:** Useful for **researchers, startups, and industries** to plan production, research, and investment.

Why it Matters

- **Economic Logic:** Better data leads to better planning, efficient investment, and higher domestic production.
- **Import Reduction:** Identifying dependency areas helps in targeted domestic manufacturing, reducing imports.

- **Innovation Support:** Clear data helps focus on research and development (creation of new technology and products).
- **Industry Growth:** Promotes public–private partnership (cooperation between government and private companies).

Bioeconomy of India

- India's bioeconomy increased from about 10 billion dollars in 2014 to about 165.7 billion dollars in 2024.
- Biotechnology is expected to drive future industrial growth.
- The number of biotech startups increased from less than 100 to more than 11,000.
- India aims to reach 1 trillion dollar bioeconomy by 2047.

ASSAM'S GEOGRAPHICAL INDICATION TAGGED JOHA RICE

India exported 25 metric tonnes of Assam's Geographical Indication tagged Joha rice to the United Kingdom and Italy.

About

- **Nature of Crop:** Joha rice is an indigenous aromatic rice (naturally fragrant variety) grown mainly in Assam.
- **Geographical Indication Status:** It received the Geographical Indication tag (legal right linking product quality to a specific region) in 2017.
- **Core Logic of GI Tag:** Unique soil, climate, and traditional farming methods in Assam produce its fragrance and texture, so the product is linked to that region only.
- **Distinct Features:** Small grain size, soft texture, and strong aroma give it higher market preference compared to ordinary rice.
- **Production Base:** Cultivation over 21,662 hectares produces 43,298 metric tonnes, creating surplus beyond local consumption, enabling exports.

Geographical Indication Tag

- **Meaning:** A Geographical Indication tag is an intellectual property right (legal protection) for products whose quality depends on their place of origin.
- **Legal Basis:** Given under the Geographical Indications of Goods (Registration and Protection) Act, 1999.
- **Core Condition:** Product must have quality, reputation, or characteristics directly linked to geographical conditions.
- **Why Needed:** Without protection, other producers can copy the name, which reduces original product value and farmer income.
- **Outcome:** GI tag ensures only producers from that region can sell the product under that name, maintaining authenticity.

Why it Matters

- **Market Logic:** Unique quality creates premium demand in international markets, increasing export value.
- **Income Effect:** Higher price leads to higher income for farmers, improving rural economy.
- **Export Growth:** Surplus production allows regular export supply, strengthening trade.
- **Regional Development:** Focus on speciality crops promotes economic growth in specific regions like Assam.

THORIUM CAN POWER INDIA'S 100 GIGAWATT ELECTRIC BY 2047 MISSION

India aims to use thorium-based nuclear energy to achieve 100 Gigawatt Electric capacity by 2047.

About Thorium

- **Nature of Thorium:** Thorium is a fertile material (cannot directly produce energy but can be converted into usable nuclear fuel).
- **Working Principle:** Thorium absorbs neutrons and converts into uranium-233 (a fissile material capable of nuclear fission).
- **Energy Logic:** Uranium-233 undergoes nuclear fission (splitting of atoms to release energy), producing electricity.
- **Difference:** Thorium itself does not produce energy; it must first be converted into a usable fuel.

India's Resource Advantage

- **Reserve Position:** India has one of the largest thorium reserves, mainly in coastal sands of Kerala and Odisha.
- **Constraint:** India has limited high-quality uranium, which restricts long-term nuclear expansion.
- **Strategic Logic:**
  - Limited uranium → dependence on imports
  - Abundant thorium → potential for domestic fuel security

BHARAT AUDYOGIK VIKAS YOJANA

The Union Cabinet approved Bharat Audyogik Vikas Yojana to develop industrial parks with modern infrastructure and better connectivity.

About

- **What it is:** BHAVYA is a scheme to develop future-ready industrial parks (planned areas with facilities for industries) across India.
- **Main Aim:** Create **100 industrial parks** with efficient infrastructure and strong connectivity to improve industrial growth.
- **Core Logic:** Better infrastructure reduces production cost, delays, and inefficiencies, leading to higher productivity.
- **Integration:** Parks will be linked with PM GatiShakti (national plan for integrated transport connectivity) to ensure smooth movement of goods.
- **Land Use:** Each park will cover **100 to 1,000 acres**, allowing both small and large industries to operate.

Infrastructure Features

- Includes internal roads, drainage systems, underground utilities, and treatment facilities for industrial use.
- Provides information and communication technology systems (digital systems for management and coordination).
- These facilities ensure continuous operation without disruption, improving industrial efficiency.

Funding and Implementation

- **Financial Support:** Central government will provide up to ₹1 crore per acre for development.
- **Participation Model:** Involves central government, state governments, and private sector, ensuring shared responsibility.
- **Implementation Agency:** National Industrial Corridor Development Corporation will coordinate project execution.
- **Timeline:** Scheme will run for six years starting from 2026–27, with first phase developing 50 parks.

Why it Matters

- **Industrial Growth:** Better infrastructure leads to higher manufacturing output and faster production.
- **Cost Reduction:** Efficient logistics reduces transport cost and time, improving competitiveness.
- **Investment Attraction:** Ready industrial land attracts domestic and foreign investment.
- **Employment Generation:** Industrial expansion creates direct and indirect jobs.
- **Economic Development:** Strengthens manufacturing sector and overall economic growth.

Value Addition

- **Cluster Approach:** Industrial parks follow a cluster model (grouping industries together) for shared facilities and efficiency.
- **Logistics Advantage:** Integration with transport networks improves last-mile connectivity (final stage of delivery).
- **Policy Link:** Supports Make in India and Atmanirbhar Bharat by strengthening domestic production.

SMALL HYDRO POWER DEVELOPMENT SCHEME

The Union Cabinet approved the Small Hydro Power Development Scheme to expand clean energy capacity and support rural development.

About

- **What it is:** A scheme to develop small hydro power projects (hydropower plants with capacity between 1 to 25 megawatt) across India.
- **Core Objective:** Increase clean energy generation (electricity with low carbon emissions) while utilising untapped hydro potential.
- **Capacity Target:** Around 1500 megawatt capacity will be added during 2026–27 to 2030–31.
- **Core Logic:**
  - Water flow is used to generate electricity
  - No fuel is required
  - Therefore, energy is renewable and low-pollution
- **Geographical Focus:** Mainly targets hilly and North Eastern regions, where water resources are abundant.

Financial Structure

- **Total Outlay:** ₹2,584.6 crore allocated for the scheme.
- **Investment Effect:** Expected to attract about ₹15,000 crore private and public investment.
- **Financial Assistance:**
  - North East and border areas receive higher support due to difficult terrain
  - Other states receive lower support based on cost-sharing model

Why it Matters

- **Energy Security:** Adds decentralised power generation (local electricity production), reducing dependence on large power plants.
- **Clean Energy Benefit:** Produces electricity without burning fuel, leading to low carbon emissions.
- **Rural Development:** Projects are located in remote areas, creating employment and local infrastructure development.
- **Low Transmission Loss:** Electricity is generated near consumption areas, reducing loss during transmission.

Value Addition

- **Project Type:** Mostly run-of-the-river projects (use natural river flow without large dams), causing less environmental disruption.
- **Sector Need:** Complements solar and wind energy by providing stable and continuous power supply.
- **Policy Link:** Supports India's renewable energy targets and climate commitments.

FLEXIBLE INFLATION TARGETING FRAMEWORK

The government retained an inflation target of 4 percent with a tolerance band of plus minus 2 percent for 2026–2031 period.

About FITF

- **What it is:** A framework where the central bank targets inflation (continuous rise in general price level) as the main goal of monetary policy.
- **Adoption:** India adopted FITF in 2016 based on Urjit Patel Committee recommendations.
- **Legal Basis:** Given statutory status through amendment to Reserve Bank of India Act, 1934.

- **Target Rule:** Government sets inflation target once every five years in consultation with RBI.
- **Current Target:** 4 percent Consumer Price Index inflation with tolerance band of 2 percent to 6 percent.
- **Core Logic:**
  - High inflation reduces purchasing power
  - Low inflation may slow growth
  - Moderate inflation ensures stable growth and price stability

Why "Flexible"

- **Meaning of Flexibility:** RBI can allow **temporary deviation from target** due to factors like food price shocks or global crises.
- Strict control may harm growth and flexibility allows balancing inflation control and economic growth.

Role of Monetary Policy Committee (MPC)

- **Nature:** A statutory body (created by law) responsible for monetary policy decisions.
- **Main Function:** Fixes repo rate (interest rate at which RBI lends to banks) to control inflation.
- **Composition:**
  - 3 members from RBI
  - 3 external members appointed by Government
- **Decision Rule:** Each member has one vote; Governor has casting vote in case of tie.
- **Accountability Rule:** If inflation remains outside 2–6 percent range for **three consecutive quarters**, RBI must explain reasons and corrective steps.

Why it Matters

- **Price Stability:** Controls inflation, ensuring stable cost of living.
- **Economic Growth:** Moderate inflation supports investment and consumption.
- **Policy Credibility:** Clear target builds confidence among investors and markets.
- **Shock Management:** Flexibility helps handle supply shocks like oil price rise or food inflation.

Value Addition

- **Nominal Anchor:** Inflation target acts as a reference point guiding monetary policy decisions.
- **Benchmark:** Uses Consumer Price Index (measure of retail inflation faced by consumers).
- **Optimal Level:** Around 4 percent is considered suitable for balanced growth and stability.

FOREIGN INSTITUTIONAL INVESTORS (FII) / FOREIGN PORTFOLIO INVESTORS (FPI)

Foreign investors sold large amounts of Indian stocks, leading to significant capital outflow from financial markets.

About FII/FPI

- **What they are:** Foreign Institutional Investors are foreign entities investing money in another country's financial markets such as shares and bonds.
- **Examples:** Include pension funds, insurance companies, hedge funds, and investment banks.
- **Function:** They invest in financial assets (stocks, bonds), not in physical assets like factories.
- **Regulation:** In India, they must register with the Securities and Exchange Board of India (market regulator) and follow rules.

FII vs FPI

- **Terminology Change:** The term FII was replaced by Foreign Portfolio Investor under SEBI Regulations, 2014.
- **Meaning of FPI:** Refers to investors who invest in portfolio assets (financial securities, not direct business control).
- **Categories:**
  - **Category I:** Low risk (government and sovereign funds)
  - **Category II:** Moderate risk (regulated institutions)
  - **Category III:** High risk (hedge funds, complex investors)

Why FIIs/FPI Invest

- **Higher Returns:** Investors seek better returns compared to their home country markets.
- **Market Potential:** Developing economies like India offer high growth opportunities.
- **Currency Advantage:** Gains can increase if local currency strengthens.

Why FIIs Sell

- **Global Uncertainty:** Crisis increases risk, so investors shift to safer assets like US bonds.
- **Interest Rate Effect:** Higher global interest rates make foreign markets more attractive, causing outflow.
- **Profit Booking:** After market rise, investors sell to lock in profits.
- **Currency Risk:** Weak domestic currency reduces returns, leading to capital withdrawal.

Why It Matters

- Large selling leads to fall in stock prices and market volatility.
- FIIs are a major source of foreign capital inflow.
- Outflow increases demand for foreign currency, leading to currency depreciation.
- Affects investment, growth, and financial stability.

Value Addition

- **Difference from FDI:** FDI means long-term investment with control (factories, companies). FPI means short-term investment without control (stocks, bonds)
- **Nature of Flow:** FPI is volatile (can enter and exit quickly) compared to stable FDI.

4 ENVIRONMENT

CITES

The Supreme Court dismissed a petition alleging violation of Convention on International Trade in Endangered Species rules in wildlife trade.

About

- **Nature:** CITES is a legally binding international agreement (countries must follow its provisions) regulating cross-border wildlife trade.
- **Core Objective:** Ensure that trade does not reduce species population below sustainable levels, preventing extinction.
- **Fundamental Logic:**
  - High demand for wildlife products increases exploitation
  - Over-exploitation reduces species population
  - Regulation of trade prevents long-term extinction
- **Approach:** Trade is **not fully banned**, but controlled through scientific assessment and legal permission system.
- **Timeline:** Adopted in **1973 and enforced in 1975**, making it one of the earliest global conservation agreements.
- **Coverage:** Protects over 40,000 species of plants and animals, showing wide global scope.

Institutional Structure

- **Conference of Parties:** Collective decision-making body ensures global coordination and periodic updating of species protection levels.
- **Secretariat:** Provides central coordination to maintain uniform implementation across countries.
- **National Authorities:**
  - **Management Authority:** Controls legal trade through permits
  - **Scientific Authority:** Ensures trade does not harm survival
- **Logic:** Combining science and regulation ensures decisions are both ecological and practical.

Working Mechanism

- Trade allowed only when scientific assessment confirms no harm to species survival.
- Legal permits ensure traceability and accountability in international trade. This system converts uncontrolled exploitation into regulated and monitored activity.

Appendices

- **Appendix I:** Species facing extinction; trade is highly restricted because even small exploitation can cause irreversible loss.
- **Appendix II:** Species not endangered now; regulated trade prevents them from reaching critical levels.
- **Appendix III:** Species protected by one country; international cooperation prevents illegal cross-border exploitation.
- Different protection levels ensure proportionate regulation based on threat level.

India and CITES

- **Membership:** India joined in **1976**, aligning with the global conservation framework.
- **Implementation:** Through Wildlife Protection Act, 1972, ensuring domestic enforcement.
- **Authorities:** Ministry of Environment, Forest and Climate Change and Wildlife Institute of India.
- International commitments require strong national laws for actual enforcement.

GYNANDROMORPHY

Rare case of gynandromorphy reported in freshwater crab Vela carli from Silent Valley National Park, Western Ghats

About

- **What it is:** Gynandromorphy is a biological condition where a single organism shows both male and female physical traits
- **Scientific Nature:** It arises due to genetic mosaicism (presence of two different genetic cell types in one organism)
- **Observed Case:** Freshwater crab ***Vela carli*** displayed male structures along with female characteristics, indicating mixed sexual development.
- **Underlying Logic:** During early development, errors cause different cells to follow different sex-determination pathways, leading to mixed body features.

Mechanism

- **Cell Division Error:** Mistakes during mitosis (cell division for growth) or meiosis (cell division for reproduction) lead to unequal chromosome distribution
- **Chromosomal Anomaly:** Some cells receive male sex chromosomes while others receive female ones
- **Developmental Outcome:** Body develops distinct male and female regions instead of a uniform sex pattern
- **Final Result:** Organism becomes a mosaic (combination of different cell types) showing dual sexual characteristics.

Distinction

- **Gynandromorphy:** Clear separation of male and female traits in different body parts

- **Hermaphroditism:** Both male and female reproductive organs are present and functional in same organism
- **Intersex Condition:** Mixed sexual traits exist but without clear division into male and female regions.

Silent Valley National Park

- **Location:** Situated in Nilgiri hills of Kerala, part of Western Ghats biodiversity hotspot. It was declared National Park in 1984.
- It is drained by Kunthipuzha River, a tributary of Bharathapuzha
- **Ecology:** Tropical evergreen forest with high endemism.
- **Tribal Groups:** Inhabited by Irulas, Kurumbas, Mudugas, and Kattunaikkars.

NIVATION

Indian Space Research Organisation (ISRO) study linked Dharali flash flood to ice collapse in nivation zone of Srikanta glacier.

About

- **What it is:** Nivation is a geomorphic process (land-shaping process) involving erosion under snow patches due to repeated freezing and melting.
- **Scientific Nature:** It is a combination of processes such as freeze–thaw weathering (breaking of rocks due to expansion of freezing water), erosion, and movement of debris under snow cover.
- **Underlying Logic:** Snow accumulates in one place, melts during warmer periods, refreezes again, and gradually weakens the ground beneath.
- **Result:** Continuous cycles deepen the surface and create nivation hollows (depressions formed due to snow erosion).

Core Mechanism

- **Snow Accumulation:** Snow collects in depressions forming snow patches (long-lasting snow cover in sheltered areas)
- **Freeze–Thaw Action:** Water freezes and expands, breaking rocks repeatedly
- **Meltwater Erosion:** Melted water flows beneath snow, carrying loosened material
- **Mass Movement:** Debris moves downslope due to gravity through solifluction (slow flow of water-saturated soil)
- **Final Outcome:** Surface gradually erodes forming hollows, which may later develop into glacial landforms.

Srikanta Glacier Nivation Area

- **Location:** Upper Bhagirathi basin in Uttarkashi district, Uttarakhand
- **Glacier Type:** Valley glacier (flowing ice body in mountain valley)
- **Elevation:** Around 6,133 metres
- **Distance:** Nearly 9.8 km upstream of Dharali village
- **Features:** Steep accumulation zone (area of snow gain), ablation zone (area of melting), and extensive nivation areas.

OLIVE RIDLEY TURTLE CONSERVATION IN ANDHRA PRADESH

Wildlife authorities conserved around 20,000 Olive Ridley turtle eggs at Hope Island in Andhra Pradesh.

About Olive Ridley Turtles

- Olive Ridley turtle is a marine reptile (sea-dwelling reptile) named after its olive-green shell.
- Carnivorous species feeding on jellyfish, crustaceans, and small marine organisms.
- **Distribution:** Found in tropical regions of Pacific, Indian, and Atlantic Oceans
- **Behaviour:** Known for Arribada (mass nesting where thousands of females lay eggs together)
- **Logic:**
  - Mass nesting increases survival probability
  - Large numbers reduce predation risk
  - Ensures continuation of species

Nesting in India

- Major nesting coasts include Odisha, Andhra Pradesh, and Tamil Nadu
- **Key sites:** Gahirmatha and Rushikulya (Odisha)
- In Andhra Pradesh, nesting occurs along Coringa coast and Hope Island

Conservation Status

- **IUCN Red List:** Vulnerable
- **CITES:** Appendix I (highest protection from trade)
- **Wildlife Protection Act, 1972:** Schedule I (highest legal protection in India)

Coringa Wildlife Sanctuary

- Located near Kakinada in Andhra Pradesh in the Godavari estuarine region
- One of the largest mangrove ecosystems in India, providing habitat stability
- Coastal stretch serves as breeding and nesting ground for Olive Ridley turtles

Hope Island

- A sediment-formed coastal island created by Godavari river deposition
- Acts as a natural barrier against waves and storms, protecting coastline
- Provides safe sandy nesting habitat for turtles, improving survival of eggs

BHAVASAGARA REFERRAL CENTRE

The government designated Bhavasagara Referral Centre as National Repository for Deep-Sea Fauna under Biological Diversity Act 2002.

About

- **What it is:** A national facility for preservation and study of deep-sea fauna (organisms living in ocean regions beyond sunlight penetration).
- **Legal Basis:** Recognised under Biological Diversity Act 2002 (law for conservation and sustainable use of biological resources)
- **Purpose:** Establishes a centralised scientific system for documentation storage and research of deep-sea biodiversity
- **Scientific Basis:**
  - Deep-sea ecosystems remain poorly explored
  - Limited scientific data restricts conservation planning
  - Central repository enables systematic research and evidence-based decisions.

Key Features

- Houses more than 3500 taxonomically identified and geo-referenced voucher specimens (classified samples with location data)
- Includes marine organisms such as invertebrates and deep-sea fishes
- Maintains biological samples with associated genetic data such as DNA sequences

Functions under Law

- Preserve voucher specimens (reference biological samples for scientific validation)
- Act as official custodian of type specimens (first identified sample of a new species)
- Support capacity building in taxonomy (classification of organisms) aligned with global ocean science goals

Institution Centre for Marine Living Resources and Ecology

- **Established:** 1998 under Ministry of Earth Sciences
- **Role:** Conducts exploration management and conservation of marine living resources
- Works in EEZs and adjacent deep-sea regions.

PEATLANDS

Carbon release from Democratic Republic of the Congo peatlands threatens long-term global climate stability.

About

- **Definition:** Peatlands are terrestrial wetland ecosystems where persistent waterlogging creates **anaerobic conditions (low oxygen)**, preventing complete decomposition of plant material.
- **Formation Mechanism:** Organic matter production exceeds decomposition, leading to gradual accumulation of partially decomposed material called **peat** (generally >30 cm thick).
- **Vegetation:**
  - **Cool climates:** Dominated by Sphagnum mosses, sedges, and shrubs
  - **Tropical climates:** Dominated by graminoids and woody vegetation
  - **Global Distribution:** Peatlands occur across all continents and climatic zones, covering ~4.23 million km^2 (~2.8–3% of Earth's land surface) (Food and Agriculture Organization, United Nations Environment Programme).
  - **Ecological Status:** Around 84% of global peatlands remain in natural or near-natural condition, though increasing degradation is observed.
- **Carbon Significance:** Store ~550–600 billion tonnes of carbon (~30% of global soil carbon). Have the **highest carbon density per unit area** among terrestrial ecosystems.
- **Carbon Sink vs Source:** Intact peatlands act as **carbon sinks** (absorbing CO_2). Drained or degraded peatlands become **carbon sources**, emitting CO_2 and methane.

Value Addition

- Tropical peatlands (e.g., Congo Basin, Indonesia) are **highly vulnerable to drainage and fire**, leading to rapid carbon release.

RED-CROWNED ROOFED TURTLE

The Red-Crowned Roofed Turtle population has declined sharply due to habitat degradation and human pressures in the Ganga river system.

About

- **What it is:** A freshwater turtle species endemic to South Asia, restricted to major river systems like the Ganga basin
- **Habitat:** Found in deep, fast-flowing freshwater rivers with sandy banks required for nesting and basking
- **Diet:** Herbivorous, feeding on aquatic vegetation which regulates plant growth and maintains ecological balance in river ecosystems.

Distribution

- Native to India, Bangladesh, and Nepal, mainly in the Ganga basin.
- Present population is highly restricted, with viable population mainly in Chambal River system.

Key Features

- Red head in breeding males, basking behaviour, nesting on sandy riverbanks requiring undisturbed river flow conditions.

Threats

- Poaching, fishing net mortality, river pollution, dams, and sand mining reduce habitat quality and breeding success.

Conservation Status

- **IUCN Red List:** Critically Endangered
- **Wildlife Protection Act 1972:** Schedule I
- **CITES:** Appendix I or II depending on listing updates

INDIA'S 7TH NATIONAL REPORT TO THE CBD

India submitted its 7th National Report assessing progress towards biodiversity targets under the global framework for 2030.

About

- **What it is:** A mandatory national report under **Convention on Biological Diversity** (global legally binding treaty on biodiversity conservation) submitted by member countries
- **Prepared by:** Ministry of Environment, Forest and Climate Change (central authority responsible for environmental governance in India)
- **Scope:** Evaluates **23 National Biodiversity Targets** (country-specific conservation goals) using **142 indicators** (measurable parameters for assessment)
- **Alignment:** Based on **National Biodiversity Strategy and Action Plan 2024 to 2030** (India's biodiversity policy roadmap) and global framework
- **Core Finding:** Only **two out of 23 targets are on track**, indicating limited measurable progress despite policy expansion.
  - Biodiversity loss continues while implementation gaps and limited monitoring reduce effectiveness of conservation outcomes.

Key Findings

- Improvement recorded in **forest and tree cover** (area under forests and vegetation) and ecosystem restoration (recovery of degraded ecosystems)
- Targets related to **land use planning and ecosystem restoration** are on track
- Limited progress in **pollution reduction, invasive species control** (management of non-native harmful species), and biodiversity monitoring.

Convention on Biological Diversity (CBD)

- **Origin:** 1992 Rio Earth Summit (global conference on environment and development)
- **Entry into Force:** 1993
- **Nature:** Legally binding treaty (countries are required to implement its provisions)
- **Objectives:**
  - Conservation of biodiversity (variety of life forms)
  - Sustainable use (use without depletion of resources)
  - Fair and equitable benefit sharing (sharing gains from genetic resources)
- **Governing Body:** Conference of Parties.
- **Supplementary Agreements:** Cartagena Protocol (biosafety regulation) and Nagoya Protocol (access and benefit sharing mechanism).

Kunming Montreal Global Biodiversity Framework

- Adopted in 2022 under CBD Conference of Parties Fifteen.
- Defines **23 global targets for 2030** and long-term goals for 2050
- Covers areas such as ecosystem restoration, species conservation, pollution reduction, and sustainable land use
- Nature is non-binding (guiding framework, not legally enforceable)

'ANAVARAN' DEFORESTATION ALERT SYSTEM

Forest Survey of India halted the Anavaran system that provided near real-time alerts on forest cover loss.

About

- **What it is:** An artificial intelligence-based forest monitoring system developed by Forest Survey of India to detect deforestation.
- **Function:** Uses satellite imagery and machine learning to identify forest cover loss and send alerts to states every 15 days.
- **Launch:** Started in January 2024 as a pilot project to strengthen near real-time monitoring.
- **Core Idea:** Detect change → send alert → state verifies → action taken

Technology Used

- Built on Google Earth Engine (a cloud-based geospatial analysis platform)
- **Uses:** Sentinel-2 optical satellite imagery (10–20 metre resolution).
  - Sentinel-1 Synthetic Aperture Radar (radar-based imaging system) for monitoring during clouds and monsoon
- **Working Logic:** Compares before and after satellite images to detect forest loss.

Key Issues behind Halt

- **High number of alerts:** Difficult for states to verify each case on ground
- **False positives:** Natural seasonal changes wrongly identified as deforestation
- **Capacity gap:** Weak coordination between technology and field-level enforcement.

Forest Survey of India

- **Nature:** National organisation for forest resource assessment
- **Ministry:** Works under Ministry of Environment, Forest and Climate Change
- **Established:** 1981 (successor of Preinvestment Survey of Forest Resources)
- **Key Output:** Publishes **India State of Forest Report** every two years.

BUREAU OF ENERGY EFFICIENCY

The Bureau of Energy Efficiency celebrated its 25th Foundation Day highlighting the role of energy efficiency in sustainable growth.

About

- **What it is: Bureau of Energy Efficiency** is a statutory body (created by law) to improve energy use efficiency in India
- **Established:** 2002 under **Energy Conservation Act, 2001** (law to reduce energy consumption)
- **Ministry:** Works under Ministry of Power
- **Mission:** Reduce **energy intensity** (energy used per unit of GDP, meaning less energy for same output)
  - When energy use becomes efficient, less fuel is required, which reduces cost, imports, and pollution, improving economic and environmental outcomes together.

Major Programmes

- **Standards and Labelling:** Star rating on appliances (shows how much electricity an appliance saves)
- **Perform, Achieve and Trade:** Market-based system (industries save energy and can trade extra savings as certificates)
- **Energy Conservation Building Code:** Rules for buildings to reduce electricity use
- **ADEETIE Scheme:** Supports MSMEs (small industries) to adopt energy-efficient machines
- **National Energy Conservation Awards:**
  - Recognises industries and institutions for saving energy.
  - These programmes follow a logic where efficiency reduces energy demand, which lowers cost and emissions without reducing production.

INTERNATIONAL CLIMATE INITIATIVE (IKI)

India and Germany launched a €20 million project under the International Climate Initiative to strengthen climate resilience in vulnerable ecosystems.

About

- **What it is: International Climate Initiative** is a funding programme of Germany for climate and biodiversity projects in developing countries
- **Established:** 2008 by German Government
- **Purpose:** Supports
  - mitigation (reducing greenhouse gas emissions),
  - adaptation (adjusting to climate impacts),
  - biodiversity conservation (protecting ecosystems)
- **Coverage:** Implemented in about **150 countries**, mainly developing and emerging economies
- **India's Role:** India is a priority partner due to its large population and ecological importance
  - Climate change creates risks like floods, heatwaves, and biodiversity loss, so financial support helps countries both reduce emissions and manage impacts effectively.

India–Germany Project (2026)

- **Funding:** €20 million under IKI Large Grants
- **Focus:** High-risk ecosystems (areas highly vulnerable to climate change impacts)
- **Priority Regions:**
  - Himalayas (glacier melting),
  - Western Ghats (biodiversity loss),
  - North-East (soil erosion),
  - Islands (sea-level rise)
- **Approach:** Uses **nature-based solutions** (using forests and ecosystems to reduce climate risks)
  - Healthy ecosystems reduce disasters like floods and erosion, improve livelihoods, and provide long-term climate protection.

CAFE-3 NORMS

PMO reviewed proposed CAFE-3 emission norms for passenger vehicles to be implemented from 2027, without final decision.

About CAFE-3

- **What it is:** Corporate Average Fuel Efficiency norms regulate average fuel use and CO emissions of all vehicles sold by a company
- **Introduced by:** Bureau of Energy Efficiency in 2017 under Energy Conservation framework
- **Coverage:** Applies to passenger vehicles up to **3,500 kg weight** (cars used for transport of people)
- It checks the **average performance of all cars of a company**, not a single car model
- **Objective:** Reduce fuel consumption and carbon emissions.
  - Higher fuel efficiency means less fuel is used per kilometre, which lowers oil imports and reduces air pollution at the same time.

Evolution

- **Phase 1:** Implemented from 2017 to 2022
- **Phase 2:** Started from April 2022 with stricter targets
- **Phase 3 (CAFE-3):** Proposed for 2027–2032 period
  - Each phase tightens limits, so vehicles must become more efficient over time.

CAFE-3 Norms

- Aim to further reduce CO_2 emissions per kilometre of vehicles
- Based on **weight-based formula** (heavier vehicles allowed relatively higher emission limits)
- Likely to shift testing from **MIDC to WLTP** (more realistic global testing method)
- Targets will become stricter gradually during the implementation period
  - Stricter norms push companies to adopt cleaner technologies like electric and hybrid vehicles, reducing overall emissions from the transport sector.

Key Changes in Draft CAFE-3

- Concessions for small cars and hybrid vehicles
- Removal of earlier emission relaxation for certain light vehicles
- Allows **pooling** (companies can combine performance of different models to meet targets)
- Emission curve adjusted to tighten limits for heavier vehicles
  - Policy tries to balance environmental goals with industry feasibility, but different vehicle segments are affected differently.

Value Addition

- CAFE norms focus on **fleet average emissions**, not individual vehicles
- Helps reduce **oil import dependence** and improves energy security
- Supports transition towards electric vehicles and cleaner fuels
- Part of India's broader climate strategy

BLACK RAIN

The World Health Organization warned of black rain in Tehran after oil facility fires released toxic pollutants into air.

What is Black Rain

- **Meaning:** "Black rain" is rainfall mixed with **soot, ash, oil particles, and chemicals** released into the air
- **Appearance:** Rainwater looks **dark or oily** because it carries polluted particles
- **Scientific Process:** Called **atmospheric scavenging** (rainwater collects pollutants present in air and brings them to ground)
  - When large fires release smoke and chemicals, these particles stay in air, and falling rain absorbs them, making rainfall polluted.

Why it Happened in Tehran

- Airstrikes on oil facilities caused **large fires**, releasing smoke, hydrocarbons, and chemical gases into atmosphere
- Pollutants mixed with clouds and rainwater, leading to **dark, contaminated rainfall**
- Weather conditions supported mixing of rain and pollutants, increasing spread over city. Burning oil releases toxic particles, and rainfall acts as a carrier that brings these pollutants down to land and water.

Composition

- Contains soot (fine black carbon particles), ash, oil droplets, and toxic gases
- May include sulphur oxides and nitrogen compounds (pollutants that can form acidic rain).

Impacts

- **Human Health:** Causes breathing problems, skin irritation, and eye discomfort
- **Environment:** Pollutes soil and water, affecting plants and aquatic life
- **Long-Term Risk:** Toxic chemicals may accumulate and affect ecosystems over time
  - Polluted rainfall spreads contamination widely, increasing exposure risk beyond the original pollution source.

Historical Example

- Similar black rain observed after Hiroshima and Nagasaki bombings (1945) due to radioactive soot mixing with rainwater.

Value Addition

- Occurs during large fires, industrial accidents, or war-related explosions
- Closely linked with air pollution and acid rain formation
- Indicates severe atmospheric contamination

NATIONAL CHAMBAL SANCTUARY

The Supreme Court took suo motu action against illegal sand mining threatening habitat of Gharial in Chambal Sanctuary.

About

- **What it is:** National Chambal Sanctuary is a riverine protected area (sanctuary along a river ecosystem) created for conserving aquatic wildlife
- **Established:** 1978–79 under Wildlife Protection Act, 1972 (law for wildlife conservation in India)
- **Location:** Spread across Rajasthan, Madhya Pradesh, and Uttar Pradesh along Chambal River
- **Unique Feature:** It is the only tri-state riverine sanctuary (managed jointly by three states)
- **Area:** Covers about 5,400 sq km with long river stretch and ravine ecosystem.

Biodiversity

- **Flagship Species: Gharial** (critically endangered crocodile species with long snout)

- **Other Key Species:**
  - Gangetic river dolphin (freshwater dolphin)
  - Red-crowned roofed turtle (critically endangered turtle)

INDIA'S FIRST NATIONAL REPORT (NR1) ON NAGOYA PROTOCOL

India submitted its first National Report (NR1) on Nagoya Protocol to Convention on Biological Diversity (CBD) Secretariat in 2026.

About

- **Nature:** National report under Nagoya Protocol assessing implementation of Access and Benefit Sharing (ABS) framework
- **Prepared by:** Ministry of Environment, Forest and Climate Change with National Biodiversity Authority
- **Time Period:** November 2017 to December 2025
- **Key Data:** 12,830 ABS approvals granted for regulated use of biological resources
- **Underlying Logic:** Biological materials such as plants, microbes, and traditional knowledge generate economic value, so regulation ensures benefit flows to conserving communities.

Key Outcomes

- **Compliance:** 3,556 Internationally Recognised Certificates of Compliance (IRCCs) issued, forming about 60 percent global share
- **Local Governance:** More than 2.76 lakh Biodiversity Management Committees (BMCs) established across India
- **Financial Outcome:** Around ₹216 crore mobilised through benefit-sharing mechanism
- **Functional Impact:** Decentralised institutions enable direct benefit transfer, improving participation and accountability

Nagoya Protocol

- **Nature:** Supplementary agreement under Convention on Biological Diversity (CBD)
- **Adopted:** 2010
- **Enforced:** 2014
- **Objective:** Ensure fair and equitable sharing of benefits from genetic resources
- **Key Rules:**
  - Prior informed consent ensures permission before access
  - Mutually agreed terms define benefit-sharing conditions
- **Core Logic:** Legal framework prevents exploitation and ensures equitable distribution of economic returns.

India's Implementation Framework

- **Legal Basis:** Biological Diversity Act, 2002
- **Institutional Structure:**
  - National Biodiversity Authority at central level
  - State Biodiversity Boards at state level
  - Biodiversity Management Committees at local level
- **Governance Logic:** Multi-tier system integrates regulation, monitoring, and distribution mechanisms across administrative levels

METHANE EMISSION HOTSPOTS

Satellite study by University of California Los Angeles (UCLA) Stop Methane Project identified methane emission hotspots in oil and gas sector.

About

- **What it is:** Methane emission hotspots are specific locations where disproportionately high methane releases occur from limited sources, mainly oil and gas infrastructure
- **Scientific Basis:** Identified using satellite-based remote sensing that detects methane plumes (visible emission clouds in atmosphere)
- **Key Data:** Around 4,400 methane plumes detected across 2,489 sites globally, indicating large-scale emission clustering
- **Emission Intensity:** Top 25 sites recorded emission rates between **3.7 to 10.5 tonnes per hour**, showing extreme concentration
- **Geographical Pattern:** Major emitters concentrated in Turkmenistan, followed by Iran, Venezuela, United States, and Pakistan
- **Underlying Logic:** Methane emissions are not evenly distributed; a small number of poorly maintained facilities release a large share, making targeted control highly effective.

Methane

- **Nature:** Methane (CH_4) is a colorless, odorless, highly flammable gas and primary component of natural gas
- **Atmospheric Behaviour:** Remains in atmosphere for about **12 years**, shorter than carbon dioxide
- **Warming Potential:** Over 80 times more effective than carbon dioxide in trapping heat over 20 years, making it a highly potent greenhouse gas
- **Climate Role:** Responsible for a significant share of present global warming due to strong short-term impact.

Sources

- **Anthropogenic Sources:**
  - Oil and gas extraction and transport
  - Coal mining
  - Livestock digestion
  - Landfills with decomposing organic waste
- **Natural Sources:**
  - Wetlands
  - Marine sediments and hydrates
  - Geological processes such as volcanic activity

5 GEOGRAPHY

BULL SHARKS IN IRAN'S KARUN RIVER

Reports highlight presence of bull sharks in Iran's Karun River near Ahvaz city.

About

- **What it is:** Bull sharks are found in **Karun River (Iran's largest navigable river system)** despite freshwater conditions.
- **Core Idea:** Some marine species can survive in both saltwater and freshwater environments.
- **Underlying Logic:** Special biological adaptation allows survival in changing salinity levels.

About Karun River

- **Origin:** Starts from Zagros Mountains (mountain range in western Iran)
- **Flow Path:** Moves through southwestern Iran
- **End Point:** Joins Shatt al-Arab (river formed by Tigris and Euphrates confluence)
- **Final Drainage:** Empties into Persian Gulf (marginal sea connected to Arabian Sea)

Bull Sharks

- **What it is:** A shark species capable of living in both saltwater and freshwater
- **Scientific Name:** Carcharhinus leucas
- **Unique Trait:** Ability to move from sea to rivers without physiological stress.

Key Biological Feature

- **Osmoregulation:** Process by which body controls salt and water balance
- **Function:** Maintains internal salt level regardless of external water type
- **Logical Outcome:** Enables movement from ocean to river

Why Presence in Karun River

- **Connectivity:** River connects indirectly to sea through Shatt al-Arab
- **Adaptation:** Shark's osmoregulation supports survival in low-salinity water
- **Movement Logic:** Marine species can enter river systems through estuaries (**zones where river meets sea**)

Conservation Status

- **IUCN Status:** Vulnerable (species facing high risk of population decline).

KHARG ISLAND

U.S. strikes targeted military sites on Kharg Island, Iran's primary crude oil export terminal.

About

- **What it is:** Kharg Island is Iran's main offshore oil export hub located in the Persian Gulf
- **Core Role:** Handles majority of Iran's crude oil exports, making it central to national revenue
- **Strategic Logic:** Control over this island directly influences global oil supply flows.

Location

- **Position:** Northern part of **Persian Gulf**
- **Distance:** Around 25–50 km from Iranian mainland
- **Physical Nature:** Coral island (**formed from accumulated marine organisms like corals**)
- **Maritime Advantage:** Located near deep waters allowing large oil tankers to dock.

Do You Know

- **OPEC:** Organization of Petroleum Exporting Countries (group coordinating oil production policies)
- **Iran's Rank:** Third-largest producer in OPEC
- **Production Level:** Around 3.3 million barrels/day crude + 1.3 million barrels/day condensate
- **Global Share:** Approximately 4–5% of world oil supply

NOR'WESTER SEASON

Severe Nor'wester thunderstorm recently affected Odisha during pre-monsoon convective weather conditions.

About

- **What it is:** Nor'wester is a short-duration, high-intensity thunderstorm occurring before monsoon in eastern India
- **Regional Name:** Called Kalbaisakhi (Bengali term meaning violent storm in month of Baisakh)
- **Season:** Occurs mainly between March and May (pre-monsoon period).

Nature of Nor'wester

- **Duration:** Short-lived (generally less than a few hours). Mostly forms in late afternoon due to maximum daytime heating.
- **Intensity:** High wind speed, lightning, heavy rainfall.
- **Cloud Type:** Cumulonimbus (tall, vertically developed thundercloud producing rain, lightning and storms).

Formation Mechanism

- **Step 1: Surface Heating -** Land heats rapidly during summer
- **Step 2: Air Contrast Formation -** Hot, dry air over land meets cool, moist air from Bay of Bengal
- **Step 3: Instability Development -** Temperature difference creates unstable atmosphere
- **Step 4: Convection -** Warm air rises rapidly *(vertical upward movement of heated air)*
- **Step 5: Cloud Formation -** Rising air forms cumulonimbus clouds.
- **Final Outcome -** Thunderstorm with rain, lightning, and strong winds.

Direction and Movement

- Storm originates from northwestern region (Chotanagpur Plateau area)
- Moves toward southeastern regions like West Bengal and Odisha.

Geographical Distribution

- Most frequent in West Bengal, Odisha, Assam, Bangladesh.
- **Reason:** Proximity to Bay of Bengal ensures moisture supply.

Impact

- **Positive Effect:** Provides rainfall useful for crops like jute and paddy.
- **Negative Effect:** Strong winds and lightning.

LADAKH MAGMATIC ARC

Study decodes tectonic evolution of Ladakh Magmatic Arc in northwestern Trans-Himalayan region.

About

- **What it is:** Ladakh Magmatic Arc is a belt of igneous rocks (rocks formed from cooling of molten material) in Trans-Himalaya
- **Nature:** Represents a fossil volcanic arc (ancient volcano system that is no longer active)
- **Core Idea:** Formed due to subduction-related magma generation in past geological time.

Geological Setting

- **Tectonic Position:** Lies near Indus Suture Zone (boundary where Indian and Eurasian plates collided)
- **Past Environment:** Region was part of Neo-Tethys Ocean (ancient ocean between Indian and Eurasian plates).

Formation Mechanism

- **Step 1: Plate Movement -** Oceanic crust of Indian Plate moved towards Eurasian Plate
- **Step 2: Subduction -** Denser oceanic plate sank below Eurasian Plate (**subduction: downward movement of one tectonic plate beneath another**)
- **Step 3: Mantle Melting -** Water released from subducting plate lowered melting point of mantle
- **Step 4: Magma Generation -** Melted material formed magma beneath surface
- **Step 5: Magma Rise -** Magma moved upward due to lower density
- **Final Output:** Formation of volcanic arc chain above subduction zone

What is a Magmatic Arc

- **Definition:** Chain of volcanoes formed above a subducting plate
- **Location Logic:** Forms parallel to subduction zone
- **Type in Ladakh:** Continental arc (formed where oceanic plate subducts under continental plate)

Present Status

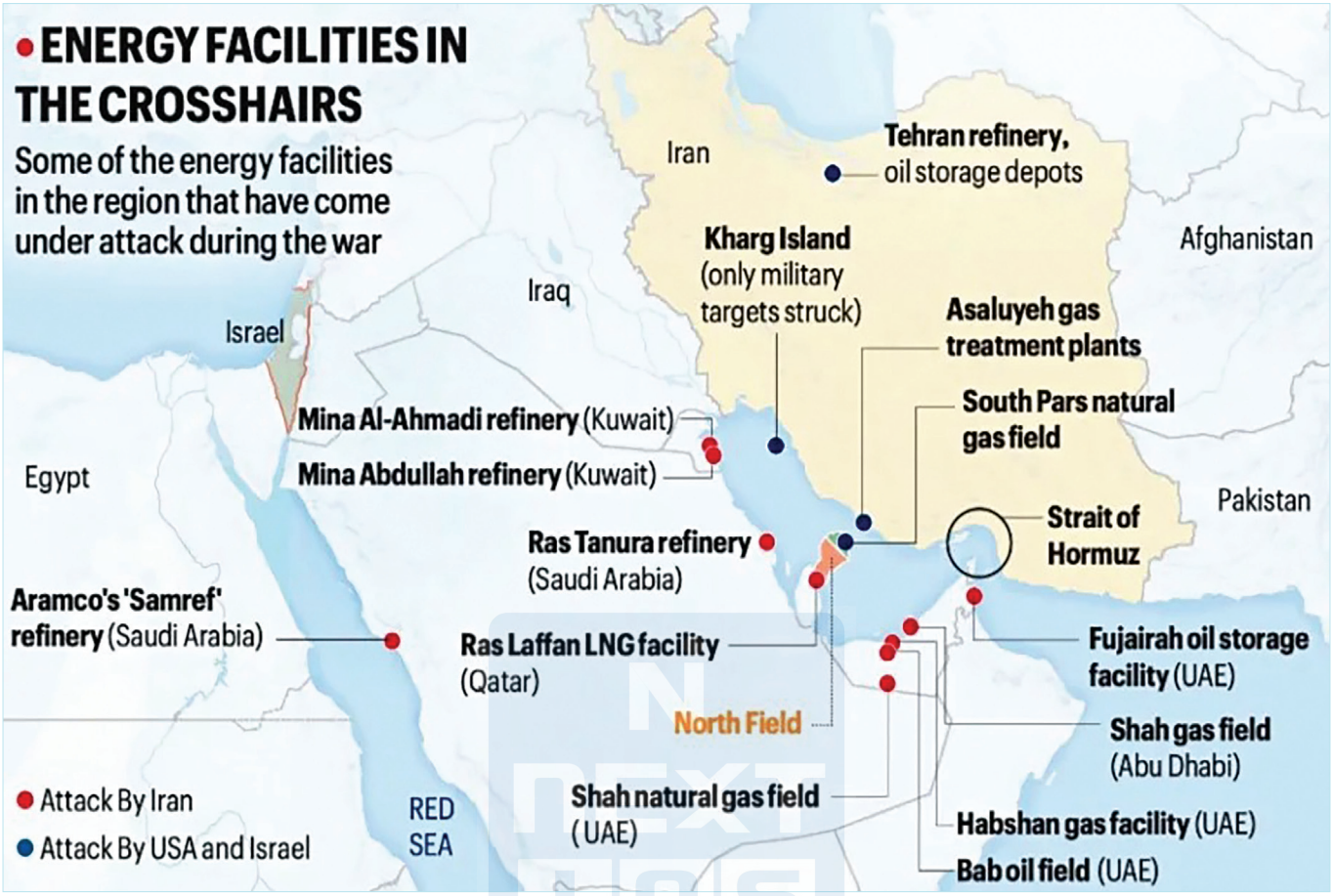
- Volcanic activity has stopped
- Magma has solidified into igneous rocks (granites, diorites, etc.)
- **Inference:** Current rocks provide record of past plate interactions

SOUTH PARS AND RAS LAFFAN

Attacks on South Pars and Ras Laffan escalated tensions, threatening global natural gas supply chains.

About

- **What they are:** Two major global energy centres handling production and export of natural gas
- **Link:** Both are part of the same gas system shared between Iran and Qatar
- **Strategic Logic:** Disruption directly affects global energy availability and prices



South Pars Gas Field

- **Location:** Offshore in **Persian Gulf**
- **Ownership:** Shared between Iran (South Pars) and Qatar (North Dome)
- **Scale:** World's largest natural gas field with ~1,800 trillion cubic feet reserves
- **Role in Iran:** Contributes around 70% of Iran's natural gas production

Ras Laffan Industrial City

- **Location:** Northeastern coast of Qatar along Persian Gulf
- **Function:** Processing and export centre for **LNG (Liquefied Natural Gas:** Natural gas cooled to liquid form for transport)
- **Global Role:** Handles nearly **20% of global LNG supply**
- **Infrastructure:** Contains liquefaction plants, storage, and export terminals

Functional Difference

- **South Pars:** Gas production zone (extraction stage)
- **Ras Laffan:** Gas processing and export zone (distribution stage)

Strategic Importance (Cause–Effect Understanding)

- **Supply Impact:** Disruption reduces availability of natural gas globally and attacks led to spike in oil and gas prices.
- **Geopolitical Risk:** Conflict has shifted from transport routes to production infrastructure
- **2026 Insight:** Energy facilities themselves became direct targets in conflict escalation.

Why Critical for World

- Concentration of large reserves + export infrastructure in one region. Heavy dependence of countries (including India) on Gulf energy imports.
- Limited immediate alternatives for LNG supply

LITANI RIVER

Israel–Hezbollah tensions refocus attention on Litani River as proposed buffer zone in southern Lebanon.

About

- **What it is:** Litani River is the longest river entirely within Lebanon and a major freshwater resource

- **Role:** Supports irrigation, water supply, and regional stability.

Location and Course

- **Source:** Originates in **Beqaa Valley**
- **Flow Direction:** Moves southward parallel to Syrian border, then turns west.
- **Mouth:** Drains into Mediterranean Sea (large intercontinental sea between Europe, Africa, Asia) near Tyre
- **Length:** Around 170 km, making it Lebanon's principal river

Geographical Importance

- Provides water for irrigation across Beqaa Valley
- Supplies water to large population and agricultural zones
- Acts as Lebanon's primary freshwater lifeline

Strategic Significance

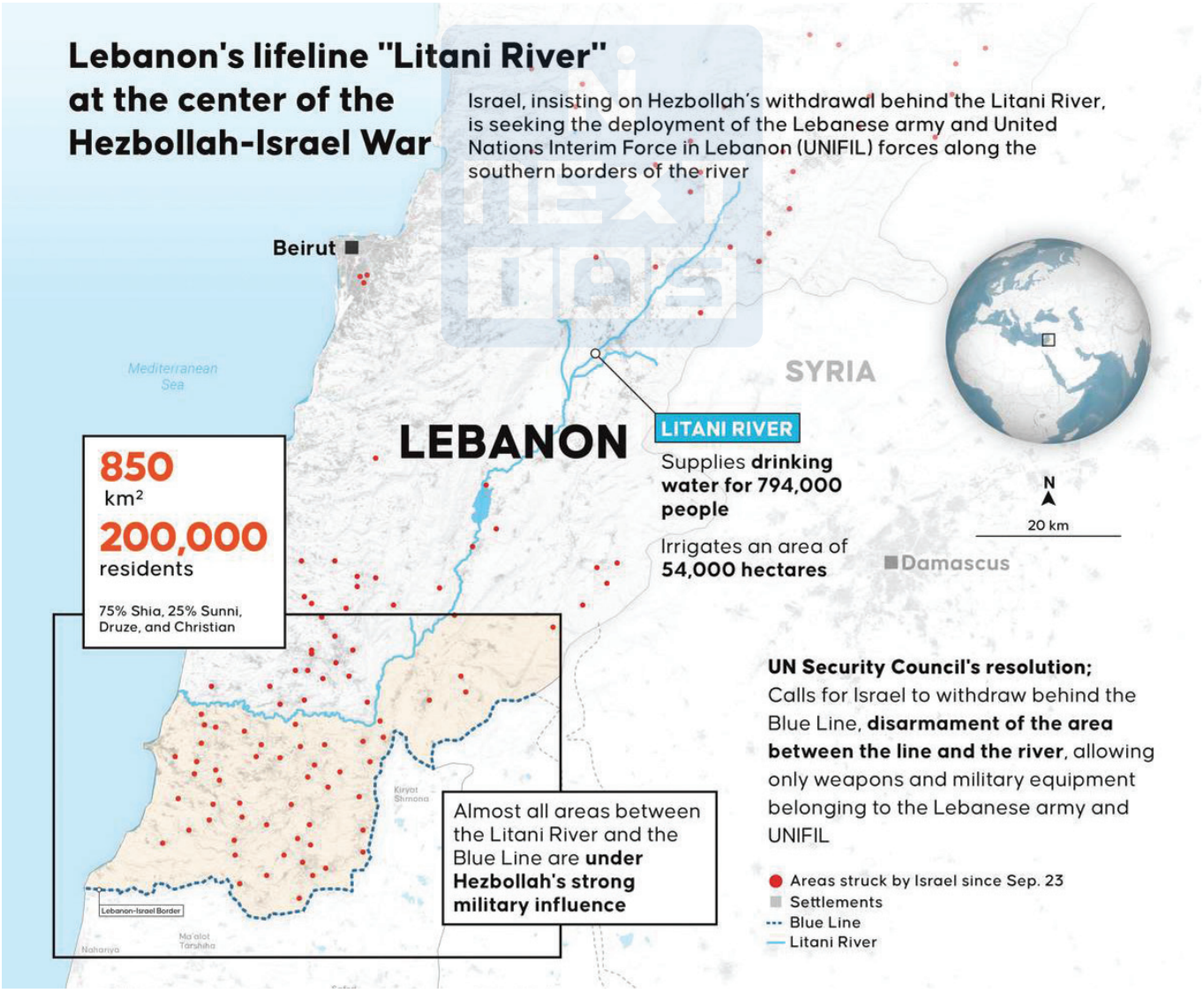
- **Location Factor:** Lies close to Blue Line (UN-recognised boundary between Lebanon and Israel)
- **Security Logic:** Area south of river considered buffer against cross-border attacks
- **Operational Relevance:** Military control of this zone affects border stability

UNSC Resolution 1701

- Adopted after 2006 Lebanon War
- **Key Provision:** Area between Blue Line and Litani River to remain free of armed groups
- Only Lebanese army and UNIFIL (UN peacekeeping force) allowed in this zone

Why Litani River Matters in Conflict

- Defines northern limit of proposed security buffer
- Separates conflict-prone border zone from interior Lebanon
- Repeated reference point in ceasefire and military strategies



6 INTERNAL SECURITY

MISSION SUDARSHAN CHAKRA

Indian PM visit to Israel boosted defence deal on advanced weapons tech and missile defence under Mission Sudarshan Chakra.

About

- Mission Sudarshan Chakra is India's **proposed multi-layered, integrated air and missile defence initiative.**
- It aims to build a **national protective shield** against a wide range of aerial threats such as **ballistic missiles, cruise missiles, fighter aircraft, rockets, drones, and drone swarms.**
- It is conceived as a **home-grown, AI-enabled** and **networked defence architecture.**

Why it is needed?

- The idea gained greater attention after Operation Sindoor, which highlighted the growing threat from **drones, missiles, loitering munitions** and **swarm attacks** in India's neighbourhood.
- The mission also fits into India's broader push for strategic autonomy, self-reliance in defence production, and protection of key military and civilian assets.

Key Features

- **Mission Sudarshan Chakra** is not a single missile system. It is better understood as a **layered defence architecture that integrates multiple systems** of different ranges and functions.
- It is expected to protect major cities, air bases, nuclear and strategic sites, border regions, and coastal infrastructure.
- **The system is intended to provide defence against** high-altitude and long-range threats, mid-range missile, aircraft threats and low-flying drones and cruise missiles, and swarm-based or low-cost aerial attacks.
- It combines long-range systems like **S-400 and Project Kusha**, medium-range MRSAM/Barak-8, short-range Iron Dome, and future laser-based weapons like Iron Beam and DURGA-II for cost-effective drone and low-altitude threat interception.
- **Project Kusha is a DRDO-led long-range air defence programme** designed as India's own advanced missile shield. It is intended to provide a three-tier defensive architecture and is often compared with advanced systems like the S-400 and Patriot.

Role of Israel

- Israel is one of India's most important partners in advanced air-defence, missile-defence and sensor technologies.
- Given Israel's experience with layered defence systems such as **Iron Dome, David's Sling, Arrow, and Iron Beam,** India sees Israel as a natural technology partner in this domain.

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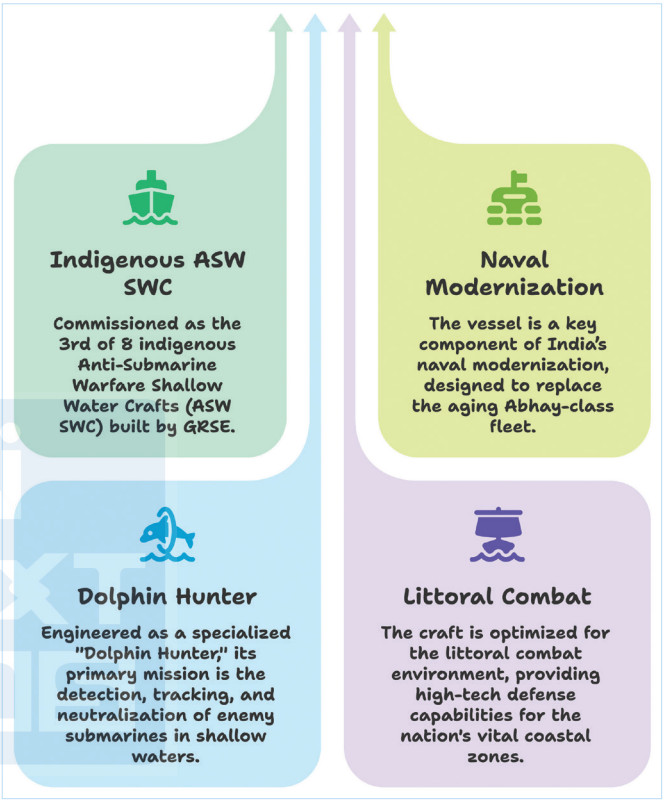


OPERATION WHITE HAMMER

The Directorate of Revenue Intelligence (DRI) has busted an illegal Alprazolam manufacturing unit in Kondapalli Industrial Development Area, NTR district, Andhra Pradesh. The crackdown was carried out under "Operation White Hammer".

About the Operation

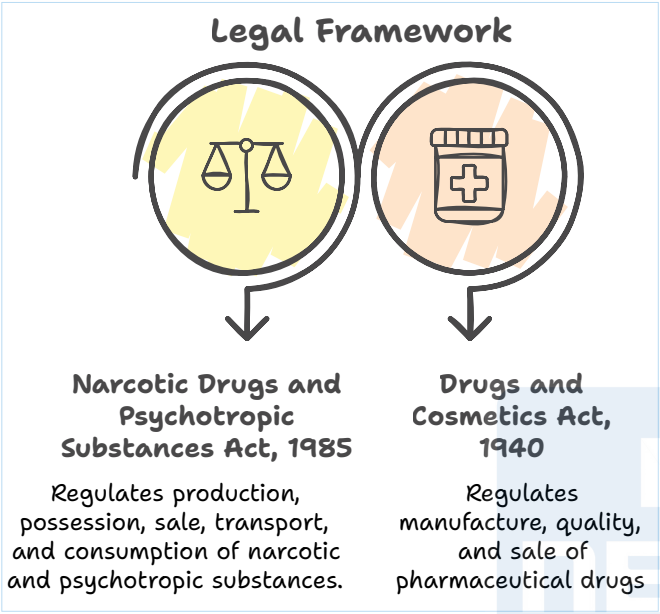
- **Operation White Hammer** was an **intelligence-driven and coordinated operation** launched by the **DRI**.
- It exposed a **full-fledged secret industrial setup** that was manufacturing **Alprazolam** under the cover of a **chemical manufacturing unit**.

Alprazolam

- **Alprazolam** is a **psychotropic substance** regulated under the **Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985**.
- It belongs to the category of substances whose **manufacture, possession, sale and transport** are strictly controlled under Indian law.

Directorate of Revenue Intelligence (DRI)

- The **Directorate of Revenue Intelligence (DRI)** is India's premier **anti-smuggling intelligence and enforcement agency**.
- It works under the **Central Board of Indirect Taxes and Customs (CBIC)** in the **Ministry of Finance**.
- It plays a major role in tackling **smuggling**, **customs fraud**, and **illicit trafficking of narcotic and psychotropic substances**.



CENTRAL INDUSTRIAL SECURITY FORCE

The 57th Raising Day of the Central Industrial Security Force (CISF) was observed recently.

About

- The **CISF** is a **Central Armed Police Force / paramilitary force** established in **1969** under the **Central Industrial Security Force Act, 1968**.
- **CISF Raising Day** is observed every year on **10 March**.
- The force is headed by a **Director General (DG)**.
- It functions under the **Ministry of Home Affairs (MHA)**.

Functions

- The CISF is responsible for providing security to important and strategic establishments of the country.
  - It secures institutions and sectors such as the **Department of Space, Department of Atomic Energy, airports, Delhi Metro and ports**.
- It also protects **historical monuments** and vital sectors of the Indian economy such as **petroleum and natural gas, electricity, coal, steel and mining**.
- The force provides **counter-terrorism security** to various **sensitive installations**. It also extends security support to certain **private sector operations**.
- In addition, CISF provides **security consultancy services** to **private industries** and also to other **government organisations**.
- It is also responsible for providing security to **protected persons** placed under categories such as **Z Plus, Z, Y and X**.

Paramilitary Forces

- **Paramilitary forces** are **semi-militarised forces** whose structure, training and tactics are similar to the military, but they are **not part of the regular armed forces**.
- The **Assam Rifles** is the **oldest paramilitary force in India**, raised in **1835**.

Difference between Military and Paramilitary Forces

Military	Paramilitary
The military is mainly responsible for national defence, protecting the country from external threats and fighting wars.	Mainly responsible for internal security, law and order, border management and assistance during disasters.
The military functions under the Ministry of Defence and includes the Army, Navy and Air Force.	Paramilitary forces function under different ministries- Assam Rifles (MHA), Special Frontier Force (Cabinet Secretariat) and Indian Coast Guard (Ministry of Defence).
The military is governed by laws such as the Army Act, Navy Act and Air Force Act.	Paramilitary forces are governed by their own specific laws, such as the BSF Act, CRPF Act, or CISF Act.

TUNGUSKA AIR DEFENCE MISSILE SYSTEM

The Ministry of Defence has signed contracts for the procurement of the Tunguska Air Defence Missile System.

About

- The Tunguska is a Soviet-origin (Inducted in early 1980s), tracked, self-propelled air defence system designed to protect ground forces from low-flying aerial threats.
- **Upgraded variants:** 2K22M, 2K22M1 with improved fire control and missile capability.
- **NATO designation:** SA-19 "Grison."
- It uniquely combines **missiles and guns** on a single platform.

Key Features

- **Hybrid System:** Integrates surface-to-air missiles with twin 30 mm autocannons, effective against helicopters, drones, and cruise missiles.

- **Missiles:** 9M311 series
  - **Range:** 8–10 km
  - **Altitude:** up to 3,500 m
  - **Guidance:** Radio command
- **Autocannons:**
  - **Fire rate:** 3,900–5,000 rounds/min
- **Radar & Tracking:** 360° target acquisition radar with detection range up to 18 km.

OPERATION SAGAR BANDHU

The Indian Army has launched a Major Bridge Project in Sri Lanka under Operation Sagar Bandhu.

About

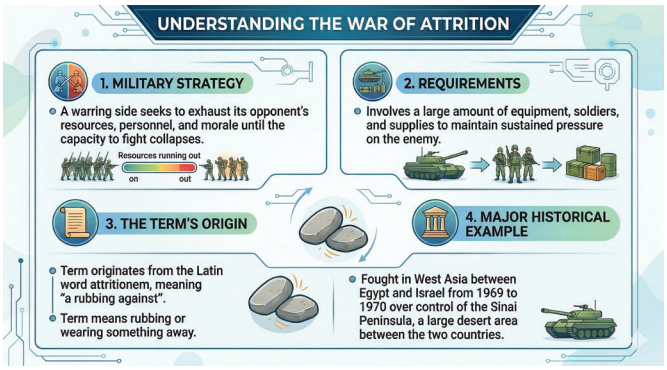
- The bridge will connect **Colombo**, the capital city, with **Puttalam**, an important economic centre. It lies along a vital coastal corridor passing through the **Chilaw District.**
- The initiative underlines India's role as a dependable first responder in the region. It also reflects the spirit of partnership embedded in **India's Neighbourhood First approach.**

Background

- **Operation Sagar Bandhu** was launched by India in November 2025 as a **First Responder mission** following the devastating **Cyclone Ditwah**.
- The operation was aimed at providing **Humanitarian Assistance and Disaster Relief (HADR)** to **Sri Lanka.**

WAR OF ATTRITION

As tensions between US, Israel and Iran continue, experts warn that this is becoming a war of attrition.

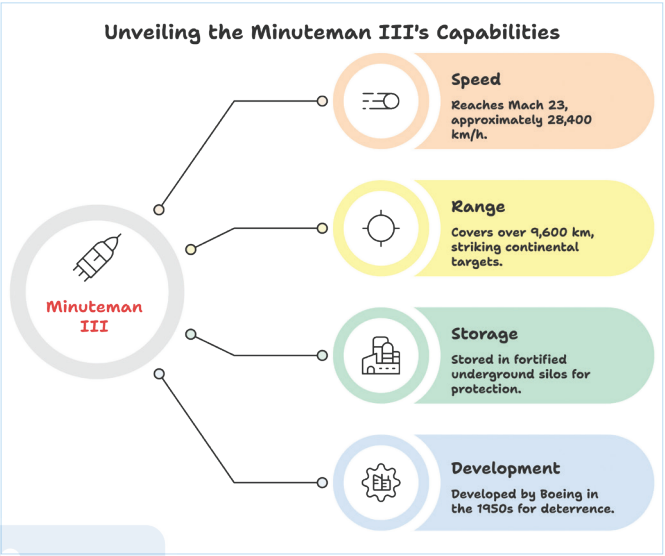


MINUTEMAN III

Amid rising tensions in the Middle East, the United States carried out a test launch of the Minuteman III missile.

About

- **Minuteman III** is an **Intercontinental Ballistic Missile (ICBM)** of the United States.
- It is often informally referred to as a **"doomsday missile"** because of its **long range, very high speed and strategic nuclear role**. It is part of the **land-based leg of the US nuclear triad**.



TERMINAL HIGH ALTITUDE AREA DEFENCE

Reports indicate that Iran has destroyed a key radar associated with the THAAD system deployed by the United States in the Middle East.

About

- **Terminal High Altitude Area Defence (THAAD)** is an advanced **ballistic missile defence system** developed by the **United States**.
- It is designed to **detect, track and intercept ballistic missiles**, especially in the **terminal phase of their flight**.

Key Features

- THAAD is capable of intercepting missiles **both inside and outside the Earth's atmosphere**, providing a layered defence against **short, medium and limited intermediate-range ballistic missiles**.
- It uses **"hit-to-kill" technology**, where the interceptor destroys the target through **direct collision at very high speed**, instead of using an explosive warhead.
  - The system can engage targets at a range of about **150–200 kilometres**.
- It forms a critical part of the broader **Ballistic Missile Defence System (BMDS)** architecture.

Components of THAAD

- The system consists of **interceptor missiles** that neutralise threats through kinetic impact.
- It includes **truck-mounted launchers** used to deploy the interceptors.

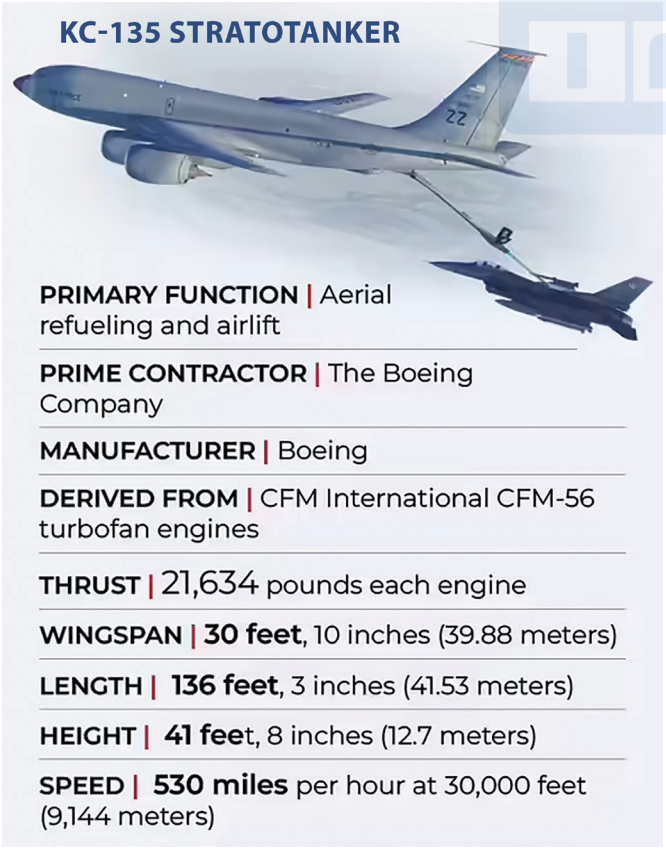
- A key element is the **AN/TPY-2 radar**, which detects and tracks missile threats at long distances.
- It also has a **tactical fire control and communications unit** that manages targeting and engagement.
- **Logistics and support systems** to ensure operational readiness.

KC-135 STRATOTANKER

A KC-135 Stratotanker aerial refuelling aircraft reportedly crashed in western Iraq during an ongoing military mission named Operation Epic Fury.

About

- The **KC-135 Stratotanker** was built by **Boeing** during the **1950s** and early **1960s**.
- It has served as a major component of the United States military's air refuelling fleet for more than six decades.
- The KC-135 is **primarily used for air-to-air refuelling**, allowing military aircraft to operate over long distances without needing to land for fuel.
- Apart from refuelling, the aircraft can also be used for **transport and medical evacuation roles.**
- It can transport both litter patients and ambulatory patients using patient support pallets during aeromedical evacuation missions.



SIPRI REPORT ON ARMS

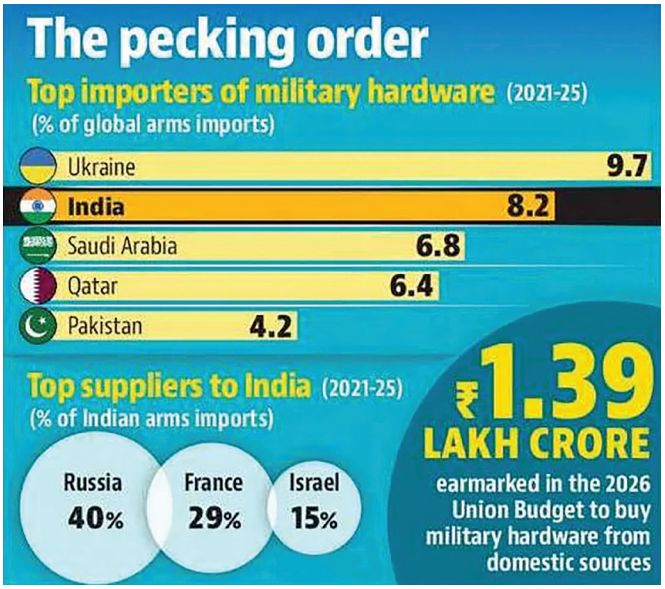
Recently, the Stockholm International Peace Research Institute (SIPRI) Arms Transfers Database (1950–2025) was updated.

Highlights of the Report

- The volume of international transfers of major arms in 2021–25 was 9.2% higher than in 2016–20. This was the biggest increase since 2011–15.
- **5 Largest Suppliers of Major Arms** (2021–25): **United States, France, Russia, Germany and China.**
- **Top 5 Importers: Ukraine, India, Saudi Arabia, Qatar and Pakistan** (35% of global imports).
- **Top 3 Regions (Import):** Europe (33%), Asia and Oceania (31%) and West Asia (26%).
- Arms exports by the USA increased by 27% between 2016–20 and 2021–25, giving it a 42% share of total global arms exports.
- **India** accounted for **8.2% of total global arms imports**(2021-2025), making it the second-largest importer of major weapons systems.
  - The largest share of Indian arms imports came from Russia, at 40% a significantly smaller share than in 2016–20 (51%) and almost half that in 2011–15 (70%).
  - India is increasingly turning to Western suppliers including **France, Israel and the United States.**

Stockholm International Peace Research Institute

- SIPRIis an independent global research institute focusing on conflict, armaments, arms control and disarmament.
- It is headquartered in Stockholm, Sweden, and was established in 1966.
- It provides reliable data, analysis and policy insights for researchers, media and the public.



GRSE DELIVERS 3 NAVAL PLATFORMS

Garden Reach Shipbuilders and Engineers Ltd (GRSE) has delivered INS Dunagiri, INS Sanshodhak and INS Agray to the Indian Navy. With this, GRSE has built 118 warships, including 80 delivered to the Indian Navy.

INS Dunagiri

- INS Dunagiri is an Advanced Stealth Frigate.
- It is the second ship under Project 17A built by GRSE.
- It is 149 metres long and has a displacement of 6,670 tonnes.
- It is equipped with BrahMos missiles, Advanced AESA radar and integrated combat management systems. It uses a Combined Diesel and Gas (CODAG) propulsion system.
- It is capable of multi-dimensional warfare in air, surface and sub-surface domains.

INS Sanshodhak

- INS Sanshodhak is a Survey Vessel (Large).
- It is the fourth and final vessel of its class.
- It is designed for hydrographic surveys in coastal and deep waters.
- It is also used for the collection of oceanographic data.
- It can support helicopter operations, HADR missions and limited combat roles.

INS Agray

- INS Agray is an Anti-Submarine Warfare (ASW) Shallow Watercraft.
- It is designed for anti-submarine warfare in littoral waters.
- It has about 88% indigenous content.
- It is equipped with lightweight torpedoes, ASW rockets and a 30 mm naval gun.
- Its shallow draught and waterjet propulsion improve manoeuvrability in coastal waters.

Defence Exercises

Name (Year/Edition)	Nature	Countries/Participants	Venue	Remarks
LAMITIYE (2026) (11th)	Biennial Joint Military Exercise	India-Seychelles	Seychelles	LAMITIYE' means 'Friendship' in the Creole language. **Purpose:** Synergy and interoperability
Desert Hunt 2025	Integrated Tri-Service Special Forces exercise	Para (Special Forces)-Army, Marine Commandos (MARCOS)-Navy, Garud (Special Forces)	Jodhpur, Rajasthan	Interoperability, coordination, and synergy **Operations:** Airborne insertion, precision strikes, hostage rescue, counter-terrorism operations, combat free falls.
KHANJAR-XIII 13th	Joint Special Forces Exercise	Parachute Regiment (Special Forces)- India ILBRIS Special Forces Brigade.-Kyrgyzstan	Missamari, Assam	Counter Terrorism and Special Forces Operations in urban and mountainous terrain
TROPEX-2025	Maritime Exercise	Indian Navy, Indian Army, Indian Air Force, and Coast Guard	Indian Ocean-both in Harbour and at Sea	Cyber and Electronic Warfare, Live Weapon Firings, Amphibious Exercise (AMPHEX)

7 SCIENCE & TECHNOLOGY

NATIONAL SCIENCE DAY 2026

National Science Day observed on 28 February 2026 marking Raman Effect discovery by Sir Chandrasekhara Venkata Raman

About

- **What it is:** National Science Day is an annual observance promoting scientific awareness and celebrating India's scientific achievements
- **Purpose:** Encourage scientific temper (ability to think logically and based on evidence) and innovation among citizens.
- **Historical Basis:** Commemorates discovery of Raman Effect on 28 February 1928, a major contribution to physics
- **Recognition:** Sir C V Raman received Nobel Prize in 1930 for this discovery, placing Indian science on global stage
- **Origin of Celebration:** Declared by Government of India in 1986 and first celebrated in 1987
- **Theme 2026:** "Women in Science: Catalysing Viksit Bharat", highlighting role of women in scientific development
- **Underlying Logic:** Promoting science awareness strengthens innovation capacity, which supports national development

Raman Effect

- **What it is:** Raman Effect is change in wavelength of light when it passes through a transparent medium
- **Scientific Basis:** Occurs due to interaction between light and molecular energy levels (vibrational and rotational states of molecules)
- **Mechanism:**
  - Light interacts with molecules
  - Energy exchange changes wavelength
  - Scattered light carries information about molecular structure
- **Application Logic:** Used in spectroscopy (study of interaction between matter and light) for chemical and material analysis

GENERIC SEMAGLUTIDE

Generic Semaglutide launched in India after patent expiry, reducing treatment cost for diabetes and obesity patients.

About

- **What it is:** Semaglutide is a Glucagon-Like Peptide-1 (GLP-1) receptor agonist (drug that mimics natural hormone regulating blood sugar and appetite)
- **Medical Use:** Used for Type 2 Diabetes (chronic condition where body cannot effectively use insulin) and obesity management.
- **Physiological Action:**
  - Increases insulin secretion (hormone lowering blood glucose levels)
  - Reduces glucagon (hormone increasing blood sugar)
  - Slows gastric emptying (rate at which food leaves stomach)
  - Suppresses appetite via brain signalling
- **Underlying Logic:** Hormonal regulation improves glucose control while reducing food intake, leading to weight loss

Generic Semaglutide

- **What it is:** Generic drug is a medicine with same active ingredient, safety, dosage, and effect as branded drug
- **Patent Link:** Patent expired in India on **20 March 2026**, allowing multiple companies to manufacture generics
- **Market Entry:** Over 50 generic versions expected, increasing competition
- **Price Impact:** Costs reduced significantly, with some versions starting around **₹1,290 per month**, making treatment more affordable
- **Underlying Logic:** Patent expiry increases supply, reduces monopoly pricing, and improves access

Mechanism

- **Hormone Mimicry:** Drug acts like GLP-1 hormone (released after meals to regulate glucose)
- **Pancreatic Effect:** Stimulates insulin only when glucose levels are high
- **Brain Effect:** Reduces hunger through hypothalamus (brain region controlling appetite)
- **Digestive Effect:** Delays food movement, increasing satiety (feeling of fullness)
- **Outcome:** Lower blood sugar levels and sustained weight reduction.

ANTIMATTER

Scientists at European Organization for Nuclear Research (CERN) transported antiprotons, advancing antimatter research and experimental precision physics.

About

- **What it is:** Antimatter is matter made of antiparticles (particles having same mass but opposite charge and properties compared to normal particles)
- **Examples:**
  - Electron → Positron (positively charged electron)
  - Proton → Antiproton (negatively charged proton)

- **Property:** Same mass but opposite electric charge (property causing electromagnetic interaction) and magnetic moment (magnetic behaviour of particle)
- **Composition:** Anti-atoms consist of antiprotons and antineutrons in nucleus with positrons orbiting around
- **Underlying Logic:** Antimatter is a mirror counterpart of normal matter under fundamental symmetries of physics.

About European Organization for Nuclear Research (CERN)

- **What it is:** CERN is world's largest particle physics laboratory located near Geneva
- **Established:** 1954
- **Major Facility:** Large Hadron Collider (LHC) (world's most powerful particle accelerator)
- **Key Discoveries:**
  - Higgs Boson (particle giving mass to matter)
  - W and Z Bosons (particles mediating weak nuclear force)
  - First anti-hydrogen atoms

SUPERCONDUCTIVITY

Researchers increased superconducting transition temperature using pressure quenching technique, enabling superconductivity at higher temperatures under ambient pressure.

About

- **What it is:** Superconductivity is a phenomenon where certain materials show zero electrical resistance (no energy loss during current flow) below a critical temperature (temperature at which material becomes superconducting)
- **Feature:** Electric current can flow indefinitely without energy loss once superconducting state is achieved
- **Discovery:** Discovered in 1911 by **Heike Kamerlingh Onnes** during low-temperature experiments
- **Second Property:** Exhibits Meissner Effect (expulsion of magnetic field from material when it becomes superconducting)
- **Underlying Logic:** At low temperatures, electrons form Cooper pairs (paired electrons moving without scattering), eliminating resistance.

Core Mechanism

- **Cooling:** Material is cooled below critical temperature
- **Electron Pairing:** Electrons form Cooper pairs (stable paired state reducing collisions)
- **Resistance Drop:** Electrical resistance suddenly becomes zero
- **Magnetic Behavior:** External magnetic field is expelled due to Meissner Effect
- **Final Outcome:** Perfect conductivity and magnetic levitation properties emerge.

QUANTUM COMPUTING

Raisina Dialogue 2026 highlighted need for governance frameworks for quantum computing and emerging advanced technologies.

About

- **What it is:** Quantum computing is a computing system that uses principles of quantum mechanics (physics of very small particles) to process information
- **Core Difference:** Classical computers use **bits (0 or 1)**, while quantum computers use **qubits (quantum bits that can exist in multiple states simultaneously)**
- **Computational Advantage:** Ability to process many possibilities at once enables solving complex problems much faster than classical systems
- **Underlying Logic:** Instead of linear processing, quantum systems use parallel state evaluation, increasing efficiency exponentially.

Principles

- **Superposition:** Qubit exists in multiple states at same time (combination of 0 and 1), enabling parallel computation
- **Entanglement:** Qubits become strongly linked so that state of one determines the state of another instantly (correlated behaviour across distance)
- **Decoherence:** Loss of quantum state due to environmental interaction (heat, radiation), reducing system stability

Applications

- **Cryptography:** Enables secure communication through quantum key distribution (ultra-secure data exchange method)
- **Drug Discovery:** Simulates molecular interactions (chemical behaviour at atomic level) for faster development of medicines
- **Optimization:** Solves complex decision problems in logistics, transport, and finance efficiently
- **Artificial Intelligence:** Enhances processing of large datasets for pattern recognition and predictive analysis.

GRAVITY BOMB

United States announced shift to gravity bombs in Iran conflict, marking tactical change in airstrike strategy.

About

- **What it is:** Gravity bomb is an air-dropped weapon (munition released from aircraft) that falls toward target only due to gravity without propulsion
- **Nature:** It is an unguided or free-fall bomb (weapon without engine or self-propulsion system)
- **Operational Basis:** Its path depends on aircraft speed, altitude, and release angle rather than onboard propulsion
- **Historical Use:** Widely used since World War era and still deployed in modern conflicts due to simplicity

- **Underlying Logic:** Absence of propulsion reduces cost and complexity, making it suitable for large-scale deployment.

Mechanism

- **Release Phase:** Aircraft drops bomb from calculated altitude and speed
- **Descent Phase:** Bomb falls under gravitational force following ballistic trajectory (curved path due to gravity)
- **Impact Phase:** Explodes on or near target depending on fuse settings
- **Outcome:** Effectiveness depends on delivery accuracy and control of surrounding airspace.

Modernisation

- **JDAM Integration:** Joint Direct Attack Munition (JDAM) is a guidance kit (add-on system) converting unguided bombs into precision-guided weapons
- **Guidance System:** Uses GPS (satellite-based positioning) and INS (inertial navigation system measuring movement) for accuracy
- **Result:** Converts "dumb bombs" into "smart munitions" capable of hitting fixed targets in all weather conditions

Types

- **Mk-82 (500 lb):** Used for light or soft targets such as vehicles and radar systems
- **Mk-83 (1,000 lb):** Suitable for medium-strength structures
- **Mk-84 (2,000 lb):** Heavy bomb capable of penetrating hardened structures such as bunkers
- **Logic:** Increasing bomb weight increases penetration and destructive capacity.

MEGAMASER

Astronomers using MeerKAT telescope detected most distant hydroxyl megamaser, revealing extreme energy processes in distant galaxies.

About

- **What it is:** Megamaser is an extremely powerful astrophysical maser (natural source of amplified microwave radiation) found in distant galaxies
- **MASER Meaning:** Microwave Amplification by Stimulated Emission of Radiation (process where radiation is amplified through energy transitions in molecules)
- **Core Nature:** It is similar to a laser but emits microwaves or radio waves instead of visible light
- **Intensity Feature:** Emits radiation millions of times stronger than typical masers, hence termed "mega"
- **Common Type:** Hydroxyl megamasers formed from OH molecules (hydroxyl group consisting of oxygen and hydrogen atoms).
- **Underlying Logic:** Large-scale galactic processes create conditions for massive amplification of radio signals

Concept

- **Maser vs Laser:** Maser operates in microwave range, while laser operates in visible light spectrum
- **Population Inversion:** More molecules in higher energy state than lower (required condition for amplification process)
- **Astrophysical Setting:** Occurs in luminous infrared galaxies (galaxies with high energy emission in infrared range), often undergoing mergers.

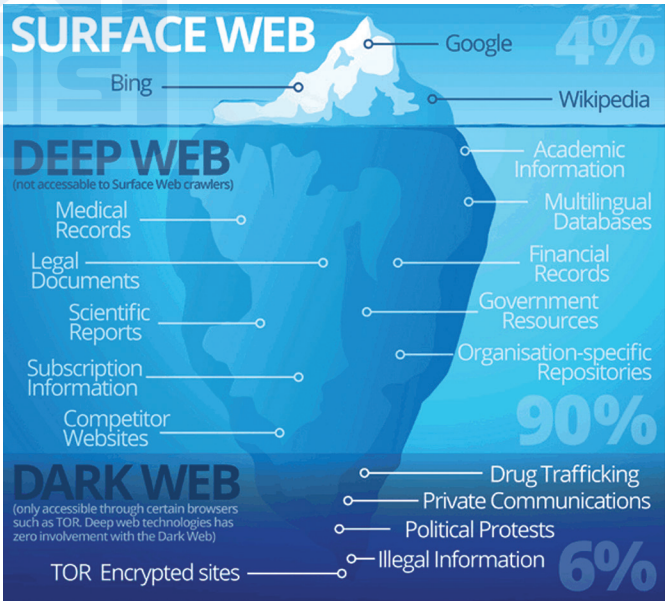
Scientific Importance

- **Cosmic Beacons:** Strong signals penetrate dust, helping observe hidden galactic regions
- **Galaxy Evolution:** Trace galaxy mergers and intense star formation activity
- **Distance Measurement:** Used to calculate motion and distance of galaxies
- **Astrophysical Insight:** Provide information on gas dynamics and black hole activity.

DARKNET

Narcotics Control Bureau (NCB) busted Team Kalki darknet drug network operating across India since January 2025.

About



- Darknet is a hidden part of the internet accessible only through specialised encrypted networks and software
- **Technical Nature:** It is an overlay network (system built over internet infrastructure with separate access protocols)
- **Access Requirement:** Requires tools such as TOR (The Onion Router, multi-layer encryption system that hides identity)
- **Feature:** Provides anonymity (concealment of user identity and location) through encrypted routing

- **Position in Internet:** It forms a subset of the deep web (content not indexed by search engines)
- **Underlying Logic:** Multi-layer encryption and indirect routing prevent traceability, enabling secure but opaque communication.

Uses

- **Legitimate Uses:**
  - Secure communication for journalists and whistleblowers
  - Protection against surveillance in restrictive environments
- **Illicit Uses:**
  - Drug trafficking networks
  - Illegal content exchange
  - Cybercrime operations such as hacking and data theft

Narcotics Control Bureau (NCB)

- **What it is:** NCB is India's central drug law enforcement and intelligence agency under Ministry of Home Affairs
- **Establishment:** Formed in 1986 under Narcotic Drugs and Psychotropic Substances Act, 1985 (law regulating drugs and related offences).
- **Key Functions:**
  - Intelligence collection and investigation
  - Monitoring trafficking networks including darknet operations
  - International cooperation with agencies like INTERPOL

WHITE PHOSPHORUS

Human Rights Watch accused Israel of unlawful use of white phosphorus in Lebanon under international humanitarian law

About

- **What it is:** White phosphorus is a highly reactive chemical substance used in military operations for smoke, illumination, and incendiary effects
- **Physical Nature:** It is a waxy, yellowish-white solid that ignites spontaneously on contact with oxygen (auto-ignition property)
- **Storage Requirement:** Stored under water or inert conditions (oxygen-free environment) to prevent accidental ignition
- **Feature:** Produces dense white smoke and intense heat during combustion, making it useful in battlefield operations
- **Underlying Logic:** Rapid ignition and smoke generation provide tactical advantages such as concealment and signalling.

Core Mechanism

- **Exposure to Oxygen:** Chemical reacts immediately with air and starts burning
- **Combustion Process:** Generates high-temperature flame and thick smoke containing phosphorus oxides
- **Thermal Effect:** Heat and chemical reaction cause deep tissue damage
- **Re-ignition Property:** Residual particles can ignite again when exposed to oxygen after initial extinguishing

Effects on Humans

- **Chemical Burns:** Causes deep burns penetrating skin and even bone due to combined thermal and chemical injury
- **Toxic Exposure:** Smoke damages respiratory system and eyes due to formation of phosphoric acids
- **Systemic Impact:** Can affect organs such as liver and kidneys, leading to severe health complications.

Legal Status

- **Not Banned:** White phosphorus is not explicitly prohibited under Chemical Weapons Convention as it is not classified as a chemical weapon
- **Conditional Legality:** Allowed for uses such as smoke screens, illumination, and signalling under laws of armed conflict
- **Restrictions:** Use is prohibited in civilian-populated areas if it causes indiscriminate harm under International Humanitarian Law
- **Convention Link:** Regulated under Protocol III of Convention on Certain Conventional Weapons (rules governing incendiary weapons)
- **Core Logic:** Legality depends on manner of use, not the substance itself.

Chemical Weapons Convention

- **What it is:** Chemical Weapons Convention is a global treaty prohibiting development, production, and use of chemical weapons
- **Adopted:** 1993 and enforced in 1997
- **Administered by:** Organisation for the Prohibition of Chemical Weapons (OPCW)
- **Core Principle:** Chemicals used primarily for toxic effects on humans are banned.

DARK OXYGEN

Study detected oxygen formation in deep Pacific Ocean without sunlight, challenging traditional photosynthesis-based understanding.

About

- **What it is:** Dark oxygen refers to oxygen produced in deep ocean regions without photosynthesis (light-dependent process used by plants and algae)
- **Scientific Basis:** Occurs in complete darkness where sunlight does not reach, especially in abyssal zones (deep ocean floor regions below 2000 m)
- **Location:** Observed in Clarion–Clipperton Zone (mineral-rich deep Pacific seabed region)
- **Underlying Logic:** Oxygen can form through non-biological processes instead of light-driven mechanisms

Core Mechanism

- **Deep-Sea Condition:** Absence of sunlight prevents photosynthesis

- **Observation:** Oxygen concentration increased despite consumption by organisms
- **Energy Source:** Polymetallic nodules act as geo-batteries (natural mineral systems generating electrical energy)
- **Electrochemical Process:** Water undergoes electrolysis (splitting into hydrogen and oxygen using electrical energy)
- **Final Outcome:** Oxygen released into surrounding water, forming dark oxygen.

Polymetallic Nodules

- **What they are:** Mineral-rich rocks containing metals like manganese, nickel, cobalt, and copper
- **Formation:** Develop over millions of years through slow accumulation of metal layers
- **Location:** Found primarily in abyssal plains (flat deep ocean floor regions) of Pacific Ocean
- **Functional Role:** Generate electric potential enabling chemical reactions
- **Economic Importance:** Valuable for battery and electronics industries

PROTON ACCELERATOR FACILITY

India plans high-energy proton accelerator in Visakhapatnam for nuclear research under long-term thorium-based energy programme.

About

- **What it is:** Proton accelerator is a machine that accelerates protons (positively charged subatomic particles in atomic nucleus) to very high speeds
- **Project Location:** Proposed in Visakhapatnam due to strong technological base and sea-water cooling support
- **Institutional Link:** Connected with Raja Ramanna Centre for Advanced Technology (leading Indian centre for accelerator and laser research)
- **Programme Link:** Part of India's long-term nuclear strategy focusing on thorium utilisation (abundant nuclear fuel in India)
- **Underlying Logic:** High-energy particle beams enable advanced nuclear reactions not possible in conventional reactors.

Mechanism

- **Acceleration:** Protons are accelerated using electromagnetic fields (forces acting on charged particles)
- **Target Collision:** High-energy protons strike heavy material such as lead
- **Spallation Reaction:** Proton impact ejects neutrons from target nuclei (breaking nucleus into smaller particles)
- **Neutron Generation:** Large number of neutrons produced for nuclear reactions
- **Final Outcome:** Neutrons used to convert thorium into usable nuclear fuel.

Thorium-Based Nuclear Logic

- **Thorium:** Fertile material (cannot directly undergo fission but can be converted into fuel)
- **Conversion Process:** Thorium absorbs neutron and converts into uranium-233 (fissile material capable of sustaining nuclear reaction)
- **Reactor Type:** Used in Accelerator Driven Systems (ADS) (subcritical reactor using external neutron source)
- **Core Logic:** External neutron supply improves safety and allows use of abundant thorium.

SMALL MODULAR REACTORS

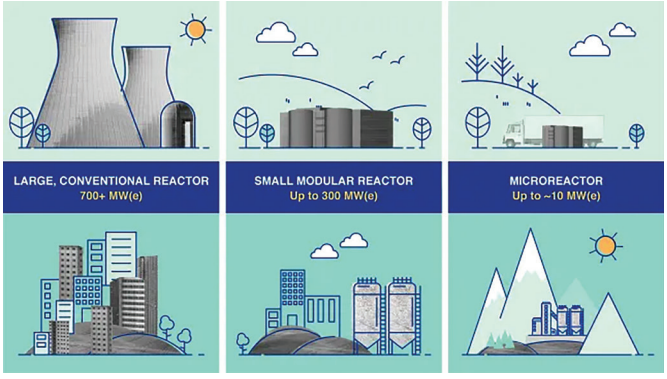
Union Budget 2025–26 allocated ₹20,000 crore for Small Modular Reactors (SMRs) under Nuclear Energy Mission.

About

- **What it is:** Small Modular Reactors (SMRs) are advanced nuclear reactors with capacity up to **300 megawatt electric (MW(e)) (unit of electricity generation)**
- **Small:** Physically compact compared to conventional nuclear reactors (large-scale nuclear power plants)
- **Modular:** Components are factory-built (manufactured in controlled environment) and transported for on-site assembly
- **Reactor Principle:** Uses nuclear fission (splitting of heavy atomic nucleus releasing energy) to generate heat and electricity
- **Underlying Logic:** Smaller size and modular design improve flexibility, safety, and scalability of nuclear power

Types of Small Modular Reactors

- **Light Water Reactor (LWR)** (uses ordinary water as coolant and moderator to control reaction)
- **High Temperature Gas Reactor (HTGR)** (uses helium gas coolant for higher efficiency and temperature output)
- **Liquid Metal Reactor (LMR)** (uses liquid sodium or lead as coolant for fast neutron reactions)
- **Molten Salt Reactor (MSR)** (uses liquid fuel dissolved in molten salt for efficient heat transfer)



Core Mechanism

- **Fuel Reaction:** Nuclear fission releases large amount of heat
- **Heat Transfer:** Coolant carries heat to generate steam
- **Electricity Generation:** Steam drives turbines to produce electricity
- **Passive Safety:** Uses natural convection (fluid movement due to temperature difference) and gravity for cooling
- **Final Outcome:** Stable and controlled energy generation with reduced risk of overheating.

Nuclear Energy Mission

- **Launch:** Announced in Union Budget 2025–26 by Government of India
- **Nodal Agency:** Implemented under Department of Atomic Energy (DAE) (central body managing nuclear power and research in India)
- **Budget Allocation:** ₹20,000 crore for research, development, and deployment of advanced reactors.
- **Primary Focus:** Development of **Small Modular Reactors (SMRs)** and advanced nuclear technologies
- **Key Targets:**
  - Achieve 100 gigawatt (GW) nuclear capacity by 2047 (long-term national energy goal)
  - Deploy at least **5 indigenous SMRs by 2033**
- **Institutional Ecosystem:**
  - Nuclear Power Corporation of India Limited (NPCIL) (public sector operator of nuclear plants)
  - Bhabha Atomic Research Centre (BARC) (premier nuclear research institute)
- **Core Logic:** Expand clean, reliable, base-load power (continuous electricity supply) while reducing fossil.

ASTEROID 2024 YR4

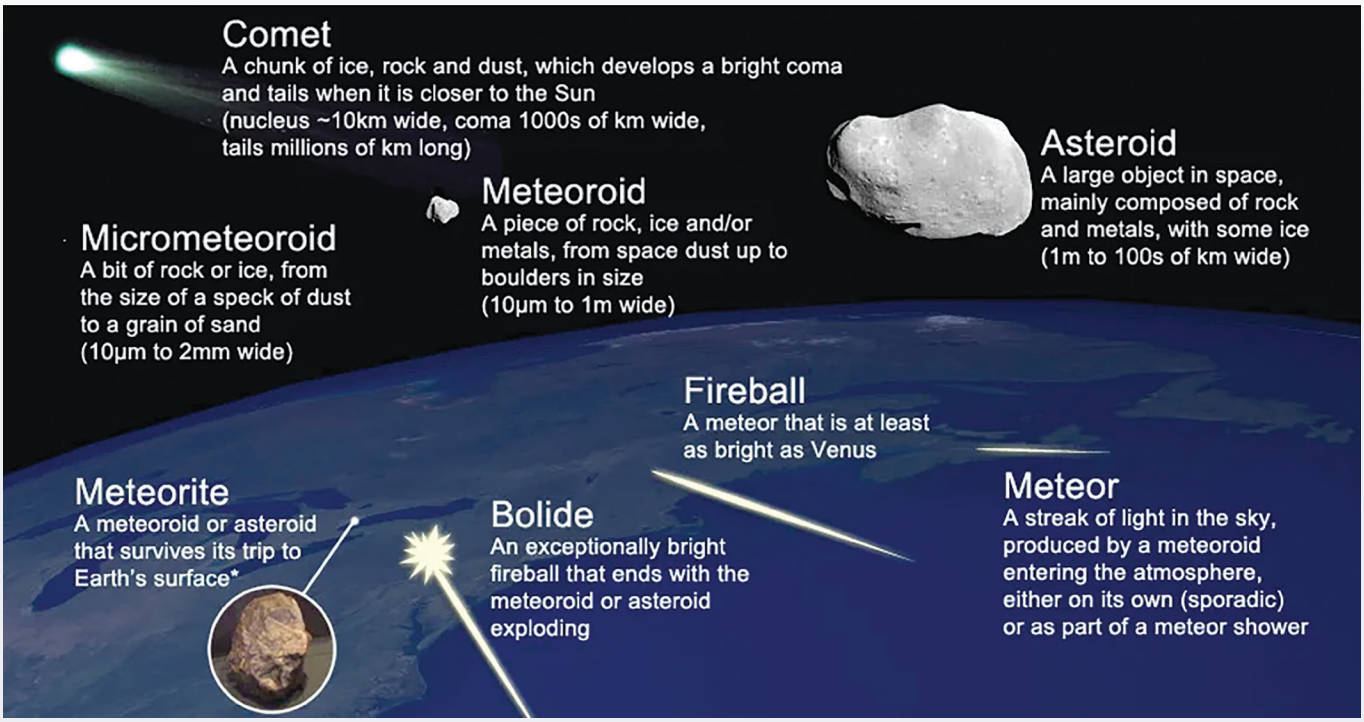
NASA confirmed asteroid 2024 YR4 will safely pass Moon in 2032 after James Webb Space Telescope observations.

About

- **What it is:** Asteroid 2024 YR4 is a **Near-Earth Asteroid (NEA) (space object whose orbit comes close to Earth's orbit)**
- **Discovery:** Identified in late 2024 and monitored under planetary defence programmes (systems tracking potential impact threats)
- **Orbit Nature:** Follows an elliptical path (oval-shaped orbit) around the Sun that intersects Earth's orbital region
- **Size Range:** Estimated around **50–70 metres (comparable to a large building)**
- **Composition:** Likely stony asteroid (rock-rich body made of silicates and metals)
- **Logic:** Objects crossing Earth's orbit are closely monitored as even small bodies can cause local-scale damage.

Asteroids

- **What it is:** Asteroids are rocky, airless remnants (leftover material) from formation of solar system about **4.6 billion years ago.**
- **Location:** Mostly found in **asteroid belt (region between Mars and Jupiter containing numerous small bodies).**
- **Nature:Generally** Do not have atmosphere and are smaller than planets.
- **Types:**
  - Stony (silicate-rich rocks)
  - Metallic (iron-nickel composition)
  - Carbonaceous (carbon-rich primitive bodies)



8 SOCIETY

CARA

Central Adoption Resource Authority (CARA) issued directions to strengthen transparency and compliance in adoption procedures.

About

- **What it is:** CARA is a statutory body regulating adoption of **orphaned, abandoned and surrendered children** in India
- **Administrative Position:** Functions under Ministry of Women and Child Development
- **Core Objective:** Ensure legal, transparent, and child-centric adoption process

CARA Directions

- **First Memorandum:**
  - No child can be declared legally free for adoption without due inquiry
  - Mandatory reconsideration period of two months for surrendered children
- **Second Memorandum:** Secure preservation and transfer of records (official documents related to child and adoption process)
- **Third Memorandum:** Strict enforcement of Section 74 (legal provision prohibiting disclosure of child identity)

Legal Framework

- **Juvenile Justice (Care and Protection of Children) Act, 2015 (JJ Act):**
  - Applies to all citizens irrespective of religion
  - Governs adoption of orphaned, abandoned and surrendered children
  - Requires legal process and institutional oversight
- **Hindu Adoption and Maintenance Act (HAMA), 1956:**
  - Applies to Hindus, Buddhists, Jains and Sikhs
  - Allows adoption through personal law framework without court procedure

Adoption Under CARA

- **Child Eligibility:**
  - Must be declared legally free by **CWC (Child Welfare Committee: authority deciding child's legal status)**
  - Age below 18 years
  - **Category:** orphaned, abandoned or surrendered
- **Parent Eligibility:**
  - Any Indian citizen including NRIs and OCI holders
  - Married couples (minimum 2 years stable marriage)
  - Single individuals (unmarried, divorced, widowed)

Age Criteria

- Minimum age gap between parent and child: 25 years
- **Maximum composite age:**
  - Up to 45 years (child below 4 years)
  - Up to 50 years (child 4–8 years)
  - Up to 55 years (child 8–18 years)
- Age limits not applicable in relative or step-parent adoption

Regulatory Safeguards

- **Non-commercialisation:** Any payment for adoption is illegal
- **Confidentiality:** Identity of child protected under law
- **Restricted Eligibility:** Live-in and same-sex couples not permitted under current guidelines

SHINE APP

Indian Railways launched Sexual Harassment Incident Notification for Empowerment (SHINE) app on International Women's Day 2026.

About

- **What it is:** SHINE is a digital platform enabling women employees to report workplace sexual harassment securely
- **Core Objective:** Ensure safe working environment through quick complaint registration and resolution
- **Underlying Logic:** Easy reporting mechanism increases accountability and reduces underreporting.

What is SHINE App

- **Nature:** Mobile-based complaint system integrated with official employee platforms.
- **Access:** Available through HRMS (Human Resources Management System: digital employee database) and ESS (Employee Self Service portal: platform for employee services)

Key Features

- Enables filing of complaints related to workplace harassment
- Maintains confidentiality (protection of identity and information of complainant)
- Directly forwards complaints to ICC (Internal Complaints Committee: body handling harassment cases)
- Ensures time-bound action through digital tracking

Legal Framework

- Based on Vishaka Guidelines (1997) (Supreme Court guidelines for prevention of sexual harassment at workplace)
- Aligns with Government of India rules on workplace safety. Supports implementation of institutional complaint mechanisms.

9 CULTURE & HISTORY

CHANDRASHEKHAR AZAD

The Prime Minister paid tribute to Chandrashekhar Azad on his Martyrdom Day.

About

- Chandrashekhar Azad was a prominent Indian revolutionary freedom fighter.
- He was born on **23 July 1906** in **Bhabhra village, Alirajpur, Madhya Pradesh.**
- He participated in the Non-Cooperation Movement (1920–22) launched by Mahatma Gandhi.
- When produced before a magistrate, he stated his name as "**Azad**", his father's name as "**Swatantra**", and his residence as "**Jail**."
- After being publicly flogged, he permanently adopted the title "**Azad**", meaning "**Free**."
- After the **Chauri Chaura incident (1922)** and the withdrawal of the Non-Cooperation Movement, he turned towards revolutionary politics.
- On 27 February 1931, he was surrounded by police at **Alfred Park, Allahabad (now Chandrashekhar Azad Park).**
- After a gunfight, he helped his associate Sukhdev Raj escape and then shot himself with his last bullet to avoid arrest.

Key Contributions

- In the **Kakori Train Robbery (1925),** Azad, along with Ram Prasad Bismil and others in the Hindustan Republican Association (HRA), helped rob a train.
  - Escaped arrest in the Kakori case.
- **Saunders Killing:** In 1928, he Assisted Bhagat Singh and Rajguru in the killing of British officer John Saunders to avenge the death of Lala Lajpat Rai.
- After the death of Ram Prasad Bismil, he reorganised the Hindustan Republican Association (HRA) into the Hindustan Socialist Republican Association (HSRA).

SRI GURU TEGH BAHADUR

The Prime Minister paid tribute to Sri Guru Tegh Bahadur on his 350th Martyrdom Year (Shaheedi Samagam).

About

- Guru Tegh Bahadur was the **ninth Sikh Guru.**
- He was born in **1621** at **Amritsar** to **Guru Hargobind,** the sixth Sikh Guru. He was originally named **Tyag Mal.**
- He was trained in scriptures and martial arts. At the age of 13, his bravery in battle earned him the name "**Tegh Bahadur**".
- He spent years in meditation at **Bakala** and was recognised as the ninth Sikh Guru in **1664** by **Makhan Shah.** His son Guru Gobind Singh later honoured him as "**Hind di Chadar**".

Contributions

- He founded **Chak Nanki**, later known as Anandpur Sahib.
- He travelled across **North** and **East India** spreading teachings of fearlessness, equality and devotion to one God.
- During **Aurangzeb's** reign, he stood against religious persecution and forced conversions.
- When **Kashmiri Brahmins** sought help, he defended their religious freedom.
- **Martyrdom:** He was arrested in Delhi and refused to convert to Islam. He was **publicly executed in 1675** at **Chandni Chowk** along with his companions.

KURUMBA PAINTING

Kurumba painting is facing the threat of extinction due to a decline in practitioners.

About

- **Kurumba painting** is a traditional folk art of the **Kurumba tribe** of the **Nilgiris, Tamil Nadu**.
- It is believed to be over **3,000 years old** and is linked to rock art sites such as **Ezhuthupaarai**.
- The **Kurumba tribe** is classified as a **Particularly Vulnerable Tribal Group (PVTG)**.
- These paintings were traditionally made on **house walls**, **temple walls** and during **festivals**.
- Artists use **natural pigments** obtained from forest sources such as **tree resins**.
- The paintings depict rituals, festivals, honey hunting, nature, animals and daily life.
- They are characterised by simple linear motifs, dots, lines and geometric patterns.

GOLESTAN PALACE

Golestan Palace, a UNESCO World Heritage Site in Tehran, was damaged by shockwaves and debris caused by US-Israel airstrikes.

About

- Golestan Palace is a historic royal complex and **one of the oldest monuments** in **Tehran.**
- It served as the official residence of the **Qajar dynasty.**
- Its origins go back to the **Safavid Dynasty**, when Tehran began emerging as a political centre.

- It reflects a **blend of traditional Persian architecture** and **19th-century Western influences.**
- It was inscribed as a **UNESCO World Heritage Site** in **2013.**

Important Structures

- **Shams-ol-Emareh (Edifice of the Sun)** is one of the most famous buildings in the complex and was built in the **1860s** by **Naser al-Din Shah Qajar**.
- **Marble Throne Hall (Takht-e-Marmar)** was used for **royal coronations** and **official ceremonies**.
- **Mirror Hall** is known for its extensive **mirror mosaics and rich decoration**.
- The complex also contains **museum buildings** displaying **Qajar-era paintings, royal gifts and artefacts**.

SUNGUDI SARIS

Sungudi saris are gaining popularity as a distinctive and eco-friendly textile.

About

- **Sungudi saris** are traditional **cotton saris** of **Madurai, Tamil Nadu**.
- They were perfected by the **Saurashtrian community**, which migrated from **Gujarat** to **Madurai** in the **17th century**.
- They are known for **tie-and-dye patterns** inspired by the **night sky**.
- Each sari is made on a **base cloth with a zari border**. The process involves **hand-knotting, dyeing, washing, starching and sun-drying**.
- The **Madurai Sungudi sari** received the **GI tag in December 2005**.

SAVITRIBAI PHULE

Union Home Minister Amit Shah paid tribute to Savitribai Phule on her death anniversary.

About

- **Savitribai Phule (1831–1897)** was a pioneering **social reformer, educationist and poet**.
- She was born in **Naigaon village**, **Satara district**, **Maharashtra**.
- In **1840**, at the age of **nine**, she married **Jyotirao Phule**, who was **13** at the time.
- She is regarded as **India's first female teacher**.
- In **1848**, Savitribai and Jyotirao Phule established **India's first school for girls** at **Bhidewada, Pune**.
- In **1863**, the couple started **Balhatya Pratibandhak Griha**, considered India's first home to prevent infanticide.
- She worked for **inter-caste marriage**, **widow remarriage**, and against **child marriage, sati and dowry**.
- Her important literary works include **Kavya Phule (1854)** and **Bavan Kashi Subodh Ratnakar (1892)**.

GAJAPATI INSCRIPTION IN GUNTUR

A medieval inscription linked to the Gajapati Dynasty has been discovered at the Lakshmi Narasimha Swamy Temple, Guntur, Andhra Pradesh.

Key Findings

- The inscription is engraved on a **stone pillar** in the temple **mandapa**.
- It mentions **Kumaraguru Mahapatra**, an officer under **Purushottama Deva** in the **15th century CE**.
- It states that the idol of **Lord Narasimha** and the **mandapa pillars** were shifted from **Kondaveedu Fort** after invasions in the region.
- The inscription was originally dedicated to **Lord Mallikarjuna** of **Kondaveedu** and was later moved to the Guntur temple.
- It also mentions milk offerings and refers to the management of cows by local communities.
- The record reflects **Hari-Hara worship**, showing a syncretic tradition combining **Shaiva and Vaishnava beliefs**.

Gajapati Dynasty

- The Gajapati Dynasty was a powerful medieval kingdom that originated in **Odisha** and flourished during the 15th–16th centuries.
- It was founded by **Kapilendra Deva** after the decline of the **Eastern Ganga dynasty**.
- At its peak, it stretched from parts of present-day West Bengal to Tiruchirappalli in Tamil Nadu.
- Its capital was **Kataka (modern Cuttack)**.
- The rulers were known for patronage of **art, architecture and literature**.
- They were also in continuous rivalry with the **Vijayanagara Empire**.

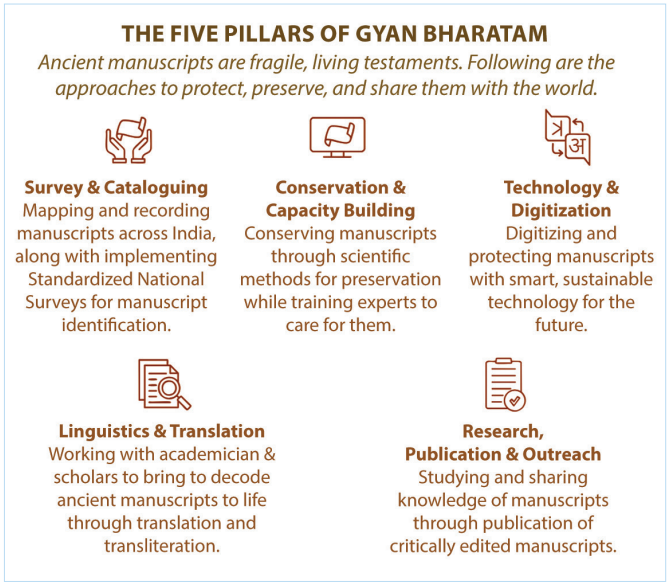
INDIA'S MANUSCRIPT MAPPING INITIATIVE

The Ministry of Culture has launched a three-month nationwide survey to map India's manuscript heritage under the Gyan Bharatam Mission announced in Budget 2025–26.

Gyan Bharatam Mission

- It is a national mission for **survey, documentation, digitisation** and **dissemination** of manuscripts and traditional knowledge.

- The Mission includes creation of a **National Digital Repository.**



Manuscripts

- A manuscript is a **handwritten record** on materials like **palm leaf, birch bark, cloth, paper or metal**, at least **75 years old** with historical or cultural value.
- They reflect India's knowledge systems and cultural heritage.
- The **Gilgit Manuscripts** (5th- 6th century CE) are the oldest surviving collection in India.
  - They are written in **Buddhist hybrid Sanskrit** using **Gupta** and **Post-Gupta Brahmi scripts.**
  - They contain Buddhist texts influencing multiple traditions including **Sanskrit, Chinese, Korean, Japanese, Mongolian, Manchu and Tibetan** literature.

Other Initiatives

- **National Mission for Manuscripts (2003)** has documented over 44.07 lakh manuscripts through **Kriti Sampada**.
- **Abhilekh Patal** provides online access to over one million archival records and manuscripts.
- **Gyan-Setu** promotes **AI-based solutions** for preservation and restoration.
- The **Antiquities and Art Treasures Act, 1972** regulates export of cultural heritage; manuscripts above **75 years** qualify as antiquities. The **UNESCO Memory of the World Programme** supports preservation of documentary heritage.

National Archives of India

- Established in 1891 at Kolkata as the Imperial Record Department.
- Shifted to New Delhi after 1911.
- It implements the Public Records Act, 1993 and Public Records Rules, 1997.

WORLD BUDDHIST PEACE CONFERENCE 2026

Hyderabad hosted the inaugural World Buddhist Peace Conference 2026.

About

- It is organised by **Buddhavanam** and the Telangana Tourism Development Corporation, in association with the **Vietnam Buddhist Sangha**. It brings together **ministers, monks, scholars and delegates from over 20 countries**.
- It aims to promote dialogue on **peace, reconciliation and ethical leadership**.
- It also seeks to showcase **Buddhavanam** as a global **Buddhist heritage destination** and encourage Buddhist countries to establish **monasteries and educational institutions** there.
- It is part of a broader effort to position **Telangana** as a centre of **Buddhist heritage diplomacy and peace-building**.

Buddhavanam

- **Buddhavanam** is located in **Telangana** on the banks of the **Krishna River**. It is India's **first Buddhist Heritage Theme Park**.
- It presents the life and teachings of Lord Buddha through **art, sculptures, meditation spaces and thematic installations**.
- It has been developed by the **Telangana State Tourism Development Corporation**.

Buddhism

- **Buddhism** is based on the teachings of **Siddhartha Gautama (Buddha)**, who lived around **563–483 BCE**.
- It focuses on understanding **suffering**, its causes and the path to overcome it. Its ultimate goal is **Nirvana**, or liberation from **samsara** (cycle of birth, death and rebirth).
- **Core Teachings:** The **Four Noble Truths** explain that life involves **suffering (Dukkha)**, suffering is caused by **craving (Samudaya)**, it can end (**Nirodha**), and the path is the **Eightfold Path (Magga)**.
  - The **Noble Eightfold Path** is grouped into wisdom, ethical conduct and mental discipline.
  - The **Three Marks of Existence** are **Anicca (impermanence), Dukkha (suffering) and Anattā (non-self)**.
  - **Nirvana** is the ultimate state of **liberation.**
- **Four Holiest Buddhist Sites:**
  - **Lumbini (Nepal)** is the birthplace of the Buddha.
  - **Bodh Gaya (Bihar)** is where he attained enlightenment.
  - **Sarnath (Uttar Pradesh)** is where he delivered his first sermon.
  - **Kushinagar (Uttar Pradesh)** is where he attained **Mahaparinirvana**.

Buddhist Circuit

- In 2016, the Ministry of Tourism declared the Buddhist Circuit as India's first transnational tourism circuit.
- It includes Buddhist sites in India, Nepal and Sri Lanka.
- Major sites include Bodh Gaya, Vaishali, Rajgir, Kushinagar, Sarnath, Shravasti, Kapilavastu and Lumbini.

International Buddhist Confederation (IBC)

- The IBC was founded in 2012 after the **Global Buddhist Congregation** in **New Delhi.**
- It is the world's first body bringing together Buddhist organisations, monastic orders and lay institutions.
- It has 39 countries and over 320 member bodies.
- Its mission is to embed Buddhist values in global discourse and promote harmony, compassion and spiritual dialogue.
- Its headquarters is in New Delhi.
- Its governing structure includes both monastic and lay participation.

TRIBAL ARTS IN CONVERSATION

The Tribes Art Fest 2026 held at Travancore Palace, New Delhi showcased India's rich tribal artistic heritage.

Major Tribal Art Forms

Warli Painting

- **Warli painting** of **Maharashtra** is practised by the **Warli tribe**.
- It may date back to the **Neolithic period (2500–3000 C)**.
- White pigments made from rice paste are used on mud walls.
- It is characterised by **circles, triangles and squares**. Common themes include **agriculture, rituals, hunting and Tarpa dance**.

Rabha and Tamang Masks

- **Mask-making** is an important tradition of the **Rabha tribe** of **Assam** and **North Bengal**. Similar traditions are found among the **Tamang community** of the **Himalayan region**.
- Masks are made using **wood, bamboo, gourd or clay** and painted in **bright colours**.
- They depict **gods, spirits, animals** and **mythological figures**.
- They are used in **ritual dances and folk theatre**.

Gond Art

- **GI tagged Gond art** of **central India**, especially **Madhya Pradesh**. It uses **dots and lines** to create detailed patterns.
- Its themes are based on **folklore, animals, forests and ecology**.

Bhil Painting

- **Bhil painting** is practised by the **Bhil tribe**, one of India's largest tribal communities found mainly in **Madhya Pradesh, Maharashtra, Gujarat and Rajasthan**.
- It is regarded as one of the **oldest tribal art traditions**. It is known for the use of **thousands of coloured dots** symbolising seeds and nature's rhythm.
- Common themes include **deities, animals, forests and daily life**.


Warli Painting


Gond Painting


Bhil Painting

10 MISCELLANEOUS

JNANPITH AWARD

Tamil poet and lyricist Vairamuthu has been selected for the Jnanpith Award 2025.

About

- He is the **third Tamil writer** to receive the award after **Akilan (1975)** and **Jayakanthan (2002)**.
- He is the first Tamil **poet** to receive it, while the earlier Tamil awardees were honoured for **prose**.
- He has written over **8,000 songs**.
- He has won **seven National Film Awards** for lyrics.
- He is also known by the title **"Kaviperarasu" (Emperor of Poets)**.

Jnanpith Award

- Instituted in **1961** by **Bharatiya Jnanpith**, it is considered **India's highest literary honour.**
  - **Bharatiya Jnanpith,** a literary and research organisation, was founded by Sahu Shanti Prasad Jain and Rama Jain.
- It is awarded annually for **outstanding contribution to literature**. It is given for works in the **22 languages listed in the Constitution**, and since **2013**, also in **English**.
- The award carries ₹11 lakh cash prize, citation and bronze statuette of **Vagdevi (Saraswati).**
- **Malayalam writer G. Sankara Kurup** was the first recipient of the honour in **1965** for **Odakkuzhal**.

SARASWATI SAMMAN 2025

Saraswati Samman 2025 has been awarded to Bengali novel Hara Parbati Katha by Ramkumar Mukhopadhyay.

About

- It was Instituted in **1991** by the **K.K. Birla Foundation**.
- It is awarded annually for **outstanding literary work** in Indian languages.
- The work must be published within the **last 10 years**.
- The award includes **₹15 lakh cash prize Citation and plaque.**

NATIONAL HIGHWAYS GREEN COVER INDEX

NHAI, in coordination with ISRO, released the first Annual Report on the National Highways Green Cover Index (NH-GCI) 2025–26.

About

- **NH-GCI** is a technology-based index to measure **green cover along National Highways**.
- It uses high-resolution satellite sensors to detect **chlorophyll content**.
- Its value is expressed as a **percentage of green cover** within the **Right of Way (RoW)** of National Highways.
- It measures vegetation on **both sides of highways** at a **1 km granularity**.
- Around **30,000 km of National Highways** across **24 States** were covered for **July–December 2024**.

SANGITA KALANIDHI AWARD

Veena player Jayanthi Kumaresh has been chosen for the Sangita Kalanidhi at the 100th Conference and Concerts of The Music Academy, Madras. Bharatanatyam dancer Narendra G will receive the Nritya Kalanidhi award.

Sangita Kalanidhi	The Music Academy, Madras
Instituted in **1942** by The Music Academy, Madras.	It originated from the **All India Congress Session of 1927** held in Madras (now Chennai).
It is regarded as the highest honour in **Carnatic** music and often called the "**Nobel Prize of Carnatic music**."	It was established to promote and standardise Carnatic music.
The award includes a gold medal and a **birudu patra** (citation).	It organises the annual Music and Dance Festival, one of the most important events in the Carnatic tradition.
Since 2005, awardees have also been given the **MS Subbulakshmi Award, instituted by The Hindu.**	It also confers awards such as **Sangita Kala Acharya, TTK Award,** and **Musicologist Award.**

GLOBAL MIND HEALTH 2025 REPORT

The Global Mind Health 2025 Report by Sapien Labs highlighted a major mental health crisis among young adults in India.

About

- Earlier known as the Mental State of the World Report.
- Published under the Global Mind Project.
- It uses the **Mind Health Quotient (MHQ)** to assess emotional, social, cognitive and functional well-being.

Key Drivers

- Weak family bonds

- Decline in spirituality
- Early smartphone exposure
- High ultra-processed food consumption

Key Findings

- Young adults in many developed countries showed poorer mind health than those in several less developed regions.
- Countries like **Japan, Taiwan, Hong Kong, UK and China** ranked lower, while countries like **Ghana, Nigeria, Zimbabwe, Kenya and Tanzania** performed relatively better.
- **Finland** ranked high in happiness, but not proportionately in mind health, showing the two are not identical.

India

- **18–34 age group:** 60th rank, MHQ 33
- **55+ age group:** 49th rank, MHQ 96

SUBHASH CHANDRA BOSE AAPDA PRABANDHAN PURASKAR 2026

The Sikkim State Disaster Management Authority (SSDMA) and Lt Col. Seeta Ashok Shelke have been selected for the Subhash Chandra Bose Aapda Prabandhan Puraskar 2026 in the institutional and individual categories respectively.

About

- The award honours outstanding contribution in **disaster management**, including **prevention, mitigation, preparedness, rescue, and rehabilitation**.
- It is announced every year on **23 January (Parakram Diwas)**.
- The **Ministry of Home Affairs** is the nodal ministry.

SSDMA

- **SSDMA** has been recognised for strengthening **community-based disaster resilience** in the **Himalayan region**.
- It has trained **1,185 Aapda Mitras** across all **Gram Panchayats** as local first responders for floods and landslides.
- It also played a major role during the **2023 Teesta Flash Floods** and the **2016 Mantam Landslide**, helping rescue over **2,500 people**.

Individual

- **Lt Col. Seeta Ashok Shelke** was honoured for her leadership during the **2024 Wayanad landslides** in Kerala.
- Under her command, the Army built a **190-foot Bailey Bridge** at **Chooralmala** in record time despite severe weather and unstable terrain.

QS WORLD UNIVERSITY RANKINGS 2026

The 16th edition of the QS World University Rankings by Subject has been released recently.

About

- Quacquarelli Symonds (QS) is a London-based higher education analytics firm.
- Unlike overall university rankings, this ranking evaluates institutions across **55 individual subjects**, giving a more detailed picture of academic performance.
- These subjects are grouped into five broad areas, namely, Arts and Humanities; Engineering and Technology; Life Sciences and Medicine; Natural Sciences and Social Sciences and Management.

India

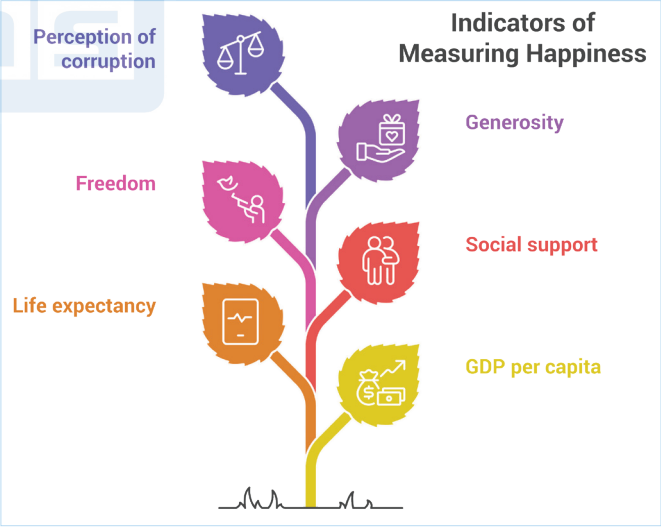
- IIT-ISM Dhanbad secured 21st rank globally in Mineral and Mining Engineering.
- IIM Ahmedabad emerged as India's top-ranked institution in Business and Management Studies as well as Marketing.

WORLD HAPPINESS REPORT 2026

The World Happiness Report 2026 was recently released.

About

- The report points out that **excessive social media use** is negatively affecting the well-being of young people.
- It is published every year by the **Wellbeing Research Centre, University of Oxford**, in partnership with **Gallup** and the **UN Sustainable Development Solutions Network.**



Key Findings

- The **top three countries** in the 2026 rankings are:
  - Finland at 1st place, continuing its lead since 2018
  - Iceland at 2nd place
  - Denmark at 3rd place
- The bottom three countries are Malawi at 145th, Sierra Leone at 146th and Afghanistan at 147th. India was ranked 116th, showing a slight improvement from 118th in 2025.

- For the second year in a row, no English-speaking country featured in the top 10.
- **Among major English-speaking countries:**
  - The United States ranked 23rd
  - Canada ranked 25th and the United Kingdom ranked 29th

KHELO INDIA TRIBAL GAMES

The first Khelo India Tribal Games (KITG) are being held in Chhattisgarh across Raipur, Jagdalpur and Sarguja over a ten-day period.

About

- It is the **first national multi-sport event** under the **Khelo India programme** dedicated to **tribal athletes**.
- The Games include **seven medal sports**: athletics, football, hockey, weightlifting, archery, swimming and wrestling.
- Demonstration events include **mallakhamb** and **kabaddi**.
- Around **60,000 athletes** from **30 states and UTs** are participating, competing for **338 medals**.

Objective

- The Games aim to promote **sports among tribal communities** and identify talent at the grassroots level.
- A **Talent Identification and Development Committee (TIDC)** has been set up to scout promising players for further training under the Khelo India scheme.

Mascot

- The official mascot is **Morveer**, derived from **'Mor' (our own)** and **'Veer' (bravery)** in Chhattisgarhi.

Khelo India

Major national competitions under the scheme include:

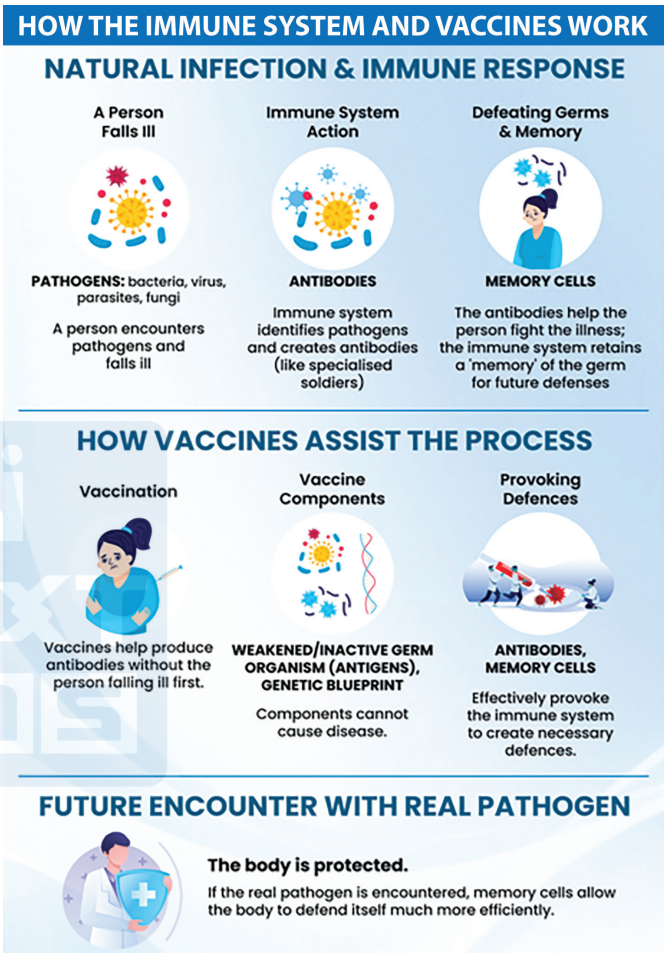
- Khelo India Youth Games
- Khelo India University Games
- Khelo India Para Games
- Khelo India Winter Games
- Khelo India Beach Games

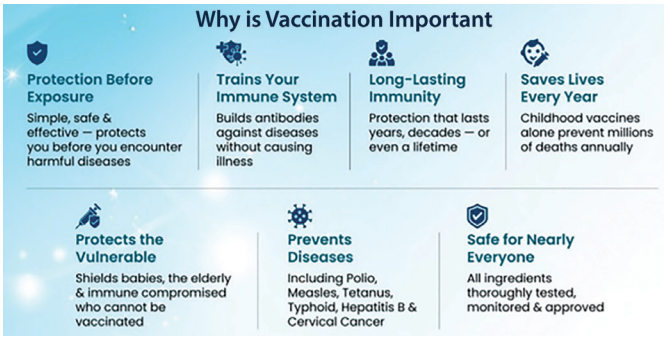
NATIONAL VACCINATION DAY

India observed National Vaccination Day on 16 March. The day commemorates the first Oral Polio Vaccine dose administered in 1995 under the Pulse Polio Programme.

Key Vaccines Initiatives

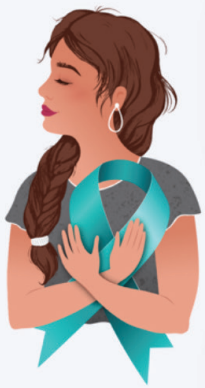
- The **Universal Immunisation Programme (UIP)** was launched in **1985** under the **Ministry of Health and Family Welfare** to provide free vaccines to children and pregnant women.
- It covers around **2.9 crore** pregnant women and **2.54 crore** newborns every year.
- The **HPV Vaccination Campaign** aims to cover about **1.15 crore** girls aged **14 years** for prevention of **cervical cancer**.
- **Mission Indradhanush**, launched in **December 2014**, focuses on children and pregnant women who remain unvaccinated or partially vaccinated.
- The indigenous **Tetanus and Adult Diphtheria (Td) Vaccine** , produced at CRI, Kasauli, is expected to add around 55 lakh doses.





- **Important digital platforms include:**
  - **eVIN** for real-time tracking of vaccine stock and temperature
  - **U-Win** for digital vaccination records and beneficiary tracking
  - **CoWIN**, which enabled administration of over 220 crore COVID-19 vaccine doses

HPV and Cervical Cancer



HPV

Human papillomavirus (HPV) is a sexually transmitted virus that can infect anybody.

Cancer risk

About 10% of women with HPV infection on their cervix will develop long-lasting HPV infections that put them at risk for cervical cancer.

Cancer-causing HPV

The International Agency for Research on Cancer found that 13 HPV types can cause cervical cancer in women, affecting the cervix, which connects the vagina (birth canal) to the upper part of the uterus.

Outcomes

- Vaccination, along with better **nutrition**, **sanitation**, and **healthcare**, has improved maternal and child survival in India.
- Full immunisation coverage rose from **62%** in **2015** to **98.4%** by **January 2026**.
- The share of **zero-dose children** declined from **0.11%** in **2023** to **0.06%** in **2024**.
- More than **1.3 crore** immunisation sessions are conducted every year.
- India is now recognised globally as a model for **large-scale public health delivery**.

Challenges

- **Vaccine hesitancy** and misinformation continue to affect coverage in some regions.
- **Last-mile delivery** remains difficult in remote, tribal, and conflict-affected areas.
- **Cold chain maintenance** is a major logistical challenge, with nearly **30,000** cold chain points and over **1.06 lakh** equipment units.
- **Urban slum coverage** remains weak because migration and informal settlements often lead to missed or incomplete immunisation.

Significance

- Vaccination has helped India eradicate **smallpox** in **1977** and eliminate **polio** (with the last reported case in **2011**).
- India has also eliminated **yaws** and **maternal and neonatal tetanus**.
- Immunisation has reduced **child mortality** and lowered the burden of diseases such as **measles-rubella** and **tuberculosis**.
- During **COVID-19**, India emerged as the "pharmacy of the world" by administering over **200 crore** vaccine doses and supplying vaccines to many countries.
- India contributes nearly **60%** of global vaccine production.

DATA RECAP

Economy and Infrastructure

- **Real GDP growth** for India in Financial Year 2025-26 is estimated at **7.6%**, while **nominal GDP** growth for the same period is about **8.6%**.
- The **Ministry of Statistics and Programme Implementation (MOSPI)** has officially revised the GDP base year from 2011-12 to **2022-23**.
- India's **bioeconomy** has witnessed a massive surge, growing from roughly $10 billion in 2014 to over **$195 billion in 2025**.
- Approximately **85% to 88% of India's crude oil** requirements are met through imports, with around **50%** passing through the **Strait of Hormuz**.
- India's **logistics cost** as a percentage of GDP declined to about **7.97%** in 2023-24, with a target to further reduce it to **6-7%** through the **PM Gati Shakti** initiative.
- **Micro, Small and Medium Enterprises (MSMEs)** contribute significantly to the economy, accounting for approximately **40% to 45%** of India's total exports.
- The **SWAMIH Fund**, a government-backed debt fund for stalled housing, has facilitated the completion of over **58,596 homes**.
- In the **Fiscal Health Index (FHI)**, **Odisha** emerged as the top-performing state, while **Punjab, West Bengal, and Kerala** were ranked in the bottom three.

Polity and Governance

- Under **Article 326** of the Constitution, the right to vote is classified as a **statutory right** rather than a fundamental right.
- **Census 2027** is set to be India's first **digital census** and will include a detailed **caste enumeration** for the first time since 1931.
- The **Sixth Schedule** (Articles 244(2) and 275(1)) provides for **Autonomous District Councils (ADCs)**, which currently apply to tribal areas in **Assam, Meghalaya, Tripura, and Mizoram**.
- The **Essential Commodities Act, 1955** allows the government to impose stock limits on non-perishable food items only when prices rise by **50%**.

Science and Technology

- The **Indian Institute of Science (IISc)** has launched a **"Moonshot" project** to develop **brain co-processors** using neuromorphic hardware and AI.
- India has allocated **₹20,000 crore** under the **Nuclear Energy Mission** for the development of **Small Modular Reactors (SMRs)** with capacities up to **300 MW**.
- India contributes approximately **60% of total global vaccine production**.
- The **Digital Sky Platform** is an online portal for the licensing of drone manufacturing and flying, as India aims to be a **drone superpower by 2030**.
- **Proton accelerators** are being planned in **Visakhapatnam** as part of a long-term strategy for **thorium-based** nuclear research.

Environment and Geography

- The **Bonn Challenge** is a global initiative with the target of restoring **350 million hectares** of degraded and deforested land by **2030**.
- The **Tropical Forest Forever Facility (TFFF)** is a performance-based financial mechanism introduced by **Brazil** to reward countries for maintaining standing forests.
- India's **Carbon Credit Programme** includes a **₹20,000 crore outlay** specifically for **Carbon Capture, Utilisation and Storage (CCUS)** in five industrial sectors.
- **Peatlands** are critical carbon sinks that cover approximately **3% of the Earth's land surface** but store nearly **30% of global soil carbon**.

Defence and Internal Security

- **Mission Sudarshan Chakra** is India's proposed AI-enabled, networked, and **multi-layered integrated air and missile defence** architecture.
- **India's share** of total global arms imports during 2021–2025 was **8.2%**, with **40%** of those imports originating from **Russia**.
- The **Central Industrial Security Force (CISF)** was established in **1969** and is responsible for securing critical installations like the Department of Space and Delhi Metro.
- Women officers in the **Indian Air Force** constitute **13-14%** of the force, which is the highest representation among the three armed services.
- **Project 17A** includes the advanced stealth frigate **INS Dunagiri**, which is equipped with **BrahMos missiles** and **AESA radar**.

History, Culture, and Society

- **Savitribai Phule (1831–1897)**, regarded as India's first female teacher, established the first school for girls in **Pune** in **1848**.
- The **Sangita Kalanidhi**, often called the "Nobel Prize of Carnatic music," has been awarded to veena player **Jayanthi Kumaresh** for 2026.
- The **Under-Five Mortality Rate (U5MR)** in India has seen a **79% reduction**, declining from 127 in 1990 to **27 in 2024**.
- **UNIGME** reports that approximately **4.9 million children** died before the age of five in 2024, with **prematurity** being the leading cause of newborn deaths.

TEST YOURSELF

Objective Questions

Visit: www.nextias.com for monthly compilation of Current based MCQs

SUBJECTIVE QUESTIONS

GS PAPER I

1. Discuss the concept of feminisation of agriculture in India. What are its key socio-economic implications?
2. How do geopolitical conflicts in West Asia influence global energy routes and economic geography?
3. Examine the role of crop diversification in improving environmental sustainability in India.
4. Critically analyse the structural challenges faced by women farmers in India despite their significant participation in agriculture.
5. Discuss the socio-economic and environmental limitations of the rice–wheat cropping system in India. Suggest viable alternatives.
6. Analyse the impact of global conflicts on migration and diaspora security with reference to Indian workers in West Asia.
7. "Agricultural diversification is essential for sustainable rural transformation." Examine with suitable examples from India.

GS PAPER II

8. What is judicial dissent? How does it contribute to constitutional governance in India?
9. Examine the significance of Free Trade Agreements (FTAs) in India's external economic policy.
10. Discuss the role of international organisations in managing regional conflicts.
11. Critically examine the role of judicial dissent in strengthening democratic accountability and protection of fundamental rights.
12. Evaluate India's approach towards Free Trade Agreements. How can India balance trade liberalisation with domestic industry protection?
13. Analyse India's strategic engagement in West Asia. How does it balance competing geopolitical interests?
14. Discuss the governance challenges associated with emerging technologies such as drones. Suggest institutional reforms.

GS PAPER III

15. What are Unmanned Aerial Vehicles (UAVs)? Discuss their applications in modern warfare and civilian sectors.
16. Explain the importance of logistics efficiency in enhancing India's export competitiveness.
17. What is GDP base year revision? Why is it necessary for accurate economic measurement?
18. Analyse the economic and strategic implications of disruption in the Strait of Hormuz on global energy markets and India.
19. Evaluate the challenges posed by drone warfare to national security. How should India respond?
20. Critically analyse the impact of Free Trade Agreements on India's manufacturing sector and export performance. Suggest corrective measures.