

Arbitration Mechanism in India



Arbitration framework has matured considerably but challenges remain: CJI Surya Kant Despite significant legislative and judicial reforms to strengthen the arbitration ecosystem, India continues to be a less preferred destination for international arbitration.

- **Arbitration is a procedure** in which a dispute is submitted, by agreement of the parties, to one or more arbitrators who make a binding decision on the dispute.
- Arbitration is a **quasi-judicial proceeding**. It is one of the mechanisms of **Alternate Dispute Resolution (ADR)**.

Arbitration Mechanism in India

- **Arbitration and Conciliation Act, 1996** governs the arbitral proceedings in India.
 - It was based on UNCITRAL (United Nations Commission on International Trade Law) **Model Law on International Commercial Arbitration 1985** and **UNCITRAL Conciliation Rules, 1980**.
 - Awards are **final, binding, and globally enforceable**.
 - **Mumbai Centre for International Arbitration (MCIA)** and the **Delhi International Arbitration Centre (DIAC)** provide institutional support.
 - **Key Amendments to the Act**
 - **2015:** Set a **12-month completion timeline**; minimized court interference.
 - **2019:** Created the **Arbitration Council of India (ACI)**.
 - **2021:** Allows for an **unconditional stay of the enforcement of arbitral awards** in cases where the arbitration agreement, contracts, or award itself was obtained through fraud or corruption.

Recommendations for Strengthening the Arbitration Regime

- **Modernize Laws:** Aligning domestic legal frameworks with international standards.
- **Limit Judicial Intervention:** By adopting a pro-arbitration stance.
- **Leverage Technology:** Using digital tools like e-filing and videoconferencing.
- **Boost Public Awareness:** Through ICT campaigns.

Social Media Ban for Minors



Karnataka and Andhra Pradesh to Ban Social Media Use by Minors Karnataka plans to ban social media for children under 16, and Andhra Pradesh for those under 13.

- Economic Survey 2025-26 had already flagged **digital addiction** as a key threat to youth and recommended **age-based access limits** and platform-level age verification.

Significance of Age-based Bans

- **Protecting child mental health:** Rising concerns about **digital addiction**, **cyberbullying**, and exposure to harmful online content.
- **Excessive screen time:** Uncontrolled smartphone and social media use affects children's **cognitive and social development**.
- **Promoting healthier lifestyles:** Complementary initiatives encourage reading and **offline activities** among school children.

Challenges

- **Jurisdictional Barriers:** Regulating the internet is **exclusively** the Union government's domain under the **Information Technology Act, 2000** raising **constitutional and legal hurdles**.
- **Enforcement:** Age verification and monitoring of users remain challenging without **robust age-verification tools** and strict compliance from platforms.
- **Rights & Pushback:** Critics argue bans **infringe** on **children's rights** to information, expression, and participation, **advocating** for digital literacy over punitive measures.
- **Industry concerns:** Bans could **push minors toward** less regulated or unsafe online spaces.

Other nations with similar restrictions

- **Australia** became the world's first country to implement a nationwide social media ban for children under 16 in late 2025.
- **Spain** mandated **age verification** for minors under 16.

Removal of Speaker



Lok Sabha to take up resolution seeking removal of speaker today.

Removal of Speaker

Constitutional Provision:

- **Article 94:** It deals with **vacation, resignation, and removal of the Speaker** and Deputy Speaker.
- **Article 94(c):** The Speaker/Deputy Speaker can be removed by a **resolution passed by a majority of all the then members** of the Lok Sabha.

Procedure for removal

- **Notice:** Written notice to **Secretary-General of Lok Sabha**, supported by at least **50 members**.
 - **Minimum 14 days' notice is required** before the resolution can be moved.
- **Discussion stage:** Speaker cannot preside, but can **participate and vote in the first instance (no casting vote)**.

Supplementary Demand for Grants



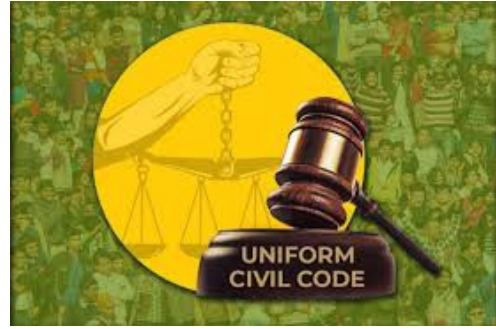
Supplementary demand for grants for 2025-26, tabled in Parliament.

About Supplementary Demand for Grants

- **Under Article 115**, it is caused to be laid by the President of India before both the Houses of the Parliament.
- It shows the estimated amount of **further expenditure necessary** in respect of a financial year **over and above the expenditure authorized** in the Budget for that year.
- It may be **token, technical, or substantive/cash**.

Uniform Civil Code

Recently, the Supreme Court in *Pavani Shukla vs UoI* suggested UCC to address gender bias in personal laws.



About Uniform Civil Code (UCC)

- It seeks to replace religion-based **personal laws** with a **common law** applicable to all, irrespective of religion, caste, creed, gender, or sexual orientation.
- **Constitutional provision:**
 - **Article 44:** directs the State to endeavour to secure a uniform civil code for citizens throughout the territory of India.
 - **Federal status:** Marriage, divorce, adoption, and succession are part of concurrent list (7th schedule) allowing both Centre and States to enact laws.

Need of UCC

- **Ensures Gender Justice:** UCC eliminates discriminatory practices in personal laws.
- **Promotes Secularism:** UCC ensures that civil laws are not influenced by religious beliefs, thus upholding the principle of secularism.
- **Simplifies Legal Procedures:** Associated with marriage, divorce, and inheritance.
- **Fosters National Unity:** By transcending religious and community divisions, UCC promotes common citizenship and strengthens national unity.

Current Status of UCC In India

- **Uttarakhand** became the **1st state and only in independent India** to implement UCC till date
- **Goa** has had a form of common civil code is in practice, the Portuguese Civil Code of 1867.
- Currently, there is **no nationwide UCC** in India.
 - **Supreme Court** in various judgements e.g., **Shah Bano (1985)**, **Sarla Mudgal (1995)**, has called for implementation of UCC.
- **21st Law Commission of India (2018)** in one of its **Consultation Paper** opined that the formulation of UCC is **neither necessary nor desirable** at this stage, rather emphasized on the reforms must be undertaken on family laws of every religion to make them gender-just.

Passive Euthanasia



Supreme Court (SC) applies Passive Euthanasia framework for first time. The SC in *Harish Rana vs Union of India* judgement permitted the withdrawal of artificial life support of a man who has been in a vegetative state for more than 12 years on the basis of Best Interest of the Patient Principle.

- The SC waived the usual 30-day consideration period as the patient's parents and both medical boards unanimously agreed that recovery was impossible.
- **Euthanasia** refers to the hastening of a patient's death to relieve suffering and is broadly classified into two types- Passive and Active (refer to box).

Passive euthanasia

- Under it, a patient is allowed to die naturally by withholding or withdrawing medical treatment that sustains life.
- Legal status:
 - Aruna Ramchandra Shanbaug case (2011): SC rejected a plea for euthanasia, but allowed passive euthanasia under strict conditions for terminal and irreversible patients.
 - In Common cause judgment (2018), SC recognised it and held that right to die with dignity is a fundamental right under Article 21.
 - In this case, it laid down guidelines for it and recognised the concept of a 'living will', with oversight involving DMs, judicial officers and medical specialists.
 - The court had held that passive euthanasia could be carried out using Advance Medical Directives.
 - Modified Guidelines issued by the SC in 2023: A primary and a secondary medical board will have to be formed for an expert opinion on the withdrawal of artificial life support for a patient in a vegetative state.

Other key highlights of Judgement

- **Enact a Comprehensive law:** Court urged the Parliament to enact a comprehensive, coherent statutory framework governing end-of-life care and passive euthanasia.
- **Administrative Directives:** To improve the process for future cases, the court directed High Courts to ensure that judicial magistrates are informed by hospitals whenever medical boards decide to withdraw or withhold life support.

Active Euthanasia

- **Active euthanasia** refers to the physician's deliberate act, usually the administration of lethal drugs, to end an incurably or terminally ill patient's life.
- **Active euthanasia** is illegal in India.
- **Legalised** in countries like the Netherlands, Belgium, etc.

Creamy Layer

SC observed that creamy layer status of Other Backward Classes (OBCs) cannot be decided solely based on parental income.



- The court noted that treating similarly placed employees of private entities and PSUs differently from government employees, for deciding the Creamy layer, would amount to discrimination.

About Creamy layer

- **The concept of creamy layer** (more socio-economically advanced members among OBCs) arose out of the landmark **Indra Sawhney** case in 1992.
 - **In the Indra Sawhney case**, the Supreme Court upheld the 27% OBC reservation in civil posts, subject to the exclusion of the creamy layer.
- **The Ram Nandan Prasad Committee** recommended the criteria for creamy layer - people whose parents are/were in a certain category of government services, and people earning above a threshold income.
 - The threshold income was increased to **Rs. 8 lakh** in 2017.

Article 105

The Lok Sabha Speaker clarified that Article 105 of the Constitution places freedom of speech within the framework of parliamentary rules.



About Article 105

- It defines the powers, privileges, and immunities of the Parliament and its members and committees.
- **Key provisions:**
 - **Freedom of speech in Parliament:** No Member of Parliament shall be liable to any proceedings in any court in respect of anything said or any vote given by him in Parliament or any committee.
 - **No person shall be so liable in respect of the publication** by or under the authority of either House of Parliament of any report, paper, votes or proceedings.
 - **Other powers and privileges are to be defined by Parliament by law**, or to follow those that existed at the time of the **44th Amendment in 1978**.
 - **Eligibility:** persons entitled to speak and take part in parliamentary proceedings, e.g. **MPs, Attorney General of India, etc.**

Eligible Manufacturer Importers (EMI) Scheme

Central Board of Indirect Taxes and Customs (CBIC) introduced deferred Customs Duty payment facility for eligible manufacturer importers under the EMI Scheme.

Eligible Manufacturer Importers (EMI) Scheme



About EMI Scheme

- **Launched by:** CBIC (announced under Union Budget 2026–27).
- **Duration:** 1 April 2026 – 31 March 2028.
- **Mechanism:** Eligible Manufacturer Importers (EMIs) can clear imported goods without paying Customs duty at the time of clearance, **instead paying it monthly as per the Deferred Payment of Import Duty Rules, 2016.**
- **Objective:** Improving cash flow for manufacturers, promoting compliance, boosting domestic manufacturing, and enhancing Ease of Doing Business.

Current Account Deficit

The current account deficit has moderated to 30.1 billion dollars in the period of April-December 2025 from 36.6 billion dollars in the same period a year ago.

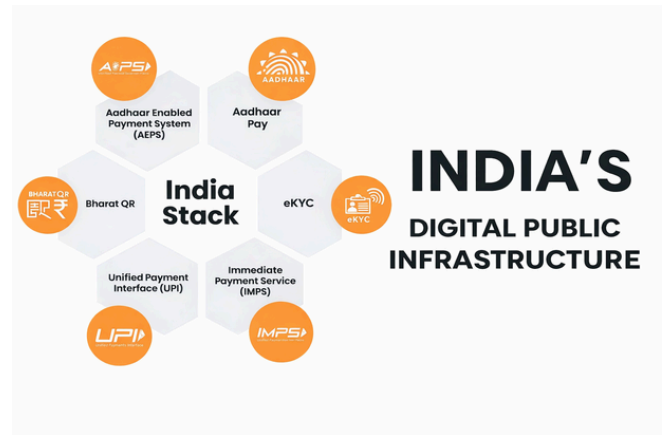


About CAD

- CAD refers to the situation where a country's total imports of goods, services, and transfers exceed its total exports and transfers out.
- **It encompasses:** Goods and services and also income received from investments abroad and unilateral transfers, such as **remittances and foreign aid.**
- CAD is part of the broader balance of payments framework, which tracks all financial transactions between a country and the rest of the world.

India's DPI

By leveraging a "public good" model rather than closed platforms, India has transitioned from a consumer of digital systems to a primary architect of population-scale Digital Public Infrastructure (DPI).



What is DPI?

- UN defines **DPI** as **foundational digital systems** that enable **secure interactions between citizens, businesses, and governments**.
- Effective DPI must be:
 - **Inclusive**: Ensuring access regardless of geography or socio-economic status.
 - **Interoperable**: Allowing different systems to work together seamlessly through open APIs.
 - **Publicly Governed**: Designed to deliver public value and protect the public interest.

Significance of India's DPI

- **Scale and Efficiency**: India's DPI facilitates billions of transactions monthly at a very low cost, significantly reducing leakages in welfare delivery (saving over ₹4.31 lakh crore via the Public Financial Management System).
- **Economic Impact**: UPI now accounts for 49% of global real-time payment transaction volume.
- **Sectoral Depth**: Beyond payments, the "**India Stack**" has expanded into health (CoWIN, eSanjeevani), education (DIKSHA), e-commerce (ONDC), and judicial services (e-Courts).
- **Global Diplomacy**: India is actively exporting this model, having signed MoUs with 24 countries and offering platforms like CoWIN as open-source digital public goods.
 - **UPI Cross-Border**: UPI is live in **8 countries**: UAE, Singapore, Bhutan, Nepal, Sri Lanka, France, Mauritius, and Qatar.
 - **Modular Open-Source Identity Platform (MOSIP)**: Developed in India, MOSIP is being explored or adopted by more than 25 nations for sovereign digital identity systems.

Essential Commodities Act, 1955

In the wake of the oil crisis triggered by the Israel-U.S. strikes on Iran, Centre has invoked the Essential Commodities Act, 1955.

THE ESSENTIAL COMMODITIES ACT, 1955



About Essential Commodities Act, 1955

- It empowers the **government to control production, supply, distribution, and trade of essential commodities** to ensure availability at fair prices and prevent hoarding or black marketing in the public interest.
 - List of essential commodities include- **Drugs; Fertilizers; Foodstuffs, including edible oils; Hank yarn; Petroleum and its products; Raw Jute and its textiles; and Various types of Seed (fruits, vegetables, cattle fodder).**
- **2020 Amendment to the Act:** Parliament limited the government's powers to regulate agricultural commodities (**cereals, pulses, onions, potato, edible oils**) only under **extraordinary situations**, such as War, Famine, Natural calamity, Extraordinary price rise.

Open Market Operations

The RBI announces Open Market Operation (OMO) of government securities (G-Secs) worth ₹1 lakh crore in two tranches.

About Open Market Operation of the RBI

- **Definition:** OMO refers to the **RBI's buying and selling of G-Secs** in the open market to regulate systemic liquidity.
- **Mechanism:** **Purchasing G-Secs injects money into the economy**, promoting growth, while **selling them absorbs excess liquidity** to curb inflation.
- **Objective:** It serves as a **vital macroeconomic tool** to manage inflation, ensure financial stability, and control interest rates.



NITI Aayog's report on Natural Farming

NITI Aayog has published a report titled "Empowering Farmers: Natural Farming Training Toolkit & Best Practices Guide."

About Natural Farming

- It is a chemical-free, livestock-based farming system rooted in ecological principles.
 - This method **integrates** crops, trees, and animals to maximise biodiversity, thereby maintaining environmental harmony.
- It relies on the **natural processes** occurring within and around the **farm**, eliminating the need for external chemical inputs.
 - This distinguishes it from **organic farming**, which permits the use of externally sourced, certified organic fertilizers and bio-pesticides.

Benefits of Natural Farming:

- **Economic Benefits:** Reduces the paid-out cost of cultivation by **at least 5-10%** across major crops, and **up to 20-55%** in several cases.
 - Diversified natural farms can earn **20-40% higher net incomes** compared to monocropped conventional farms.
- **Environmental & Ecological:** Lowers greenhouse gas (GHG) emissions by **55-85%**.
 - It significantly conserves resources, resulting in **50-60% savings in water and electricity**.
- **Soil Health & Resilience:** Increases **Soil Organic Carbon (SOC)** by up to **45%** and boosts beneficial soil microorganisms.
 - Improved soil health leads to **stronger root development**.
- **Health & Nutritional Security:** Protects the health of farmers and consumers by completely avoiding synthetic pesticides and fertilizers.
- **Livestock Integration:** Makes livestock **economically viable** by integrating them directly into the agroecological farming system, where their by-products (dung and urine) are utilized for on-farm inputs.

National-Level Initiatives to Promote Natural Farming

- **Bharatiya Prakritik Krishi Paddhati (BPKP):** Launched as a sub-scheme under **Paramparagat Krishi Vikas Yojana (PKVY)**.
- **National Mission on Natural Farming (NMNF):** A ₹2,481 crore initiative to bring 1 crore farmers under natural farming, while supporting the establishment of 10,000 Bio-Input Resource Centres (BRCs) and strengthening certification processes.
- **Other major government schemes** supporting the **transition from chemical to natural farming** include PM PRANAM, SATAT (Sustainable Alternative Towards Affordable Transportation), and GOBARDHAN (Galvanizing Organic Bio Agro Resources Dhan).

Care Economy in India

PM highlighted the growing importance of care economy in India



About Care Economy

- The care economy includes all essential activities done to maintain and support people and daily life, including **childcare, elderly care, domestic work, etc.**
- It can be both **paid** (domestic workers or nurses) and **unpaid** (such as cooking, washing, child care by women within the household).
 - Care economy largely remains unpaid, hence, **not counted in GDP**, and is **heavily dominated by women (76% of global unpaid care work as per ILO)**.

Need for Formalisation of Care Economy in India

- **Contribution to GDP:** The economic value of women's unpaid domestic and care work is estimated to range between **15% and 17% of India's GDP**.
 - Further, building a professional care ecosystem allows India to **export skilled talent globally**, boosting economic growth through remittances.
- **Demographic Transition:** By 2050, the **proportion of elderly individuals (60+ years)** is projected to double to **around 21% of the population**.
- **Boosting Female Labor Force Participation:** The **unequal burden of care work (81% women vs. 26% men)** keeps women out of the paid workforce.
 - Accessible and affordable care infrastructure is essential to alleviate women's **"time poverty,"** allowing them to participate in **education, skill training, and the formal workforce**.
- **Massive Job Creation Potential:** Direct public investment equivalent to 2% of India's GDP **could generate 11 million jobs**, with nearly 70% of those positions going to women.

Initiatives taken regarding care economy in India

- **Government Schemes:**
 - Central initiatives include the **Saksham Anganwadi and POSHAN 2.0** for early education and nutrition;
 - **Mission Shakti** program, which includes the **Palna scheme** to establish 17,000 new Anganwadi-cum-creches.
 - Programs like the **Atal Vayo Abhyuday Yojana** support the elderly.
 - **Union Budget 2026-27** announced a **strategic initiative to train 1.5 lakh multiskilled caregivers**, aimed at addressing domestic needs and global shortages.
- **Legislative Mandates:** The **Maternity Amendment Benefit Act (2017)** doubled paid maternity leave to 26 weeks and legally required larger employers to provide crèche facilities.
- **Non-Governmental Interventions:** Organizations like **SEWA** have established childcare cooperatives for informal workers, while **Mobile Creches** has pioneered day-care centers at construction sites for migrant workers.

FDI policy for countries sharing land border

Cabinet approves changes in FDI policy for countries sharing land border with India (LBCs)

Key changes Introduced

- **Beneficial Owner (BO):** Clear definition of BO incorporated under the Prevention of Money Laundering Rules, 2005, enabling **ease of doing business**.
- **Eased Criteria for Investment:** Non-controlling Investor from LBCs owning **less than 10%** of the company can invest through the **Automatic Route**.
 - Previously, as per **Press Note 3 (PN3) of 2020**, any investment from LBCs was permitted **only under the Government route**.
- **Expedited 60-Day Timeline:** Proposals in select sectors will be cleared within **60 days**. E.g., **manufacturing capital goods, electronics, Polysilicon and ingot-wafer**, etc.
 - In these cases, majority **ownership and control** must remain with **resident Indian citizens or Indian-owned entities**.

Benefits

- **Ease of Doing Business:** Clear BO rules and timelines **reduce regulatory uncertainty for investors**.
 - This makes it easier for **Indian startups and tech companies** to get funding from global funds.
- **Economic Growth:** Facilitates higher Foreign Direct Investment (FDI) inflows to supplement domestic capital.
- **Supply Chains:** Faster approvals enable quicker Joint Ventures and tech access, strengthening global manufacturing integration.
- **Atmanirbhar Bharat:** Attracts tech-intensive investments in electronics and solar manufacturing, **strengthening domestic manufacturing capabilities**.

Background: PN3 of 2020

- **PN3** was enforced through **Foreign Exchange Management (Non-Debt Instruments) Amendment Rules, 2020**.
- **Aim:** To curb opportunistic takeovers of pandemic-hit Indian companies.
- However, it **adversely affected the investment inflows**.

Diversification of India's Energy Basket

India exploring new energy options amid US-Israel and Iran conflict India has started sourcing its crude oil from 40 countries in a diversification meant to bolster its energy security.



- Roughly 60% of India's crude imports now arrive by alternate corridor.

Need for diversification

- Ongoing US-Israel conflict with Iran leading to the closure of the key shipping route through the **Strait of Hormuz** through which ~40% of India's crude imports pass.
- Clean cooking programmes had led to India's LPG imports surging nearly three-fold in the past decade. (Indian Oil Market Outlook to 2030 by International Energy Agency)
 - India produces only about 40% of its LPG requirement. The rest is imported, overwhelmingly from the same region now at war.
- **Sovereignty Conflict: The US is exerting pressure on India** to reduce Russian oil imports by framing them as requiring "permission" (e.g., granting a temporary 30-day waiver).

Status of India's energy imports

- India imported around **300 million metric tons of crude and petroleum products** in 2024-25.
 - The oil and gas sector alone accounts for nearly 28 % of India's total trade by volume.
- India currently meets about **88 % of its crude oil and 51 % of its gas** needs through imports.
 - India is the **third largest importer**, fourth largest refiner, and fifth largest exporter of petroleum products globally.

Steps taken by India to diversify energy sources

- **India signed a \$3 billion deal** to buy liquefied natural gas from the United Arab Emirates (UAE).
- **India signs its first LPG term deal** with the US to import 2.2 million tonnes of cooking gas.
- **Strategic Petroleum Reserves (SPR):** Indian Strategic Petroleum Reserve Limited (ISPRL), has established SPR facilities at 3 locations (Vishakhapatnam, Mangaluru, and Padur)
- **ONGC Videsh Ltd. and private companies** have undertaken various outreach oil and gas exploration projects in African countries
- **India and Canada** signed Joint Statement on Energy Cooperation at India Energy Week 2026

National Investment and Infrastructure Fund



National Investment and Infrastructure Fund has raised \$750 million for its Second Private Market Fund.

About National Investment and Infrastructure Fund (NIIF, 2015)

- It is a **fund manager** that invests in infrastructure and related sectors in India.
- It is a **collaborative investment platform** for international and Indian investors with a mandate to invest equity capital in domestic infrastructure.
- It is India's first-ever **sovereign wealth fund**.
- **Managed by:** National Investment and Infrastructure Fund Limited (NIIFL).

Food Safety and Standards Authority of India



Food Safety and Standards Authority of India (FSSAI) directed milk producers who are not members of dairy cooperative societies to obtain mandatory registration or a licence before commencing or continuing their food business operation.

About FSSAI

- It is statutory body established under **Ministry of Health and Family Welfare** as per provisions contained in the **Food Safety and Standards Act 2006**.
- **Functions:** Laying down science-based standards for articles of food and to regulate their manufacture, storage, distribution, sale and import to ensure availability of safe and wholesome food for human consumption.
- **Composition:** It consists of a Chairperson and 22 members out of which one-third are women.
- **Initiatives:** Eat Right India, RUCO (Repurpose Used Cooking Oil), Food Fortification etc.

Fiscal Health Index (FHI) 2026



NITI Aayog launches Second Annual Edition of Fiscal Health Index (FHI) 2026. FHI holds significance as States account for nearly one-third of India's general government debt and play a key role in delivering key public services, calling for systematic assessment of their finances.

Key Highlights of FHI 2026

- **Top Rankers: Odisha** remains top performer under **Achiever Category**.
 - It is followed **Goa and Jharkhand**, also featuring as Achiever states.
 - These exhibit high own- tax shares, large capital outlay (4–5% of GSDP), low fiscal deficits (below 3% of GSDP), moderate debt levels, etc.
 - **Bottom Rankers: Punjab, West Bengal and Kerala** exhibiting higher non-developmental expenditure and less sustainable fiscal patterns.
- **Inclusion of North-Eastern (NE) and Himalayan States:** This edition includes 10 North-Eastern and Himalayan states, evaluated and ranked separately apart from major states.
 - **Top Rankers: Achievers** (Arunachal Pradesh [ranked highest], Uttarakhand),
 - **Bottom Rankers: Himachal Pradesh and Manipur** owing to weak revenues and persistent fiscal stress.
- **Policy Priorities for Improving State's Fiscal Health:** Enhancing revenue mobilisation, strengthening own-tax capacity; improving capital expenditure; strengthen public financial management systems, monitor off-budget borrowings, etc.

About Fiscal Health Index (FHI), 2026

- **5- Key Pillars: Quality of Expenditure, Revenue Mobilisation, Fiscal Prudence, Debt Index, and Debt Sustainability** categorising major states into categories, namely, **Achiever, Front Runner, Performer, Aspirational**.
 - Uses data from **Comptroller and Auditor General (CAG)**.
- **Sub-Indicators:** Refined for NE states to capture unique characteristics like **difficult terrain, sparse population density, limited own revenue capacity, elevated committed expenditures, greater reliance on Union transfers**.

U.S. and Israeli airstrikes on Iran



U.S. airstrikes on Iran under “Operation Epic Fury” have resulted in the killing of Iran’s Supreme Leader, Ayatollah Ali Khamenei, sharply escalating tensions in the Middle East.

- The strikes triggered Iranian retaliation through missile and drone attacks, sharply escalating regional tensions.

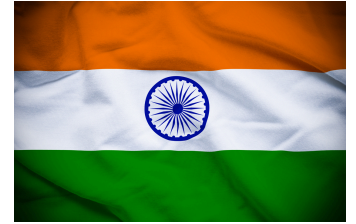
Background of the Current Escalation

- **Post-1979 Hostility:** U.S.–Iran relations have remained strained since the 1979 Islamic Revolution, marked by sanctions, diplomatic breakdowns and ideological rivalry.
- **Nuclear Dispute:** Escalation over Iran’s nuclear programme, especially after the U.S. withdrawal from the **2015 Joint Comprehensive Plan of Action (JCPOA)** and the re-imposition of sanctions.
- **Proxy Warfare & Regional Influence:** Iran’s support to allied groups like Hamas and Hezbollah, etc., in Lebanon, Syria, Iraq and Yemen has expanded its regional footprint, raising security concerns for the U.S. and Israel.

Consequences of Conflict

- **Regional Instability:** Escalation increases the risk of a wider Middle East conflict. E.g., missile and drone strikes against U.S. military bases and allied locations across Gulf countries such as the UAE.
- **Threat to Energy Security:** E.g. Iran has effectively closed the strategic Strait of Hormuz, a critical maritime chokepoint through which 20% of the world's oil passes annually.
- **Global Trade & Connectivity:** Maritime insecurity in the Gulf can increase freight and insurance costs, disrupt key shipping lanes, and disturb global supply chains dependent on West Asian energy flows.
- **Nuclear Escalation Risk:** Conflict raises the risk of strategic miscalculation and potential nuclear escalation.
- **Impact on India:** India imports nearly 85% of its crude oil, with a significant share sourced from West Asia; rising oil prices can widen the current account deficit and fuel inflation.
 - Additionally, around 8–9 million Indians live in the Gulf region, making diaspora safety, remittance stability, and potential evacuation major policy concerns.

Canada PM Visit to India



Visit of the Prime Minister of Canada to India concluded India and Canada relations were formally designated as a “Strategic Partnership” in 2018.

- It was the first **bilateral** visit to India by a Canadian Prime Minister since 2018.

List of outcomes

- **Trade Agreement:** Signed the Terms of Reference (ToR) for the Comprehensive Economic Partnership Agreement (CEPA)
 - Bilateral merchandise trade currently stands at roughly **US\$8–9 billion annually**, significantly below potential relative to economic size.
- **Nuclear Energy:** Finalized a long-term commercial contract with Canada's **Cameco** for the supply of **Uranium Ore Concentrates**.
- **Critical Minerals Cooperation:** Signed MoU to develop secure and resilient critical mineral supply and value chains.
- **Declaration of Intent for a Joint Pulse Protein Centre of Excellence** (Canada is pulse exporter to India)

Announcements

- Set a goal to reach **US\$50 billion in bilateral trade by 2030**.
- Canada announced to join **Global Biofuels Alliance and International Solar Alliance**.
- Formation of an **India-Canada Parliamentary Friendship Group**.
- Establishment of **India-Canada Defence Dialogue**.

Asian Infrastructure Investment Bank

The Union Finance Minister met the President of the AIIB to discuss strengthening the India-AIIB partnership.



About AIIB:

- **Established:** in 2016
- **Objective:** it is a **multilateral development bank** that provides **financing for infrastructure projects** in Asia.
- **Headquarters:** Beijing, China
- **Membership:** Open to all members of the World Bank or Asian Development Bank.
- India is a **founding member** of AIIB.

West Asia crisis Impact on India

The recent turmoil in West Asia could have serious economic repercussions for India, and to assess the same, the government held inter-ministerial deliberations with exporters and logistics players.



Potential impact of the West Asia crisis on India

- **Threat to energy security:** The possible blocking of the Strait of Hormuz is concerning as it accounts for roughly one-fifth, or around 20%, of global oil passes.
 - The Strait of Hormuz carries **85% of India's LPG, 55% of LNG.**
 - India relies on imports for **more than 85 per cent of its crude oil needs**, with a substantial portion coming from West Asia.
- **Impact on trade:** Uncertainty over **56% of India's goods exports**, raising concerns as the region serves a major market for India and also transit corridor linking India to Europe, Africa, etc.
- **Supply chain disruption:** Disruptions to shipping routes are increasing insurance costs and transit times, affecting Gulf transshipment hubs like **Jebel Ali Port (UAE) and Port of Salalah (Oman).**
- **Diaspora:** Indians constitute around **30% of total expatriate workers** in the Gulf Cooperation Council.
- **Remittance:** Around **19% of India's total remittances** come only from the UAE, **7% from Saudi Arabia**, while Kuwait, Oman and Qatar also have significant contributions. (RBI Remittances Survey for 2023-24).
- **Connectivity:** May affect development of International North-South Transport Corridor (INSTC), India-Middle East-Europe Economic Corridor and the Chabahar port operated by India.

Major Straits in Indian Ocean

Iran has vowed to attack any ship trying to pass through the Strait of Hormuz.



About Straits:

- **Meaning:** It is a naturally formed narrow passage of water that links two larger water bodies, such as seas or oceans.
- **Major Straits in Indian Ocean:**
 - **Strait of Hormuz:** Connects Persian Gulf with Gulf of Oman and Arabian Sea.
 - **Bab-el-Mandeb Strait:** Connects the Red Sea with the Gulf of Aden and Indian Ocean.
 - **Malacca Strait:** Connects Andaman Sea (Indian Ocean) and the South China Sea (Pacific Ocean).

India's Export Resilience



India concluded nine FTAs covering 38 countries in last three years boosting exports It has led to zero-duty market access to nearly 70% of global GDP.

- Cumulative exports reached **USD 720.76 billion** in Apr-Jan 2025-26 (+6.15% YoY)

Sector-wise Performance

- **Electronic Goods:** India's **third-largest export category**, India is now world's second-largest mobile phone manufacturer
- **Petroleum Products:** The **seventh-largest global exporter** of refined petroleum.
- **Pharmaceuticals:** Consolidating its **Pharmacy of the World** status, ranks **3rd** largest pharmaceutical producer by **volume** and the **11th** largest by **value**.
- **Automobiles & Textiles:** The **automobile sector** provides direct and indirect employment to over **30 million people** while **textiles** maintain the **6th largest global export share**.
- **Defence:** Expanding to over **100 nations**, achieved **defence exports of ₹23,622 crore in FY25**.

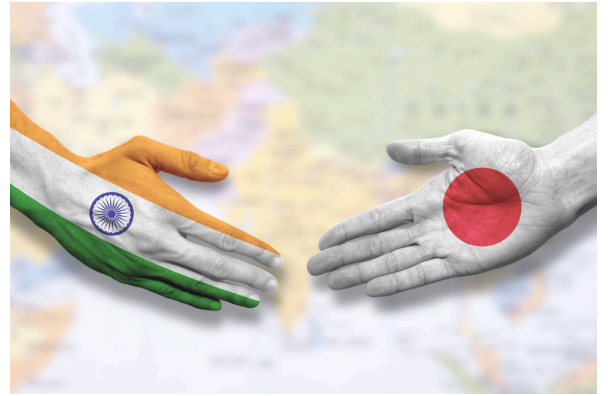
Institutional Support Mechanism

- **Export Promotion Mission (EPM):** Backed by a ₹25,060 crore outlay (FY26-FY31), this mission especially empowers MSMEs and first-time exporters via **Niryat Protsahan and Niryat Disha**.
- **Logistics & Warehousing initiatives** like **FLOW** and **LIFT** subsidize overseas warehousing and offset freight disadvantages in low-export districts.
- The **TRACE** initiative reimburses costs for international testing, inspection, and certification requirements.

Government Schemes & Initiatives

- **PLI Schemes:** in **Auto, Bulk Drugs, and Medical Devices** aimed at reducing critical import dependence.
- **Tech & EV Push:** The India Semiconductor Mission 2.0, the ₹40,000 crore Electronics Component Manufacturing Scheme (ECMS), and the ₹10,900 crore **PM E-DRIVE** scheme **accelerate domestic manufacturing and self-reliance**.

India-Japan Bilateral Swap Arrangement



India has renewed its Bilateral Swap Arrangement BSA (Currency Swap Arrangement) with Japan with effect from 28th February, 2026.

- **The BSA** is a two-way arrangement where both authorities can swap their local currencies in exchange for the US Dollar.
 - **A currency swap** is a broader term defined as an agreement between two central banks to exchange a cash flow in one currency against a cash flow in another currency according to predetermined conditions.
- **The size of the India-Japan BSA:** Remains unchanged at 75 billion US Dollars.
- **Other CSAs by India:** SAARC CSA (2024-27), India-UAE CSA, India-Sri Lanka CSA, etc.

International Atomic Energy Agency

IAEA held an emergency meeting in Vienna to address the fallout of US-Israel military strikes.



About IAEA:

- **Formed:** in 1957.
- **Overview:** It is the world's central intergovernmental forum for scientific and technical cooperation in the nuclear field.
- **Function:** It works for the safe, secure and peaceful uses of nuclear science and technology, contributing to international peace and security and the United Nations' Sustainable Development Goals.
- **Headquarters:** Vienna (Austria).
- **Award:** Nobel Peace Prize in 2005.

Attack on Iranian Ship in Indian Ocean



Sinking of Iran's IRIS Dena by USA exposes Maritime Security Concerns The ship was sunk by a US naval nuclear-powered submarine in Indian Ocean Region (IOR), claimed as the first such attack by America since the World War II.

- Following the distress signal, **Indian Navy** launched Search and Rescue efforts deploying **INS Tarangini** and **INS Ikshak**.

Key Implications of the Action

- **Global Shipping Routes:** IOR is central to **strategic and energy security of India** housing critical global shipping lanes used by all major Asian economies.
- **Legality of the Action:** The incident occurred **40 nautical miles off Sri Lanka's Galle**, bringing attention towards **legal zones** that divide the world's oceans.
 - **United Nations Convention on Law of the Sea (UNCLOS)** ,enforced in 1994, along with laying down comprehensive regime of law and order for world's oceans, divides them into **maritime zones** (See Infographic).
- **Violation of Geneva Convention:** For the Amelioration of the Condition of Wounded, Sick and Shipwrecked Members of Armed Forces at Sea by USA.
- **Expansion of War:** The incident brought regional war confined to air power and missile strikes, to the global maritime domain.

India's Role as Net Security Provided in IOR

- **Upgraded its SAGAR** (Security and Growth for All in the Region) policy to **MAHASAGAR** (Mutual and Holistic Advancement for Security and Growth Across Regions).
- **Institutional Leadership:** India houses **Information Fusion Centre – Indian Ocean Region (IFC-IOR)** and plays a leading role in **Indian Ocean Rim Association**.
- **Regional Security Forums and Naval Cooperation:** E.g. **Colombo Security Initiative**, **International Fleet Review (IFR) 2026**, **Indian Ocean Naval Symposium (IONS) Conclave**, etc.

India-Finland Relations



During state visit of President of Finland, India and Finland elevated their bilateral relations to "Strategic Partnership in Digitalization and Sustainability".

Other Key Outcomes

- **Trade:** Aim to **double** bilateral trade to \$2.6 billion by 2030 capitalizing on recently concluded India-EU FTA.
- **Digital Frontier:** Establishment of Joint Task Force on 6G.
- **Startups:** Greater connectivity of startup ecosystems through Indo-Finland Startup Corridor.
- **Circular Economy:** India will **co-host the World Circular Economy Forum 2026**, a Finnish initiative providing circular economy solutions.
- **Human Capital:** A Migration and Mobility Partnership was signed to facilitate the movement of students and professionals.

Three Seas Initiative

Secretary in the Ministry of External Affairs met with Special Envoy for strategic connectivity and national coordinator for the Three Seas Initiative.



About Three Seas Initiative (3SI)

- It is a **regional effort in Europe** to expand cross-border **energy, transportation, digital infrastructure and boost economic development** in the area between the **Adriatic Sea, Baltic Sea, and Black Sea**.
- **Participating Countries:** 13 countries (Austria, Bulgaria, Croatia, the Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia).
- All 3SI countries are **European Union (EU) members**, and **all except for Austria are NATO allies**.

War of attrition

Escalating tensions between the U.S., Israel and Iran are increasingly being described as a war of attrition.



War of Attrition

- A military strategy aimed at gradually **exhausting the enemy's resources, manpower, and morale** until its capacity to fight collapses.
- **Method:** Involves **sustained attacks and prolonged conflict**, relying on superior resources and endurance.
- **Example:** Prominent during **World War I trench warfare**, where opposing sides sought to outlast each other.

Commission on the Status of Women

COMMISSION on the STATUS OF WOMEN



India to participate in the 70th Session of the Commission on the Status of Women (CSW-70) at the United Nations Headquarters.

About CSW:

- Established in **1946** and functions under the **Economic and Social Council (ECOSOC)**.
- **Function:** It is the principal global **intergovernmental body** dedicated to the promotion of **gender equality and the empowerment of women**.
 - It also monitors implementation of the **Beijing Declaration** and Platform for Action.
- **Membership:** 45 UN Member States **elected for 4 year period** by ECOSOC on the basis of equitable geographical distribution:
 - 13 members from Africa
 - 11 from Asia (**India** is a current member)
 - 9 from Latin America and Caribbean
 - 8 from Western Europe and other States
 - 4 from Eastern Europe

European Free Trade Association



India-European Free Trade Association (EFTA) Trade and Economic Partnership Agreement (TEPA) celebrated its 2nd anniversary.

- The agreement **signed in 2024** offers **binding** commitment of **\$100 bn investment** and 1 million direct jobs in the next 15 years.

About EFTA

- It is the **intergovernmental organisation** of **Iceland, Liechtenstein, Norway and Switzerland**.
- **Established in 1960** through the **Stockholm Convention**
 - **Initial Founding members:** Austria, Denmark, Norway, Portugal, Sweden, Switzerland and the United Kingdom
- **Objective:** Promotion of free trade and economic integration between its members.

Changing Nature of Global Trade

The creation of Multilateral Institutions like the WTO during the era of Globalisation was rooted in the concept of “doux commerce” given by the French Philosopher Montesquieu.



- However, in recent times, this principle has increasingly weakened.

Concept of Doux Commerce

- The idea emphasizes that **trade softens** behaviour, promotes cooperation, and reduces the likelihood of conflict among nations.
- It is believed that **economic interests** would eventually overpower **geopolitical ambitions**, turning **integrated nations** into **responsible stakeholders** rather than **adversaries**.

Why is the idea of Doux Commerce weakening?

- **Interdependence seems as a Strategic Vulnerability:** Heavy dependence on foreign partners can **disrupt supply chains** during conflicts, threatening **national security**.
- **Weaponisation of Trade:** Countries are increasingly using **trade tools like tariffs, sanctions, export controls, and resource restrictions** to pressure rivals and gain geopolitical advantage.
- **Fragmentation of the Global Trade System:** Countries are shifting from **multilateral cooperation** under institutions like WTO to **smaller bilateral and regional trade agreements**.
- **Shift in Supply Chain Strategy:** Countries are increasingly favouring the relocation of supply chains to allied nations (**friend-shoring**) or to geographically closer countries (**near-shoring**).

Gulf Cooperation Council (GCC)

India Backs Bahrain draft submitted on behalf of GCC condemning Iran's missile and drone attacks to be voted in UNSC.



About GCC (Hq: Riyadh, Saudi Arabia)

- **Genesis:** Established on **25 May 1981** through a cooperative agreement among six Gulf countries.
- **Members (6):** United Arab Emirates; Kingdom of Bahrain; Kingdom of Saudi Arabia; Oman; Qatar; Kuwait.
- **Objective:** Promote **coordination, integration and cooperation** among member states to achieve greater regional unity.
- **Institutional Structure:** **Supreme Council** (highest authority; oversees Dispute Settlement Commission); **Ministerial Council**; **Secretariat General**.

International Solar Alliance



0th Foundation Day of International Solar Alliance (ISA) celebrated in New Delhi. On the occasion, ISA announced Green Hydrogen and Storage Start-up Challenge 2026 to identify and support innovative startups working at the forefront of green hydrogen and energy storage solutions.

About ISA

- **Overview:** ISA is a global intergovernmental organization dedicated to advancing solar power adoption for a carbon-neutral future.
- **Launched:** In 2015 by India and France at COP21 Climate Conference in Paris.
- **Headquarters:** Gurugram, India.
- **Four Strategic Pillars:**
 - **Catalytic Finance Hub** to unlock and mobilise investments at scale;
 - **Global Capability Centre and Digitisation** to foster innovation, digital platforms, and capacity building;
 - **Regional and Country-level Engagement** to drive tailored interventions and
 - **Technology Roadmap and Policy** to accelerate the deployment of emerging solar technologies.
- **Mission:** “Towards 1000 Strategy” aiming to **mobilize USD 1,000 billion of investments** in solar energy solutions by 2030 while delivering **energy access to 1,000 million people** using clean energy solutions and resulting in the installation of **1,000 GW of solar energy capacity**.
 - This would help **mitigate global solar emissions** to the tune of 1,000 million tonnes of CO₂, annually.
- **Membership:** 125 Member and Signatory Countries.
- **Governance:** ISA Assembly is the apex decision-making body of ISA, in which each Member Country is represented.

Key Initiatives under ISA

- **Global Solar Facility:** Aims to unlock commercial capital for solar projects in underserved regions.
- **Viability Gap Funding (VGF) Scheme:** Provides for 10% to 35 % of the total solar project cost to be given as a grant for developing solar projects in Least Developed Countries (LDCs) and Small Island Developing States (SIDS).
- **Solar Technology Application Resource Centre (STAR-C):** For creating highly skilled solar workforce.
- **SolarX Startup Challenge:** Fosters entrepreneurship to develop scalable solar solutions across ISA Member Countries.

Total Lunar Eclipse and Blood Moon



India is set to witness a total lunar eclipse, confirms the Indian Meteorological Department.

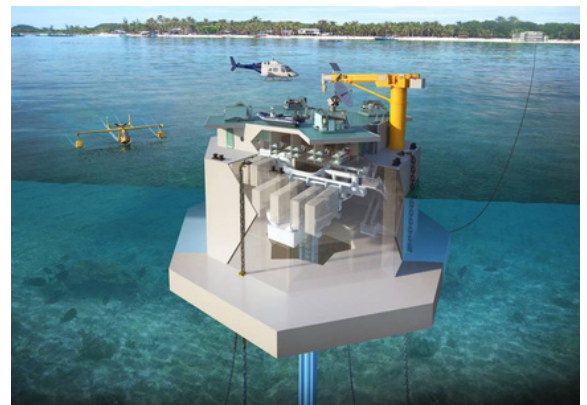
About Total Lunar Eclipse:

- It occurs when the Moon passes entirely through Earth's umbra (darkest part of its shadow), with the Earth, Sun, and Moon perfectly aligned, completely blocking direct sunlight.

About Blood Moon:

- **Meaning:** A Blood Moon refers to the reddish appearance of the Moon.
- **Occurs:** During total lunar eclipses,
- **Cause of Formation:** This happens because of the Earth's atmosphere.

Ocean Thermal Energy Conversion



The Government of India is establishing a first-of-its-kind integrated plant based on Ocean Thermal Energy Conversion (OTEC) in Kavaratti Island, Lakshadweep.

About Ocean Thermal Energy Conversion (OTEC)

- Renewable energy technology that generates electricity using the **temperature difference** between warm surface water and cold deep ocean water.
- **Condition:** Requires about 20°C temperature difference; viable mainly in tropical oceans (30°N–30°S).
- **Working:** Cold deep-sea water and warm surface water run a heat engine to produce electricity.
- **Use:** Provides round-the-clock power and desalination for island regions.

National Dam Safety Authority



National Dam Safety Authority
Ministry of Jal Shakti, Government of India

Recently new initiatives developed by NDSA were launched.

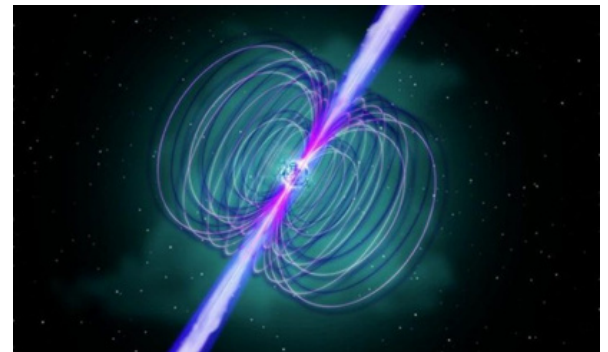
- **NETRA (NDSA Engine for Tracking and Review using AI)**, an AI-enabled platform for quick access to Dam safety related information.
 - It is also integrated with **DHARMA**, the national repository of dam safety data.
- **Rashtriya Bandh Suraksha Darpan** by Centre for Development of Advanced Computing was launched
 - It is a visualisation and interpretation platform for potential dam break scenarios for risk assessment.

About NDSA

- **Statutory body** under **Dam Safety Act, 2021**.
- **Ministry:** Ministry of Jal Shakti
- **Functions**
 - **oversee safety and maintenance of specified dams** across the country.
 - **Resolving issues** between the State Dam Safety Organisations
 - **Maintaining a National level database** of dams etc.

Supernova and Magnetar

Astrophysicists have identified magnetar as the cause behind an extremely bright supernova.



About Supernova

- Supernovae are **bright violent explosions** that take place during the **final stages of the death of a supermassive star**.

About Magnetar

- **Magnetars** are **neutron stars** having **very high magnetic fields** which are billions of times stronger than the strongest magnets we have on Earth.
 - **Neutron Stars:** These are the dead remnants of stars, composed entirely of neutrons.
 - They're so **heavy and dense** that the electrons and protons which make up atoms have been crushed together into neutrons.

Gitchak nakana

Researchers have found a newblind aquifer-dwelling fish 'Gitchak nakana' in Northeast India.

About Gitchak nakana

- **Type:** Blind aquifer-dwelling (phreatobitic) freshwater loach.
- **Unique Feature:** Complete absence of skull roof; brain covered only by skin.
- **Adaptation:** Troglomorphic traits (eyeless), adapted to underground habitat.



Marsupials

A marsupial species believed to be extinct for nearly 6,000 years has been rediscovered alive in the forests of New Guinea.

About Marsupials

- These are mammals that give birth to underdeveloped young, which continue development in a pouch (marsupium).
- **Classification:** Over 250 species belong to the infraclass Metatheria (Marsupialia).
- **Distribution:** Predominantly found in Australia and New Guinea; E.g., kangaroo, koala.
- **Reproduction:** Short gestation period followed by **pouch-based nurturing**.
- **Evolutionary significance:** Represent an ancient lineage of mammals distinct from placental mammals.



Convention on Biological Diversity



Convention on
Biological Diversity

India submits Seventh National Report to the Convention on Biological Diversity The report prepared by the Ministry of Environment, Forest and Climate is India's official submission under the CBD.

- Parties are required, under **Article 26 of the CBD**, to submit national reports to the Conference of the Parties (COP) on measures taken towards the implementation of CBD.

Key Highlights of Report

- It is first full assessment of progress toward 23 targets under the **Kunming–Montreal Global Biodiversity Framework (KMGBF)**.
- **Policy alignment: National Biodiversity Strategy and Action Plan** is now aligned with KMGBF (23 National Biodiversity Targets (NBTs) and 142 indicators).
- **Implementation of Targets:** Report identifies all NBTs being on track.
 - India moved to 9th position in terms of total forest area with forest and tree cover at **25.17% of geographical area**.
 - Area under **land restoration stands at 24.1 Mha** (out of pledged restoration of 26 Mha of degraded land by 2030).
 - India ranked **5th among the top global carbon sinks**, with its forests removing 150 Mt of CO₂ per year during 2021-2025.
 - Share of **non-fossil fuel-based energy resources** in India's cumulative installed electric power capacity is **51.93%** (surpassing NDC goal of 50%).

About CBD (Secretariat: Montreal, Canada)

- **Legally binding** treaty adopted at the UN's Conference on Environment and Development, Earth Summit, Rio de Janeiro, Brazil in **1992**.
 - It **entered into force in 1993** and operates under **United Nations Environment Programme**.
- **Governing Body:** Conference of Parties (CoP).
- **Objectives:** Conservation of biological diversity; sustainable use of its components; and fair and equitable sharing of the benefits
- **Protocols:** Cartagena protocol on biosafety and Nagoya protocol on access and benefit sharing.

Extension of Jal Jeevan Mission

Union Cabinet approves extension of Jal Jeevan Mission (JJM) up to 2028 There is a shift in approach under JJM from purely infrastructure creation to focusing on sustainable service delivery, institutional accountability, and local governance.



Other Key Changes in JJM

- **Sujalam Bharat:** A uniform national digital framework for precise digital mapping of the entire drinking water supply system from the source to the tap.
- **Jal Arpan:** Involvement of **Gram Panchayats** and **Village Water and Sanitation Committees** in the commissioning and formal handover of schemes.
- **Jal Utsav Initiative:** Promotion of annual community led events to reinforce collective responsibility for water security.

About Jal Jeevan Mission (JJM)

- **Launched:** In 2019.
- **Objective:** To provide a Functional Household Tap Connection (FHTC) delivering 55 litres per capita per day to every rural household.

Achievements of JJM

- **Massive Physical Expansion:** Tap water coverage has jumped from a baseline of 17% rural households in 2019 to 81.61% households.
- **Women Empowerment:** It has freed 9 crore women from the drudgery of fetching water and saved 5.5 crore hours of labour daily.
- **Health and Survival:** Improved access to water helps prevent up to 400,000 diarrheal deaths and saves 14 million Disability Adjusted Life Years (DALYs).
- **Economic Impact:** JJM has generated ~60 lakh direct and ~2 crore indirect person-years of employment.

India's First Semiconductor Plant

PM Inaugurates India's First Semiconductor Plant at Sanand, Gujarat Developed by Micron, a US based private firm, the Plant will facilitate Assembly, Testing, Marking and Packaging (ATMP) of semiconductor chips.



Significance for India

- **Supply Chain Self-Reliance:** Reduces heavy import dependence on chips (esp. from China) and enhances resilience against global disruptions (such as trade wars).
- **Strategic Importance:** Critical for defence, telecom (5G/6G), AI, space and digital infrastructure, strengthening national security.
- **Economic & Export Growth:** Boosts electronics manufacturing and attracts FDI, helping India capture a substantial share of **\$1 trillion semiconductor by 2030**.
- **Other:** generates high-skilled employment and supports *Atmanirbhar Bharat*.

Initiatives taken in India for Semiconductor Industry

- **India Semiconductor Mission (ISM) 1.0 & 2.0:** Umbrella programme to build a comprehensive semiconductor ecosystem.
 - **ISM 2.0 (Budget 2026–27)** focuses on strengthening equipment, materials, full-stack Indian IP design, supply chain resilience and skill development.
- **Semiconductor & Display Fabs Schemes:** Fiscal support for establishing semiconductor wafer fabrication and display manufacturing units in India.
- **Compound Semiconductors & ATMP/OSAT Scheme:** Support for chip assembly, testing, packaging and specialised semiconductor segments to strengthen the domestic value chain.
- **Design Linked Incentive (DLI) Scheme:** Incentives for startups and MSMEs to promote indigenous chip design and innovation.
- **Global Partnerships & Skilling Initiatives:** India–U.S. iCET collaboration, Semicon India platform, and programmes like C2S and VLSI curriculum reforms to build skilled manpower and attract investment.

Challenges to Overcome

- **High Investment & Long Gestation:** Semiconductor manufacturing is **capital-intensive** with long payback periods and high operational risks.
- **Technology Dependence:** Limited access to **advanced fabrication technology** and reliance on foreign firms for **critical equipment and intellectual property**.
- **Skilling & Ecosystem Gaps:** Shortage of specialised workforce and underdeveloped domestic supply chain for materials, components and supporting infrastructure.

Ethics of AI in Modern Warfare

The United States President has designated AI company Anthropic as a 'supply chain risk' and ordered the Department of Defense (Pentagon) to terminate all military contracts with the firm.



- Anthropic has refused to allow use of its AI model Claude for unethical mass surveillance or autonomous weapons by the Pentagon, citing concerns over national defense applications.

Role of AI in Modern Warfare and Defense

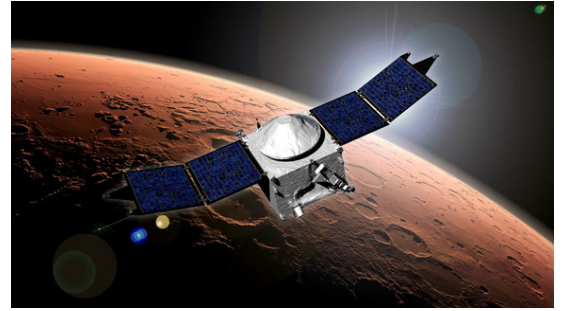
- **Autonomous weapons systems:** AI-enabled drones and robotic systems are capable of identifying and attacking targets with minimal human intervention.
 - **Precision strikes:** AI-powered targeting improves accuracy and reduces operational time.
- **Intelligence, Surveillance, and Reconnaissance (ISR):** AI processes large volumes of battlefield, satellites, drones, and sensors data to predict enemy movement and optimize strategy.
 - E.g. the US military took assistance of Claude AI to attack Iran.
- **Electronic warfare and cyber operations:** AI helps detect signals, disrupt enemy communications, and defend networks.
- **Logistics support:** AI assists in supply chain management, predictive maintenance, and battlefield decision-making.

Key Ethical Concerns

- **Autonomous lethal decision-making:** AI systems may make life-and-death decisions without meaningful human control, violating the **Right to Life**.
 - **Accountability Gap:** It becomes difficult to determine responsibility when AI-driven systems cause harm.
- **Misuse of Personal Data:** AI-powered facial recognition and data analytics can enable large-scale monitoring of populations by governments, manipulating the public choices and violate their privacy and civil liberties.
- **AI arms race:** Competition among states could accelerate the development of increasingly autonomous and lethal systems.

MAVEN Mission

Researcher detected a lightning-like “whistler” radio signal, providing the first evidence of such electromagnetic activity in the Martian ionosphere with the help of data obtained by NASA’s Mars Atmosphere and Volatile Evolution (MAVEN).

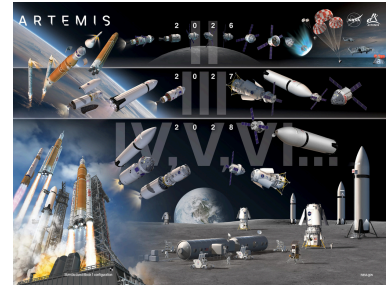


About MAVEN Mission

- It is the **first mission devoted to understanding the Martian upper atmosphere.**
- It will determine **how much of the Martian atmosphere has been lost over time.**
- It will do so by **measuring the current rate of escape to space** and gathering enough information about the relevant processes to **allow extrapolation backward in time.**

Artemis mission

NASA is restructuring the Artemis lunar program due to repeated delays.



About Artemis

- Under it, NASA will send astronauts on increasingly difficult missions to explore more of the Moon for scientific discovery, economic benefits, and to build on our foundation for the first **crewed missions to Mars.**
- **Artemis I** was launched in 2022.
- Artemis II, III and IV are planned to be launched.

Gypsum

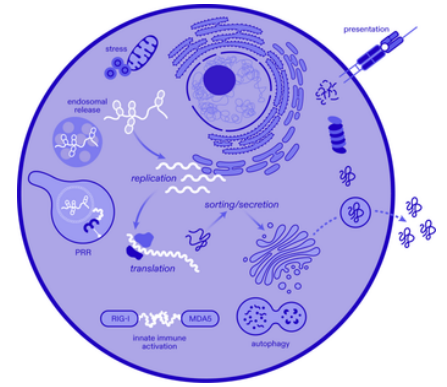
Scientists are studying gypsum deposits in the Salar de Pajonales (Atacama Desert, Chile) because the region closely resembles the harsh environmental conditions of Mars



Gypsum

- **Nature:** Non-metallic mineral – Calcium sulphate dihydrate ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$).
- **Formation:** Formed mainly in arid and semi-arid regions through evaporation of seawater or saline lakes.
- **Properties:** Very soft mineral, Crystals are vitreous (glass-like) to pearly
- **Application:** Used in cement (setting regulator), manufacture of Plaster of Paris, fertiliser production, and as a soil conditioner for reclamation of alkaline/sodic soils.
- In India, Rajasthan holds the largest share of gypsum reserves

Self-replicating RNA



Researchers claims to have developed a self-replicating RNA molecule named of QT45.

- **Self-replicating RNA** has ability to copy both itself and the information encoded in its complementary strand, i.e. its template.
- It supports the “**RNA World Hypothesis**”, which proposes that early life was based on self-replicating RNA before DNA and proteins evolved.

About Ribonucleic Acid (RNA)

- RNA is a nucleic acid present in all living.
 - Unlike DNA, RNA is most often single-stranded.
 - Each sugar molecule is linked to one of four nitrogenous bases: **adenine (A)**, **uracil (U)**, **cytosine (C)**, or **guanine (G)**.
- Major types of RNA exist in cells: messenger RNA (mRNA), ribosomal RNA (rRNA), transfer RNA (tRNA), microRNA

Nucleic Acid Test

The Supreme Court has decided to look into whether blood banks should compulsorily conduct the Nucleic Acid Test (NAT) for identification of diseases.



About NAT

- **NAT** is a highly sensitive molecular technique that detects the genetic material for viruses such as HIV, Hepatitis in the blood.
- It is based on amplification of targeted regions of **viral ribonucleic acid or deoxyribonucleic acid (DNA)**.
- It can be an alternative to commonly used **Enzyme-Linked Immunosorbent Assay (ELISA) test**.

Minuteman III

The United States conducted a test launch of Minuteman III.

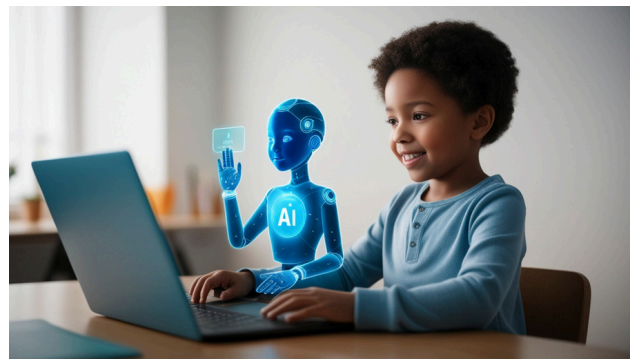
About Minuteman III

- It is an **intercontinental ballistic missile** part of the US' nuclear triad.
- It is the **nuclear missile land-based weapon** under the control of US Air Force Global Strike Command.
- It has **three solid-propellant rocket motors** with speed of approximately **Mach 23** at burnout.
- **Range:** 6,000-plus miles (5,218 nautical miles).



AI for Education

Artificial Intelligence (AI), key to solving Educational Challenges in India



Importance of AI in Education

- **For Students:** Offers **personalised Learning Paths and Remediation** assessing a student's level in real-time to adjust difficulty, format, or pace of content. E.g., MindCraft, platform for rural students offers tailored content.
- **For Teachers:** NCERT study (2024) revealed that **teachers who receive pre-service with AI-assisted lesson planning tools** were better able to identify student needs.
- **Assessments:** AI-enabled assessments can prove to be **formative and ongoing**, offering students real-time feedback and providing teachers with actionable insights.
- **Governance and System Monitoring:** Through **predictive analytics and AI-powered dashboards**.
- **Inclusive Education:** Support learners with disabilities via assistive AI tools, offering multilingual/dialectical support.

Key Initiatives taken for Extending AI to Education

- **National Education Policy (NEP) 2020:** Acknowledges role of **AI, big data and machine learning** in driving transformation.
- **School Education:** Integration of AI into school curricula through CBSE and NCERT, under NEP 2020 and National Curriculum Framework (NCF) 2023.
- **AI-Courses for Students and Educators:** **DIKSHA** (Digital Infrastructure for Knowledge Sharing), **SOAR (Skilling for AI Readiness)** to build AI awareness and skills for classes 6–12 students and educators; **SWAYAM (Study Webs of Active Learning for Young Aspiring Minds)** platform offers free AI courses from IITs and IISc, etc.
- **Higher Education:** **University Grants Commission (UGC), 2022** undergraduate curriculum includes AI, 3D machining, big data analysis, machine learning, etc.
- **Research and Development:** National Research Foundation, One Nation One Subscription, etc.

Gravity Bombs

US said that it would deploy precision gravity bombs in war against Iran.

About Gravity Bombs

- It historically known as a “free-fall” bomb.
- It is an **unpowered munition** that, unlike cruise missiles, does not have an internal engine.
- Once released, its trajectory is **dictated entirely by gravity**, aerodynamics and the speed and altitude of the dropping aircraft.
- It can have both **conventional as well as nuclear explosives**.



Advanced Light Helicopter Mk-III and Shtil missile

Ministry of Defence signed contracts for acquisition of six ALH Mk-III (Maritime Role) for Indian Coast Guard and Vertical Launch - Shtil missiles for Indian Navy.

About ALH Mk-III (MR)

- **Twin-engine helicopters** with state-of-the-art features superior to the **currently operated airborne platforms**.
- Capable of undertaking a wide spectrum of **maritime security missions** from **shore-based airfields as well as from ships at sea**.
- **Signed with Hindustan Aeronautics Limited, Bengaluru** under Buy (Indian-Indigenously Designed Developed and Manufactured) category.

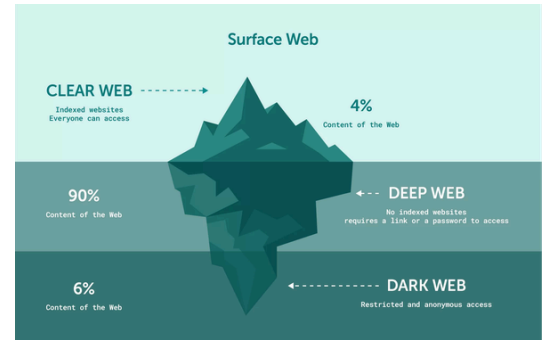
About Shtil missile

- **Surface-to-Air** missile, providing rapid-reaction, all-weather engagement capability and improved survivability in contested maritime environments.
- **Contract signed** with JSC Rosoboronexport, Russian Federation.



Darknet

NCB has busted a pan-India darknet drug network called 'Team Kalki'.



About Darknet (Deep web)

- The internet depends on **three types of web**: the surface, the deep, and the dark web.
- Surface web is a part that we can access through a normal browser.
- **Deep web and the dark web**, are not accessible through search engines like Google.
 - It operates on **overlay networks**, requiring **specific software or configurations** to access. Ex.Tor (The Onion Router).
- Only about **10% of the internet is the surface web**, while the remaining **90% of it constitutes the deep web and the dark web**.

THAAD

The U.S.-developed Terminal High Altitude Area Defense (THAAD) missile defence system is being operationally used during the ongoing U.S.–Israel conflict with Iran.



About THAAD

- Advanced missile defence system designed to **intercept short, medium and intermediate-range ballistic missiles**.
- **Developer: Lockheed Martin Corporation (USA)**.
- **Technology:** Uses “**hit-to-kill**” kinetic interception, destroying targets inside and outside the Earth’s atmosphere.
- **Components:** A THAAD battery includes ~95 personnel, truck-mounted launchers, interceptor missiles, AN/TPY-2 radar and fire-control system.

Note: India operates the **S-400 Triumph** air defence missile system procured from Russia.

Dark Oxygen

Scientists have reported the discovery of “dark oxygen” production nearly 4,000 m deep in the Pacific Ocean.

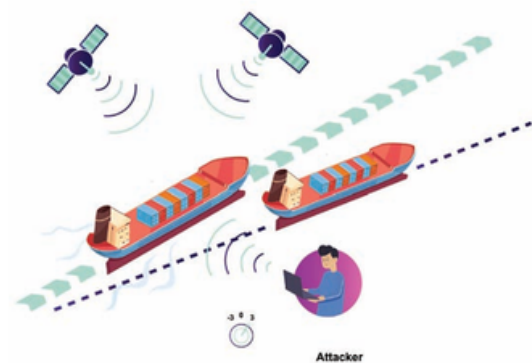


About Dark Oxygen

- Oxygen produced in the deep ocean without sunlight, unlike photosynthesis-based oxygen production.
- **Source:** Linked to **electrochemical reactions involving polymetallic nodules** on the ocean floor.
- **Significance:** Challenges the belief that **photosynthesis is the only major natural source of oxygen** on Earth.

GPS Jamming/ spoofing

Global Positioning System (GPS) jamming and GPS spoofing are being allegedly used in the US-Iran war.



- These are two deliberate types of **cyberattacks** on **Global Navigation Satellite Systems (GNSS)** signals to disrupt or trick the navigation systems of vehicles.

About GPS Jamming

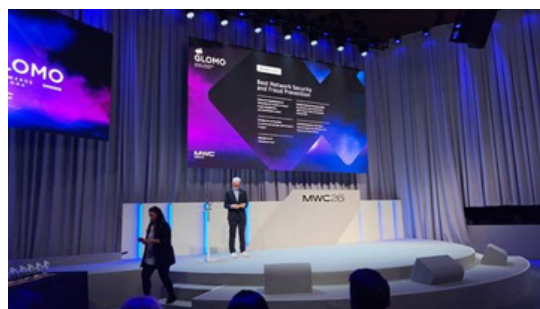
- It involves the use of a device called a **jammer to disrupts and blocks authentic GNSS signals.**
- It overpowers weaker signals with 'noise' on the same frequency.

About GPS Spoofing

- It refers to the practice of **manipulating or tricking a GPS receiver by broadcasting false GPS signals.**
- It misleads the GPS receiver into believing it is located somewhere it is not, resulting in the device **providing inaccurate location data.**

FraudPro

The Centre for Development of Telematics (C-DOT), has received global recognition at the Mobile World Congress 2026 for "FraudPro".

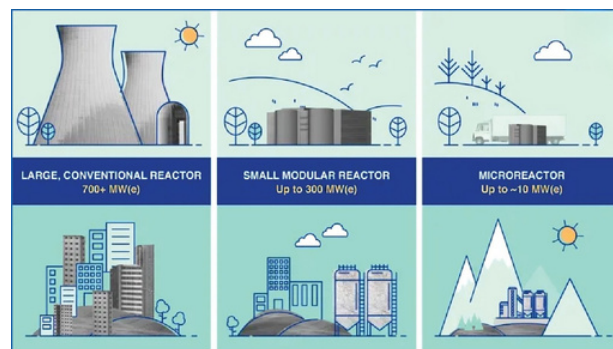


About FraudPro

- **Overview:** It is an **advanced Artificial Intelligence (AI) and Machine Learning (ML) driven fraud detection platform** aimed at securing telecom ecosystems against identity-based fraud.
- **Applications:** Enables telecom operators to **proactively detect fraudulent mobile connections** in the network and prevent misuse of telecom resources.
- It is deployed by the Department of Telecommunication in India as part of **Digital Intelligence Platform and Sancharsaathi portal.**

Small Modular Reactors

India developing three different types of Small Modular Reactors (SMRs): Union Minister. SMRs are miniaturised versions of large nuclear power plants, producing nuclear energy up to 300 MWe per module, about one-third of traditional nuclear power reactors (IAEA).



SMRs of India

- While SMRs are an entirely new concept, **Bharat Small Reactors (BSRs)** are based on **India's existing PHWR (Pressurized Heavy Water Reactor) technology**.
- **3 SMRs models being developed by Department of Atomic Energy (DAE):**
 - **Bharat Small Modular Reactor (BSMR) 200MWe:** Indigenously developed by **Bhabha Atomic Research Centre (BARC)** (unit of DAE and **Nuclear Power Corporation of India Limited (NPCIL)**).
 - Based on **PWR technology**; slated to utilise **Slightly Enriched Uranium (SEU)** as fuel to be constructed at **Tarapur Atomic Power station site, Maharashtra**.
 - **SMR-55MWe:** Also modelled on PWR technology, featuring a block-type, highly modular design to be constructed at **Tarapur**.
 - **Up to 5 MWth High temperature gas cooled reactor:** Meant for **hydrogen generation** to be constructed at **BARC Vizag, Andhra Pradesh**.

Significance of SMRs for India

- **Modular:** Can be manufactured in **factory parts and assembled at designated site** reducing gestation period and **bringing economies of scale**.
- **Scalability:** Deployed **Incrementally** as per increased energy demand.
- **Safer:** **Inherent and passive safety features** entailing no human intervention to shut down the system.
- **Others:** **Low carbon energy; cater to higher energy demand** in the wake of rise Artificial Intelligence, etc.

India's Nuclear Push

- **Nuclear Energy Mission:** Announced in **Union Budget 2025–26** focused on research and development (R&D) of **SMRs** aiming to develop **at least five indigenously designed and operational SMRs by 2033**.
- **Nuclear Energy Target: 100 GW nuclear power capacity by 2047.**
- **SHANTI Act, 2025:** Consolidating and modernising India's nuclear legal framework.

National Geospatial Policy 2022



Union Minister highlighted that National Geospatial Policy 2022 democratized access to geospatial data. National Geospatial Policy 2022 aims to position India as a global leader in the geospatial sector.

About Geospatial Technology

- Geospatial technology is an umbrella term for a **range of modern tools and systems used to collect datasets** to map the Earth's surface, understand societies and conduct spatial analysis.
 - The word "geospatial" refers to anything relating to a location, specifically data and information regarding features on the Earth's surface.
- **Types of Geospatial Technologies:** Remote Sensing, Geographic Information Systems (GIS), LiDAR (Light Detection and Ranging), Global Positioning System (GPS), Internet Mapping Technologies (Google Earth, Microsoft Virtual Earth).

National Geospatial Policy 2022

- **Key Goals:**
 - Establish high-resolution topographical survey and mapping system and develop a highly accurate **Digital Elevation Model (DEM)** for entire country by 2030.
 - Establish a **Geospatial Knowledge Infrastructure (GKI)** underpinned by an Integrated Data and Information Framework by 2030.
 - Generate **high-resolution bathymetric geospatial data** for inland waters and deep-sea topography and develop a **National Digital Twin for major urban centers** by 2035.
- **Institutional Framework:** Establishes the Geospatial Data Promotion and Development Committee (GDPDC) as the apex national body to drive the ecosystem.
- **Data Infrastructure:** Mandates the creation of the National Geospatial Data Registry (NGDR) and a Unified Geospatial Interface (UGI) to ensure seamless data access and sharing.

Government Initiatives for Geospatial Technologies

- **National Geospatial Mission (NGM):** Launched in 2025-26 to develop foundational geospatial infrastructure and data.
- **Operation Dronagiri:** A pilot initiative to demonstrate real-world applications of geospatial technologies.
- **Continuously Operating Reference Stations (CORS) Network:** Launched by Survey of India for high-accuracy location data.
- **BISAG-N (Bhaskaracharya National Institute for Space Applications and Geo-informatics):** Provides specialized services and solutions in implementing map-based GIS.

CE20 Cryogenic Engine

ISRO successfully conducted CE20 cryogenic engine's ground test. CE20 is an advanced cryogenic rocket engine, indigenously developed by the Indian Space Research Organisation (ISRO).



- Only 6 countries possess this technology i.e. USA, Russia, Japan, France, China and India.
- **Significance:** Used in third stage of LVM3 launch vehicle; for enhancing future payload capacities (e.g. Gaganyaan Programme); and becoming self-reliant.

About Cryogenic Engines

- **Definition:** A cryogenic engine is a type of rocket engine that utilizes liquefied gases for its fuel and oxidizers.
 - The term "cryogenic" signifies that these liquefied gases must be kept at extremely low temperatures (below -150°C).
- **Types of Propellants Used:** Cryogenic engines typically employ Liquid Oxygen (LOX) and Liquid Hydrogen (LH2).
- **Principle of Operation:** A cryogenic engine is a reaction engine which generates thrust by expelling high-speed exhaust gases in one direction, producing an equal and opposite reaction that pushes the rocket forward.

Advantages of Cryogenic Engines

- **Increased Efficiency:** They generate more force per kilogram of propellant compared to conventional engines.
- **Environmental Benefits:** They are more environmentally friendly, non-toxic and non-corrosive.
- **Safety Benefits:** They are non-hypergolic (do not ignite spontaneously), which makes ground operations safer.
- **Cost-Effective:** Their efficiency can ultimately reduce the cost of launch operations.

Disadvantages

- **Complex Storage Requirements:** Safely storing liquids at such extreme temperatures requires complex equipment for storage and functioning.
- **Ignition Challenges:** Needs highly specialized ignition systems to start the engines.

Kurds

The U.S. is increasingly seeking support from Kurdish groups in its conflict with Iran.



About Kurds

- Kurds are one of the world's largest **stateless ethnic groups** with a population between 30 and 40 million worldwide.
- **Region:** They live mostly amid the peaks and valleys straddling the borders of **Armenia, Iraq, Iran, Syria and Turkey.**
- **Culture:** The Kurds have a distinct culture, including a Persian-related language with many dialects, traditional dress, music, cuisine, and identity.
- **Demand for Separate State:** Their nationalism emerged in the late 19th century, but aspirations for a homeland have repeatedly been thwarted.

Santiniketan

Spring festival (Basant Utsav) was recently celebrated in Bengal, a tradition first started by Nobel Laureate Rabindranath Tagore at Visva-Bharati, Santiniketan.



About Santiniketan

- Established in **1901** by **Rabindranath Tagore** located in West Bengal.
 - The site was established as an ashram and given its name in **1863** by **Tagore's father, Debendranath Tagore.**
- It was a **residential school** and **centre for art** based on ancient Indian traditions.
- In 1921, a **'world university'** was established at Santiniketan, later recognised as **'Visva Bharati'**.
- It was recognized by UNESCO as **India's 41st World Heritage Site** in 2023.
 - **Recent World Heritage Sites in India:** Moidams – Mound-Burial System of the Ahom Dynasty (2024); Maratha Military Landscapes (2025).

Kurumba Painting

The Kurumba art tradition faces the threat of extinction.



Kurumba Painting

- **Origin:** A 3,000-year-old tribal folk painting of the Kurumba tribe found in Tamil Nadu, Kerala, and Karnataka.
 - The Kurumba tribe is classified as a **Particularly Vulnerable Tribal Group (PVTG).**
- **Themes:** Depicts rituals, spiritual beliefs, festivals, nature, animals and community life.
- **Materials:** Uses natural pigments from forest sources like tree resin and crushed leaves.
- **Style:** Characterised by simple linear motifs, dots, lines and geometric patterns.
- **Cultural Role:** Traditionally painted on walls and temples, preserving tribal traditions and visual storytelling.

World Obesity Atlas 2026

Atlas provides global, regional and national estimates of rising obesity among children and adolescents.



- Obesity is classified by the **World Health Organization (WHO)** as a chronic, relapsing disease characterising abnormal or excessive fat accumulation that presents a risk to health.
 - Its diagnosis is made by measuring people's weight and height and by calculating the **Body Mass Index (BMI): weight (kg)/height² (m²)**.
 - For school-age children (aged 5-19 years), obesity is greater than 2 standard deviations above the WHO Growth Reference median.

Key Highlights of the Report

Global Scenario

- **Obesity:** Prevalence of obesity among school-age children (aged 5-19 years) has increased from 4% in 1975 to nearly 20% in 2022.
 - The majority resides in middle-income countries.
- **Implications:** Obesity in childhood frequently persists into adulthood, increasing the risk of Non-Communicable Diseases (NCDs) such as diabetes, heart disease, and certain cancers.
- **High Burden Countries:** Ten countries (with highest burden in China, India, and US) alone account for over 200 million school-age children with high Body Mass Index (BMI).

Indian Scenario

- **High Burden:** India ranks second globally for children who are overweight and living with obesity.
 - **41 million** school-age children in India have high BMI.
- **High chronic disease indicators:** In 2025, about 8.39 million children had BMI-attributed metabolic dysfunction-associated liver disease (MASLD), while 2.98 million suffered from BMI-attributed hypertension.

About CBD (Secretariat: Montreal, Canada)

- **Legally binding** treaty adopted at the UN's Conference on Environment and Development, Earth Summit, Rio de Janeiro, Brazil in 1992.
 - It entered into force in 1993 and operates under **United Nations Environment Programme**.
- **Governing Body:** Conference of Parties (CoP).
- **Objectives:** Conservation of biological diversity; sustainable use of its components; and fair and equitable sharing of the benefits
- **Protocols:** Cartagena protocol on biosafety and Nagoya protocol on access and benefit sharing.

International Women's Day



International Women's Day

International Women's Day and India's focus on Women-led Development

Theme for International Women's Day 2026: "Rights. Justice. Action For ALL Women and Girls."

- India's development approach has evolved from **development for women** to **women-led development**, recognising women as drivers of economic and social progress.

Steps taken for Women Led Development in India:

- **Gender-responsive public investment:** FY26 features India's highest-ever gender budget at ₹5.01 lakh crore (9.37% of the Union Budget).
- **Women building rural economies:**
 - **Lakhpati Didi:** Over 3 crore rural women are actively progressing toward building sustainable, high-income livelihoods
 - **NaMo Drone Didi Yojana:** Provides agricultural drones to 15,000 SHGs with an 80% subsidy, integrating women into the tech ecosystem.
- **Finance fuelling entrepreneurship**
 - **Financial Inclusion:** Women comprise **68% of the PM MUDRA loan** beneficiaries and hold **56% of all Jan Dhan accounts**.
 - **Stand-Up India:** Supported over **2 lakh women entrepreneurs** in launching greenfield enterprises.
 - **Start-Up India:** Has supported over **75,000 women-led startups**.
- **Skills, Innovation, & Leadership**
 - **Skilling Programs:** Women make up nearly 45% of **Pradhan Mantri Kaushal Vikas Yojana** trainees.
- **Social Justice & Empowerment:** Abolition of **Triple Talaq** criminalizes instant divorce, ensuring dignity, equality for Muslim women.

Empowering Women in Agriculture



International Women's Day 2026, themed "Rights. Justice. Action.", coincides with the International Year of the Woman Farmer, highlighting the significance of empowerment of women farmers.

- **11.72% of total operated area in India was operated by female operational holders. (Agriculture Census 2015-16)**

Key issues faced by Women in Agriculture

- **Lack of Land Ownership:** Despite legal inheritance, women own only **11% of agricultural land** (World Bank).
- **Limited Access to Institutional Support:** Lack of land titles restricts women's access to credit, **crop insurance, irrigation schemes, extension services**, and government agricultural programmes.
- **Feminisation of Agriculture:** Male migration has increased **women's agricultural responsibilities** without a corresponding rise in resources, decision-making power, or benefits.

Way forward for Women Empowerment

- **Recognise women as farmers:** By defining farmers based on agricultural activities (not land ownership) and collecting gender-disaggregated data.
- **Strengthen land and resource rights:** Through equal inheritance laws, joint land titles, incentives for property in women's names, and gender-sensitive land administration.
- **Improve access to technology and services:** By providing labour-saving tools, inclusive extension services, market information, and climate-resilient farming knowledge.