

CURRENT

Pulse



MONTHLY MAGAZINE

APRIL 01/2026 TO

Jan Vishwas Bill, 2026



The Jan Vishwas (Amendment of Provisions) Bill, 2026 was recently passed in Lok Sabha to foster trust-based governance.

Key provisions

- **Decriminalization:** replaces imprisonment with civil penalties for over **1,000 offences** minor offences.
 - E.g. up to Rs. 1 cr penalty for making national highway impassable instead of imprisonment.
- **Adjudication Mechanism:** to resolve penalties outside the court system.
- **Graduated response:** warnings/advisories before fines for first or second time lapses.
 - **Dynamic Monetary penalties:** 10% increment every 3 years to create deterrence.
- Several **outdated colonial-era laws** and offences are omitted.

Registered Unrecognised Political Parties

The Election Commission of India (ECI) has relaxed the criteria for Registered Unrecognised Political Parties (RUPPs) to retain their common election symbols under the Election Symbols (Reservation and Allotment) (Amendment) Order, 2026.



- Parties now only need to **secure a 1% vote share in either of the last two elections** (Lok Sabha or Assembly) to retain their symbol, whereas previously they had to achieve this mark in both elections.

About RUPP:

- Either **newly registered parties** or those which have **not secured enough percentage of votes** in the assembly or general elections to become a state party,
 - Or, those which have **never contested elections** since being registered are considered **unrecognised parties**.
- Such parties **don't enjoy all the benefits extended to the recognised parties**, such as free broadcast time, exclusive right to a reserved symbol, etc.

Article 161

Madras HC held that the Governor must follow Cabinet advice while exercising powers under Article 161 of the Constitution.



About Article-161

- Grants Governor power to grant **pardons, reprieves, respites** or **remissions** of punishment or to **suspend, remit or commute** the sentence of any convicted person.
- **Scope:** Applies to offences under the **State's executive jurisdiction**.

NCERT

Government declared NCERT as a deemed to be university.

- Institutions that are '**deemed-to-be-university**' enjoy **academic status and privileges** of a university.
- Can be declared by Central Government on **advice of UGC**.

About NCERT (Hq: New Delhi)

- **Genesis:** Autonomous organisation set up in **1961**.
- **Ministry:** Ministry of Education
- As per National Education Policy 2020, it is **nodal agency** to develop **National Curriculum Frameworks (NCFs)** for **Early Childhood Care and Education (ECCE)**, **School Education**, and **Adult Education**.



UCC

Gujarat Assembly passes the Gujarat Uniform Civil Code (UCC), 2026 Bill With the passage of the bill, Gujarat becomes the second state in the country, after Uttarakhand, to adopt the UCC.



About Bill

- **Objective:** Establish Common legal framework to govern marriage, divorce, succession, equal inheritance rights and live-in relationships, **irrespective of religion**.
- **Exemption:** Not applicable to Scheduled Tribes and certain groups whose customary rights are protected under the Constitution.
- **Key Provisions:**
 - Bigamy prohibited, individual cannot enter into a second marriage while their spouse is still alive.
 - Mandatory registration is required for **Live-in Relationships**.

Uniform Civil Code (UCC)

- **Article 44** of the Constitution, under the **Directive Principles of State Policy (DPSP)**, directs the state to strive for a UCC for all citizens across India.
- In Goa, a form of **common civil code** is in practice under the **Portuguese Civil Code of 1867**.
- **Need in India:**
- **Equality before the Law:** Uniform laws replace community-based personal laws. E.g., Hindu Marriage Act, Muslim Personal Law (Sharia), etc.
- **Ensures Gender Justice:** E.g., Women's rights vary vastly depending on their religion, and customary laws are often patriarchal, depriving women of equal inheritance, property rights, etc.
 - Supreme Court (SC) in various cases (such as **Shah Bano Case (1985)**, **Sarla Mudgal Case (1995)**, etc.) highlighted **need** of implementing UCC to deal with such issues.
- **National Integration:** Separates religion from personal laws, promoting social harmony.
- **Challenges in implementing UCC:** Threatens diversity and religious freedom, lack of consensus among communities, etc.

Telangana Gig Workers Bill

Telangana Legislative Assembly passed the Telangana Platform-Based Gig Workers Telangana Gig Workers Bill seeks to regulate gig and platform work, and is similar to those passed by four other states: Karnataka, Rajasthan, Jharkhand, and Bihar.



- Telangana Bill provides for constitution of a special welfare board, government levy on aggregators, unique ID for gig workers and penalties for non-compliance.

About Gig Workers

- Defined by Code on Social Security 2020, Gig worker is a person who performs work or participates in a work arrangement and earns from such activities **outside of traditional employer-employee relationship**.
- **Scale:** Gig workers increased from 77 lakh workers in FY21 to **120 lakh workers in FY25**, representing over 2% of India's total workforce.
- **Challenges:** Income and job volatility, challenging in accessing credit, financial inclusion, algorithmic biases, lack of social security, safety concerns etc.
- **Code on Social Security 2020:** It provides a **formal recognition to Gig workers and Platform workers**.
 - Aggregators are required to contribute **1-2% of their annual turnover** (capped at 5% of payments made or payable to gig/platform workers) to a **Social Security Fund**.
 - The fund finances a range of welfare schemes for these workers.
 - Each worker will receive a **unique Aadhaar-linked ID generated through registration on e-Shram**, allowing their social security benefits to be **portable across platforms**.

New Income Tax Act 2025 comes into effect



Income Tax Act, 2025 replaces the six-decades-old Income Tax Act, 1961 with objective to enhance predictability, transparency, reduce compliance burden, and offer taxpayers a streamlined and simplified tax filing process.

Key provisions of the Act

- **Simpler language and Framework:** Act has been condensed from 819 to 536 Sections, and 390 to 190 Forms.
 - Provisions of **Minimum Alternate Tax (MAT)** and **Alternate Minimum Tax (AMT)** have been separated into two sub-sections.
 - **MAT** bring into the tax net "zero tax companies" which in spite of having earned substantial book profits and having paid handsome dividends, do not pay any tax due to various tax concessions and incentives provided under the Income-tax Law.
 - **AMT** has similar provisions as MAT which is applicable to non-corporate tax payers.
 - The provisions of MAT are applicable to a corporate taxpayer only.
- **"Tax Year" Concept:** The traditionally separate concepts of Financial Year (FY) and Assessment Year (AY) have been merged into a single, unified term: "Tax Year".
- **Stability in Core Tax Elements**
 - Tax rates and regimes for **individuals and corporations remain unchanged.**
 - There are no changes in offences and penalties.
 - Most definitions have also been retained.
 - Faceless collection of information and assessment of tax cases.
- **Undisclosed Income:** The definition of undisclosed income for assessing search cases, which previously included money, bullion, jewellery, or other valuable articles, is expanded to include **virtual digital assets.**
- **Virtual Digital Space Access:** Income tax authorities are now allowed to gain access to a virtual digital space during search and seizure proceedings.
 - A "virtual digital space" is **defined broadly to include email servers, social media accounts, online investment and trading accounts, and websites for storing details of asset ownership.**

Census-2027

The first phase of Census-2027 begins on 1st April, 2026.

About Census-2027

- It is the **16th Census** in the series and the **8th since Independence**.
 - The last Census was conducted in **2011**.
- It is the **world's largest and first digitally conducted Census** with the option of **Self-Enumeration**.
 - **Self-Enumeration** is a secure web-based facility for entering information online in 16 languages before the door-to-door survey.
- To be conducted in **two phases**, House Listing (HLO) and Population Enumeration (PE).
- It will include the **first nationwide caste enumeration in independent India** (last done in 1931) for all communities (beyond Scheduled Castes and Scheduled Tribes).
- **Conducted by:** Office of the Registrar General and Census Commissioner, Ministry of Home Affairs (decennially)
- **Legal Backing:** Census Act, 1948 and Census Rules, 1990.



RBI's Two-factor Authentication

Based on RBI's rules, from 1 April, all digital transactions must be verified using at least Two-factor Authentication with at least one factor being dynamic.



About RBI's Two-factor Authentication(2FA)

- **Aim:** To plug gaps in PIN- and OTP-based systems, reducing vulnerabilities and strengthening safeguards in digital payments.
 - Current OTP-only approach is vulnerable to **phishing and SIM-swap attacks**.
- It applies across payment modes, including **cards, UPI and wallets**.
- **Independent authentication factors** include personal identification number (PIN), a one-time password (OTP), biometric or device-based authentication.

Special Economic Zones



The Central Board of Indirect Taxes and Customs has introduced a one-time relief measure allowing eligible manufacturing units in SEZs to sell goods in the Domestic Tariff Area (Indian markets domestically) at concessional customs duty rates.

- The relief will be effective from April 1, 2026, to March 31, 2027 to help SEZ manufacturers cope with global trade disruptions.

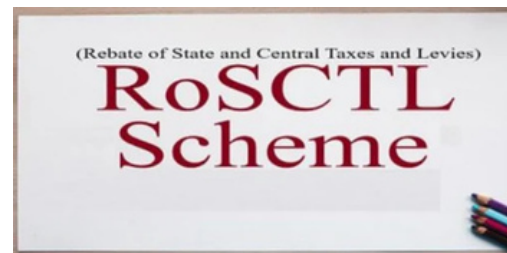
About SEZs:

- **Overview:** They are specifically delineated, duty-free enclaves treated as foreign territory for trade operations and customs duties.
- **Current Status:** India has **368 notified SEZs** (Feb 2026).
- **Legal Provisions:** SEZs are governed by the **SEZ Act of 2005** and **SEZ Rules of 2006**, which provide a simplified regulatory framework.

Significance of SEZs

- **Export Growth:** Generating **₹11.70 lakh crore** by December 2025.
- **Investment Hubs:** Attracted **₹7.86 lakh crore** in combined domestic and foreign investments as of December 2025.
- **Job Creation:** Over **31.73 lakh jobs** by December 2025.
- **Infrastructure Development:** Including Mundra Port, Kandla Port, Sri City, and GIFT City.
- **Tech & Innovation:** Accelerated high-value manufacturing, research, and technological adoption, particularly in the electronics and semiconductor sectors.
- **Global Competitiveness:** Established India as a stable and reliable destination for international trade and investment.

Rebate of State and Central Taxes and Levies Scheme

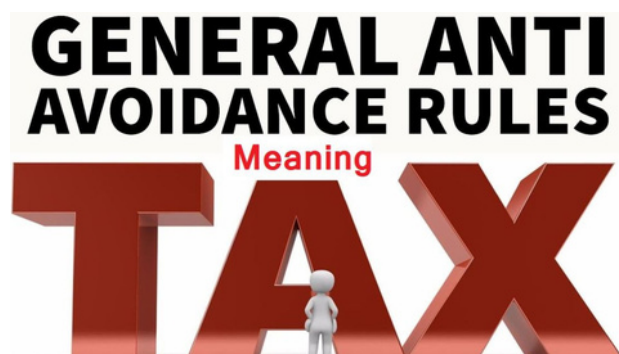


Government notifies extension of RoSCTL Scheme up to 30th September 2026.

About the scheme

- **Launched:** In 2019 by the Ministry of Textiles.
- **Aim:** to zero-rate textile exports by rebating all embedded State and Central taxes and levies, not covered under any other scheme.
- **Mechanism:** Rebates are issued as **Duty Credit Scrips** which can be sold or used to pay custom duty.
- **Benefits:** Flexibility, enhanced export competitiveness, cost reduction etc.

General anti-avoidance rules (GAAR).



Recently, India amended Income Tax Rules, 2026, under Income Tax Act, 2025, to exclude investments made before 1 April 2017, from GAAR

- This removed ambiguity around grandfathering.
 - **Grandfathering** lets investments made before a specified date enjoy old tax rules despite later changes.

About GAAR (effective from April 2017)

- Introduced via **Finance Act 2012**.
- Aim to **address aggressive tax avoidance**.
- Recommended by Parthasarathi Shome Committee.
- **Implementation:** Tax authorities can trigger GAAR if an arrangement
 - Lacks Commercial Substance
 - Shows Abuse of Law
 - Transactions between related parties doesn't reflect market prices.
 - creates rights that wouldn't normally exist
- **GAAR applies only if annual tax benefit exceeds ₹3 crore.**

Purchasing Managers' Index



HSBC India Manufacturing PMI fell to 53.9 in March 2026, near a 4-year low due to the West Asia crisis.

- The report noted that **new orders and output** for manufacturing firms rose at their slowest rates since mid-2022.

About Purchasing Managers' Index (PMI)

- It is a **survey-based indicator** measuring business conditions using data on orders, output, employment etc.
- PMI above **50 shows expansion** and **below 50 indicates contraction**.
- **Types:** Manufacturing PMI and Service PMI.
- **Significance:** Reflects vulnerability of manufacturing to global shocks.

Non Deliverable Derivatives (NDD)



Reserve Bank of India (RBI) has directed to bar banks from NDD contracts in rupee.

About NDD

- **Derivative contract** where two parties agree on future exchange rate for rupee, but settle the difference in **cash**, usually in US dollars.
- These trades **take place offshore, outside the control** of RBI.
- They were developed in **response to restrictions that constrained access to onshore markets** and are widely used by foreign investors, hedge funds and global banks who cannot freely access the Indian rupee market.

India's Defence Exports

India's Defence Exports Reached an All-time High of Rs. 38,424 crore in FY 2025-26: Ministry of Defence



Key Achievements

- **Export growth:** 62.66% increase over previous fiscal year.
 - Exports have **steadily increased** from 2021-22 to 2025-26
- **Sectoral Contribution:**
 - **Defence Public Sector Undertakings (DPSUs):** 54.84%
 - **Private Sector:** 45.16%.
- **Global Reach:** India's defence exports have expanded to 80+ countries as of FY 2025-26.

Significance

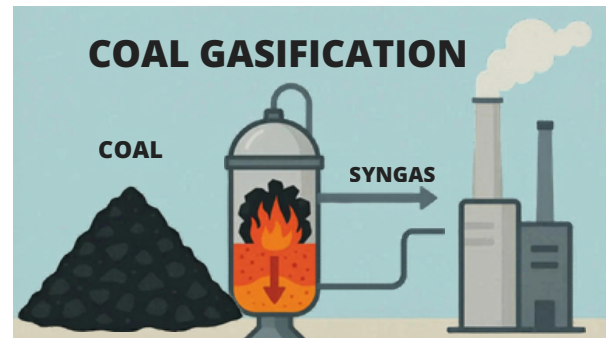
- **Strategic:** Positions India as a **global manufacturing hub for defence equipment**.
- **Diplomatic:** Defence exports build trust, interoperability and long-term partnerships.
- **Promote Indigenization:** India's indigenous defence production hit a record high in FY 2023-24.
- **Realising Atmanirbhar goal:** India targets ₹3 lakh crore defence production and ₹50,000 crore exports by 2029.
- **Others:** Employment Generation, Increasing private sector participation etc.

Persisting Challenges: High import dependence, global disruption vulnerabilities, Competition from global players, regulatory delays etc.

Key Initiatives to Promote Defence Exports

- **Innovations for Defence Excellence (iDEX) Framework:** Promotion of innovation through startups and MSMEs.
- **FDI Liberalisation:** 74% FDI under automatic route for technology inflow.
- **Defence Acquisition Procedure 2020:** Increased indigenous content in defence procurement.
- **Defence Industrial Corridors (DICs):** Industrial ecosystems in Uttar Pradesh and Tamil Nadu.
- **Research, Development and Innovation (RDI) Scheme:** For fostering collaboration among DPSUs, private companies, MSMEs, and startups

Coal Gasification Incentive Scheme



Union Minister unveils India's roadmap to reduce dependency on imported petroleum, ammonia, and fertilizers, highlighting the coal gasification incentive scheme.

Coal Gasification Incentive Scheme

- **Approved:** in 2024 with an outlay of ₹8,500 crore to promote coal and lignite gasification projects in public and private sectors.
- **Objective:** To reduce dependence on imported petroleum, ammonia and fertilisers by promoting production of syngas and value-added products from coal.
- **Categories:**
 - **Category I:** PSU-led projects
 - **Category II:** Private and PSU projects
 - **Category III:** Demonstration and small-scale projects

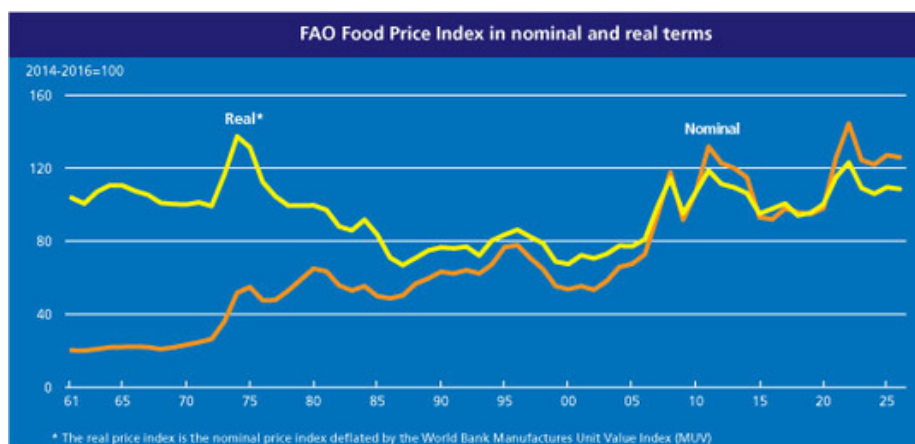
FAO Food Price Index



Food and Agriculture Organization (FAO) Food Price Index rose to 128.5 points in March 2026, driven by higher energy costs amid Middle East tensions.

FAO Food Price Index

- A measure published by the Food and Agriculture Organisation (FAO) tracking monthly changes in international prices of a basket of food commodities.
- **Base year:** 2014–16.
- **Composition:** Includes five major commodity groups—cereals, vegetable oils, dairy, meat and sugar.



Global Chokepoints

Significance and Vulnerability of Global Chokepoints amidst the West Asia War According to a report, over two-thirds of seaborne energy trade depends on a few key chokepoints. E.g. Strait of Hormuz, Strait of Malacca etc.

- These chokepoints are **shaping conflict escalation, energy prices and global financial stability** outside the battlefield.

What are Chokepoints?

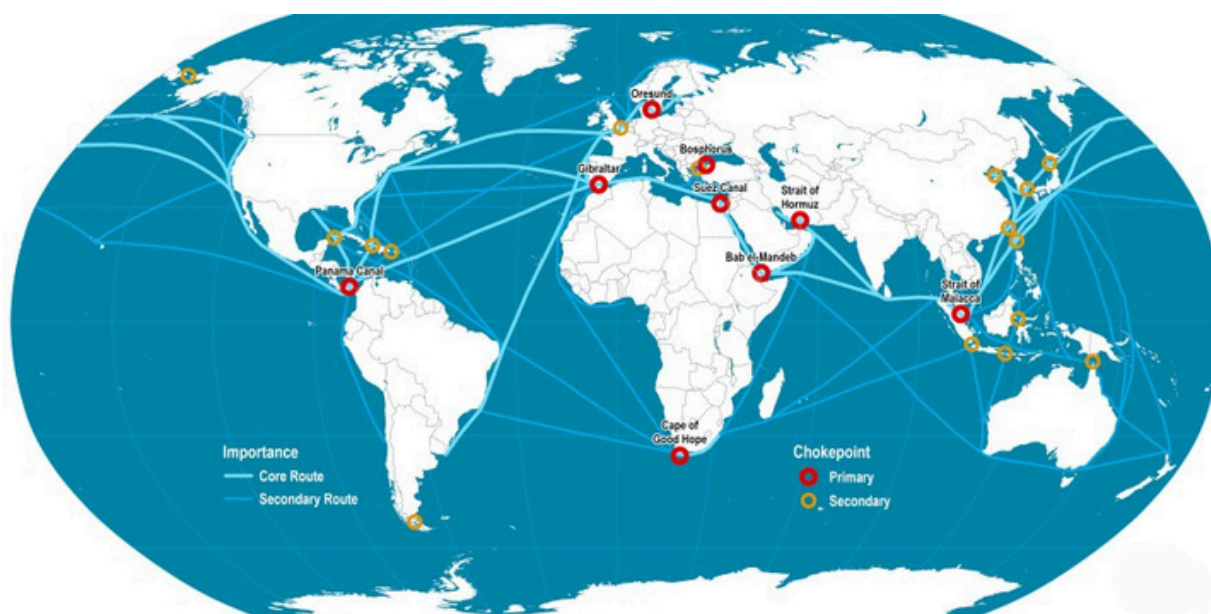
- Chokepoints are narrow, strategically important maritime passages crucial for global trade.

Significance of chokepoints

- **Trade and Energy Arteries:** Chokepoints are critical for international maritime trade of oil and gas and other commodities (e.g. fertilizers), acting as potential bottlenecks for **global supply chains**.
- **Economic Impact:** Disruptions at chokepoints **inflate freight costs, extend transit times, and raise insurance premiums**, directly fueling global **inflation** and disrupting **import-dependent economies**.
- **Geopolitical Flashpoints:** Strategic significance makes them vulnerable to **military blockades, regional conflicts, and piracy**, influencing diplomacy and naval strategies worldwide.
- **Climate Change Risks:** Environmental shifts are creating new bottlenecks. E.g. **Drought in Panama Canal** disrupting global supply chains.
- **Industrial and Digital risks:** **Chokepoints now include concentrated industrial and digital systems.**
 - E.g. **rare mineral** processing chains rely on concentrated refining capacity of **China**
 - E.g. More than **90%** of Europe-Asia **subsea cable** capacity runs through the **Red Sea cable corridor**, making it a chokepoint for digital services.

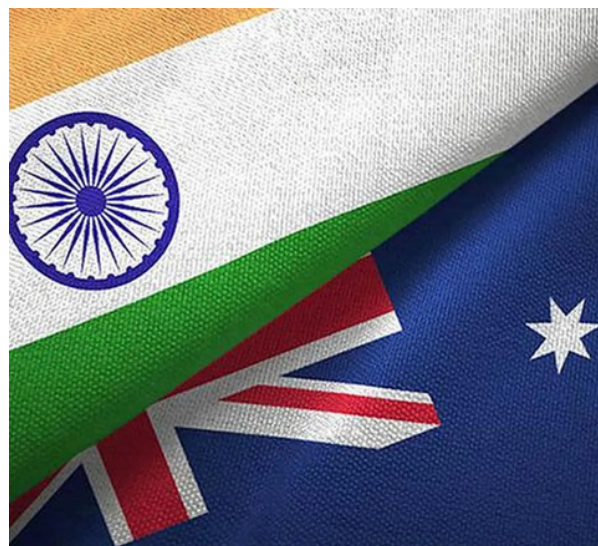
Potential Solutions for India

- **Diversifying energy sources and supply chains, scaling up renewable energy, exploring alternative transportation routes.** E.g. India-Middle East–Europe Economic Corridor (IMEC)
- Strengthening **military capabilities** to ensure freedom and openness of Sea Lines of Communication (SLOC) in line with India's **MAHASAGAR vision**.



Four years to India–Australia ECTA

Signed in 2022, Agreement played a pivotal role in enhancing trade flows, fostering industry linkages, and creating new opportunities for businesses, entrepreneurs, and employment.



Key Benefits accrued from the ECTA

- **India's Exports to Australia Doubled:** From USD 4 billion in FY 2020–21 to **USD 8.5 billion in FY 2024–25**.
 - In FY 2025–26 (up to February), India's **total trade with Australia stood at USD 19.3 billion**.
- **Preferential Market Access:** India granted preferential market access on 70.3% of its tariff lines while Australia granted the same **on 100% of its tariff lines**, corresponding to 100% of imports from India.
 - From 1 January 2026, all Indian exports are **eligible for zero-duty market access into Australia**.
- **Broad Based Sectoral Gains:** Notable growth witnessed in exports across textiles, pharmaceuticals, chemicals, and agricultural products.
- **Signing of Mutual Recognition Arrangement (MRA) in organic sector:** Strengthening Organic Trade.

Significance of Australia for India

- **Strategic Alignment towards Indo-Pacific:** Both share commitment to **transparent, open, secure, inclusive, and rules based** order in Indo-Pacific, as seen in:
 - Australia is a key partner in **Quadrilateral Security Dialogue (QUAD)**, alongside **United States and Japan**.
 - **Australia-India Indo-Pacific Oceans Initiative Partnership (AIPOIP)**.
 - **2+2 dialogue framework between defence and foreign ministers** launched in 2019.
- **Defence Engagement:** Regular joint naval exercise (**AUSINDEX**); signed **Mutual Logistics Support Agreement in 2021** for closer defence cooperation.
- **Energy and Resources:** Development of New supply chains under **India-Australia Critical Minerals Investment Partnership**; cooperation in Renewable Energy including Green Hydrogen, etc.

Arab League

Arab League held an emergency session in Cairo over Al-Aqsa closure and prisoner execution law.



About Arab League (League of Arab States)

- An Intergovernmental organisation encompassing **all Arab states in Middle East and North Africa.**
- **Mandate:** strengthening relations between its member states, coordination of their policies and co-operation while safeguarding independence and sovereignty of each member.
- **Established:** March 22, 1945, following adoption of **Alexandria Protocol in 1944.**
- **Members:** 22.
- **Founding Members:** Egypt, Iraq, Lebanon, Saudi Arabia, Syria, Jordan, Yemen.
- **Headquarters:** Cairo, Egypt.

United Nations Development Partnership Fund



India and United Nations conducted review of UN Development Partnership Fund operations.

About UNDPF

- **Overview:** Launched in 2017 with **\$150 million**, led by Government of India.
- **Objective:** Supports **Global South** in achieving **Sustainable Development Goals** and shared prosperity.
- **Approach:** supports Southern-owned and led, demand-driven and country-led sustainable development projects.
- **Focus Areas:** Least Developed Countries (LDCs) and Small Island Developing States (SIDS).
- **Implementation:** managed by the **United Nations Office for South-South Cooperation (UNOSSC)** and executed by UN agencies with partner governments.

Jojari-Luni-Bandi River System

Supreme Court appointed high level committee highlighted that industrial pollution has turned the Jojari-Luni-Bandi River system into a toxic mix of sludge, untreated effluents and municipal waste.

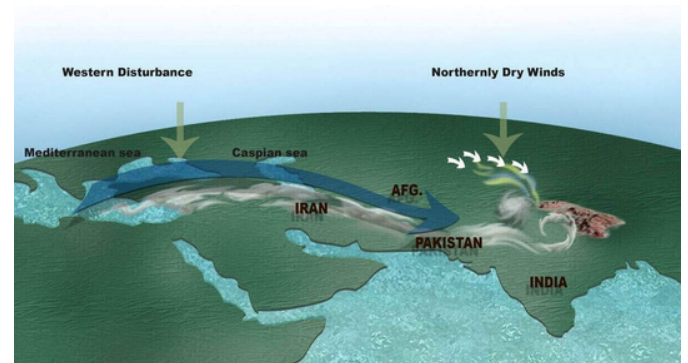


About Jojari-Luni-Bandi River System

- Luni River originates from **western slopes of the Aravalli ranges** near Ajmer.
- Traversing a course of 511 km in Rajasthan, it finally **flows into Rann of Kachchh**.
- Its **Tributaries** include Jojari, Bandi, Mithri, Lilari, Sukri, Jawai etc.

Western Disturbances

Two successive western disturbances are likely to affect northwest India.



About Western Disturbances (WDs)

- **Origin and Formation:** WDs form over the Mediterranean Sea region due to interactions between contrasting air masses.
- WDs are embedded within the mid-latitude **Subtropical Westerly Jet (SWJ)**, which guides their eastward movement.
- **Season and Area of Impact:** **Boreal winter** (December to March), impacting western Himalaya, as well as to surrounding areas of north India, Pakistan, and the Tibetan Plateau.
- **Significance for India:** Crucial for Rabi crops (e.g., wheat, mustard), replenishing glaciers in the Himalayan region, etc.
- **Associated Weather hazards:** Heavy snowfall, hailstorms, fog, cloudbursts, avalanches, frost, and cold waves.

Plastic Waste Management

Plastic Waste Management (Amendment) Rules, 2026 notified by the Government These rules amend the Plastic Waste Management Rules, 2016, notified under the Environment (Protection) Act, 1986.



Key Changes in 2026 Amendment Rules

- **Mandatory Recycled Content: Producers, importers, and brand owners** must use **progressively higher amounts of recycled plastic in their packaging** (e.g., Category I targets scale from 30% in 2025-26 to 60% from 2028-29 onwards).
 - Exemptions apply if **statutory bodies (like FSSAI or CDSCO) prohibit recycled plastic** for specific uses.
 - Unfulfilled 2025-26 targets for **food contact applications** can be **carried forward for up to three years**.
- **Clearer Definitions:** The amendment explicitly defines terms like "**end of life disposal**," "**reuse**," and "**Plastic Waste Processors**" to remove regulatory ambiguities.
- **Reuse obligations:** Minimum reuse targets for Category I rigid plastic packaging (e.g., large drinking water containers up to 85%).
- **Strict Standards:** Recycled packaging must conform to the **Indian Standard IS 14534:2023** and bear **specific labels** indicating recycled content.
- **Governance & enforcement: Decentralised enforcement by Urban Local Bodies (ULBs)** with monitoring through State committee; digital tracking and audit by Registered Environment Auditor.

Significance of Plastic Waste Management Rules

- **Circular economy:** Promotes recycling and reuse, reducing dependence on virgin plastic and enhancing resource efficiency.
- **Environmental protection:** Reduces plastic pollution in terrestrial and marine ecosystems.
- **Public health:** Minimises risks from plastic waste, microplastics and toxic exposure.
- **Governance improvement:** Strengthens EPR, compliance and accountability in plastic waste management.

Plastic Waste Management Rules, 2016

- **Objective:** To minimise plastic waste generation, promote recycling and ensure environmentally sound disposal.
- **Key Features**
 - **Extended Producer Responsibility (EPR):** Producers, Importers and Brand Owners responsible for collection, recycling and disposal of plastic waste.
 - **Ban on single-use plastics (2022 Amendment):** Prohibition of identified **single-use plastic** items to reduce plastic pollution.
 - **Plastic thickness norm: minimum thickness of 120 microns** to promote reuse and reduce littering.
 - **Traceability (2025 Amendment):** From July 1, 2025, all plastic **packaging must carry a barcode or QR code** to enable digital tracking from production to disposal.
 - **Role of local bodies:** Urban Local Bodies and Gram Panchayats responsible for collection, segregation and processing of plastic waste.

Bharat Stage (BS) Emission Standards

Under Delhi Air Pollution Mitigation Action Plan, 2026, entry of non-BS-VI, non-CNG and non-electric goods vehicles will be restricted from November 1 to curb vehicular pollution.



About Bharat Stage Emission Standards

- Norms set by to regulate air pollutants from **internal combustion engines**, including motor vehicles, based on **European regulations (Euro norms)**, first introduced in 2000.
- **Implementation:** Standards and timelines are set by the **Central Pollution Control Board (CPCB)** under the Ministry of Environment, Forest and Climate Change.
- **BSVI:** Implemented nationwide from **April 2020** to significantly curb vehicular pollution.
 - India moved from **BS-IV to BS-VI**, skipping BS-V to adopt stricter norms directly.
 - Sulphur content reduced from **50 ppm (BS-IV) to 10 ppm**
 - Significant reduction in **PM and NOx emissions**
 - Introduction of advanced technologies like **DPF (Diesel Particulate Filter)**

Mahi Banswara Nuclear Power Project



Approval of excavation for the construction of the Mahi Banswara Rajasthan Atomic Nuclear Power Project (MBRAPP) units one and two was given by The Atomic Energy Regulatory Board (AERB).

About Mahi Banswara Rajasthan Atomic Nuclear Power Project (MBRAPP)

- **Location:** Banswara, Rajasthan near the Mahi Dam on River Mahi.
- **Capacity:** 4 x 700 MWe PHWR (4 nuclear power units of Indigenous PHWRs (Pressurized Heavy Water Reactors)).
 - PHWRs use **natural uranium as fuel and heavy water** (deuterium oxide) as coolant and moderator.
- **Development:** By **Anushakti Vidhyut Nigam (ASHVINI)**, a joint venture between Nuclear Power Corporation India Limited (NPCIL) and National Thermal Power Corporation Limited (NTPC).
- The project is part of India's "**fleet mode**" initiative.
 - **Under this Initiative**, ten identical 700 MW reactors are being built across India under uniform design and procurement plans.

Steps taken to boost nuclear energy production in India

- **Nuclear Energy Mission:** Announced in Union Budget 2025–26 focused on research and development (R&D) of Small Modular Reactors (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.

Nuclear Power Capacity in India

- India currently has **24 reactors across 7 power plants** with installed nuclear energy capacity of 8,780 MW comprising 24 nuclear power plants (excluding RAPS-1 – 100 MW). (March 2026)
- The government plans to increase this to **22,480 MW by 2031-32**.
- Nuclear power accounts for **around 3.1 % of India's total electricity generation** in, making it the fifth-largest Non-fossil fuel source of electricity. (2024–25)

E20 (Ethanol Blended Petrol)

Directive from the Ministry of Petroleum and Natural Gas force (1st April 2026), requiring to dispense E20 fuel with a minimum 95 RON octane rating in country.



- **RON (Research Octane Number)** serves as an indicator of fuel stability and indicates the level of pressure generated during fuel combustion within a vehicle's engine.

About E20 Fuel

- It is an **80:20 mix of petrol and ethanol**.
- **The National Policy on Biofuels, 2018(amended in 2022):** Advanced the target of 20% blending of ethanol in petrol to Ethanol Supply Year (ESY) 2025-26 from 2030.
- **Benefits:** Improves fuel performance, Strengthens energy security etc.
- **Concerns:** Reduced fuel efficiency in some vehicles, corrosion or damage to older vehicles, etc.

Ammonium Nitrate

Recently, Bharat Coal Gasification and Chemicals Ltd. and Mahanadi Coalfields Ltd. signed an agreement for coal to Ammonium Nitrate Project.



About Ammonium Nitrate

- **Appearance:** white, crystalline, water-soluble solid.
- **Not found in nature:** made by reacting ammonia with nitric acid.
- **Explosive:** it is deemed explosive under explosive act due to its use in IEDs (if more than 45%)
 - It is an actually an Oxidizer that supplies oxygen to accelerate combustion.
 - Fire by it is difficult to put out as it provides its own oxygen.
- **Hazardous Chemicals Rules, 1989:** list it as hazardous chemicals
- **Import:** Requires prior permission for specific grades
- **Regulated by:** Petroleum & Explosives Safety Organization under DPIIT
- **Hygroscopic Nature:** absorbs moisture from the air, turning into "hard rock".
- **Thermal Decomposition:** Under High Heat it can explode releasing Nitrogen Dioxide (orange plume)
- **Applications :** fertilizers, cold packs because its dissolution in water is endothermic, medical and industrial uses, etc.

Key Naval Warships



Indian Navy received key Naval warships, a milestone for indigenous defence manufacturing.

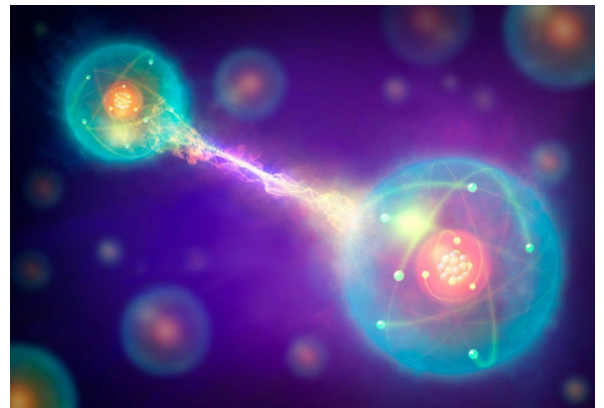
Indian Navy received key Naval warships, a milestone for indigenous defence manufacturing.

Key Naval Warships Received

- **Malwan:** The second **Anti-Submarine Warfare Shallow Water Craft (ASW SWC)**, indigenously designed and constructed by **Cochin Shipyard Limited** at Kochi.
 - Named after the historic **coastal town of Malwan**, reflecting the rich maritime legacy associated with **Chhatrapati Shivaji Maharaj**.
 - **Capabilities:** underwater surveillance and anti-submarine and mine warfare.
- **Three frontline Naval platforms** built by **Garden Reach Shipbuilders & Engineers Ltd. (GRSE), Kolkata:**
 - **Indigenous Stealth Frigate Dunagiri:** Fifth ship of **Nilgiri Class (Project 17A)**, it is capable of striking designated targets with missiles.
 - **Fourth Survey Vessel (Large) Sanshodhak:** Carry out **coastal and deep-water Hydrographic surveys**
 - **Agray':** The fourth of **eight ASW SWC**, designed to destroy enemy submarines.

Quantum Entanglement

Scientists from Australia and the U.S. have shown that helium atoms can be entangled through their movement like quantum entanglement seen in lighter particles like electrons.



About Quantum Entanglement

- In quantum theory one of the phenomenon is **Quantum Entanglement** where particles of the same origin, which were once connected, always stay connected.
 - **Quantum** is the study of atoms and subatomic particles, and how they interact with each other.
- **Quantum entanglement** occurs when two particles become so deeply linked that they share a single existence.
- In entanglement, one atom **does not disappear and reappear** elsewhere. Instead, **teleportation involves quantum information:** when a measurement defines the first atom's state, that information effectively dictates the state of the second atom across the void.

Artemis-II Mission Launched

Artemis-II Mission Launched Astronauts into the Outer Space This historic 10-day mission is the first crewed flight to the vicinity of the Moon in over 50 years after the Apollo Mission (1969-72).



About Artemis Mission

- ARTEMIS is NASA's flagship human space exploration program, aimed at returning humans to the Moon.
 - In 2020, Artemis Accords were launched which are a set of international agreements (signed by over 60 nations, including India in 2023) to ensure peaceful and transparent cooperation in space exploration.
- Series of Artemis Missions:
 - Artemis I (2022): Uncrewed mission that successfully tested SLS (Space Launch System) rocket and Orion spacecraft around the Moon.
 - Artemis II (2026): First crewed mission on a lunar flyby without landing.
 - Future Phases:
 - Artemis III (2027): demonstration mission in low Earth orbit to test commercial landers.
 - Artemis IV (2028): to target the first Artemis lunar landing.
 - Artemis V (2028): scientific research and beginning Moon base construction with second lunar landing.

Why is there renewed global interest in Moon exploration?

- Scientific & Technological Advancement: Understand the origin and evolution of Earth and the solar system.
- Economic Opportunities: Promote space economy and resource utilization (water ice and potential Helium-3 for fuel and energy).
- Gateway to Deep Space: Test long-duration missions for future Mars and other exploration.
- Strategic Importance: Enhance national prestige and space dominance.

Major initiatives for moon exploration by various countries

- India (Chandrayaan series): Discovered water molecules on the Moon; Successfully achieved soft landing near the Moon's south pole, making India the first to do so in that region.
- China: Chang'e 6, a robotic lunar sample-return mission.
- Japan: Smart Lander for Investigating Moon (SLIM) mission achieved the first high-precision, pinpoint lunar landing.

ISRO's (SSR)



Indian Space Research Organisation (ISRO) has developed numerous space-based applications to benefit all sections of society, thus contributing to SSR.

- SSR is analogous to Corporate Social Responsibility (CSR). It refers to the moral and ethical obligation of the scientific community in educating the public and society, besides working to generate new knowledge.

ISRO contribution to Scientific Social Responsibility

- **Tribals:** 75 "Space Labs" in Eklavya Model Residential Schools (EMRS) across 19 states to promote STEM (space science, technology, engineering, and maths).
- **Farmers:**
 - **Potential Fishing Zone (PFZ) Advisories** to help fishermen identify productive fishing areas.
 - **Crop Insurance Support:** Assists in monitoring crops and calculating insurance claims.
- **Students:** YUVIKA, Young Scientist Programme, two-week residential program for Class 9 students, tele-education services (PM e-VIDYA), etc.
- **Common citizens:** Geospatial Support aiding in **planning and monitoring flagship schemes**, access to essential services like **tele-medicine**, early disaster warning, etc.
- **Women:** The test flight for the Gaganyaan mission features a **female humanoid robot named 'Vyommitra'**.
- **Open Data Access:** ISRO makes its scientific data from missions like **AstroSat** and **Chandrayaan-2** freely available to the global scientific community and students through the **Indian Space Science Data Center (ISSDC)**.
- **Training & Outreach:** Programs like UNNATI (Unispace Nanosatellite Assembly & Training by ISRO) and various IIRS outreach programmes build technical skills among students and professionals.

F-15 Fighter Jet



A U.S. F-15E Strike Eagle was shot down over Iran during an ongoing conflict.

- F-15E Strike Eagle is a dual-role fighter capable of both air-to-air and air-to-ground missions.
 - Unlike the **fifth-generation F-35**, the F-15E entirely lacks stealth technology,
- Other aircraft/helicopter used includes the US's **A-10 Warthog**, **F-18**, and **F-22 fighters**, **Blackhawk helicopters**, as well as **Iran's Yak-130**, among others.
- Key drones used include Iran's **Shahed-136** and the U.S.'s **LUCAS drone**, etc.

Qdenga Vaccine

Qdenga vaccine received clearance from the Drugs Controller General of India (DCGI) for use among individuals aged 4 to 60 years against Dengue.



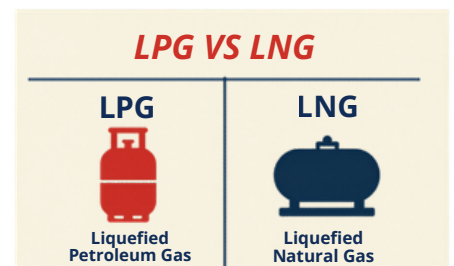
- Dengue is a **viral infection**, transmitted by **Aedes mosquitoes**.
- Dengue is caused by **four closely related but distinct viruses**, known as **serotypes (DENV-1 to DENV-4)**.

About Qdenga Vaccine

- It is a **live-attenuated tetravalent dengue vaccine** that **protects against all four dengue strains (DENV-1, 2, 3, 4)**.
- **Benefits:** It does not require pre-vaccination screening to determine prior dengue infection.

LPG vs. LNG

The Strait of Hormuz closure has hit a large chunk of India's energy supply including both LNG and LPG.



About LNG

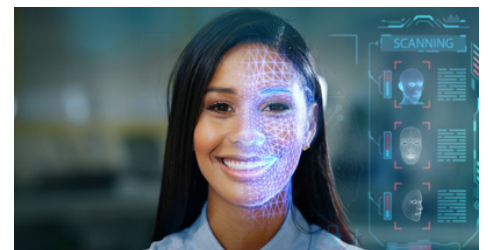
- LNG (Liquefied Natural Gas) is primarily a **natural gas (mainly methane)**.
- It is **cooled to below -160 degrees Celsius** and cryogenically turned into a liquid for storage or ease of transportation.
- It is regasified into natural gas and used as **PNG (piped natural gas)** for households or **CNG (compressed natural gas)** for vehicles; also used in power generation & machinery operations.
- LNG (Natural Gas) is **lighter than air**: generally considered safer in open areas.

About LPG

- LPG (Liquefied Petroleum Gas) primarily comprises **propane and butane**, a byproduct of the **crude oil refining process**.
- Under relatively **low temperatures or moderate pressure**, **LPG becomes a liquid**, allowing it to be bottled in cylinders.
- **LPG is heavier than air**: If it leaks, it settles on the ground, creating a high fire risk.

Digital Human

China issues draft rules to regulate digital humans.



- Rules mandate clear labelling and banning services that could **mislead children** or **fuel addiction**.

About Digital Human

- Digital Humans are **AI-powered virtual avatars** that simulate human conversation using voice, facial expressions, and body language.
- **Use Cases:** Client services, education, healthcare, and advisory roles.

India inducts 3rd Nuclear-Powered Submarine



Part of India's Arihant-class submarines, INS Aridaman is a more advanced ballistic missile submarine (SSBN) than its predecessors INS Arihant (2016) and INS Arighaat (2024).

About India's Nuclear Powered Submarine Programme

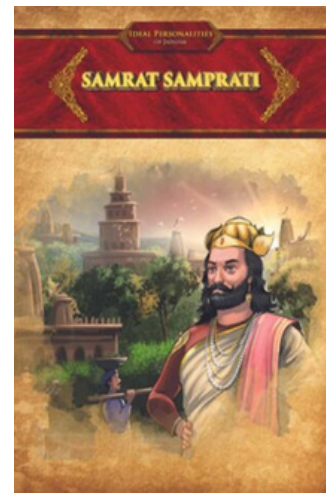
- The **Advanced Technology Vessel (ATV) programme** was initiated more than three decades ago, involving both **private firms and the Defence Research & Development Organisation**, with help from **Russia**.
- It primarily focused on developing the **ballistic missile submarines (SSBNs)**, which are **nuclear propelled**, and can carry multiple sets of submarine-launched ballistic missiles (SLBMs), tipped with single or multiple nuclear warheads.

Significance of Nuclear Powered Submarines for India

- **Nuclear Triad Completion:** The submarine cements India's position in the select group of nations (alongside the US, Russia, China, and France) capable of launching nuclear weapons **from land, air, and sea**.
- **Strategic Deterrence:** Carries nuclear ballistic missiles, strengthening India's deterrence against regional adversaries **China and Pakistan**.
- **Stealth & Endurance:** Nuclear propulsion allows long underwater missions, making it highly survivable and hard to detect.
- **Extension of Nuclear doctrine:** Showcases guarantee of **India's second-strike capability** with No-first Use policy.

Samrat Samprati

The PM inaugurated the Samrat Samprati Museum in Koba, Gandhinagar, Gujarat on Mahavir Jayanti.



About Samrat Samprati

- A **Mauryan emperor** and the **grandson of Emperor Ashok**, born to father Kunal and mother Kanchanmala.
- Known as **Indrapalit, Sangat and Vigatashok**; his life is described in Jain scripture like ‘**Sampratikatha**’, ‘**Parishistaparva**’, and ‘**Prabhavakcharita**’.
- Pivotal role in **spreading Jainism** (also referred to as ‘**Jain Ashoka**’) and the **principle of ahimsa (non-violence)** across the subcontinent.
- He is known to have **built and repaired many Jain temples**.

Amaravati and its cultural significance

Lok Sabha clears Bill to make Amaravati sole capital of Andhra Pradesh.



About Amaravati and its Cultural Relevance:

- **Ancient Capital:** It served as the capital of the Satavahana dynasty (3rd century BCE).
- **Major Buddhist Pilgrimage Site:**
 - It is believed to be the **place where Gautam Buddha first taught the concept and teachings of “Kalachakra.”**(Vajrayana Buddhism)
 - The **Amaravati Stupa** built in the 2nd century BCE is **one of the oldest and most well-preserved Buddhist monuments** with intricate carvings and sculptures depicting scenes from Buddha's life.
- **Amarewara Temple:** Built around the 5th century, this ancient Hindu temple is dedicated to Lord Shiva
- **Traditional Crafts:** The local culture is celebrated through traditional handicrafts like the vibrant, wooden Kondapalli toys and exquisite Kalamkari textiles (hand-painted or block-printed fabrics).

Internet Shutdowns

Internet Shutdowns in 2025 report by Access Now NGO released for Keepiton Coalition Keepiton coalition (by Access Now) is a global civil society alliance working to end internet shutdowns.



Key Highlights

- **Global Snapshot:** 2025 saw a **record** 313 internet shutdowns (across 52 countries, continuing the rise from 2023)
- **India:** recorded **65 shutdowns** (lowest since 2017 but highest in any democracy, 2nd highest overall).
 - **India Exception highlighted :** Orders are legally published, but still it deems shutdowns incompatible with democracy.

Concerns related to internet shutdown

- **Human rights abuses :** International Criminal Court linked internet shutdowns to crimes against humanity, noting they help perpetrators evade accountability.
- **Governance & Welfare:** eg. Disruption of Direct Benefit Transfers (DBT)
- **Economic Impact:** India lost ~\$323 mn due to internet shut down in 2024
- **Impacts Fundamental Rights:** access to the internet is under right to education and privacy under **Article 21 (Faheema Shirin v. State of Kerala (2019))**
 - Freedom to trade and commerce via internet falls under Article 19 (Anuradha Bhasin v UoI)
- **Democratic Deficit:** Hinders press freedom, the right to information, and civil society mobilization.

Legal Provisions for Internet Shutdown in India:

- **Legal Basis:** Governed by Telecommunications (Temporary Suspension of Services) Rules, 2024 under **Telecommunications Act, 2023.**
 - **Authority:** issued by Union Home Secretary or state home secretary
 - **Emergency: order by joint secretary or above** (to be confirmed within 24 hours by competent authority)
 - **Mandating publication:** including detailed justifications, **geographical scope**, and affected services.
 - Suspension duration cannot exceed **15 days.**
- **Section 163 of the Bharatiya Nagarik Suraksha Sanhita** empowers magistrates to issue orders to maintain public order.