

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)**.

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.

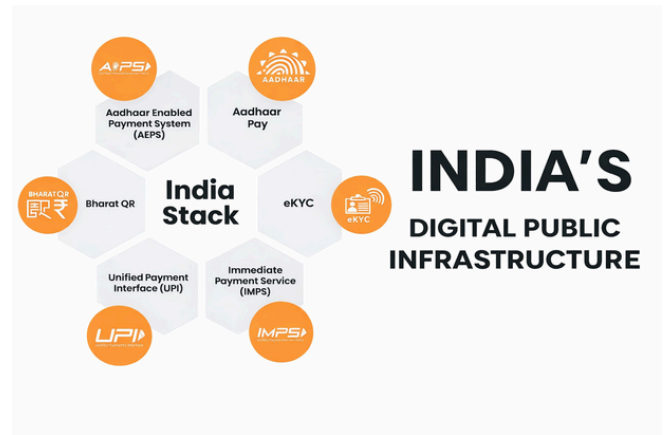


About CAD

- 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.



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.

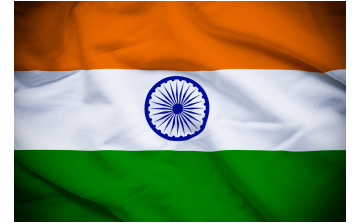
Background of the Current Escalation

- **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**.

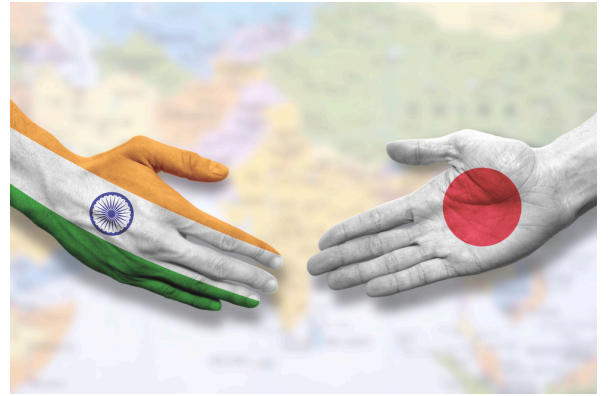
Institutional Support Mechanism

- **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



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

Total Lunar Eclipse and Blood Moon



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

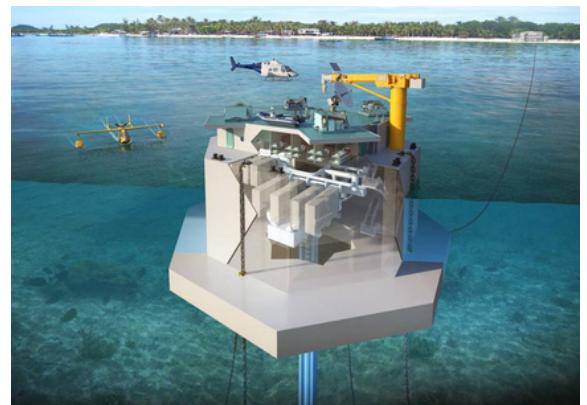
About Total Lunar Eclipse:

- 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.

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

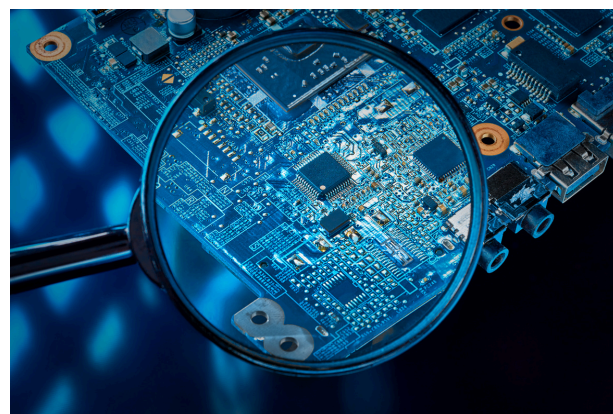
- It is first full assessment of progress toward 23 targets under the **Kunming–Montreal Global Biodiversity Framework (KMGBF)**.
- **Policy alignment: National Biodiversity Strategy and Action Plan** is now aligned with KMGBF (23 National Biodiversity Targets (NBTs) and 142 indicators).
- **Implementation 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.

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

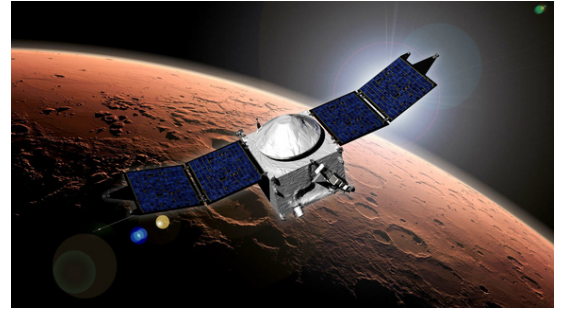
- **Autonomous weapons systems:** AI-enabled drones and robotic systems are capable of identifying and attacking targets with minimal human intervention.
 - **Precision strikes:** AI-powered targeting improves accuracy and reduces operational time.
- **Intelligence, Surveillance, and Reconnaissance (ISR):** 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).

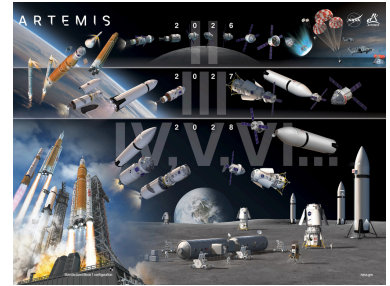


About MAVEN Mission

- 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

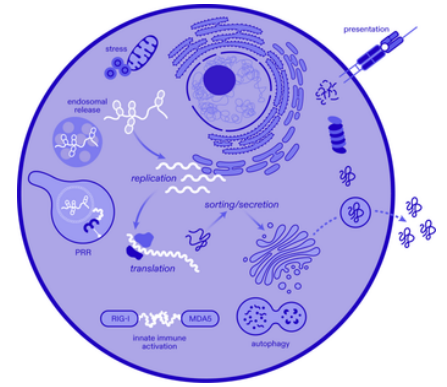
Scientists are studying gypsum deposits in the Salar de Pajonales (Atacama Desert, Chile) because the region closely resembles the harsh environmental conditions of Mars



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.

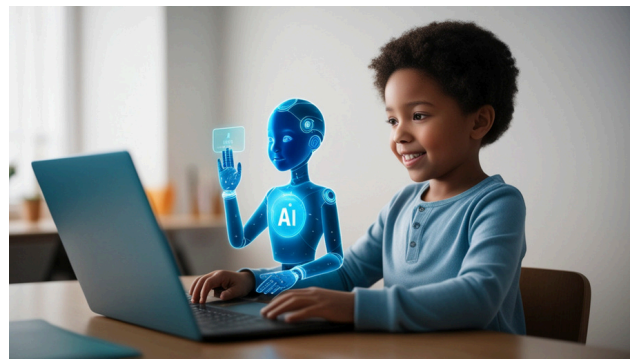
About Minuteman III

- 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.

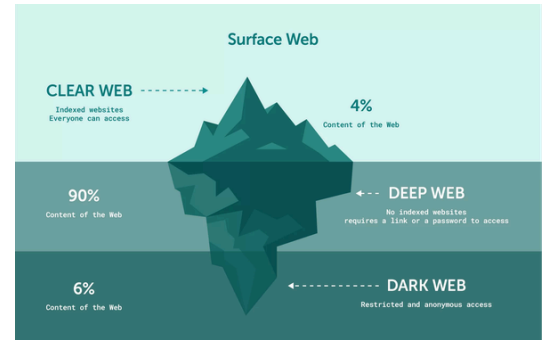
About Shtil missile

- **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.

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).

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.