NEXT IAS

THE CRUX

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B. Singh

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Compilation of UPSC relevant news from 1st October to 23rd October 2026

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PREVENTIVE DETENTION vs RIGHT TO PROTEST

Recently, the Supreme Court issued interim directions against illegal detention of peaceful protesters in Delhi. It later issued a notice on a challenge to Section 172 BNSS.

Summary of Events in Delhi

- Protests demanding **CEC Gyanesh Kumar's** removal led to mass detentions of youth, journalists, lawyers, and activists.
- Delhi Police used **Section 163 BNSS** to ban unauthorised assemblies across the New Delhi district. It used **Sections 170 and 172** for pre-emptive detentions.
- Police said detentions followed breaches of prohibitory orders. Experts asked what legal authority allowed detaining people from areas where no such order applied.
- The **UN Human Rights Office** voiced concern over mass detentions. India called this unwarranted interference and said restrictions may be needed for public order.
- The Court's October 11 directions barred illegal detention of peaceful gatherings beyond areas where Section 163 applied. They also required free movement and undisturbed internet.
- The Court later asked Delhi Police to produce the Section 163 orders and preserve CCTV footage. On October 15, it declined to examine **Section 163's** validity, citing **Babulal Parate judgement (1961)**. It issued notice on **Section 172**, with a hearing set for November 19.

Relevant Concepts

Public Order:

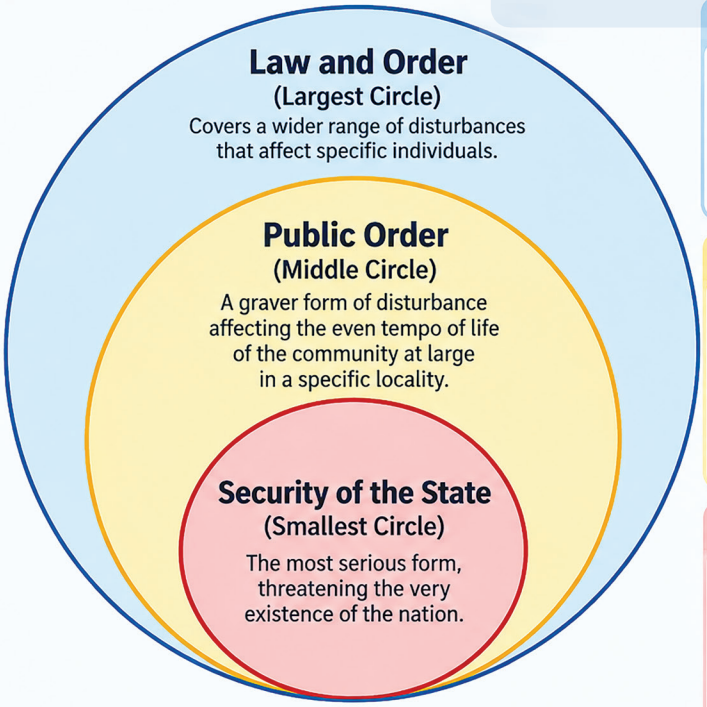
- **Ram Manohar Lohia case (1966)** described three concentric circles. **Law and order** is the largest and affects individuals, as in a theft.
- **Public order** is the middle circle. It disturbs the even tempo of community life, as in riots. Not every breach of peace threatens it.
- **Security of the State** is the smallest circle. It covers threats to the nation's existence, such as rebellion.

Who Holds Power:

- **Police** and **public order** are State subjects (List II, Entries 1 and 2). **Delhi** is an exception under **Article 239AA**, where public order, police, and land stay with the Union.
- **Criminal law** and **procedure** are in the Concurrent List. The BNSS is enacted under these entries.

Law and Order, Public Order and Security of the State

Supreme Court in Ram Manohar Lohia v. State of Bihar (1966) explained the distinction using three concentric circles.



1. Law and Order (Largest Circle)

- **Nature:** Minor breaches of peace affecting specific individuals.
- **Scope:** Includes offences and everyday crimes.
- **Examples:** A minor scuffle, theft, local dispute.
- **Key Point:** Every breach of law and order does not amount to a threat to public order.



E.g., minor scuffle or theft

2. Public Order (Middle Circle)

- **Nature:** Affects the even tempo of life of the community at large in a specific locality.
- **Scope:** More serious than law and order; involves disturbance to public peace and tranquillity.
- **Examples:** Violent riots, communal clashes, hartals affecting normal life.
- **Key Point:** Not every breach of peace is a threat to public order.



E.g., violent riots or communal clashes

3. Security of the State (Smallest Circle)

- **Nature:** The most serious form of disturbance.
- **Scope:** Threatens the very existence and sovereignty of the nation.
- **Examples:** Rebellion, waging war, insurrection, activities aimed at overthrowing the government.
- **Key Point:** It goes beyond public order and endangers the security and integrity of the State.



E.g., rebellion or waging war

- **Preventive detention** is shared. The Union List (Entry 9) covers defence, foreign affairs, and India's security. The Concurrent List (Entry 3) covers State security, public order, and essential supplies and services.

Types of Detention:

- **Detention** is state-ordered loss of liberty without an immediate formal charge. It is precautionary.
  - **Punitive detention** follows trial and conviction.
  - **Preventive detention** is custody without trial to stop acts harming public order or security.
- The BNSS and BNS do not define detention. Chapter XII of the BNSS gives police broad preventive powers instead.

Prohibitory Orders under Section 163 BNSS

- It replaces **Section 144 CrPC**. District or Sub-Divisional Magistrates can issue written orders to avert obstruction, danger to life, riots, or public disturbance.
- Orders may issue without notice in urgent cases. They must state material facts, remain open to judicial review, and stay proportionate.
- They usually ban gatherings of **five or more** persons. This borrows from **unlawful assembly** under **Section 189(1) BNS**, formerly Section 141 IPC.
- An order ordinarily lasts **two months**. The State Government can extend it up to **six months**.
- One analysis of Delhi orders found only **1.5%** aimed at preventing unlawful assemblies. Others served routine management.

Preventive Detention under BNSS

- **Section 170** lets police arrest without warrant to prevent a **cognizable offence** (one where police can arrest without a warrant). It applies when they know of a design that cannot otherwise be stopped. Custody lasts up to **24 hours**.
- **Section 172** requires people to follow lawful police directions to prevent offences. Police may detain or remove those who resist. They must produce them before a Magistrate or, in petty cases, release them within 24 hours without formal arrest.
- Section 172 has **no CrPC counterpart**. The challenge says it lacks the thresholds found in Sections 170 and 35.
- Defying a lawful order of a public servant is punishable under **Section 223 of the BNS**.

Preventive Detention Laws

- **NSA, 1980:** Allows detention up to **12 months** without formal charges. Grounds include threats to defence, foreign relations, State security, and public order.
- **COFEPOSA, 1974:** Targets smuggling and foreign exchange violations.
- **Public Safety Act, 1978:** Applies in Jammu and Kashmir. It allows custody up to two years without trial.
- **UAPA, 1967:** It is an anti-terror law, not a preventive detention law. It permits pre-chargesheet custody up to **180 days** after arrest.

Evolution in India

- **Colonial era:** The **Rowlatt Act, 1919** and the **Defence of India Act, 1939** enabled detention without trial against freedom fighters.
- **After Independence:** The **Preventive Detention Act, 1950** ran until 1969. **MISA, 1971** was widely used in the Emergency of 1975-77 and repealed in 1978. The NSA, 1980 then set a continuing framework.
- **Maneka Gandhi (1978):** Any procedure restricting liberty must be just, fair, and reasonable.

Constitutional Safeguards

- **Ordinary arrest (Article 22(1) and (2)):** The person must be told the grounds, can consult a lawyer of choice, and must reach a magistrate within **24 hours**.
- These two safeguards do **not** apply to preventive detention (**Article 22(3)**).
- **Article 22(4):** Detention beyond **three months** needs review by an **Advisory Board**. This is a panel of persons qualified to be High Court judges.
- **Article 22(5):** Grounds must be communicated as soon as possible, with a chance to make a representation.
- **Article 22(6):** The authority may withhold facts it considers against the public interest to disclose.
- Courts can review orders for statutory and constitutional compliance. **Articles 14, 19, and 21** continue to apply.

Detention versus Arrest

- **Objective:** Detention is precautionary. Arrest is punitive or investigative, for a past alleged offence.
- **Trigger:** Detention rests on executive suspicion or intelligence. Arrest needs an FIR or credible complaint of a cognizable offence. Under **Section 35(3) BNSS**, a notice of appearance is the default for offences punishable by up to seven years.
- **Charge:** Detention has none at the outset. Arrest involves a specific penal offence.
- **Counsel:** Detainees lack the Article 22(1) right. Arrested persons have it under **Article 22(1)** and **Section 35 BNSS**.
- **Review:** Detention goes to an Advisory Board, not within 24 hours. Arrest requires magistrate production within 24 hours.

The Right to Protest and Its Limits

- **Article 19(1)(a)** protects speech and **19(1)(b)** protects peaceful, unarmed assembly. Neither is absolute. **19(2)** and **19(3)** allow reasonable restrictions in the interest of public order.
- **Delhi Police guidelines** require protest applications to the DCP at least **10 days** ahead. The DCP weighs traffic obstruction, safety, and public tranquillity.

- Jantar Mantar gatherings are capped at **1,000** people. Larger ones go to Ramlila Ground.
- Organisers can challenge arbitrary refusal in the Delhi High Court under **Article 226**.
- In his **1922 trial**, Gandhi said affection cannot be manufactured or regulated by law. He treated voluntary submission to penalty as part of non-violent resistance. The Court later turned peaceful dissent into Article 19 rights.

Supreme Court on Protest and Preventive Powers

- **Babulal Parate (1961):** A Constitution Bench upheld anticipatory prohibitory orders as reasonable restrictions. The Magistrate must record material facts, and review remains open.
- **Madhu Limaye (1970):** The power depends on urgency and emergency. It is not an ordinary administrative tool.
- **Ramlila Maidan (2012):** Orders cannot rest on conjecture. The threat must be real, proximate, and imminent. Force must stay at the **irreducible minimum**.
- **Mazdoor Kisan Shakti Sangathan (2018):** The Court struck down blanket bans at Jantar Mantar and Boat Club. It required regulated, designated sites.
- **Anuradha Bhasin (2020):** Repeated orders abuse power. Orders must be published and pass a four-part **proportionality** test: legitimate aim, rational connection, necessity, and balancing.
- **Amit Sahni (Shaheen Bagh, 2020):** The right to protest is protected, but public ways cannot be occupied indefinitely.
- Arrests of peaceful demonstrators must follow BNSS safeguards. Procedural lapses make custody unconstitutional under **Article 21**.

Supreme Court on Preventive Detention

- **A.K. Gopalan (1950):** Upheld preventive detention and treated Article 22 as a complete code.
- **Khudiram Das (1975):** Stressed communicating grounds, allowing representations, and checking arbitrary executive action.
- **Rekha (2011):** It is an exceptional power and cannot replace ordinary criminal law where bail and trial suffice.
- **Pramod Singla (2023):** Called these laws a **colonial legacy** with extraordinary power. Every procedural lapse favours the detenu.
- **Ameena Begum (2023):** Law and order differs from public order. Detention needs a live and proximate link.

Arguments for and Against Preventive Detention

- **For:**
  - It addresses terrorism, insurgency, and organised crime, preventing escalation in unrest.
  - It prevents escalation in unrest.
  - It deters unlawful acts.
  - Article 22(3) to (7) recognises this.
  - It protects collective safety.
- **Against:**
  - It has colonial roots.
  - Withholding of facts leaves room for arbitrary action.
  - Suspicion-based arrest is wide.
  - It can bypass fair trial safeguards.
  - It has a **chilling effect** on Article 19 freedoms.

Way Forward

- **Necessity and proportionality:**
  - Use powers only when strictly necessary, and apply the four-part proportionality test.
  - Orders should be time-bound, narrow in area, and reviewed often, not renewed by habit.
- **Designated protest zones:** Replace blanket orders with designated, accessible zones, as the Court required in Mazdoor Kisan Shakti Sangathan.
- **Transparency and procedure:**
  - Communicate grounds and facilitate representations. Publish orders so courts can review them.
  - Disclosing the number of detainees and the grounds would build accountability.
  - Keep CCTV and detention records safe, as the Court directed.
- **Graduated force:** Enforce graduated force with documented escalation steps.
- **Police accountability:**
  - Require visible name tags, as suggested in D.K. Basu. case Body-worn cameras are a proposed reform to deter abuse.
  - Training on the limits of Sections 170 and 172 can prevent routine misuse.
- **Facilitation principle:**
  - Follow the facilitation principle in the UN Human Rights Committee's General Comment 37. Police should enable peaceful assemblies and separate peaceful protesters from violent individuals.
  - Violence by a few should not justify mass dispersal or detention of peaceful people.
- **Legal clarity:** Prefer ordinary criminal law where it is adequate, and clarify the limits of Section 172.
  - The pending hearing is a chance to set clear thresholds.

Conclusion

- Security and liberty must be balanced through proportionate, reviewable, and transparent action.
- Restrictions should uphold Articles 14, 19, and 21 and protect peaceful assembly without weakening lawful governance.
- Peaceful dissent is a constitutional right under Article 19, not a threat to order.
- Public trust will depend on a simple test: every restriction must be justified, limited, and open to review.

Cover Story
Economy

DISINVESTMENT: THE FISCAL BALANCE

The CCEA approved the sale of a 60.72% IDBI Bank stake to Fairfax for ₹52,878 crore, set to help the Centre exceed its ₹80,000 crore FY27 target.

The IDBI Bank Deal

- The **CCEA** approved it on October 14, 2026. The buyer is **Fairfax Financial Holdings** of Canada, acting through a subsidiary.
- The stake combines the **Government's 30.48%** and **LIC's 30.24%**. The Government keeps about **15%** and LIC about **19%**, together near **34%**.
- The winning bid of **₹81 per share** beat the **₹75.99** fair value set by two independent valuers.
- It is the biggest strategic disinvestment since **Air India**. It will also be the largest **FDI** in India's financial sector. Completion is expected by March 2027, subject to regulatory approvals.
- The Centre had raised **₹62,124 crore** by September 10 against an **₹80,000 crore** FY27 target for disinvestment and asset monetisation. The Government's share of the IDBI sale, near ₹26,000 crore, would lift receipts past ₹88,000 crore. That would be the first time since **FY19** that an original target is beaten.

Disinvestment

- **Disinvestment** means selling or diluting government equity in public enterprises, financial institutions, or other assets. It turns public assets into liquid capital.
- Its aims are to raise **non-debt receipts**, ease the burden on the exchequer, and improve **corporate governance** through market discipline.
- **Strategic disinvestment** sells all or most of the government's stake with a transfer of management control. **Privatisation** is the subset where control passes to a private buyer.
- **Minority stake sales** keep control with the government. They use **IPOs**, **offers for sale** (existing shareholders selling to the public), and buybacks. They widen the share float, bring in retail investors, and deepen markets.
- **Minority** sales keep over 51% with the government, as in the 3.5% **LIC IPO** of 2022. **Majority** sales hand control over but leave a minority stake. **Strategic** sales include Air India's 2022 sale to Tata.
- **DIPAM** under the Finance Ministry is the nodal body. It began in 1999 as the Department of Disinvestment and took its present name in 2016.

New Public Sector Enterprise (PSE) Policy

- The policy for **Atma Nirbhar Bharat** aims at minimal government presence. It covers central public sector enterprises, public sector banks, and public sector insurers.
- **Strategic sectors** keep a bare minimum of one to four enterprises. The rest are privatised, merged, subsidiarised, or closed. These sectors are atomic energy, space and defence; transport and telecommunications; power, petroleum, coal and other minerals; and banking, insurance and financial services.
- **Non-strategic sectors**, such as steel and hospitality, see enterprises privatised or closed.

Other Routes and Past Recommendations

- **National Monetisation Pipeline (NMP) 1.0** began in August 2021 with a ₹6 lakh crore target and achieved about ₹5.3 lakh crore. **NMP 2.0**, launched in February 2026, estimates ₹16.72 lakh crore for FY26 to FY30, including ₹5.8 lakh crore of private investment. It leases mature, already-built assets without transferring ownership.
- **Budget 2021-22** proposed a special vehicle to monetise surplus land and other non-core assets. This frees resources without handing over a whole enterprise.
- The **Rangarajan Committee (1993)** capped disinvestment at 49% in reserved sectors and allowed deeper sales elsewhere.
- The **G.V. Ramakrishna Disinvestment Commission (1996)**, an advisory body, split enterprises into core and non-core. It suggested up to 49% disinvestment in core and 74% in non-core.

Liberalisation, Disinvestment, and Privatisation

- **Liberalisation** relaxes controls, allowing private firms to operate. There is no ownership transfer. The state shifts from controller to regulator. The end of the License Raj in 1991 is an example.
- **Disinvestment** sells part of government equity to raise non-debt receipts and ease the deficit. The government may keep control.
- **Privatisation fully transfers ownership and control.** The state exits the business, as with Air India and IDBI Bank.

Why Disinvestment Continues

- **Subsidy pressure:** The West Asia conflict and the Strait of Hormuz disruption raised fertiliser and oil costs. The FY27 fertiliser subsidy budget is **₹1.71 lakh crore**. An official said in May it may rise by ₹70,000 crore. Later projections run as high as **₹3.4 lakh crore**.
- **Deficit target:** The Centre targets a fiscal deficit of **4.3% of GDP** in FY27. Extra non-debt receipts reduce borrowing.
- **Funding priorities:** Receipts free capital from weak enterprises for health, education, and infrastructure projects under the **NIP**. They support capital spending while limiting the risk of crowding out private investment.

Significance

- **Efficiency:** Autonomous boards, professional managers, and market accountability sharpen performance.
- **Fiscal relief:** It cuts support to loss-making enterprises.
- **Competition:** Better service and innovation follow where safeguards exist.
- **Asset value:** It unlocks the value of past public investment.
- **Wider ownership:** Listings let citizens own shares in public assets.
- **Privatisation 2.0:** Large investor-led sales replace routine offers for sale and draw in FDI.

Concerns

- **Uncertain markets:** Weak sentiment and volatile valuations can delay sales. IDBI itself faced valuation disagreements before approval.
- **Valuation gaps:**
  - Asset-based and cash-flow-based values differ. This stalls bids and invites claims of underselling.
  - Public scrutiny grows when a bid sits only slightly above the independent valuers' fair value.
- **Employment:**
  - Workers fear for job security and service conditions.
  - Reservation in jobs for SC, ST, and OBC candidates may not carry over to a private owner.
- **One-time revenue:** Disinvestment cannot replace recurring taxes. Using sale proceeds for routine spending leaves the underlying deficit unchanged.
- **Market absorption:** Large equity sales drain liquidity and may crowd out start-up and MSME IPOs.
- **Oligopoly risk:** Privatising natural monopolies such as airports, rail routes, or energy grids without strong regulators, like AERA and PNGRB, replaces a public monopoly with a private oligopoly.
- **Land entanglements:** Leasehold land given by States complicates non-core asset sales and delays deals.
- **Social banking:** A private owner may put profit ahead of rural branches, priority-sector lending, and financial inclusion.
- **Control and approvals:**
  - A foreign buyer needs regulatory clearance, and the Reserve Bank checks that new owners are fit and proper.
  - Delay or conditions can change the deal's timing and value.
- **Strategic concerns:** Control over sensitive financial data and systems must stay secure when ownership passes to a foreign group.

Reform Measures

- **Demand-based sales:** Sell where early investor feedback shows strong bids.
- **Rolling three-year pipeline:** It gives bidders time for due diligence and improves price discovery.
- **Calibrated disinvestment:** Use it as an interim step while the state stays the largest shareholder.
- **Ring-fenced proceeds:** Channel receipts into capital assets, through bodies like the National Investment and Infrastructure Fund, not revenue deficits.
- **Transparent valuation:** Use independent valuers, publish the method, and allow audit scrutiny. This builds trust and answers claims of underselling.
- **Worker protection:** Offer retention guarantees, fair voluntary retirement terms, and employee share options before control changes.
- **Strong regulators:** Empower sector regulators and the Competition Commission to check abuse of market power, tariff hikes, and cartel behaviour.
- **Safeguards in strategic sectors:** Use special government rights in key firms, and set service obligations for rural and priority-sector banking.
- **Deeper capital markets:** Phase large sales and widen domestic investor participation, including retail investors and institutions, to avoid market strain.
- **Public disclosure:** Share deal terms, valuation reports, and use of proceeds with Parliament and citizens on a regular schedule.
- **Prepared assets:** Clear land titles, litigation, and legacy liabilities before the sale so bidders price risk fairly and deals close faster.
- **Post-sale monitoring:** Track credit flow, branch access, and employee outcomes for some years after the transfer, and act on lapses.
- **Temasek model (Singapore):** An independent investment company runs state firms on commercial lines. It separates ownership from regulation.
- **SASAC model (China):** One commission supervises state assets and pushes mergers to build large global firms before partial listing.

Conclusion

- Strategic disinvestment should move from short-term revenue to efficient asset management and wealth creation.
- A sale succeeds only when price discovery is fair, buyers are credible, and the public interest is protected.
- Transparent, demand-driven sales can support fiscal prudence, improve enterprise efficiency, and fund social and infrastructure needs.
- Strong regulators, protected workers, and ring-fenced proceeds will decide whether the IDBI deal becomes a model for later sales or a cautionary tale.

INDIA-US STRATEGIC TIES

US Secretary of State Marco Rubio visited India on October 20-21. Previously, PM Modi and President Trump agreed to keep close engagement.

Key Outcomes of Recent Visit

- **Energy:** Marco Rubio met EAM Jaishankar in Mumbai and toured Jamnagar. He called India a **"refining superpower"** and urged more refining of Venezuelan crude and more US energy imports.
  - US Secretary of State said Washington would discuss more Venezuelan imports with **Reliance and** possibly oil production inside Venezuela.
  - The Secretary of State also met business leaders, including the heads of Tata and Adani.
- **Russian oil:** Trump had waived the potential tariffs on Russian oil buyers days earlier. Rubio accepted that India cannot cut Russian crude quickly.
- **Trade:** On trade, the Secretary of State said a deal is "very, very close" and is expected in weeks, not months. The Commerce Minister said the first tranche has been finalised and is now in legal drafting.
- **Technology and defence:** Talks covered critical minerals, AI, and defence procurement, with stress on Indo-Pacific stability.
- The **September 30 call** between the Indian PM and U.S. President reviewed trade, defence, energy, and critical technologies. It followed the **Lindsey O. Graham Sanctioning Russia and Iran Act** of September 18, which allows tariffs of up to **100%** on major buyers of Russian energy.

Significance

- The partnership is a **convergent alignment of democracies**, not a treaty alliance. It rests on shared interests, economic complementarity, and technology synergy.
- **Venezuelan crude** matters because Venezuela holds the world's largest proven reserves, in the Orinoco belt. Its heavy, sour **Merey** grade needs complex refineries.
  - **For India:** It diversifies supply beyond Russia and West Asia and eases Hormuz and Red Sea risk. Jamnagar can lift **gross refining margins**. **ONGC Videsh** may recover dues and revive projects, subject to sanctions.
  - **For the US:** It adds supply and may ease fuel prices. India becomes a refining hub, and Washington gains influence over Venezuelan oil trade while limiting Venezuela's reliance on China and Iran.
- **Strategic weight:** The partnership counters coercion in the Indo-Pacific, builds trusted supply chains, and strengthens India's surveillance reach.
- **Test of autonomy:** The US signed a deal to import Russian diesel, so its pressure on India over Russian crude looks inconsistent.

Historical Background

- Ties have moved from **Cold War distrust** and estrangement over India's nuclear programme to steady warming.
- A **2005** joint statement began civil nuclear cooperation. India separated civil and military facilities and placed civil ones under **IAEA safeguards**. The agreement followed in **2008**.
- In **2016**, the US designated India as a **Major Defence Partner**. The first **2+2 Dialogue** came in 2018.

Geopolitical and Indo-Pacific Cooperation

- Leaders meet through the **Quad**, G20, and trilateral summits. **I2U2** and the India-US-UAE track add reach.
- **Dialogue architecture:**
  - The **2+2** brings together foreign and defence ministers.
  - Other forums are the Commercial Dialogue, Economic and Financial Partnership, Trade Policy Forum, Strategic Energy Partnership, and Homeland Security Dialogue.
- The partnership counterbalances maritime coercion and protects freedom of navigation along **sea lines of communication**.
- The US has backed India's **permanent UN Security Council seat** and early **NSG** membership.
- Washington engages the **Global South** through India's credibility. India uses the link to push for reformed multilateralism.
- The leaders last met at the June 2026 G7 summit. Modi is expected at the G20 summit in the US in December.

Defence Cooperation

- In **October 2025**, both sides signed a **10-year Framework for the Major Defence Partnership**. It follows earlier frameworks of 2005 and 2015. The US called India a priority country for defence cooperation.
- **Foundational pacts:**
  - **GSOMIA** (2002) protects shared classified information.
  - **LEMOA** (2016) governs logistics sharing such as refuelling.
  - **COMCASA** (2018) enables secure encrypted communications.
  - **BECA** (2020) gives geospatial intelligence for navigation and targeting.
- **Co-development:** The Defence Technology and Trade Initiative supports co-production. **INDUS-X** and **GE F414** jet engines extend it. **Tier-I status** under the Strategic Trade Authorisation (2018) and the **Industrial Security Annex** (2019) facilitates technology sharing.
- **Exercises: Yudh Abhyas** (Army), **Vajra Prahar** (Special Forces), **Malabar** (Navy), **Cope India** (Air Force), and **Tiger Triumph** (tri-service).

- **Mechanisms:** The Defence Policy Group and Military Cooperation Group run day-to-day cooperation.
- **Counter-terrorism and cyber:** A Joint Working Group and a Designations Dialogue handle terror listings. A **Cyber Framework** (2016), a Cyber Security Dialogue, and an ICT working group cover cyber cooperation.

Geo-economic Cooperation

- **Mission 500** aims to more than double trade to **$500 billion by 2030**.
- The US was India's largest trading partner in 2024-25, with about **$132 billion** of goods trade. It was second in 2025-26, and India's goods surplus fell to $34.4 billion.
- An **interim trade framework** was announced in February 2026. Reports differ on whether it is formally in force.
- **Investment:** SelectUSA drew about **$20 billion** in Indian investment pledges. India has also signalled plans to buy **$500 billion** of US energy, aircraft, technology products, and coking coal over five years.
- **Hydrocarbons:** Trade has reached about **$14.4 billion** since 2025. Venezuelan crude purchases rose from **$255 million** in 2025-26 to **$3.6 billion** between April and August 2026.
- **Forums:** The **CEO Forum** and the Infrastructure Collaboration Platform bring in business and infrastructure finance.
- The **Mineral Security Partnership** and **IPEF** position India as a **China-plus-one** hub.

Space, Climate, and Energy Cooperation

- **Energy:** The Strategic Energy Partnership (2018) and a Natural Gas Task Force cover oil, gas, and renewables. In 2019, Indian Oil signed the first PSU term contract for US crude.
- **Clean energy:** The PACE initiative created the Joint Clean Energy R&D Centre, with US $50 million of joint funding. A 2014 US EXIM Bank and IREDA MoU provided US$1 billion in financing
- **Civil nuclear:** The 2008 agreement underpins a working group on R&D.
- **Science and technology:** The 2005 agreement, renewed in 2019 for ten years, and the **Indo-US Science and Technology Forum** (2000) support joint research.
- **Space:**
  - India signed the **Artemis Accords**.
  - **NISAR** launched in 2025 and monitors land, ice, and ecosystems for climate and disaster work.
  - A human spaceflight framework came in 2024, and **Shubhanshu Shukla** flew on Axiom-4.
  - A Joint Working Group on civil space reviews cooperation in earth observation, navigation, and Mars exploration.
- **TRUST (2025)** succeeded **iCET**, covering AI, semiconductors, quantum, critical minerals, biotechnology, energy, and space.

People-to-People and Cultural Relations

- A large Indian-origin community, estimated at 4 to 5 million, shapes US business, science, and politics. Many are professionals, entrepreneurs, and educators.
- Indians received over **70%** of H-1B visas in 2024, so skilled mobility is central to ties.
- Indian students and academic exchanges add to this link.

Challenges

- **Trade and tariffs:**
  - Disputes persist over agriculture, dairy, medical devices, and digital trade.
  - The US ended India's GSP benefits in **2019**, and India hiked duties on 28 US goods.
  - The US has also criticised high import duties, price caps, and customs delays.
  - Tariffs of 50% hit Indian goods in 2025. A US court ruling in February 2026 struck down reciprocal tariffs, so uncertainty remains.
- **Digital and IPR:** The US criticises India's data localisation rules. India stays on the USTR's **Priority Watch List** for IP enforcement.
- **Strategic autonomy:** Ties with **Russia** and **Iran**, the S-400 deal ($5.4 billion, **CAATSA**), and Chabahar port draw US concern. The new sanctions Act adds pressure.
- **Immigration:** A **$100,000** fee on new H-1B petitions hurts IT firms. Visa delays affect students and workers.
- **Technology transfer:** US export controls (**ITAR and EAR**) slow transfers. India worries about supply reliability in crises.
- **Pakistan:** US mediation claims on May 2025 clash with India's red lines on cross-border terrorism.
- **Unpredictability:** Swings in tariffs, treaty exits, and sanctions create uncertainty.
- **Energy hurdles:** Scaling Venezuelan crude needs sanctions clearance, payment channels, and rebuilt Venezuelan infrastructure.

Way Forward

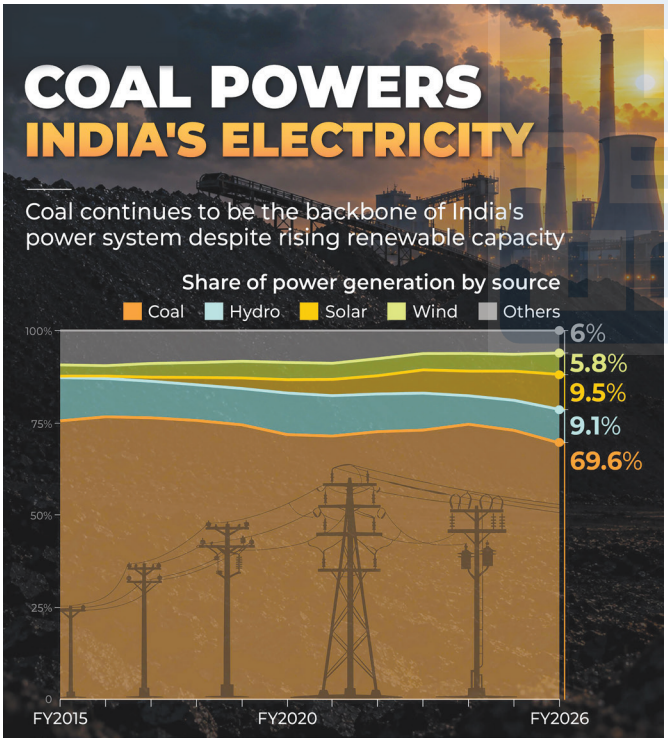
- Build **sanctions-proof energy corridors** with long-term waivers and clear payment channels.
- Conclude an **early-harvest trade deal** that fixes tariffs and protects service mobility.
- Create a **trusted-partner visa track** for STEM talent under TRUST.
- Favour **co-production**, including shipbuilding, by using Tier-I status and the Industrial Security Annex. Streamline export licences for jet engines, unmanned systems, and seabed sensors.
- Shape AI cooperation with proactive rules on data privacy, competition, and fair taxation.
- Use the Quad and trusted supply chains to cut over-dependence on China.
- Scale up the India-US-UAE framework to operationalise **IMEC**.

INDIA'S COAL STOCKPILE

Over 80 of 191 monitored thermal plants had critically low coal stocks in late September 2026, as record demand and weak hydropower strained supply.

Coal Stock Position

- Central Electricity Authority **(CEA)** monitors 191 thermal plants.
- A plant is considered critical when its stock falls below 25% of its normative requirement, which is the stock it must hold.
- Critical plants rose from **51** on August 31 to **74** on September 19. The count reached **84 (about 44%)** by September 30.
- Stocks at plants stood at **38 million tonnes** on July 31, against 54 million a year earlier. Cover fell to **12 days** from 18.
- Coal Minister **G. Kishan Reddy** denied a shortage. He cited higher demand, monsoon disruption in mining, and lower hydropower.
- The Coal Ministry asked **Coal India** and **Singareni** to raise supplies. The Power Ministry is weighing an **imported coal mandate**, with no decision yet.



Reasons for Dominance of Coal

Record Demand:

- Peak demand hit an all-time **270.8 GW** on May 21, 2026, against 230.99 GW in May 2025.
- September consumption remained 11.3% higher year on year, with a peak of 269 GW on September 10.
- Industrialisation, urbanisation, electrification, and cooling are driving demand. The **IEA** also noted shortages more than doubled in January to May 2026.
- **August 2026** was the hottest August since 1901, at **28.01°C** against a normal of 27.34°C. August peak demand rose **12.4%**.

Weak Hydropower and El Niño:

- **El Niño** is the warming of the central and eastern equatorial Pacific.
  - It alters circulation and can weaken the Indian monsoon.
- The IMD reported moderate to strong El Niño conditions. June 2026 was the **fifth driest June since 1901**, with rainfall from June to August **13.8%** below normal.
- Hydropower generation fell about **21%** year on year in June. Coal supplied **64%** of generation in July, against 62% a year earlier.

Why Coal Still Dominates

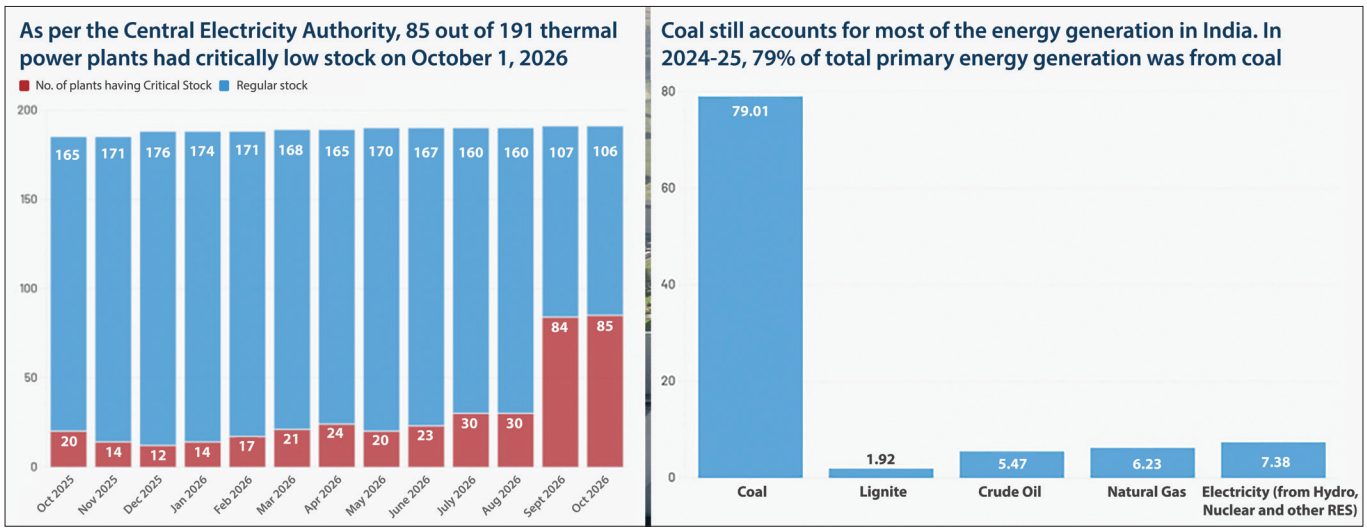
- **Domestic reserves** in Jharkhand, Odisha, Chhattisgarh, and West Bengal limit import dependence.
- Coal plants run **continuously**. Solar works mainly by day, and wind depends on conditions.
- Until storage, **pumped-storage hydropower**, and flexible grids mature, coal covers gaps when renewable output falls.

Concerns with Coal Dependency

- **Air pollution** from particulate matter, sulphur dioxide, and nitrogen oxides.
- **Greenhouse gases** make climate mitigation harder.
  - Coal is carbon-intensive, so heavy use slows emission cuts.
- **Water stress** from cooling needs.
- **Mining damage** includes deforestation, land degradation, displacement, and biodiversity loss.
- **Fly ash** can contaminate land and water if disposed of badly.
- **Lock-in** of coal infrastructure makes transition costlier. Long-lived plants and mines raise the risk of stranded assets.
- Heavy dependence magnifies the effect of **stock shortages**.
  - Monsoon, rail, or mining disruption can quickly threaten supply.

Government Initiatives

- **National Solar Mission (2010)** sets solar capacity targets. Wind has a **140 GW** target for 2030 within the 500 GW non-fossil goal.
- **National Green Hydrogen Mission** targets fossil-heavy sectors. National Clean Energy Fund **(NCEF)** funds clean energy research and innovation.
- Support includes **viability gap funding**, **PLI** for solar PV manufacturing, rooftop and off-grid subsidies, and **RECs**.



- **Green Energy Corridor** aids grid integration. **PM-KUSUM** solarises farm pumps. **RDSS** strengthens DISCOMs.
- **ISA**, launched by India, promotes global solar cooperation.
- A **₹2.44 lakh crore plan for transmission** supports 500 GW. Inter-regional capacity is set to rise from **119 GW** to **143 GW by 2027** and **168 GW by 2032**, using HVDC corridors and new lines from Rajasthan, Gujarat, and Ladakh.

Way Forward

- **Stock monitoring and fuel planning:** Improve monitoring and supply planning at plants.
  - Early alerts can trigger supplies before stocks turn critical.
  - Plants nearing critical levels need priority rake allocation.
- **Coordination:** Coordinate coal production, rail transport, and generation.
  - Monsoon-ready mining and rail plans can avoid wet-season disruption.
- **Renewables and storage:** Expand renewables and storage.
  - Batteries, pumped storage, and flexible grids can cover evening and low-wind gaps.
- **Grid and DISCOM reforms:** Speed up the Green Energy Corridor and RDSS so clean power reaches demand centres.
- **Hydropower reliability:** Improve it through better water management.
  - Reservoir planning can cushion weak-monsoon years.
- **Efficient cooling:** Promote energy-efficient cooling appliances to curb peak demand growth.
- **Demand forecasting:** Sharpen forecasting for heatwaves. Peak demand is projected near 388 GW by 2032.
  - Building stocks before summer and early autumn can ease shocks.
- **Imported coal:** Weigh any mandate carefully against cost and price risks.

Conclusion

- India's coal dependence reflects availability, infrastructure, continuous supply, and reliability, not only a renewable shortfall.
- As solar, wind, hydro, nuclear, and storage grow, firm fuel supply and better planning remain essential.
- Reliable power also protects industry, jobs, and household comfort during heatwaves.
- A balanced path keeps coal stocks secure today while building a cleaner, more flexible system for tomorrow.



FISCAL FEDERALISM IN INDIA

The 16th Finance Commission retained States' share of central taxes at 41% for 2026-31, while the debate over cesses, surcharges, and State fiscal autonomy continues.

About Fiscal Federalism

- **Fiscal federalism** explains how **spending duties and taxing powers** are divided among the Union, States, and local governments.
- The division of revenue-raising powers is called **tax assignment**. Classical theory gives taxes on **highly mobile bases** to the Union and taxes on **less mobile bases** to States or local bodies.
- **Grants-in-aid and transfers** become necessary when a government's spending duties exceed its revenue capacity.

Constitutional Framework

- The **Seventh Schedule** divides taxing powers and spending duties between the Union and States. The division is uneven, which creates **fiscal imbalance**.
- **Article 280** creates the **Finance Commission**. It recommends how the **divisible pool** (Union tax revenue shared with States) is split between the Union and States, and among States.
- **Cesses and surcharges** (extra levies the Union collects) are excluded from the divisible pool under **Article 270**.
- Under **Article 293(3)**, a State with outstanding Union loans needs Union consent to borrow.

Types of Fiscal Imbalance

- **Vertical imbalance:** States carry large spending duties but lack broad and buoyant tax sources. Buoyant means revenue that grows with the economy.
- **Horizontal imbalance:** States differ in income, tax base, demography, and cost of delivering services.

Recent Development

- The Commission, chaired by **Arvind Panagariya**, submitted its report in **November 2025**. It was tabled on **February 1, 2026** with the Union Budget.
- It **retained the 41% share**, unchanged from the 15th Finance Commission. States had sought **50%**.
- It changed the horizontal criteria: **income distance 42.5%** (earlier 45%), **2011 population 17.5%** (earlier 15%), and a new **10% weight for GDP contribution**.
- It discontinued **revenue deficit grants, sector-specific grants, and State-specific grants**. It also increased transfers to **local governments**.
- It did not bring **cesses and surcharges** into the divisible pool. This keeps the debate on equity and State autonomy alive.

GST and Cooperative Federalism

- **GST** merged many Union and State indirect taxes and is **destination-based**. **Input tax credit** reduces the cascading of taxes.
- The **GST Council (Article 279A)** allows joint decisions. The Union holds **one-third** of the votes, States together hold **two-thirds**, and decisions need a **three-fourths weighted majority**.
- States gave up independent indirect tax powers. The end of **GST compensation** in **June 2022** therefore raised worries about revenue shortfalls.

Fiscal Responsibility and Public Debt

- Borrowing helps development when it funds **productive investment** with long-term returns. Persistent deficits raise **debt-servicing** costs and squeeze essential spending.
- The **FRBM Act, 2003** promotes discipline at the Union level. States follow through their own fiscal responsibility laws.

Key Concerns

- States have wide spending duties but limited **buoyant tax sources**, so vertical imbalance persists.
- **Cesses and surcharges**, now close to **one-fifth of gross tax revenue**, shrink the shareable pool.
- States differ sharply in **income, tax bases, demography, and service costs**, so horizontal gaps remain wide.
- **Tied transfers** (funds earmarked for fixed uses) reduce States' freedom to set their own priorities.
- Local governments earn little own revenue and depend heavily on higher levels of government.
- **Off-budget borrowings** (loans raised outside the budget), guarantees, and contingent liabilities hide the true fiscal position.
- **Poor spending outcomes** weaken the impact of public money.

Significance

- States deliver much of health, education, and local infrastructure, so devolution shapes the **quality of public services**.
- Fair transfers support **balanced regional development** and trust in **cooperative federalism**.
- Credible fiscal rules protect **debt sustainability**.

Way Ahead

- States should improve **tax administration**, compliance, and the revenue base without raising the compliance burden.
- Adopt **outcome-based budgeting** and measure results in health, education, infrastructure, and livelihoods.
- Base future transfers also on **climate vulnerability, demographic transition, geographical constraints, and cost of service delivery**.
- **Cap or rationalise cesses and surcharges** so that the divisible pool stays meaningful.
- **Implement State Finance Commission recommendations** to strengthen local government finances.

NEXT-GENERATION GST

The 57th GST Council recommended compliance reforms on registration, refunds, and credit, after reported taxable supplies rose 25.8% since rate rationalisation.

GST

- GST began in **2017** through the **101st Constitutional Amendment Act, 2016** as one comprehensive indirect tax.
- It is a **destination-based** tax on consumption, levied at every stage. Only **value addition** is taxed, and the final consumer bears the burden.
- Revenue accrues to the State or UT where consumption occurs.
- **CGST** is levied by the Centre. **SGST/UTGST** is levied by States and UTs. **IGST** is levied by the Centre on inter-state supplies, and the SGST/UTGST share is passed to the destination State.
- The **GST Council (Article 279A)** is chaired by the Union Finance Minister and includes State finance ministers. It decides almost entirely by consensus.
- **Alcohol for human consumption** and five petroleum products (crude oil, petrol, diesel, natural gas, aviation turbine fuel) remain outside GST.

Rate Rationalisation

- New rates took effect on **September 22, 2025**, after the 56th Council meeting.
- GST now has two main rates, **5%** and **18%**, and a special **40%** rate for select luxury and sin goods. Nil rates, exemptions, and a few special rates remain.
- The aim was lower complexity and a lighter tax burden.

Performance After the Reform

- Reported taxable supplies rose **25.8%** between October 2025 and July 2026, year on year.
- Reported **B2C sales** rose **26.7%**, faster than overall supplies. This may partly reflect better reporting.
- The effective tax rate on domestic supplies fell from **14.55% to 13.13%**. Gross collections were **₹12.46 lakh crore** in April-September 2026, up **11.6%**.
- Registrations reached about **1.71 crore** by August 2026, nearly **15%** higher.

Next Phase: Ease of Compliance

- **Registration:** Low-risk applicants get system approval within three working days. About 61% of registrations already use this route.
- **Returns:** Past-period corrections will be allowed. Credit will settle through the **Invoice Management System**, where buyers accept or reject supplier invoices.
- **Refunds:** The acknowledgement time falls from 15 to 10 days. The system will sanction 90% of a claim after risk assessment, within three working days instead of seven.
- **Input tax credit** (set-off of tax paid on purchases): Credit widens to employee health and life insurance, telecom towers, and pipelines. Refunds will extend to tax on input services and on plant and machinery.
- **Disputes:** A common standard will govern notices and orders. No notice will issue below **₹10,000**.
- **Penalties:** The Council recommended removing arrest powers. It also recommended raising the prosecution threshold from **₹1 crore to ₹5 crore** and cutting the general penalty from ₹25,000 to ₹10,000.
- **Small taxpayers:** An optional annual return with quarterly tax payment was approved in principle for sellers with turnover up to **₹5 crore** who supply only to consumers.
- No rate was changed. Rate matters will be taken up once a year.

Significance

- Faster refunds and credit release **working capital**, especially for exporters and small firms.
- Proposals reached States before the Council, which reflects **cooperative federalism**.
- Invoice matching lets enforcement rest on **detection** rather than deterrence.

Challenges

- Small firms may still struggle with rules, records, and returns.
- Credit mismatches and delays can block working capital.
- Refund delays impose liquidity costs on exporters.
- Litigation over classification, valuation, exemptions, and credit reduces tax certainty.
- Reforms need State consensus because GST changes affect both levels' revenues, and some changes need legal amendments.

Way Ahead

- Prioritise **taxpayer-centric administration** over revenue maximisation.
- Make registration and returns **automated, risk-based, and simple**, especially for low-risk taxpayers.
- Use the Council's **cooperative federalism** to balance simplification with State revenue interests.
- Protect genuine buyers' credit. A Committee of Officers will study this and report within three months.

Conclusion

- GST's next phase moves from lower rates to lighter compliance. Its success depends on faithful implementation and continued Centre-State consensus.

INDIA'S NUCLEAR PROGRAMME

Recently, Union Minister Jitendra Singh reaffirmed that India's nuclear programme is peaceful, as nuclear power is targeted to reach 100 GW by 2047.

Nuclear Policy

- **Nuclear policy** is the set of principles a state follows on nuclear weapons and nuclear energy.
- On weapons, it governs development, deployment, and use. Its aim is to prevent **proliferation** and accidental or deliberate use.
- On energy, it governs safe development. Nuclear power is **clean and reliable**, but it carries risks of accidents and the spread of weapons technology.

India's Nuclear Doctrine

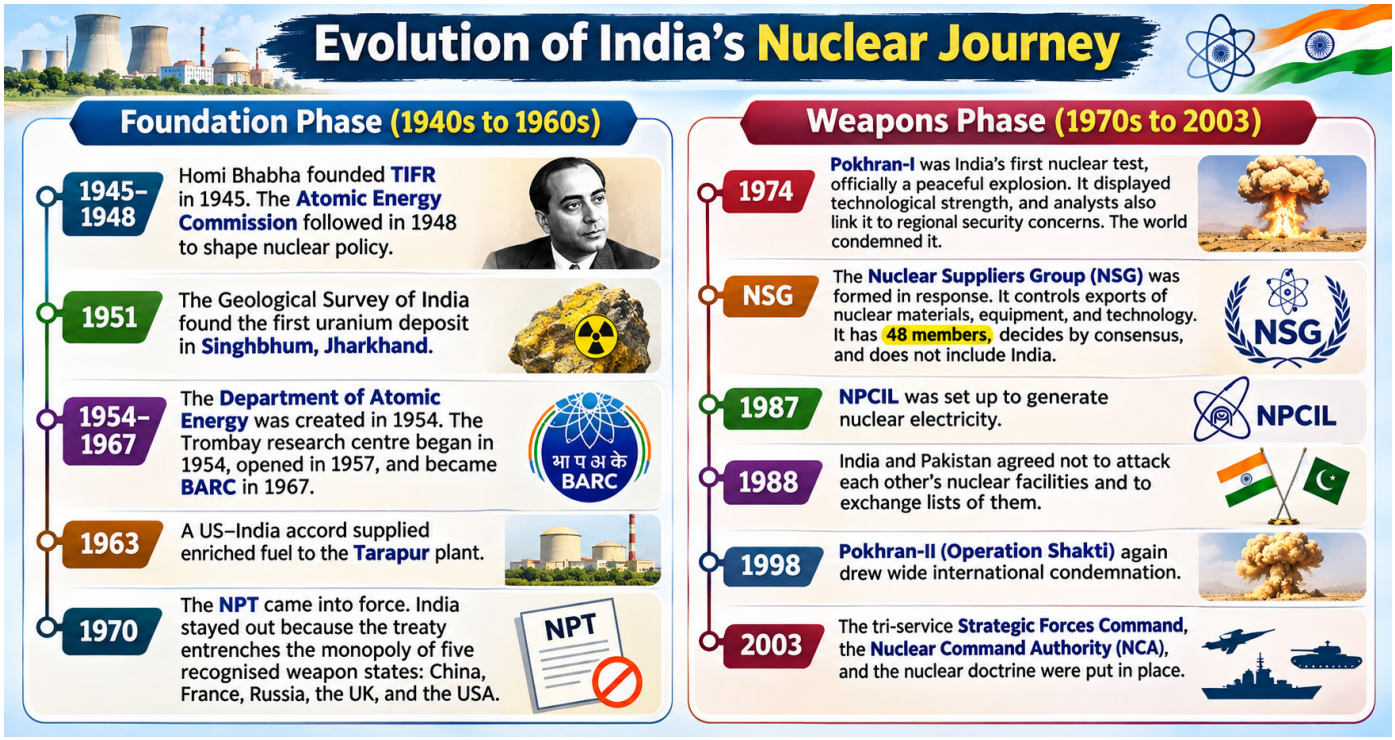
- **No first use:** India uses nuclear weapons only after a nuclear attack on its territory or forces anywhere.
- **Credible minimum deterrence:** The arsenal needs to be only large enough to deter.
- **Massive retaliation:** The response to a first strike aims to inflict **unacceptable damage**.
- **Civilian control:** Only the NCA's **Political Council**, chaired by the Prime Minister, can authorise use. The **Executive Council**, chaired by the National Security Adviser, advises and carries out orders.
- **Negative assurance:** Nuclear weapons will not be used against non-nuclear weapon states.
- **Chemical and biological exception:** India keeps the option of nuclear retaliation after a major chemical or biological attack.
- **Disarmament:** India supports global, verifiable disarmament and maintains a moratorium on testing.

Strategic Capability and Diplomacy

- **INS Arihant** was launched in 2009 and commissioned in 2016. Its first deterrence patrol, announced on November 5, 2018, completed the **nuclear triad**. The triad means delivery by aircraft, land-based missiles, and submarine-launched missiles.
- **SIPRI Yearbook 2026** estimates India's arsenal at about **190 warheads**, up from 180. It puts Pakistan at 170 and China at 620.
- **2008:** The **India-US Civil Nuclear Agreement (123 Agreement)** opened civil cooperation despite India's non-NPT status. It was backed by an IAEA safeguards agreement and an NSG waiver.
- **2016:** India's civil nuclear agreement with **Japan** is Japan's only such deal with a non-NPT state.
- India has civil nuclear agreements with **18 countries**, which signals rising confidence in its programme.

Should India Review No First Use?

- **Case for review:** The security setting has changed. Threats from state and non-state actors could escalate to nuclear use, and doctrine should track India's growing capabilities.
- **Case against:** No first use has served India well. Dropping it could spark an **arms race** and raise the risk of nuclear conflict.



- Any change needs a thorough cost-benefit evaluation aimed at regional stability.
- As per Defence Minister Rajnath Singh the future of India's No First Use (NFU) policy on nuclear weapons depended on **"circumstances"**.

Status of Nuclear Power

- Installed capacity is **8,780 MW**, and nuclear power has long supplied about **3%** of India's electricity. Reactors generated **56,681 million units** in 2024-25.
- The target is **22,380 MW by 2031-32**, nearly three times today's level. It relies on indigenous **700 MW** reactors and **1,000 MW** reactors built with international cooperation.
- Around **10 reactors (about 8 GW)** are under construction. Another 10 (about 6.6 GW) are at the pre-project stage.
- The long-term goal is **100 GW by 2047**. Nuclear power gives steady base-load electricity alongside renewables.
- India's 2030 climate pledge promises a **45%** cut in emissions intensity from 2005 levels. It also set about 50% non-fossil capacity, which India reached in June 2025. Net zero is set for **2070**.

The Three-Stage Programme

- **Early milestones:** Apsara, Asia's first research reactor, started at BARC in **1956**. Tarapur made India the second Asian nation, after Japan, to run a nuclear power plant in **1969**.
- Bhabha designed a **three-stage programme** to use India's modest uranium and large thorium reserves.
- **Stage 1 (pressurised heavy water reactors):** These burn natural uranium and use heavy water as moderator and coolant. Their main purpose is to make **plutonium-239** as a by-product.
- **Stage 2 (fast breeder reactors):** These burn plutonium-239 with uranium-238 using liquid sodium coolant. They produce more fissile material than they consume, including **uranium-233**.
- The **PFBR at Kalpakkam** first sustained a chain reaction in **April 2026**, which moved India into stage 2. India is set to become the second country, after Russia, to run a commercial fast breeder.
- **Stage 3 (advanced heavy water reactors):** These will use thorium-232 with uranium-233, and initially plutonium, to unlock India's **thorium**.

Challenges

- **Light water gap:** India's fleet rests on heavy water and fast breeder designs, so indigenous experience with light water reactors is thin. These reactors use ordinary water as coolant and moderator, cost less to build, and make up over 85% of world capacity.
- **Uranium constraint:** Domestic uranium is low-grade, so growth depends on fuel-supply deals abroad.
- **Capital and time:** Plants need huge investment and long construction periods.
- **Early-stage technology:** Small modular reactors are at an early stage. Commercial thorium technology is still being developed.
- **Public concern:** Fear of accidents fuels local opposition and delays.

Government Initiatives

- The **Nuclear Energy Mission** targets about 100 GW by 2047 and stresses domestic capability and advanced technology.
- **Budget 2025-26** gave about **₹20,000 crore** for nuclear research, centred on small reactors. The goal is at least **five indigenous small modular reactors by 2033**.
- The **SHANTI Act, 2025** enables capacity expansion, advanced reactors, and wider participation in nuclear generation.
- **BARC's designs** include the **200 MWe BSMR-200**, a **55 MWe** small reactor, and a **5 MWt** high-temperature gas-cooled reactor for hydrogen.
- **Bharat Small Reactors** are in development for scalable deployment.
- Studies are under way to **repurpose old thermal power sites** for smaller nuclear projects. International partnerships and technology transfer aim to close experience gaps.

Way Ahead

- **Disarmament and non-proliferation:** Keep pursuing global, verifiable disarmament and a stronger non-proliferation regime through diplomacy. India can press for **NSG** entry and use its civil nuclear agreements with 18 countries to secure fuel and technology.
- **Safe expansion:** Grow nuclear energy with strong safeguards against accidents and technology spread. **Independent regulation** and open talks with local communities can ease public concern and reduce delays.
- **Credible deterrence with dialogue:** Maintain deterrence for regional security. Pair it with dialogue and confidence-building measures with neighbours. The **1988 pact** on not attacking each other's nuclear facilities shows such steps can work.
- **Indigenous technology:** Speed up small modular reactors and **thorium** technology to reduce fuel dependence. Delivering at least five indigenous small modular reactors by **2033** would prove designs early. **Fast breeders** must scale up, since they pave the way to thorium use in stage 3.
- **Capability gaps:** Use international partnerships to gain **light water reactor** experience and secure long-term uranium supplies.

Conclusion

- India's nuclear story combines a restrained weapons posture with a fast-growing energy programme.
- **No first use** and **credible minimum deterrence** support stability, while the three-stage programme aims at clean, steady power.
- The next test is to deliver **100 GW by 2047** safely, with credible deterrence, reliable fuel, and public trust.

WOMEN-LED DEVELOPMENT

A National Commission for Women consultation recently highlighted women's property rights and urged a shift from welfare-based empowerment to women-led development.

Key Concepts

- **Women's empowerment** means enabling women to claim rights, access resources, choose freely, and participate equally in public life.
- **Women's development** is top-down. Programmes are designed for women, who stay passive recipients, as in maternal health schemes and quotas.
- **Women-led development** is bottom-up. Women lead, decide, and innovate from lived experience, as in local governance and the **SHG movement**.

Two Lenses of Justice

- **Distributive justice** shares resources and opportunities fairly to prevent structural inequality.
- **Compensatory justice** addresses disadvantage through protection, targeted aid, and legal remedies.
- The consultation held that welfare and reservations alone are compensatory and insufficient for faster progress.

Legal and Judicial Framework

- **Articles 14 and 15** guarantee equality and bar sex discrimination. **Article 15(3)** permits special provisions for women.
- **Article 300A** protects property from deprivation without legal authority.
- Marriage, maintenance, and inheritance laws have also strengthened women's position. The **Hindu Succession Act, 1956**, which was amended in **2005**, gave daughters equal coparcenary rights. **Vineeta Sharma (2020)** confirmed these rights by birth.
- **Air India Statutory Corporation (1996)** called distributive justice a foundational goal under **Articles 38, 39, and 46**. **Consumer Education and Research Centre (1995)** read it into **Article 21**.

Significance of Women-led Development

- Women shift from **welfare recipients** to agents of change.
- India ranks **131st of 145** in the **Global Gender Gap Index 2026**, with 64.5% parity against a global 69.2%. Female labour force participation rose from **23.3% in 2017-18 to about 40% in 2025**.
- **DAY-NRLM** has mobilised **10.08 crore women** into **92.30 lakh SHGs**. About **3.46 crore** are **Lakhpati Didis** (household income of at least ₹1 lakh yearly).
- Women's climate decisions build resilience. The **Deccan Development Society** helps nearly 5,000 women farmers restore farmland sustainably.

Challenges

- **Patriarchal norms** push women to cede inheritance to male relatives and discourage legal claims.
- **Rights versus control:** legal protection does not ensure that women acquire or control assets.
- **Access to justice:** costs, delays, thin legal aid, and family dependence block property claims.
- **Unpaid care:** women spend **289 minutes** daily on unpaid domestic work, against **88** for men.
- **Digital divide:** women who have ever used the internet rose from **33.3% to 64.3%** (NFHS-5 to NFHS-6), though access varies by state.
- **Early marriage: 20.1%** of women aged 20-24 married before 18 in NFHS-6, down from 23.3%.
- **Safety:** NCRB recorded about **4.48 lakh** crimes against women in 2023.
- **Workplace barriers:** harassment, unequal pay, and glass-ceiling limits.

Global Frameworks

- **CEDAW (1979)** emerged through the UN Commission on the Status of Women, set up in 1946.
- **UN Women** was created in **2010**. **International Women's Day** (March 8) had the 2026 theme "Rights. Justice. Action. For ALL Women and Girls."

Government Initiatives

- **Beti Bachao Beti Padhao** tackles gender-biased sex selection and promotes girls' survival, protection, and education.
- **NALSA** offers free legal aid to eligible women.
- **Mission Shakti** strengthens safety and empowerment through **Sambal** and **Samarthya**.
- **NAVYA** trains girls aged 16-18 under PMKVY 4.0 in digital marketing, cybersecurity, AI-enabled services, and green jobs.
- **PMMVY** gives ₹5,000 in two instalments for the first living child and ₹6,000 for a second girl child.
- **Vigyan Jyoti** supports girls in Classes IX to XII in STEM.

Way Ahead

- Enforce property and inheritance laws and resolve disputes quickly. Build legal literacy through **SHGs, Panchayati Raj Institutions**, and legal services authorities.
- Improve access to justice with legal aid, community help, simpler procedures, and time-bound redressal. Involve women in planning, delivery, and evaluation of schemes.

Conclusion

- Women-led development turns legal rights into real control over assets, decisions, and opportunities. It needs enforcement, access to justice, and women's leadership together.

CYBERCRIME IN INDIA

At India Mobile Congress 2026, PM Modi urged a global mechanism to stop cyber fraud before it reaches users, stressing its cross-border nature.

About

- **Cybercrime** is crime committed through computers, the internet, and other digital technology.
- Common forms include **financial fraud** (card and online transaction fraud), offences against women and children involving sexually explicit material, and **deepfake** content.
- Police and public order are **State subjects**, so State police investigate. The IT Act is a central law, and the Centre coordinates through the I4C.

Types of Key Cyber Frauds

- **Pig Butchering:** Scammers build trust through fake relationships or jobs, then steal money via fraudulent investments or financial demands.
- **Phantom Hacking:** Fraudsters impersonate officials, falsely claim accounts or devices are hacked, and demand transfers to fake "safe" accounts.
- **Online Betting Scams:** Unauthorized platforms lure users with gambling and false promises of high returns.
- **Online Instant Loan Scams:** Fraudulent apps promise quick loans, misuse personal data, and threaten or blackmail victims for repayment, sometimes without disbursing loans.

Scale of the Problem

- India logged **98 lakh complaints** between August 2019 and May 2026. Only **2.3 lakh FIRs** followed, a conversion rate of **2.36%**.
- Reported losses were **₹64,447 crore** (2021 to May 2026). About ₹10,718 crore was frozen, and only ₹323 crore was refunded.
- **Digital arrest** scams rose from 39,925 incidents in 2022 to 1,23,672 in 2024. Losses grew from ₹91 crore to ₹1,935 crore.
- In 2025, about **45%** of complaints on the financial fraud portal originated from **Cambodia, Myanmar, and Laos**.
- Agencies stopped ₹25,095 crore of fraud and froze 12.1 lakh **mule accounts**, which are bank accounts used to route stolen money.

Reasons for the Rise

- **Rapid digitalisation** widens the pool of targets for criminals.
- India has one of the world's largest internet user bases.
- Many firms, especially small ones, lack strong cyber defences.
- **UPI** is the world's largest real-time payment system by volume. This raises exposure to phishing, card fraud, and scams.

Effects of Cybercrime

- **Financial loss** comes through stolen funds, fraud, and system restoration costs.
- **National security** is at risk when attacks target government agencies, critical infrastructure, or defence systems.
- **Data breaches** expose personal and financial information and invite legal consequences.
- **Service disruption** hits businesses, governments, and citizens.
- **Intellectual property theft** erodes competitiveness and innovation.

Legal and Institutional Response

- **IT Act, 2000:** Sections 43, 66, 70, and 74 deal with hacking and cyber offences. **CERT-In** issues regular alerts and advisories on threats and countermeasures.
- **NCCC** builds situational awareness and enables timely information sharing. **Cyber Swachhta Kendra** detects malicious programs and offers free removal tools.
- **Chakshu** on the Sanchar Saathi portal lets citizens report suspected fraud calls, SMS, and WhatsApp messages.
- **I4C**, set up in 2018 under the MHA, gives law enforcement a coordinated framework. It runs the national reporting portal and helpline **1930**. **e-Zero FIR** began in May 2025 as a Delhi pilot. Complaints above **₹10 lakh** on the portal or 1930 become Zero FIRs automatically.

International Frameworks

- The **Budapest Convention (2001)** was the first international cybercrime treaty. India is not a signatory.
- The **UN Convention against Cybercrime**, adopted in December 2024, opened for signature in Hanoi in October 2025. India signed in September 2026 but is not yet a party.
- **ICANN** is a US-based non-profit that coordinates key internet databases. The **Internet Governance Forum** is a UN forum for multi-stakeholder dialogue on internet governance.

Gaps in the Response

- A **2.36%** FIR conversion rate and tiny refunds show an enforcement and recovery gap.The **₹10 lakh** threshold leaves smaller frauds outside automatic FIRs.
- Cross-border syndicates demand **international cooperation**. This is why the UN treaty and the PM's call matter.

Way Ahead

- Ratify the **UN convention** and build joint mechanisms with telecom operators, tech firms, and financial institutions.
- Widen the e-Zero FIR system and close the FIR conversion gap.
- Keep strengthening **forensics, big data analytics, and indigenous tools**.

MONSOON 2026

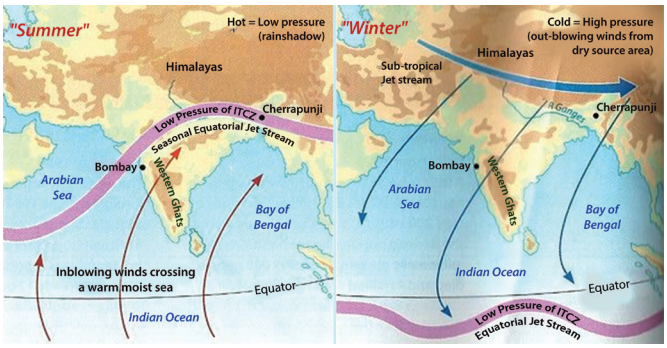
As per IMD, 2026 monsoon rainfall was 759.4 mm, 12.6% below normal and the lowest since 2015. East and Northeast India had its driest monsoon since 1901.

The 2026 Monsoon at a Glance

- Rainfall was **759.4 mm** against a **long period average (LPA)** of **868.6 mm**, which is 87% of normal. LPA is the 1971-2020 average, used as the benchmark.
- It was the lowest since **2015**, the fourth lowest since 2001, and the 13th lowest since 1901.
- Onset over Kerala came on **June 4**, three days after the normal date.
- **Northwest India** got 94% of its LPA and **Central India** got 97%. **South Peninsula** got 76%, with 542 mm, its fourth-lowest total since 1901.
- **East and Northeast India** received **1,017.1 mm**, the lowest since 1901. Assam, Meghalaya, and Arunachal Pradesh were deficient in all four months.
- **Karnataka** ended about 35% short. **Maharashtra** declared drought in 74% of its sub-districts.

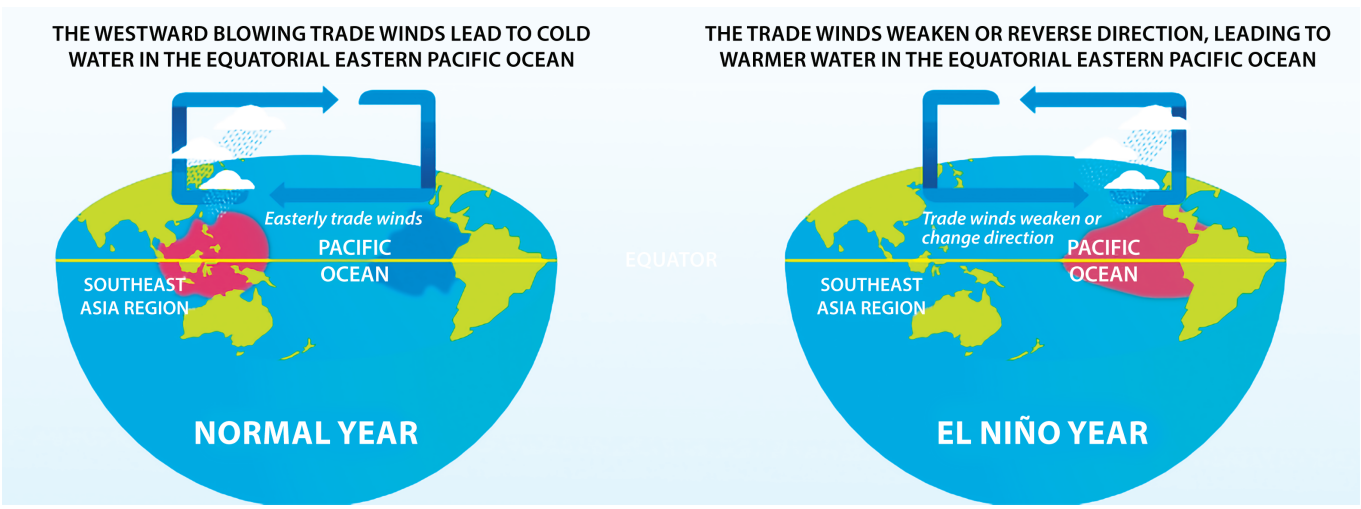
Understanding the Monsoon

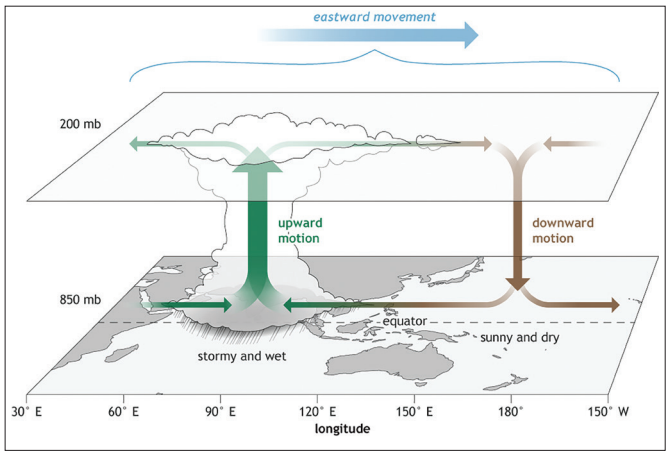
- The **monsoon** is a seasonal reversal of winds. Differential heating of land and sea creates pressure differences that drive it.
- The season runs from early June to September. Moisture-laden southwest winds from the Indian Ocean mark the onset.
- **Withdrawal** normally begins around September 17 from northwest India and ends by mid-October. The monsoon supplies nearly 70% of annual rainfall.
- The **northeast monsoon** (October to December) is also called the winter, retreating, or reverse monsoon. It matters for Tamil Nadu, Kerala, Puducherry, Karaikal, coastal Andhra Pradesh, Rayalaseema, and Yanam.
- IMD expects it to arrive between October 15 and 21, with normal rainfall.



Factors behind the Weak Season

- **El Niño** means ***"Little Boy"*** in Spanish. Sea surface waters warm periodically in the central and eastern equatorial Pacific. Trade winds weaken and warm water shifts east.
- It raises global temperatures, weakens the monsoon, raises wildfire risk, and alters cyclone patterns.
  - In 2026, IMD flagged a strong El Niño, expected to intensify further by October to December.
- The **Indian Ocean Dipole (IOD)** was identified in 1999 by Saji and colleagues. A positive phase warms the western Indian Ocean and boosts the monsoon.
  - A negative phase does the reverse. In 2026 it stayed neutral, so there was no cushion.
- The **Madden-Julian Oscillation (MJO)** was found in 1971 by Roland Madden and Paul Julian.
  - It moves east at 4 to 8 m/s and circles the globe every 30 to 60 days, sometimes up to 90. Its active phase brings heavy rain, and it suppresses rain elsewhere.





- **Western Disturbances** form over the Mediterranean, Black, or Caspian seas. The subtropical westerly jet carries them east, and they bring rain and snow to north India.
- The **Somali Jet** flows from near Mauritius and northern Madagascar along East Africa through Kenya, Ethiopia, and Somalia.
  - It reaches the Arabian Sea in May and India's west coast by June. A stronger jet brings heavier, more reliable rain to Peninsular India.

Economic Significance

- **Livelihoods:** About 46% of India's workforce is in agriculture (PLFS 2023-24), yet the sector produces under one-fifth of GVA. Monsoon outcomes therefore shape rural incomes, consumption, and growth.
  - Good monsoon → Higher farm output → Better income → More rural spending → Rural demand → Lifts local businesses → Economic impact → Ripples into the national economy.
- **Crop diversity:** Varied rainfall zones allow India a diversity of crops. A good monsoon lifts output, GDP, and rural earnings, which is why it is called the economy's lifeline.
  - **Monsoon–GDP Link:** Boosts agricultural production → Aids overall GDP growth → Drives up rural earnings → Raises rural consumption & demand.
  - **Key Takeaway:** A good monsoon triggers a chain reaction–higher farm output leads to better GDP growth, stronger rural incomes, and increased consumer spending across India.
- **Rainfed dependence:** Nearly half of India's farmed area has no assured irrigation. Such farms depend directly on rain, so a deficit hits small and marginal farmers hardest.
- **Sowing and Storage:**
  - **Kharif** (summer-sown) sowing lagged 20.8% in early July. It recovered to about 1.5% below last year by late August.
  - Reservoir storage stood at about 64% of live capacity, near 68% of last year's level.
  - **Rabi risk:** Rabi (winter-sown) crops face risk from the drought and from below-normal October rain. Low soil moisture and thin reservoir cover can cut wheat, pulses, and oilseed yields.
- **Inflation:** Food inflation risk persists. RBI reportedly raised its FY27 inflation projection to 5.1%.
  - Vegetables, pulses, and cereals are the likeliest to turn costly.
- **Rural demand:** Weaker farm income can slow sales of tractors, two-wheelers, and everyday goods in villages.
- **Power:** Weak rain also cut hydropower and raised coal dependence, linking the monsoon to power supply.
- **Fiscal pressure:** Relief, subsidies, and price controls raise public spending when tax and farm incomes soften.
- **Regional stress:** Drought in Maharashtra and a Karnataka shortfall raise drinking water and fodder pressure.

Way Ahead

- **Early planning:** Use IMD's early forecasts for contingency crop plans, including short-duration and low-water varieties, and seed reserves.
- **Water management:** Manage reservoirs and groundwater carefully for the rabi season. Give drinking water first priority and plan releases by crop need.
- **Climate-smart farming:** Expand micro-irrigation and drought-tolerant varieties. Promote soil moisture conservation and rainwater harvesting.
- **Price watch:** Track food prices and protect rural incomes. Use buffer stocks and timely market operations to calm prices of staples.
- **Income support:** Speed up crop insurance claims and drought relief, and keep rural employment works active in stressed districts.
- **Better forecasting:** Strengthen local weather advisories, so farmers receive block-level guidance in their language.
- **Reservoir and groundwater planning:** Restrict water-hungry crops in deficit areas and encourage crop shifts toward millets and pulses.
- **Long-term fixes:** Raise irrigation cover, revive watersheds, and diversify rural incomes beyond rain-fed farming.

Conclusion

- The monsoon is a geographical system with economic weight, shaping farm output, rural demand, and inflation.
- A weak 2026 season shows why forecasting, water management, and crop resilience matter.
- Preparing early, saving water, and protecting vulnerable farmers can limit the damage of each poor season. Climate-resilient farming and wider irrigation will make growth less dependent on rainfall.
- With El Niño expected to strengthen, readiness for the coming rabi season is the immediate test.

ELDERLY CARE WORKFORCE

Keralam passed its Senior Citizens (Care and Protection of Rights) Bill on October 26, 2026, as India's 60-plus population is projected to reach 347 million by 2050.

India's Ageing Profile

- NITI Aayog's August 2026 report puts India's 60-plus population at about **149 million (10.5%)** in 2022. It projects **347 million (20.8%)** by 2050.
- The 80-plus group is expected to grow **279%** between 2022 and 2050.
- The Technical Group on Population Projections expects the 60-plus group to rise from about 10 crore in 2011 to about **23 crore in 2036**, taking its share to **14.9%**.
- **Kerala** will be the oldest state. Its elderly share is projected to rise from about 13% in 2011 to **23% by 2036**. Many northern and eastern states are younger today, but they are ageing rapidly.
- Women live longer after 60 than men. This phenomenon produces many widowed, highly dependent older women, a trend called the **feminisation of ageing**.
- About **26.8 million** Indians live with disabilities (Census 2011). Most depend on family care.

Challenges Faced by the Elderly

- **Health:**
  - Dementia and Alzheimer's carry stigma. Disabilities are rising, geriatric infrastructure is thin, and rural areas lag.
  - About three in four elderly persons have at least one chronic condition.
- **Economic:** Social security is weak, and living and medical costs are rising.
- **Social:** Family support is weakening, which brings isolation, neglect, and loneliness.
- **Digital:** Barriers to technology, training, and accessible devices exclude many.
- **Infrastructure:** Literacy is limited. Emergency systems overlook the elderly. Public spaces and transport often lack ramps, handrails, and accessible washrooms.

Understanding Care Work

- **Direct care** is personal and relational, such as feeding a child. **Indirect care** includes cooking and cleaning.
- **Unpaid care**, such as nursing a sick partner, earns no pay. **Paid care**, such as domestic work, earns some remuneration.
- The Time Use Survey 2024 shows **41%** of women aged 15 to 59 gave care, against **21.4%** of men. Women spent **140 minutes** a day on it, against 74 for men.
- NITI Aayog estimates about **146 million** informal, untrained family caregivers today.

Need of a Trained Care Workforce

- **Demographic shift:** Chronic disease, dementia, and age-related illness are raising demand for long-term, palliative, and home-based care.

Formulating a Care Economy Strategy for India

In Support of the Government of India

RATIONALE

National gender gap in time spent on unpaid work



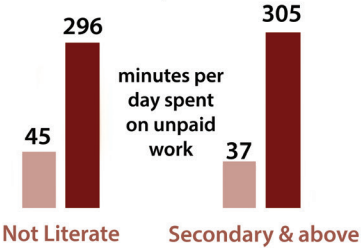
The gender gap is more pronounced among urban women than rural women





The estimates from the Time Use Survey data (NSO, 2019) suggests that the economic value of women's unpaid domestic and care work in India ranges between 15%–17% of GDP.

Females with higher educational qualifications spend higher amount of time on unpaid care work



6X **Women in paid employment undertake approximately 6X more unpaid care work than employed men.**

- **Women's empowerment:** Formal care work cuts the unpaid burden, creates dignified jobs, and lifts **female labour force participation**.
- **Recognition of unpaid work:** Training turns family caregivers into recognised, skilled professionals.
- **Jobs:** The ILO estimates investment could create **475 million** care jobs globally by 2030. For India, public spending of **2% of GDP** could create about **11 million** jobs, nearly 70% for women.
- **Demographic dividend:** A skilled workforce turns youth into human capital for Viksit Bharat@2047.
- **Global demand:** The WHO sees a shortfall of nearly **11 million** health workers by 2030. Ageing markets like Japan and Europe need carers.
  - Certified training, language skills, and **G2G mobility** pathways can lift jobs, remittances, and soft power.
- **Purple economy:** India's care services market was worth **USD 29.62 billion** in 2023. It lets persons with disabilities train as caregivers too.
- **Weaker family support:** Nuclear families and migration leave fewer full-time carers. Families currently learn only through emergencies.
- **Better care:** Training in emergency response, medicine management, and mental health improves well-being.

Challenges

- **Gender inequality:** Women's heavy unpaid load limits their jobs and independence.
- **Workforce gap:** The planned **1.5 lakh** trained caregivers is tiny against about 146 million informal ones.
- **Limited reach:** K4 Care and ASHA elderly-care training have not yet achieved wide coverage.
- **No standards:** The national framework for certification, quality assurance, and professional recognition is underdeveloped.
- **Complex needs:** Alzheimer's and Parkinson's require skills in cognitive decline, behaviour management, and emotional support.
- **Policy void:** The **RPwD Act, 2016** acknowledges family caregivers, but they lack institutional backing and long-term care financing. They have no health, accident, or pension cover.
- **Law focus:** The **Maintenance and Welfare of Parents and Senior Citizens Act, 2007** mainly compels adult children to pay maintenance. It does not regulate commercial care.
- **Healthcare skew:** Services lean toward acute maternal and child care. Palliative and psychogeriatric facilities are scarce.

Government Initiatives

- **Budget 2026-27** announced **NSQF-aligned** training for **1.5 lakh caregivers**. NSQF is the national system that grades skills by level.
- NITI Aayog's report treats caregiving as an economic activity and proposes a **National Caregiver Council** and a registry.
- **Atal Vayo Abhyuday Yojana** is the umbrella scheme. Its parts include the **Integrated Programme for Senior Citizens**, which gives grant-in-aid to State Governments and Union Territories through registered societies.
- **SAPSrC** asks every State and UT to frame its own State Action Plan for senior citizens. It has run since 2019-20.
- **Rashtriya Vayoshri Yojana** supplies physical aids and assisted-living devices to BPL seniors with family income up to ₹15,000 a month.
- **Elderline (14567)** is the national helpline for awareness and grievance redress.
- **ASHA training** uses an elderly-care manual from the National Health Systems Resource Centre, delivered through Ayushman Bharat Health and Wellness Centres.
- **K4 Care** by Kudumbashree trains self-help group members as certified geriatric, patient, and disability care executives.
- **Karnataka** backs SHG carer groups and gives unpaid caregivers a monthly allowance.

Keralam Senior Citizens Bill, 2026

- The Assembly passed it unanimously on **October 26**. Keralam is the first state to enact such comprehensive elder legislation.
- **Living wills:** It recognises advance medical directives. The Chief Minister said Supreme Court guidelines will shape the rules.
- **Caregiver certification:** The **Keralam Geriatric Care Certification Framework** requires training, police verification, and refresher courses at least every three years.
  - Home-care agencies must certify 25% of caregivers within two years, 60% within three, and all within four.
- **Registration:** Care centres and home-care agencies must register.
- **Rights:** It promises affordable home care, digital inclusion, free legal aid, and barrier-free public spaces.
- **Anti-abuse:** Cruelty, abandonment, or illegal seizure of property can bring up to **three years** in prison and a fine of up to ₹50,000. Suspected abuse must be reported within **48 hours**.
- **Ageing at home:** It promotes home care with fair wages, safe conditions, and social security for caregivers.

Way Forward

- **Recognise informal caregivers:** Give them training, certification, and routes into formal jobs, including **Recognition of Prior Learning**.
- **Expand training:** Scale up K4 Care and ASHA-based training, with trained caregivers training others.
- **National Caregiver Council:** It would standardise curricula, set quality benchmarks, oversee certification, and run a national caregiver portal.
- **Specialised skills:** Add NSQF-aligned certification for mobility

help, palliative care, dementia care, geriatric mental health, and emergency response.

- **Gender parity:** Draw men into caregiving through family-based training and awareness.
- **Caregiver security:** Ensure fair wages, safe conditions, and social security under India's labour codes.
- **Family caregivers:** Offer care leave and community respite centres.
- **State models:** Spread Keralam's framework, and make living wills easy to register nationwide.

Conclusion

- India must formalise its care economy through standard geriatric training, fair wages, and social security.
- This protects elderly dignity, lifts women's work participation, and turns an ageing challenge into an economic opportunity.

Key Government Initiatives for Elderly Care in India

The Government of India has launched several initiatives to improve healthcare, financial security, skilling, employment and support services for senior citizens.

1 Union Budget 2026-27 Initiative



- Training of 1.5 lakh caregivers to strengthen the elderly care ecosystem.
- Aligned with the National Skills Qualifications Framework (NSQF).
- Aims to establish recognized professional competencies in elderly care.

2 Maintenance and Welfare of Parents and Senior Citizens (MWPSC) Act, 2007



- Provides a legal framework for financial maintenance of parents and senior citizens.
- Includes provisions for maintenance tribunals and protection against abandonment.
- Lacks comprehensive mechanisms for regulating the quality of care services.

3 National Programme for the Health Care of the Elderly (NPHCE)



- Focuses on providing accessible and dedicated geriatric healthcare facilities.
- Implemented at primary, secondary and tertiary levels.
- Aims to improve the health, well-being and quality of life of senior citizens.

4 SAGE (Seniorcare Ageing Growth Engine)



- A "one-stop access" platform to encourage credible start-ups and entrepreneurship in the elderly care sector.
- Promotes innovation in products, services and technology for senior citizens.
- Aims to create a sustainable and inclusive elderly care ecosystem.

5 SACRED Portal



- Developed by the Ministry of Social Justice and Empowerment.
- Allows citizens above 60 years to register and find suitable job opportunities.
- Helps in promoting active ageing and economic independence among senior citizens.

6 Elder Line (14567)



- A national toll-free helpline for senior citizens.
- Provides information, guidance, emotional support and field intervention.
- Addresses cases of elder abuse, neglect and other grievances.

7 PM Special - Training of Geriatric Caregivers (healthcare personnel specialized for seniors)



- Implemented by the Department of Social Justice & Empowerment.
- Focuses on training and capacity building of geriatric caregivers.
- Works alongside the SHATAYU Dashboard to strengthen elderly care services.
- Aims to create a skilled and professional workforce for the growing elderly population.

INDIA'S TEXTILE SECTOR

A Clothing Manufacturers Association of India (CMAI) survey flags rising Chinese imports, even as India's textile exports grew 2.1% to ₹3.16 lakh crore in FY26.

India's Textile Sector at a Glance

- The sector is worth nearly **USD 190 billion** in 2025-26. It contributes about **2.3% of GDP** and **13% of industrial production**.
- Textiles and apparel, including handicrafts, formed **8.21%** of India's exports in 2023-24.
- India is the **sixth-largest exporter** of textiles and apparel, with about **4.1%** of global trade in 2024.
- India is among the largest producers of **cotton** and **jute**. It is the second-largest silk producer, and about **95%** of the world's hand-woven fabric comes from India.
- It is the **second-largest employer**, with **45 million** direct jobs and **100 million** in allied activities.
- **100% FDI** is allowed through the automatic route.
- The government targets a **USD 350 billion** sector by 2030, with exports of USD 100 billion.

Recent Performance

- Exports, including handicrafts, reached **₹3,16,334.9 crore** in FY26, up from ₹3,09,859.3 crore.
- **Ready-made garments** led, up 2.9% to ₹1,39,349.6 crore. Man-made yarn, fabrics, and made-ups rose 3.6% to ₹42,687.8 crore.
- Cotton yarn, fabrics, made-ups, and handloom products edged up 0.4% to ₹1,02,399.7 crore. Handicrafts, excluding handmade carpets, rose 6.1% to ₹15,855.1 crore.
- Exports grew in over **120 destinations** between April 2025 and February 2026. Gains came in the UAE (22.3%), UK (7.8%), Germany (9.9%), Japan (20.6%), and Egypt (38.3%).
- The **US and EU** together take **49.2%** of India's textile and apparel exports.

Trade Agreements Opening Markets

- **India-UK CETA:** Signed July 24, 2025 and in force from **July 15, 2026**. About 99% of tariff lines gain duty-free entry, and UK duties of up to 12% on apparel go.
- **India-EFTA TEPA:** In force since October 1, 2025.
- **India-Oman CEPA:** Signed December 2025 and effective June 1, 2026.
- **India-New Zealand FTA:** Concluded December 22, 2025 and signed in April 2026. It gives Indian exports 100% duty-free access.
- **India-EU FTA:** Concluded January 27, 2026. It is set to remove EU duties of up to 12% across textile and apparel lines.
- Preferential access matters because India's share of EU apparel imports is only about **3%**, against Bangladesh's **16.7%**.
- **Bharat Tex 2026** (July 14-17, New Delhi) drew about 95,000 visitors from 138 countries. Over 30 states signed MoUs, including Andhra Pradesh (₹4,100 crore), Karnataka (₹2,821 crore), Bihar (₹1,476 crore), and Maharashtra (₹1,095 crore).

Success of China's Model

- **Integrated clusters:** Spinning, weaving, dyeing, garmenting, and accessories sit together. Shaoxing in Zhejiang is a major fabric trading hub.
- **Technology:** Mills use automated spinning, digital quality inspection, and smart manufacturing.
- **Infrastructure:** Ports, highways, and warehouses back the clusters. Ningbo-Zhoushan Port moves textiles and other goods abroad.
- **Scale:** Large capacity cuts unit costs and fills bulk orders. The Pearl River Delta around Guangzhou has vast garment and trading networks.

Challenges for India's Sector

- **Fragmentation:** Small, informal units struggle to scale, adopt technology, and get formal credit.
- **Skills and productivity:** Outdated practices, limited training, and weak industry-academia links hold output down.
- **Costs:** High logistics and transaction costs and customs delays erode export competitiveness.
- **Credit:** Affordable finance remains hard for MSMEs and handloom units.
- **Import pressure:** The CMAI survey flags rising imports from China.
- **Input costs:** Man-made fibre inputs face **inverted duties**, meaning inputs are taxed more than finished goods.

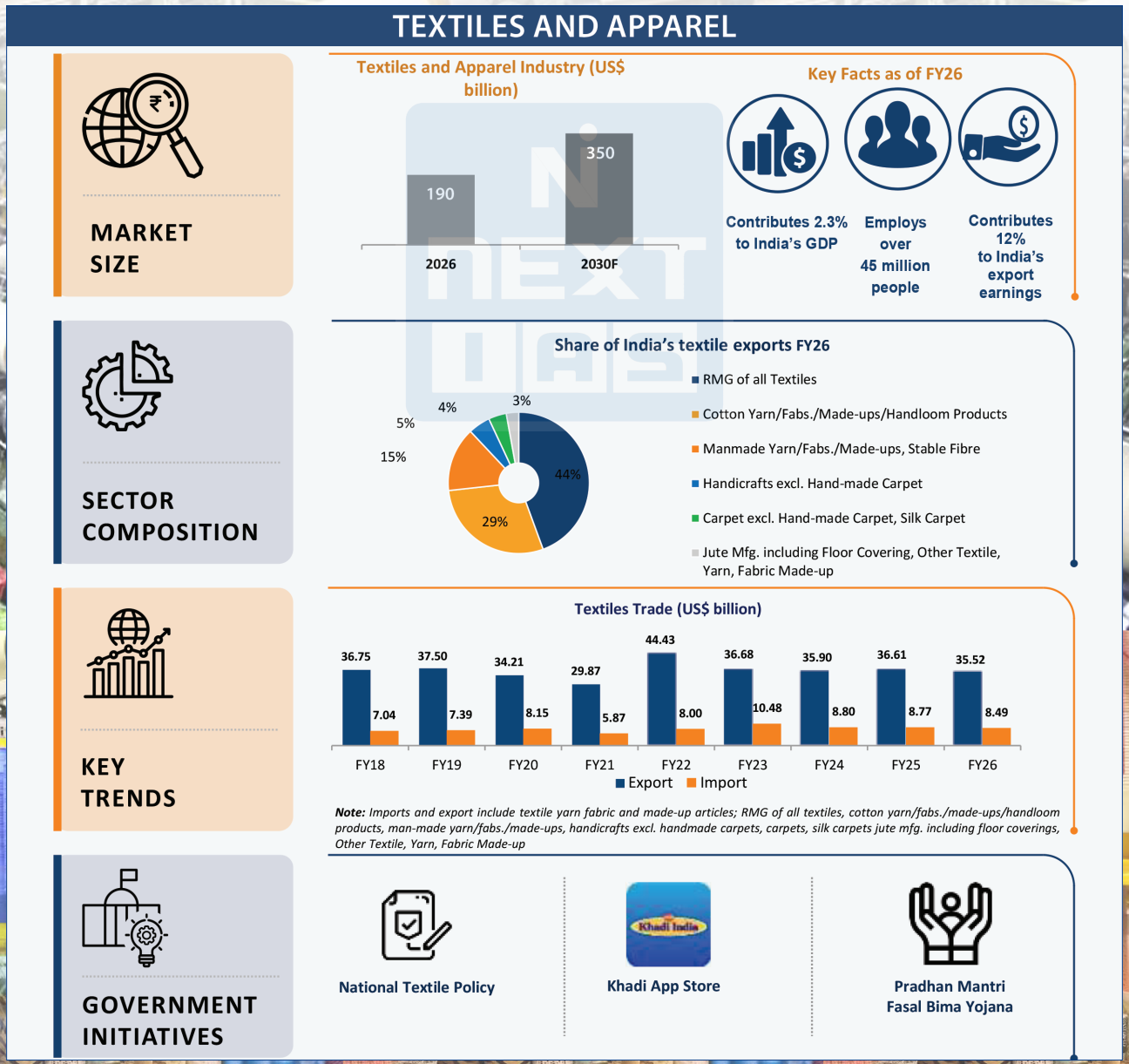
Government Initiatives

- **PM MITRA:** Seven mega parks at Virudhunagar (Tamil Nadu), Warangal (Telangana), Navsari (Gujarat), Kalaburagi (Karnataka), Dhar (Madhya Pradesh), Lucknow (Uttar Pradesh), and Amravati (Maharashtra).
  - The outlay is **₹4,445 crore** for 2021-22 to 2027-28.
  - They offer plug-and-play, world-class infrastructure.
- Investment MoUs across the parks exceed **₹27,434 cr**. Kakatiya Mega Textile Park at Warangal began operating in May 2026.
- **PLI for Textiles:** It backs man-made fibre apparel, fabrics, and technical textiles. It aims to create 60 to 70 scaled manufacturers, draw about ₹19,000 crore, and add nearly 7.5 lakh jobs.
- **National Technical Textiles Mission:** Launched in 2020 with ₹1,480 crore, extended to March 2026. It approved 168 research projects.
- **SAMARTH:** It has trained 5.26 lakh people since FY22, about 89% of them women.

- **ATUFS** funds modernisation. **Silk Samagra-2** supports sericulture.
- Eleven **Export Promotion Councils** cover the chain from fibre to handloom, handicrafts, and carpets.
- **Handlooms:** Nearly ₹2,000 crore has gone into the National Handloom Development Programme. GeM, the India Handmade Portal, GI tags, Mega Handloom Clusters, and the Weavers' MUDRA Scheme widen markets.
- **Budget 2026-27** launched an Integrated Programme for Textiles. It covers the **National Fibre Scheme**, a Textile Expansion and Employment Scheme, Samarth 2.0, the Tex-Eco initiative, and a ₹10,000 crore SME Growth Fund.
- **Cotton:** CCI bought **105.09 lakh bales** worth ₹41,530 crore at MSP in 2025-26 and grew centres from 508 to 571.
  - The **Mission for Cotton Productivity** aims at 498 lakh bales by 2031.
- **FDI**, including Japanese investment, supports "Make in India for the World" and **China-plus-one**.

Way Ahead

- **Technology window:** Give time-bound interest subsidies or credit guarantees to MSMEs buying automated looms and energy-efficient machinery.
- **Fibre access:** Fix inverted duties and improve supply of competitively priced polyester and viscose.
- **Supplier network:** Build digital platforms linking exporters to yarn, fabric, dyeing, accessories, and packaging suppliers.
- **Skills:** Expand industry-linked training in advanced machinery, quality control, and digital manufacturing.
- **Trade:** Use the new FTAs to lift India's weak share in the EU and UK.



CUSTODIAL DEATHS IN INDIA

Recently, the Andhra Pradesh High Court ordered a CBI probe into the custodial death of Gade Sai Krishna and awarded ₹25 lakh compensation.

High Court's Ruling

- The State must enforce citizens' **human rights**. It must ensure a fair, impartial probe into any **cognizable offence** (one where police can arrest without a warrant), even against its own officers. Even a **witness** may need protection, and the State should provide it.
- It suggested **preventive steps**: police training that builds respect for human rights, and continuous monitoring of lower-level officers.
  - It also urged simple, foolproof FIR registration and modern record-keeping to stop insertions, substitutions, and **antedating** in FIRs, inquests, and post-mortem reports.
- The Court acted after a State SIT concluded that the 25-year-old died from police torture. The accused inspector was arrested, and the CBI later registered an FIR.

Custodial Death

- It is a death in **police or judicial custody**. It can occur before trial, during interrogation, or after conviction.
- Causes include **torture**, **negligence**, denial of medical aid, or suspicious circumstances.
- It violates **Article 20(1)** (no punishment beyond the law) and **Article 20(3)** (protection against self-incrimination, so duress-driven confessions fail).
- It also violates **Article 21** (life and liberty, including in custody) and **Article 22** (safeguards against arbitrary arrest and detention).

Scale of the Problem

- Over **11,000** deaths in custody were recorded between 2016-17 and 2021-22. Uttar Pradesh topped the list, with about 2,630.
- Parliament was told that **170 police custody deaths** occurred in 2025-26 up to March 15, against 140 in 2024-25. **Bihar** (19), **Rajasthan** (18), and **Uttar Pradesh** (15) led.
- Accountability is thin. Disciplinary action followed in only **21** custodial death cases over five years.

Reasons for Persistance

- **Procedural Flaws:** Delayed magisterial inquiries and poor compliance with D.K. Basu safeguards.
- **Weak Accountability:** Police investigate themselves; judicial inquiries remain delayed, opaque and inconclusive.
- **Vulnerable Victims:** Poor victims lack legal awareness and resources.
- **CCTV Lapses:** Supreme Court initiated suo motu proceedings in September 2025 over non-functional police station cameras.
- **Legal Gaps:** No dedicated anti-torture law; India signed UNCAT (1997) but has not ratified it.

Concerns

- **Rule of law:** Violations of Articles 21 and 22 erode public trust in justice.
- **Human rights image:** The UNHRC and Human Rights Watch criticise India, which weakens its moral voice abroad.
- **Police-state perception:** High numbers suggest a coercive state, not a welfare democracy.
- **Weak system:** It shows slow adoption of modern policing, forensics, and technology.

International Frameworks

- **UN Charter (1945)** promotes human rights and **UDHR (1948)** bars torture and upholds the presumption of innocence.
- **UNCAT (1984)** is the core anti-torture treaty (*India has not ratified it*) and **ICCPR (1966)** protects life and prohibits torture.
- **Nelson Mandela Rules (2015)** set minimum standards for humane treatment of detainees. **European Convention on Human Rights (1950)** recognises dignity and access to justice.

Key Supreme Court Rulings

- **Nilabati Behera (1993):** State liable to compensate custodial violence violating Article 21.
- **D.K. Basu (1997):** Mandated 11 arrest safeguards, including police identification, witnessed arrest memos, family notification within 8-12 hours and medical checks every 48 hours.
- **Prakash Singh (2006):** Separated investigation from law-and-order duties; mandated State and district Police Complaints Authorities for serious misconduct.
- **Paramvir Singh Saini (2020):** Mandated audio-enabled CCTV in police stations and CBI, NIA and ED offices; criticised poor compliance in 2025.

Law Commission and Legal Reforms

- The **273rd Report (2017)** urged ratifying UNCAT and enacting a dedicated anti-torture law. It drafted the Prevention of Torture Bill, 2017.
- **BNSS, 2023** brings more transparency in arrests, forensic methods, and citizen-centric procedures.
- **BNS** and **BSA, 2023** modernise penal and evidence law and reduce reliance on confession-based policing.

Way Forward

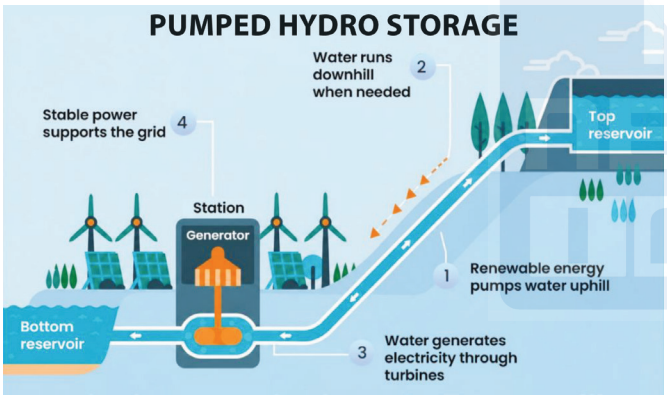
- Enact an anti-torture law, ratify UNCAT and ensure independent investigations.
- Maintain functional CCTV, preserve footage, train police in human rights and strengthen supervision.
- Protect witnesses and records; ensure fast-track trials, prompt compensation and free legal aid.

PUMPED STORAGE HYDROPOWER

India has operational pumped storage capacity of 7.43 GW as of August 2026. It is expanding this to support renewable integration, grid stability, and energy security.

Understanding Pumped Storage Hydropower

- **Concept:** Pumped Storage Projects (PSPs) store electricity using water and gravity. They are called **"water batteries"**. A typical PSP has two reservoirs at different heights.
- **Working mechanism:**
  - **Storage phase:** Surplus power, mostly from solar and wind, pumps water from the lower to the upper reservoir. The energy is stored as **gravitational potential energy**.
  - **Generation phase:** When demand peaks or renewable output falls, water flows back through turbines to make electricity.
  - **Recycling:** The same water circulates between the reservoirs for repeated cycles.
- **Role:** PSPs smooth the swings of solar and wind power, meet peak demand, and improve grid reliability.



Types of Pumped Storage Projects

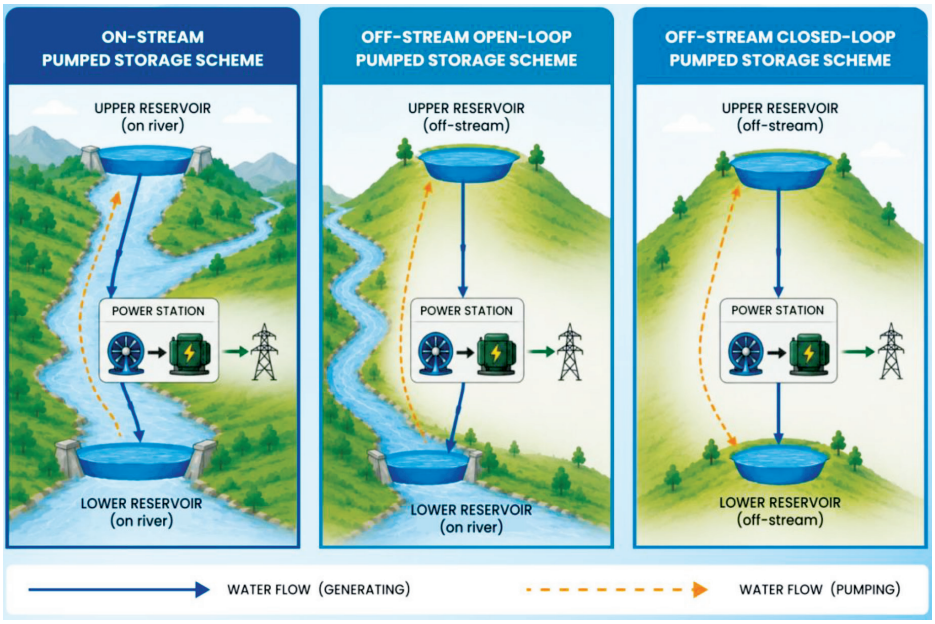
- **On-stream:** Both reservoirs lie on a river, stream, or nallah.
- **Off-stream open-loop:** One reservoir lies on a watercourse. The other is away from perennial rivers and streams.
- **Off-stream closed-loop:** Both reservoirs are away from perennial rivers and streams.
  - Such projects can reduce river ecosystem impacts and speed up execution. Site-specific environmental assessments remain essential.

Storage Options Compared

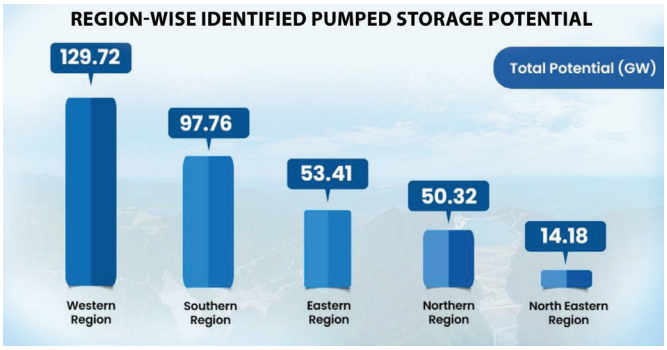
- **Battery Energy Storage Systems (BESS):** They give fast response and short-duration storage. They help with frequency control and peak management. They can be set up quickly near generation or demand centres.
- **PSPs:** They give long-duration, high-capacity storage and have a long operating life. They need suitable terrain and take longer to build.

India's Status and Potential

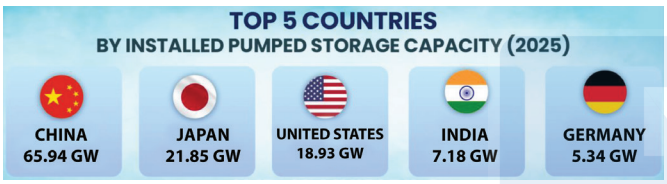
- **Current capacity:** 7.43 GW across 10 operational projects above 25 MW, as of August 2026.
- **Pipeline:**
  - 15.87 GW across 11 projects is under construction or implementation.
  - 10.40 GW across 8 projects is concurred or appraised by the Central Electricity Authority (CEA).



- **Identified potential:** 345.38 GW across 320 projects. On-stream projects offer 56.67 GW and off-stream projects offer 288.71 GW.
- **Regional spread:** The Western Region leads with 129.72 GW. It is followed by the Southern (97.76 GW), Eastern (53.41 GW), Northern (50.32 GW), and North Eastern (14.18 GW) regions. **Maharashtra** has the highest state potential at 67.36 GW.
- **CEA projections:** India needs 73.93 GW of storage by 2031-32. PSPs would supply 26.69 GW and BESS 47.24 GW. PSP additions of 100.81 GW are envisaged from 2025-26 to 2035-36. This would take cumulative capacity to about 105.56 GW.



- **Global position:** PSH is the world's most widely deployed form of large-scale energy storage.
  - The International Renewable Energy Agency (IRENA) reports 159.8 GW of global capacity at the end of 2025.
  - China has nearly 66 GW, Japan about 22 GW, and the United States about 19 GW.
  - India ranks fourth with 7.18 GW.



Significance

- **Renewable integration:** It stores surplus solar and wind power for later use.
- **Grid stability:** It balances supply and demand and manages peak load.
- **Energy security:** It eases the problems of variable renewable generation. It supports India's target of **500 GW non-fossil capacity by 2030**.
- **Long-duration storage:** It complements batteries by shifting large volumes of power over longer periods.

Government Initiatives

- **Guidelines:** The Ministry of Power notified PSP development guidelines in April 2023.
- **Competitive procurement:** The Tariff-Based Competitive Bidding Guidelines, 2025, provide a transparent route to buy storage capacity and stored energy.
- **Transmission charge waiver:** PSPs awarded for construction by 30 June 2028 get a 100% **ISTS** charge waiver for 25 years from commercial operation.
- **Faster approvals:** CEA has cut the Detailed Project Report concurrence time from 90 to 50 days. It has also dropped the inter-state clearance requirement.
  - In August 2025, the cost threshold for CEA concurrence on hydro projects was set at ₹3,000 crore. Off-stream closed-loop PSPs are exempt regardless of cost.
- **Environmental clearances:**
  - The environment ministry created **Category B2** for eligible PSPs.
  - It also reduced baseline data needs for off-stream projects.
- **Infrastructure support:** Budgetary help covers roads, bridges, railway sidings, ropeways, communication, and transmission lines.
- **Integrated planning:** Storage and transmission planning are combined to reduce grid congestion.
- **Digital monitoring:** CEA's **Jal Vidyut DPR portal** tracks surveys and investigations in real time.

Challenges

- **Cost and time:** High capital costs and long construction periods.
- **Geography:** The need for suitable height difference, geology, and water.
- **Environment and society:** Possible harm to forests, aquatic life, and local communities.
- **Execution:** Gaps in transmission links, clearances, and coordination.

Way Forward

- Speed up **off-stream closed-loop** projects to cut ecological impact.
- Align storage planning with renewable and transmission growth.
- Mix PSPs and batteries to cover long and short-duration needs.
- Carry out strict site-level environmental and social assessments.
- Ensure timely clearances and transparent bidding to attract private investment.

Conclusion

- Pumped storage is a pillar of India's clean energy transition. It offers long-duration storage, grid flexibility, and greater renewable integration.
- With the 500 GW non-fossil target for 2030, policy support, faster approvals, and integrated grid planning will be essential for energy security and grid resilience.
- Success will depend on balancing infrastructure growth with environmental safeguards and efficient execution.



MORAL AUTHORITY IN PUBLIC LIFE

The Prime Minister shared a Sanskrit Subhashitam saying a person lacking good character is not truly excellent, even if they are learned, eloquent, and accomplished.

Character and Conduct

- **Character** is the inner moral core. It includes integrity, honesty, courage, empathy, fairness, and self-discipline. It answers, "What kind of person am I?"
- **Conduct** is the behaviour that shows these values in real situations. It answers, "How do I act?"
- Character is the inner foundation, and conduct is its outer expression. Character shapes conduct, and steady conduct proves character.
- For example, an officer may value integrity, but refusing an illegal favour under pressure demonstrates that value.

Moral Authority

- **Formal authority** comes from office, law, wealth, or status. It compels compliance through rewards or threats.
- **Moral authority** is earned through credibility, integrity, fairness, and matching words with deeds. People follow it by choice, not because they must.
- You cannot demand it. You earn it. It often works better than any rule.
- A person, a company, or even a nation can hold it.
- **Holders of moral authority:**
  - **Integrity:** They live with honour, do what is right rather than easy, and keep their promises.
  - **Firmness:** They hold to principles and stay true to themselves.
  - **Trust:** They are open, honest, and transparent.
  - **Fairness:** They treat everyone with dignity and stay unbiased.
  - **Care:** They look after others' well-being and give more than they take.
  - **Accountability:** They take responsibility for their actions, accept the consequences, and set a good example.

Philosophical Foundations

- **Aristotle's virtue ethics:** Virtues grow through habitual right action. Character lets an officer act ethically even when rules are silent.
- **Kantian ethics:** Moral worth lies in acting from duty and **good will**, not for outcomes. Honesty stays a duty even when lying would pay.
- **Gita and Nishkama Karma:** Doing one's duty without attachment to rewards weakens greed, favouritism, and self-interest.
- **Gandhian ethics:** Among his Seven Social Sins are "knowledge without character" and "politics without principle". Skill without ethics lacks legitimacy.
- **Kautilya's Arthashastra:** A ruler's self-discipline is tied to public welfare, so personal integrity is part of good governance.

Ethics in Public Service

- **Exam integrity:** The NEET controversy showed that clean examinations are an ethical base of equal opportunity, not merely an administrative need.
- **Judicial credibility:** Cash was found at Justice Yashwant Varma's residence after a March 2025 fire. An in-house inquiry and a Parliament process followed. He resigned in April 2026, ending the impeachment inquiry.
  - The case shows how one person's conduct can shake an institution. Judicial authority rests on public faith in integrity, not only on constitutional rank.
- **Public interest first: Satyendra Dubey**, an Indian Engineering Service officer, exposed irregularities in highway construction and was murdered in 2003. He put public interest above his own safety.
- **Accountability: Lal Bahadur Shastri** resigned as Railway Minister after the 1956 Ariyalur train accident. He treated office as responsibility beyond personal blame.

Contemporary Relevance

- **Falling trust:** Repeated corruption and abuse of power make institutional legitimacy depend on individual integrity.
- **Complex decisions:** Competing interests, technology risks, and gaps in rules need ethical judgement beyond rule-following.
- **Digital governance:** AI, big data, and platforms give organisations great power. Using them responsibly needs accountability, privacy, and fairness, not just technical skill.
- **Beyond compliance:** Following procedure is not enough. Character is the inner compass when rules are unclear, inconsistent, or silent.

Way Forward

- Civil service training should use real administrative dilemmas to build ethical awareness, moral courage, and reasoning.
- Promotions should reward ethical conduct as much as efficiency and measurable results.
- Support individual integrity with social audits, integrity processes, open data, and transparent decisions.
- Whistleblowers like Dubey need real safeguards.
- Senior officers should model the standards they expect.

Conclusion

- Character and conduct give public office its moral weight. Authority can command obedience, but only moral authority earns trust.
- Institutions built on ethical leaders and strong safeguards can sustain public confidence.

1 POLITY & GOVERNANCE

SC/ST ACT, 1989

The Calcutta High Court held that casteist abuse on social media can attract the SC/ST Act. "Public view" is not confined to physical venues.

About the Act

- Article 17 is a Fundamental Right under Part III (Right to Equality) of the Indian Constitution. As per this article, **"Untouchability"** is abolished and its practice in any form is forbidden.
- It prohibits **atrocities** against **SCs** and **STs**.
- It covers offences from caste-based abuse to social boycotts, economic boycotts and violence.
- It provides **special courts** and victim protection.
- **Sections 3(1)(r) and 3(1)(s)** punish intentionally insulting, intimidating or abusing an SC or ST member by caste name **"in any place within public view."**

Judicial Interpretation of "Public View"

- **Hitesh Verma v. State of Uttarakhand (2020):** The Supreme Court held it means a place where the public can witness or hear the utterance.
- **Sooraj V. Sukumar v. State of Kerala (2022):** The Kerala High Court said the Act must be read in light of technological innovation. Public view can extend to the digital domain, as internet content is widely available.
- **Ramkrishna Chauhan v. State of Uttar Pradesh (2026):** The Supreme Court reiterated that an incident on school premises does not itself establish public view. Courts must check the circumstances and whether the public saw or heard the remarks.

DRUG PRICE REGULATION IN INDIA

On 29 September 2026, the Supreme Court heard petitions on medicine, device and generic drug pricing. It asked why the 16% retailer margin cannot cover all essential medicines.

Observations of the Supreme Court

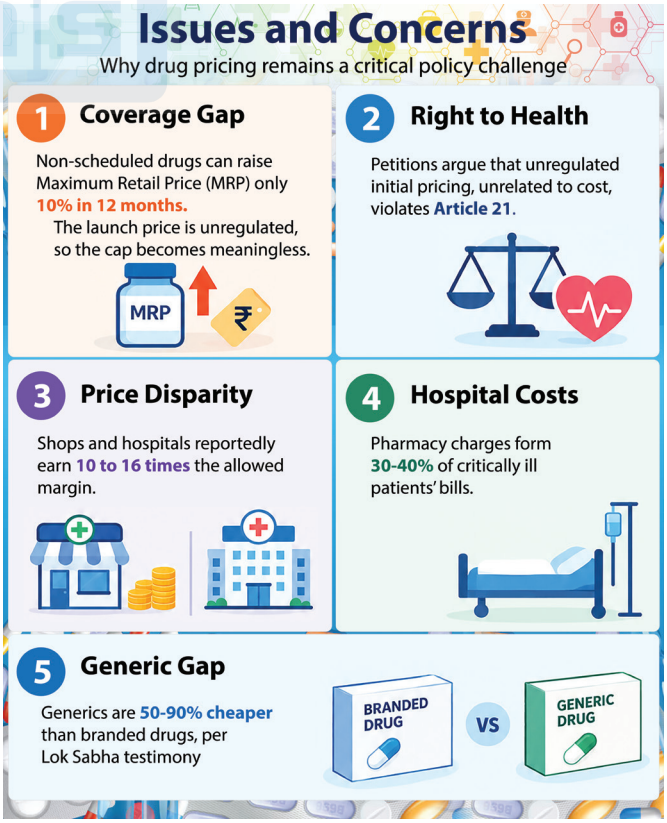
- It flagged the gap between **Price to Retailer (PTR)** and **consumer price**, notably for **cancer drugs**. PTR is the price at which a retailer purchases a product from a distributor, wholesaler, or manufacturer before selling it to the final consumer.
- It flagged hospitals pushing patients to their own pharmacies.

Legal Framework

- **Essential Commodities Act, 1955:** It gives the Centre power over essential goods, including medicines.
  - **Section 3(1):** Regulates production, supply and distribution for fair prices.
  - **Section 3(2)(c):** Allows orders controlling prices.
- **Drugs (Prices Control) Order (DPCO), 2013:**
  - It divides drugs into scheduled and non-scheduled.
  - **Scheduled drugs** are in Schedule I, based on the **National List of Essential Medicines (NLEM)**. They face price ceilings.
  - **Non-scheduled drugs** have no usual ceiling.
  - The NLEM has **384 medicines**, about **20%** of turnover.
- The **National Pharmaceutical Pricing Authority (NPPA)** fixes ceiling prices.

Ceiling Price Calculation

- NPPA excludes brands and generics with under **1% market share**, by moving annual turnover.
  - It averages the PTR of the rest and adds a **16% retailer margin**.
  - PTRs of Rs 8, Rs 10 and Rs 12 average Rs 10. The ceiling price is Rs 11.60, excluding taxes.
- Ceilings are revised every **1 April** by the **Wholesale Price Index (WPI)**.
  - Prices may rise by the allowed rate. If WPI is negative, they must fall within the stipulated period.



PM-SETU

The Pradhan Mantri Skilling and Employability Transformation through Upgraded ITIs (PM-SETU) scheme has completed one year of implementation.

About the Scheme

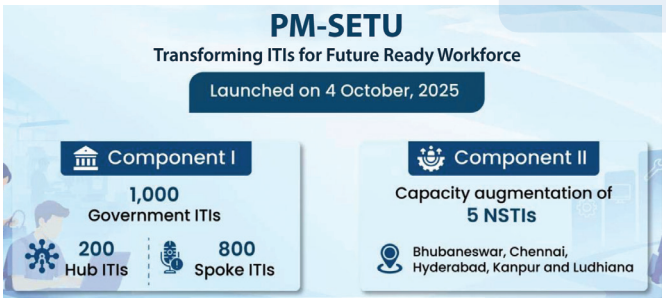
- It was launched in 2025 as a **Centrally Sponsored Scheme**.
- It aims to transform **1,000 Government Industrial Training Institutes (ITIs)** into modern, industry-aligned institutions. It targets skilling 20 lakh youth in five years.
- Its Hub-and-Spoke model links 200 Hub ITIs with 800 Spoke ITIs.

Outlay

- The total outlay is **₹60,000 crore.**
  - **Centre:** ₹30,000 crore.
  - **States:** ₹20,000 crore.
  - **Industry:** ₹10,000 crore.

Key Components

- **Infrastructure:** Smart classrooms, modern laboratories and digital content.
- **Courses:** Industry-aligned, new-age courses based on emerging skill needs.
- **Governance: Special Purpose Vehicles (SPVs)** with **Anchor Industry Partners** for industry-led governance and cluster development.
- **Centres of Excellence:** Five **National Skill Training Institutes** will be strengthened with global partnerships. They are in Bhubaneswar, Chennai, Hyderabad, Kanpur and Ludhiana.



FORM 6 ROW

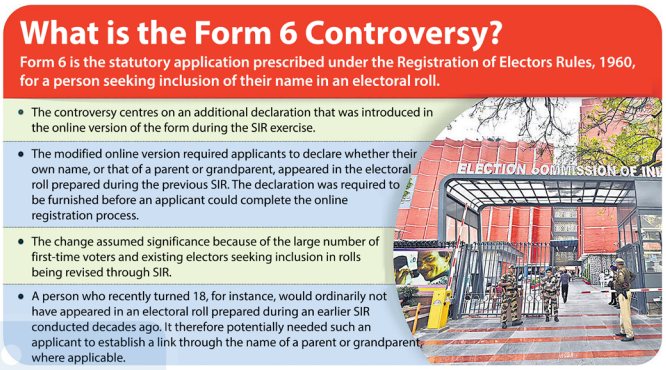
On 5 October 2026, the Chief Justice of India clarified that the Supreme Court has not approved any modified Form 6 used during the Special Intensive Revision (SIR).

About Form 6

- The **Election Commission of India (ECI)** issues it.
- It is the application for **new voter registration**.
- Deleted voters who want to apply afresh also use it.
- It seeks personal details, proof of age and ordinary residence. It also seeks declarations on citizenship and registration elsewhere.

New Online Form 6 (July 2026)

- Applicants must choose one of three statements:
  - Their name appeared in the last SIR roll.
  - Their parents' names appeared in it.
  - Neither appeared in it.
- The declaration appears only in the **online** form. It is **not marked mandatory**. Yet the online form cannot be submitted without it.
- The guidelines warn that a false statement is punishable under **Section 31** of the **Representation of the People Act, 1950**.



LEGISLATIVE PRIVILEGE vs FREE SPEECH

A seven-judge Supreme Court bench disposed of a two-decade-old dispute on legislative privilege versus free speech. It left the larger constitutional questions open.

Background

- In 2003, the **Tamil Nadu Legislative Assembly** passed a resolution against **The Hindu** journalists over reports and an editorial that criticised the state government and the then Chief Minister.
- It treated the publication as a **breach of privilege** and ordered 15 days' imprisonment for five journalists.
- The Supreme Court stayed the arrest warrants.
- The case raised questions on **Article 194(3)** and **Article 19(1)(a)**, especially when privilege is used against **non-members**.

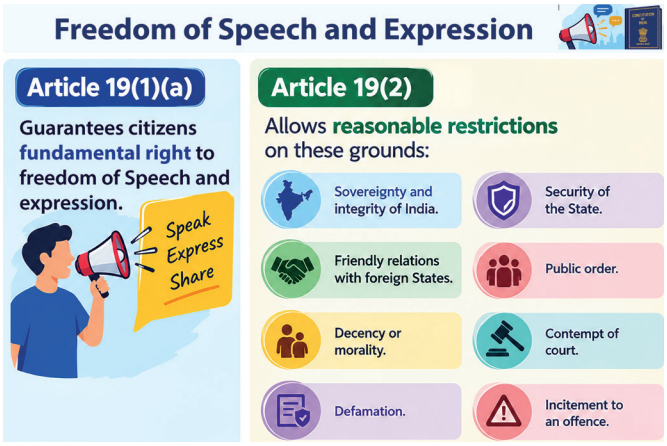
Supreme Court Ruling

- The Court disposed of the matter as **infructuous**. The Assembly had withdrawn the resolution in **2004**.
- It did not decide the scope of legislative privilege or its link with Article 19(1)(a).
- It kept these questions open for a future appropriate case.

Legislative Privileges

- **Article 105:** It grants privileges and immunities to **Parliament** and its members.
- **Article 194(3):** It lets a State Legislature define its own powers, privileges and immunities by law.
  - Until defined, the position before the 44th Amendment (1978) continues.

- They help legislatures function independently without undue interference.
- They include protection for speech and proceedings, and powers to safeguard the House.



Key Judgements

- **M.S.M. Sharma v. Sri Krishna Sinha (1959):** Known as the **Searchlight case**. Article 194(3) privileges prevail over Article 19(1)(a).
- **Tej Kiran Jain v. N. Sanjiva Reddy (1970): Article 105(2)** protects MPs from court proceedings over anything said or voted in Parliament. The act must occur in the course of parliamentary proceedings.

NATIONAL SC-ST HUB (NSSH)

The National SC-ST Hub (NSSH) is a key initiative to strengthen entrepreneurship among Scheduled Caste (SC) and Scheduled Tribe (ST) communities.

About NSSH

- The Ministry of Micro, Small and Medium Enterprises launched it in 2016.
- The National Small Industries Corporation (NSIC) implements it.
- It helps SC/ST-owned enterprises overcome barriers and enter **public procurement**. It offers training, mentoring, business development, networking and knowledge support.
  - Central Ministries and Central Public Sector Enterprises must source **4%** of procurement from SC/ST-owned Micro and Small Enterprises (MSEs).
- **Leading States:** Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu and Assam.

Key Schemes

- **Financial Support:** New and existing SC/ST-owned MSEs receive a **25% capital subsidy**, up to **₹25 lakh**, on plant, machinery and equipment financed through institutional credit.



- **Single Point Registration Scheme (SPRS):** NSIC registration opens government procurement. Registered MSEs get **free tender sets** and **Earnest Money Deposit (EMD)** exemption.
- **Marketing: Special Marketing Assistance Scheme (SMAS)** supports exhibitions, trade fairs, workshops and campaigns.
- **Cost Reduction:** The **Bank Loan Processing Reimbursement Scheme** refunds **80%** of loan processing fees or **₹1 lakh**, whichever is lower.
- **Mentorship:** The **Business Accelerator Programme (BAP)** provides mentorship support.

NEW GOVERNORS FOR SIX STATES

On 12 October 2026, President Droupadi Murmu appointed governors for six states.

Appointments

- **Tamil Nadu:** Rajendra Vishwanath Arlekar, earlier Kerala Governor.
- **Kerala (Keralam):** Om Prakash Mathur, earlier Sikkim Governor.
- **Sikkim:** Dushyant Gautam.
- **Odisha:** Braj Mohan Ram.
- **Karnataka:** Dr. Sudha Yadav.
- **Uttarakhand:** Dr. Dhal Singh Bisen.

Constitutional Provisions

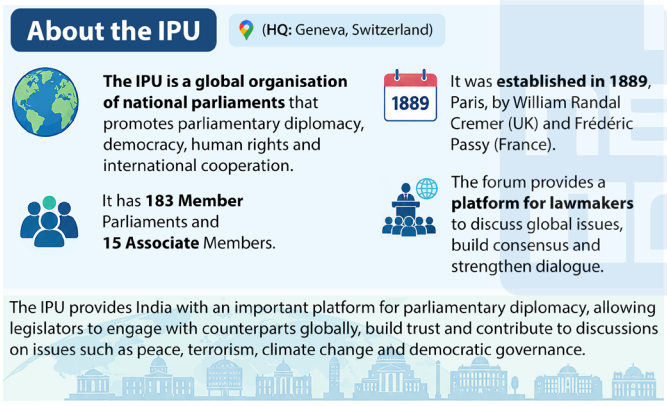
- **Articles 153 to 162** define the office of Governor. The **President** appoints the Governor.
- **Eligibility:** Must be an Indian citizen aged at least **35 years**. It shall not be a member of the Legislature or Parliament; shall not hold any office of profit. (Article 158)
- **Term:** Five years, subject to the President's pleasure.

Powers

- **Executive:** The Governor heads the state executive and appoints the Chief Minister and, on the Chief Minister's advice, other ministers, who are responsible to the legislature.
- **Legislative:** The Governor summons the legislature, dissolves the Assembly and addresses the legislature at each session's start.
  - The Governor can reserve certain bills for the President's approval.
- **Judicial:** The Governor can grant pardons like, reprieves, respites or remissions, and commute sentences, in certain cases.
  - The Governor is consulted in appointing High Court judges.
- **Discretionary:** If the Chief Minister or council of ministers cannot command a majority, the Governor may invite a different person to form government.

INTER-PARLIAMENTARY UNION (IPU)

An Indian Parliamentary Delegation, led by the Deputy Chairman of Rajya Sabha, Harivansh, has departed for Tanzania, to participate in the 153rd Assembly of the Inter-Parliamentary Union (IPU).



LAKSHADWEEP ACHIEVES FULL LITERACY

Lakshadweep has achieved full literacy status under the ULLAS (Understanding of Lifelong Learning for All in Society): Nav Bharat Saaksharta Karyakram.

ULLAS

- It is a Centrally Sponsored Scheme running during 2022-27.
- It follows the **National Education Policy (NEP) 2020** and targets adults aged **15 years and above** who cannot go to school.
- It has five components:
  - Foundational Literacy and Numeracy.
  - Critical Life Skills.
  - Basic Education.
  - Vocational Skills.
  - Continuing Education.
- Its vision is to make India **Jan Jan Saakshar**, in the spirit of **Kartavya Bodh**, through **volunteerism**.

About Literacy

- The **Registrar General of India** defines a literate person as someone aged **7 or above** who can read and write with understanding in any language.
- The **Department of School Education and Literacy** has a refined definition aligned with **NEP 2020** and **Sustainable Development Goal (SDG) 4.6**.
  - It means reading, writing and computing with comprehension, plus critical life skills such as digital and financial literacy.
  - The aim is full societal participation and economic progress.
- A State or Union Territory with **95% literacy** is considered **fully literate**.

JANTAR MANTAR DE-NOTIFIED AS DELHI'S PROTEST SITE

Recently, Delhi Police de-notified Jantar Mantar as a protest site. It named Ramlila Maidan, Burari Ground and CBD Ground as alternatives.

The Decision

- It followed a recommendation by a committee set up by the **Ministry of Home Affairs (MHA)**.
- A revised **Standard Operating Procedure (SOP)** for the new venues will be issued separately.

Constitutional Provisions

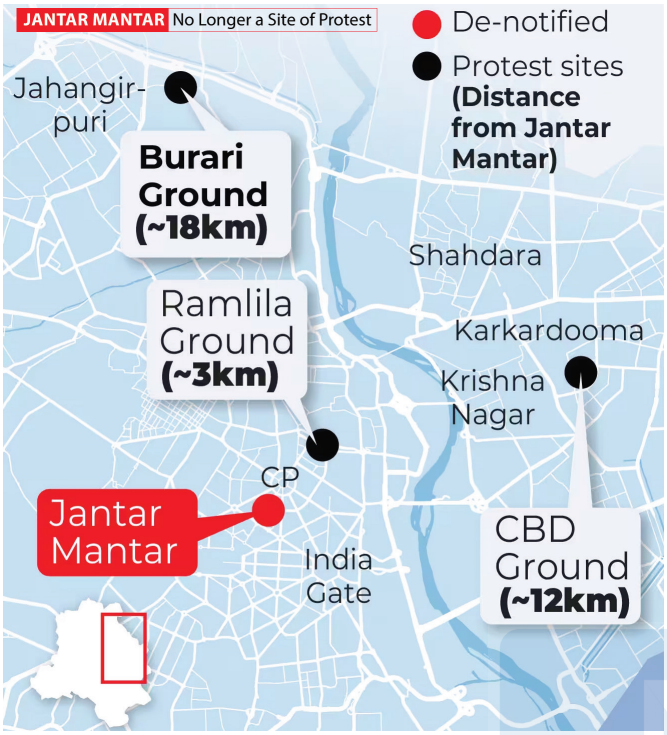
- **Article 19(1)(a):** It guarantees freedom of speech and expression, including the right to **protest peacefully**.
- **Article 19(1)(b):** It guarantees the right to assemble peacefully and without arms.
  - **Article 19(3)** allows reasonable limits in the interests of the sovereignty and integrity of India and public order.

Judicial Interventions

- **Mazdoor Kisan Shakti Sangathan v. Union of India (2018):** The **Supreme Court (SC)** rejected a blanket ban on protests at Jantar Mantar. It stressed balancing protest with residents' rights and public order.
- **Amit Sahni v. Commissioner of Police (2020):** The SC ruled that public roads and places cannot be occupied indefinitely. Protests must be weighed against other citizens' rights.

About Jantar Mantar

- It is a group of 18th-century astronomical observatories built by **Maharaja Sawai Jai Singh II**.
- They measure time, track celestial movements and study astronomical phenomena.
- **Locations:** Delhi, Jaipur, Ujjain, Mathura and Varanasi.
- **Delhi:** Built in **1724** near Connaught Place. It has masonry instruments such as the **Samrat Yantra**.
- **Jaipur:** Inscribed on the UNESCO World Heritage List in 2010.



APPOINTMENT OF NEW DEPUTY ELECTION COMMISSIONER

The Centre has appointed Prakash Rajpurohit, a 2010 batch Indian Administrative Service (IAS) officer, as Deputy Election Commissioner (DEC) in the Election Commission of India (ECI) until April 2030.

Deputy Election Commissioner

- A DEC is a senior officer who helps the ECI manage and supervise election work across the country.
- **Strength:** Five or six DECs and Director Generals assist the Commission as senior Secretariat officers.
- **Appointment:** They are generally senior civil servants appointed by the Central government.
- **Position:** They work under the ECI's overall supervision and help implement its decisions.
- **Difference from Election Commissioners:** The Chief Election Commissioner and Election Commissioners are constitutional authorities under **Article 324**. DECs are supporting administrative officers.

Election Commission of India

- It is a **constitutional body** established under **Article 324**.
- It has a **Chief Election Commissioner (CEC)** and as many **Election Commissioners (ECs)** as the President decides.
- The **President** appoints the CEC and ECs, subject to any law made by Parliament.
- It prepares electoral rolls and conducts elections to **Parliament**, **State Legislatures** and the offices of **President** and **Vice-President**.

OVERSEAS CITIZEN OF INDIA (OCI)

The Foreigners Regional Registration Office (FRRO) asked actor Imran Khan, a US citizen and OCI cardholder, to leave India by 28 October, days after joining a Mumbai protest.

About OCI

- The **OCI scheme** began in **2005** for certain foreign nationals of Indian origin.
- India does not allow **dual citizenship**. An OCI remains a foreign national holding another country's passport.
- **Privileges:** A lifelong, multiple-entry visa. Exemption from FRRO registration, regardless of the duration of stay, is subject to conditions.
- **Limits:** OCI cardholders cannot vote or contest elections.
  - **Article 19** freedoms, including speech and peaceful assembly, are guaranteed only to citizens.

Other Restrictions

- A **2021 Ministry of Home Affairs notification** requires special permission for specified activities:
  - Research, missionary or Tablighi work, mountaineering and journalism.
  - Certain internships or jobs in foreign diplomatic establishments.
  - Visits to protected, restricted or prohibited areas.
- It does not expressly list **political protests**. Yet OCI cardholders remain foreign nationals under India's immigration laws and government directions.

Can an OCI Cardholder Be Asked to Leave?

- The **Immigration and Foreigners Act, 2025** replaced the **Foreigners Act, 1946**. It regulates the entry, stay and removal of foreigners.
  - **Section 7:** It lets the government regulate or restrict foreigners' entry, departure and continued presence, and restrict specified activities.
  - **Section 29:** It allows removal of a foreigner for contravening the Act, rules or orders, or on an adverse security report.

OCI Cancellation

- It is distinct from an order to leave India.
- **Section 7D** of the **Citizenship Act, 1955** lists the grounds:
  - Registration by fraud or misrepresentation.
  - Specified conduct against the Constitution.
  - Certain criminal convictions.
  - Grounds involving sovereignty, security, international relations or the general public.

CENSUS (AMENDMENT) RULES, 2026

Recently, the Ministry of Home Affairs (MHA) notified the Census (Amendment) Rules, 2026. They broaden the pool of qualified persons eligible as Census enumerators.

About the Amendment

- It revises the table of eligible categories in **Rule 3** of the **Census Rules, 1990**, framed under the **Census Act, 1948**.
- The following may be appointed as enumerators:
  - **Teachers:** From government, local authority, aided or unaided private educational institutions, societies and trusts.
  - **Clerks and officials:** From Central and State governments, local authorities, public sector undertakings, statutory bodies, banks, companies, institutions, societies and trusts.
  - **Other suitable persons:** Anyone considered suitable by the State Government or Union Territory administration.

Role of Enumerators

- They visit households, collect accurate demographic, social and economic data, and ensure everyone is counted.
- They are the primary link between citizens and the Census administration. Their data supports policy-making.

Census of India

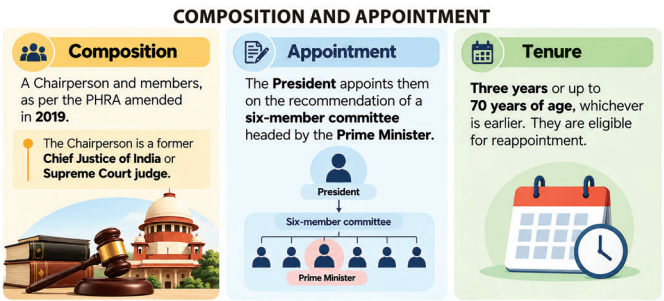
- It is held **once every 10 years**. The last Census was held in **2011**. The 2021 Census was postponed due to **Covid-19**.
- **Census 2027** is India's first digital Census. Its reference date is 1 March 2027, except for Ladakh and snow-bound areas of J&K, Himachal Pradesh and Uttarakhand (1 October 2026).

NHRC AT 33

The National Human Rights Commission (NHRC) celebrated its 33rd Foundation Day on 12 October 2026.

About NHRC

- **Headquartered** at New Delhi, it is a **statutory, autonomous body** that protects and promotes human rights in India.
- It was established on **12 October 1993** under the **Protection of Human Rights Act (PHRA), 1993**. The Act follows the **Paris Principles (1991)**, which set standards for national human rights institutions.
- It covers rights to **life, liberty, equality and dignity**. These rights are guaranteed by the Constitution or embodied in international covenants enforceable by Indian courts.



Functions

- **Inquiry and investigation:** It probes human rights violations and negligence in preventing them by public servants, on its own or on petition.
  - It can intervene in court proceedings with the court's approval.
  - It visits jails and other government-run institutions to monitor conditions.
- **Promotion and awareness:** It spreads awareness through education programmes, seminars and outreach.
- **Research and recommendations:** It reviews constitutional safeguards and recommends measures for effective implementation.
  - It can recommend compensation or prosecution of guilty public servants.
  - It may approach the Supreme Court or High Courts for directions.
- **Other functions:** It can requisition public records from courts or offices.
  - It submits annual reports to the Central and State governments.
  - It monitors mental hospitals and protection homes.

PRESS COUNCIL OF INDIA (PCI)

The Press Council of India (PCI) issued guidelines for the "orderly and effective coverage of protests and demonstrations."

Key Guidelines

- **Identity:** Visibly display a valid press identity card from the media organisation.
- **Conduct:** Stay neutral, professional and respectful. Follow lawful police instructions and avoid arguments during tense situations.
- **Safety:** Keep a reasonable, safe distance from confrontations.
- **Sensitivity:** Take particular care when filming or identifying minors, vulnerable people, injured people and private citizens in distress.

About PCI

- It is a **statutory, autonomous body** set up under the **Press Council Act, 1978**.
- **Ministry:** Information and Broadcasting.
- **Objective:** It preserves **press freedom**, improves newspaper and news agency standards, and promotes **self-regulation**.
- It has framed the **Norms of Journalistic Conduct**, which journalists and newspapers must follow.
- It acts on complaints, or **suo motu**, against print media content that violates these norms.

Composition

- It is headed by a **Chairman**, by convention a retired **Supreme Court** judge.

- It has **28 members** besides the Chairman.
  - **Section 5(3)** lists the member categories.
  - Members serve three years under **Section 6**, then the Council is reconstituted.

RIGHT TO INTERNET ACCESS FOR CHILDREN

On 15 October 2026, the Supreme Court recognised children's right to access the Internet while hearing applications regarding the circulation of child sexual exploitation and abuse material (CSEAM) on social media.

Key Observations

- The right to access and use the Internet is a **fundamental right** under **Article 21** read with **Article 19(1)(a)**.
- Children enjoy constitutional rights irrespective of age. Their freedom of expression cannot be denied merely because they are minors.
- The Court declined to endorse a **blanket ban** on children's social media use.
- Non-consensual, sexually exploitative and abusive material must have no place on the Internet.

Safeguards

- The Court proposed a national **database of digital identifiers and URLs** linked to confirmed abusive material, for identification and removal.
- The government must frame **guidelines and standard operating procedures** for **perceptual hash-matching**, URL listing and other technological detection and removal measures.

Constitutional Provisions

- **Article 21:** It protects life and personal liberty, which the Court linked to Internet access.
- **Article 19(1)(a):** It guarantees freedom of speech and expression, including accessing and communicating information through digital platforms.
- **Article 19(2):** It permits reasonable restrictions on specified grounds.

Key Judgments

- **Anuradha Bhasin v. Union of India (2020):** Free speech and trade through the Internet are protected under **Articles 19(1)(a)** and **19(1)(g)**.
- **Pragya Prasun v. Union of India (2025):** Excluding persons with disabilities from digital KYC violated Article 21.
  - "The right to digital access is an intrinsic component of the right to life."
- **Secretary, Ministry of Information and Broadcasting v. Cricket Association of Bengal (1995):** Article 19(1)(a) includes "the right to know and to receive and impart information and ideas."

Australia's Social Media Minimum Age Law

- The **Online Safety Amendment (Social Media Minimum Age) Act 2024** bars children under **16** from holding accounts on designated platforms. It took effect on **10 December 2025**.
- The **eSafety Commissioner** oversees it. Age-assurance methods raise concerns about effectiveness, privacy and circumvention.

SPECIAL SUMMARY REVISION OF ELECTORAL ROLLS

The Election Commission of India (ECI) announced the Special Summary Revision (SSR) schedule for 17 States and Union Territories, including five states with Assembly elections in early 2027.

Legal Basis

- **Article 324:** It empowers the ECI to supervise, direct and control the preparation of electoral rolls and the conduct of elections.
- The **Representation of the People Act, 1950** and the **Registration of Electors Rules, 1960** govern preparation and revision of rolls.
- **Section 21** allows revision before general elections and annually, as the ECI directs.

What SSR Does

It is a periodic exercise to update existing rolls by:

- Adding newly eligible voters.
- Correcting errors in entries.
- Removing deceased, duplicate or permanently shifted electors, by the prescribed procedure.

Key Dates

- **Qualifying date:** 1 January 2027.
- **Draft rolls:** 12 November 2026.
- **Claims and objections:** Until 11 December 2026.
- **Final rolls:** 4 January 2027.

SSR versus Special Intensive Revision (SIR)

- **SIR:** Existing electors must submit enumeration forms to enter the draft roll. Some may need documents proving eligibility, including citizenship.
- **SSR:**
  - Existing electors generally stay on the draft roll by default, without fresh forms. The focus is on enrolling new voters and updating entries.
  - SSR deletions must follow the statutory procedure, including notices and hearings where required.
  - SSR does not involve SIR-style centrally generated notices to electors flagged for logical discrepancies.

CAPF (GENERAL ADMINISTRATION) ACT, 2026

The Central Armed Police Forces (CAPF) (General Administration) Act, 2026 came into force on 8 October 2026.

Key Features

- **Aim:** To regulate recruitment, deputation, promotion and service conditions of Group A officers.
- **Forces covered:** Border Security Force (BSF), Central Reserve Police Force (CRPF), Central Industrial Security Force (CISF), Indo-Tibetan Border Police (ITBP) and Sashastra Seema Bal (SSB).
- **Passage:** Rajya Sabha on 1 April, Lok Sabha on 2 April and assent on 9 April 2026.
- **Rule-making:** The Centre can frame rules on matters related to officers of these forces.
- **Indian Police Service (IPS) deputation:** It continues in leadership positions.
  - **Inspector General (IG):** 50% of posts reserved.
  - **Additional Director General (ADG):** At least 67% reserved.
  - **Special Director General and Director General:** Filled only by deputation.
- **Government's view:** IPS officers help maintain Centre-state coordination.

Background

- In 2015, Group A CAPF officers sought Non-Functional Financial Upgradation, cadre review, restructuring and rule changes. They wanted IPS deputation ended and internal promotions to Senior Administrative Grade (SAG).
- **Sanjay Prakash v. Union of India (2025):** The Supreme Court held that:
  - Group A CAPF officers form an **Organised Group A Service** for all purposes, with a defined cadre structure, hierarchy and promotion avenues.
  - IPS deputation to SAG posts, up to IG, should be reduced progressively within two years.
  - Cadre review and service rules must be completed in six months.
- Petitions say the Act overrides this ruling. They are pending, and the Supreme Court has issued notice to the Centre.

Earlier Setup

- The **Ministry of Home Affairs (MHA)** is the cadre-controlling authority for IPS and CAPF officers.
- **Assam Rifles:** MHA has administrative control, and the Ministry of Defence has operational control.

Concerns

- **Stagnation:** CAPF officers reportedly take 25 years to become Commandants, against an ideal 13.
- **Autonomy:** Deputation hampers professionalisation.
- **Equality:** Articles 14 and 16 are invoked, as cadre officers lack promotion avenues equal to IPS officers.

PM INTERNSHIP SCHEME

The PM Internship Scheme (PMIS) has completed two years since its pilot launch in October 2024.

About PMIS

- **Announced:** Union Budget 2024-25.
- **Aim:** To give job seekers real-life work experience in top companies.
- **Implementing agency: Ministry of Corporate Affairs**.
- **Benefits:** Candidates aged 18-25 who are not in full-time employment get **₹9,000 per month**, a one-time **₹6,000 joining grant** and hands-on exposure.
- **Duration:** 6 or 9 months.
- **Company selection:** Top companies are chosen by average **Corporate Social Responsibility (CSR)** spending over the last three years. Their participation is voluntary.

Eligibility

- **Family income:** Not above ₹8 lakh per annum.
- **Age:** 18 to 25 years, with relaxation for Other Backward Classes (OBC), SC and ST.
- **Qualifications:** Class 10, Class 12, **Industrial Training Institute (ITI)** (Matriculation plus ITI in the relevant trade), diploma recognised by the **All India Council for Technical Education (AICTE)** (after Intermediate), Bachelor's degree from a **University Grants Commission (UGC)** or AICTE-recognised university, or postgraduation.

Key Changes

- **Wider coverage:** It now goes beyond the top 500 companies to Micro, Small and Medium Enterprises and sunrise sectors.
- **Higher stipend:** Raised from ₹5,000 to ₹9,000.
- **Shorter duration:** Cut from 12 months to 6-9 months.
- **Relaxed eligibility:** Age widened from 21-24 to 18-25 years. Master's degree holders and final-year undergraduate and postgraduate students are included.

Performance

- **Round III** began in April 2026 and ends in December.
- **Round III** joinings of Youth (14,620 as of 6 August 2026) were about 67% higher than Round I and about double Round II.

Significance

- **Job readiness:** Industry exposure helps align qualifications with workplace needs.
- **Demographic dividend:** It can turn India's large youth population into a productive workforce.
- **Industry participation:** MSMEs and sunrise sectors widen opportunities beyond large corporations.

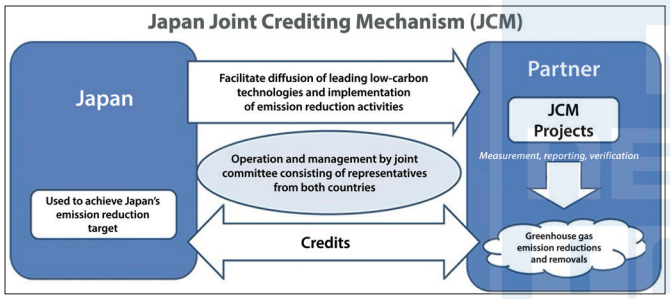
2 INTERNATIONAL RELATIONS

INDIA-JAPAN CARBON CREDIT RULEBOOK

India and Japan launched the Operational Manual for their Joint Crediting Mechanism (JCM) in New Delhi on 30 September 2026.

About the JCM

- It promotes advanced low-carbon technologies, climate finance, technology cooperation and high-integrity emission reductions and removals in India.
- Japan's contribution is measured quantitatively, and Japan receives part of the credits. *(A credit is a certified emission cut)*
- It helps both countries meet their Nationally Determined Contributions (NDCs). (NDCs are national climate targets)
- It marks a milestone for cooperation under **Article 6.2** of the Paris Agreement. It allows bilateral carbon cooperation.



G7 OIL RELEASE

Recently, the Group of Seven (G7) agreed to release 100 million barrels of oil over four months to ease soaring fuel prices, with much diesel in the first 20 days.

About the Release

- It aims to raise short-term oil supply.
- The International Energy Agency (IEA) will coordinate it.
- It draws on strategic reserves, which are emergency government stocks.

Group of Seven (G7)

- It is a group of seven of the world's most industrialised and developed economies.
- Members are **France**, **Germany**, the **United Kingdom**, **Italy**, the **United States**, **Canada** and **Japan**.
- It began in the wake of the **1973 oil crisis**. Finance ministers of France, West Germany, the US, Britain and Japan (the Group of Five) met informally.
- **Canada** joined in **1976**. The **European Union** has attended since **1977**.
- Russia joined in **1997**, making it the **G8**. It was expelled in **2014** after annexing Crimea, restoring the G7.

International Energy Agency (IEA)

- It was set up after the **1973-74 oil crisis** to help industrialised countries respond to major oil shocks.
- Its headquarters is in **Paris**, France.
- It has **32** member countries, including the US, Canada, Turkey, the UK, Australia, Japan, New Zealand and South Korea.
- **Association countries** include India, China, Indonesia, Singapore, South Africa and Thailand.



SCO NATIONAL COORDINATORS' MEETING IN ISLAMABAD

India sent a senior diplomat to Islamabad for the Shanghai Cooperation Organisation (SCO) national coordinators' meeting. It was the first SCO national coordinators' meeting under Pakistan's chairmanship. An Indian delegation had also attended the SCO border-services chiefs' meeting in Islamabad in July 2026.

About the SCO

- It is a ten-member organisation, founded on **15 June 2001** by Kazakhstan, China, Kyrgyzstan, Russia, Tajikistan and Uzbekistan. All except Uzbekistan belonged to the **Shanghai-5**, formed in **April 1996**.
- **Members** are Belarus, India, Iran, Kazakhstan, China, Kyrgyzstan, Pakistan, Russia, Tajikistan and Uzbekistan.
- **Observers** are Afghanistan and Mongolia.
- Its mandate covers peace, security, stability, economic cooperation and social-cultural development. It is open, not directed against any state, and not a military alliance.

Shanghai Spirit

- Its core principles are mutual trust, respect for sovereignty and territorial integrity, non-aggression, non-interference in internal affairs and peaceful resolution of differences.

The Meeting

- The **Council of National Coordinators** meets under a rotating annual chair. It coordinates member cooperation.
- Pakistan became chair after the **Bishkek summit** of 31 August to 1 September 2026.
- The meeting ran from **28 to 30 September**. The leaders' summit follows in **August 2027**.
- The last ministerial visit was by S Jaishankar in **October 2024**.

Key Takeaways for India

- **Diplomatic tightrope:** India engages its strained neighbours, Pakistan and China, through the SCO and BRICS. A tightrope means careful balancing between risks. It helps India protect its interests against any territorial claim.
- **Modi's possible visit:** Pakistan will likely invite him. The choice is political.
- **Trump factor:** Russia-Ukraine and US-Iran disputes have diverted attention. Trump's alleged backing has strengthened Pakistan's military leadership.
  - India must weigh any future war carefully.
  - Limited engagement lowers escalation risk.
- **Kashmir and terrorism:** India will likely respond strongly to Pakistan's claims at the SCO and UN.
- **China challenge:** It matters more than Pakistan because of the border dispute since 2020. Stability on both fronts remains a strategic goal, and multilateral forums ease tensions.

ANIMAL DIPLOMACY

China agreed to lend two giant pandas to the United States after a US-China summit in Washington. They reached Zoo Atlanta on 27 September 2026.

About

- Animal diplomacy refers to the practice of gifting, exchanging, lending or protecting animals to strengthen diplomatic relations between countries.
- It is a form of **soft power diplomacy**, where animals serve as symbols of friendship, peace, goodwill, cultural identity and political cooperation.

Historical Origin and Evolution of Animal Diplomacy

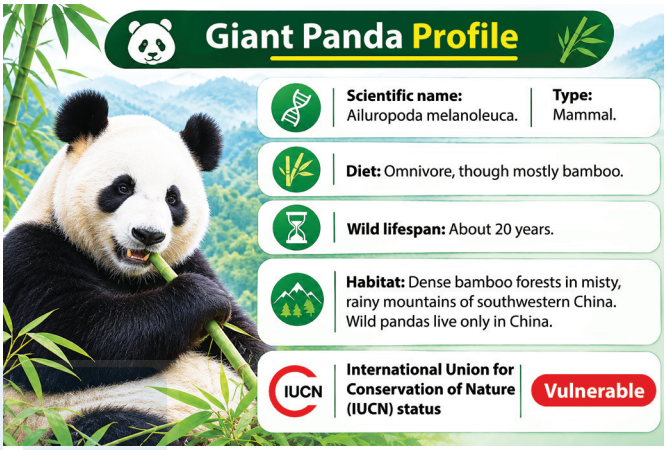
- **Ancient Period:** Egypt, Mesopotamia, India and China exchanged animals to strengthen alliances. Chandragupta Maurya gave 500 elephants to Seleucus (305 BCE).
- **Modern Period:** Animal diplomacy promotes soft power and conservation, exemplified by Nehru's elephant diplomacy, China's panda diplomacy (1972) and India's cheetah partnerships (2022–23).

Panda Diplomacy

- China has long sent pandas abroad as gestures. This began in **1957** with a gift to the **Soviet Union**.
- An exchange with the **United States** followed in **1972**.
- Since **1984**, China only leases pandas, usually for **10 years**.
- The new loan sends **Ping Ping** and **Fu Shuang** to Zoo Atlanta.

India's Examples

- **Project Cheetah** began in 2022 with cheetahs from **Namibia**. Later batches came from **South Africa** and **Botswana**.
- In 2026, India revived the tradition of gifting **peacocks** to the UN. They live at its European headquarters in **Geneva**.



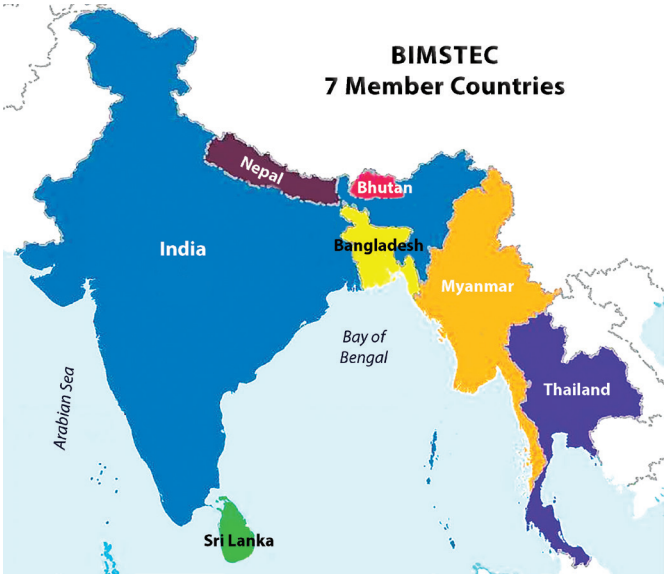
BIMSTEC'S DELHI DECLARATION

India hosted the first BIMSTEC Home Ministers' Meeting in New Delhi. It ended on 13 October 2026 with the Delhi Declaration.

Delhi Declaration

- It condemns terrorism, including cross-border terrorism.
- It seeks stronger regional cooperation against terror financing, radicalisation, drug trafficking, human trafficking and money laundering.

About BIMSTEC



- The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) has seven South and Southeast Asian members in littoral and adjacent areas of the Bay of Bengal.
  - Littoral means lying along the coast.
- It was formed in **1997** through the **Bangkok Declaration**.
- It supports economic growth, social development, science and technology.
- **Founding members:** Bangladesh, India, Sri Lanka and Thailand.
- **Current members:** these four plus Bhutan, Myanmar and Nepal.
- The region has about **1.7 billion** people, or **22%** of the world, and GDP of about **US$5 trillion**.
- **Secretariat: Dhaka**, Bangladesh.

US WAIVES RUSSIA SANCTIONS AFTER DIESEL DEAL

The US President signed an order on 16 October 2026 waiving sanctions on Russia. It also holds off tariffs on buyers of Russian energy, such as India.

Graham Act

- The Lindsey O. Graham Sanctioning Russia and Iran Act aims to cripple Russia's energy sector.
- It allows tariffs of up to **100%** on the top five buyers of Russian oil and gas.
  - India is among the largest buyers.
- It allows tariffs of up to **500%** on Russian exports to the US.
- It also allows tariffs of up to **100%** on countries helping Russia evade sanctions.
- The President used the Act's **waiver authority**.
  - A waiver lets the President suspend a legal requirement.
  - It has no fixed end date and can be revisited.

Diesel Deal

- President Trump announced it on 9 October 2026.
- Russia would immediately supply over **300,000 tonnes** of diesel to the US and global markets.
- Another **500,000 tonnes** would follow in November, and **1 million tonnes** immediately thereafter.
- The US says this would lower fuel prices for itself and the world.



Badr MOU

Pakistan, Turkey, Qatar and Indonesia signed the Badr Memorandum of Understanding (MoU) in Doha on 21 October 2026.

Aim

- It seeks to deepen military cooperation, strengthen defence capabilities and promote manufacturing, training, research and domestic defence industries.

Strengths of Members

- **Turkey:** an established defence industry.
- **Qatar:** financial resources.
- **Indonesia:** experience in joint development and domestic production.
- **Pakistan:** manufacturing capacity and a skilled workforce.

Meaning of 'Badr'

- 'Badr' means 'full moon' in Arabic.
- It may recall the Battle of Badr (624 CE), an early victory of Prophet Muhammad, but the reason is unclear.

Badr MoU vs Mecca Pact

- The Mecca pact, signed in August 2026 by Saudi Arabia, Turkey and Pakistan, stresses collective defence. An attack on one counts as an attack on all.
- The Badr MoU instead builds military and industrial capabilities.

Concerns for India

- **Military modernisation:** Pakistan could modernise its forces and expand weapons production.
- **Strategic implications:** Greater access to defence technologies could affect India's regional security calculations.
- **Technology sharing:** India has defence cooperation with Indonesia, including a reported **$630 million** deal for BrahMos and Astra missiles. Indonesia's new link with Pakistan raises concerns about technology sharing.

INDIA-POLAND STRATEGIC PARTNERSHIP

Polish Prime Minister Donald Tusk made an official visit to India from 21 to 23 October 2026.

Outcomes of the Visit

- **Trade:** Both aim to double bilateral trade by 2030. Current trade is about **$6 billion**.
- **India-EU FTA:** They welcomed the India-European Union (EU) free trade agreement (FTA) and sought its early signing, ratification and implementation.
- **Defence:** PM Modi invited Polish firms to join in co-development and co-production with India. Co-development means joint design. Co-production means joint manufacture.

- **Critical minerals:** An MoU on geology, mining and critical minerals is under negotiation. Rare-earth processing and battery recycling are priority areas.
- **Technology:**
  - An India-Poland **Startup Bridge** and tech hackathons were announced.
  - Cooperation will be explored in artificial intelligence, semiconductors and quantum technologies.
- **UN support:** Poland backed India's bid for a non-permanent seat on the United Nations Security Council (UNSC) in **2028-29** and a permanent seat in a reformed UNSC.

About Poland

- It is a Central European country.
- It has seven neighbours: Germany, Slovakia, the Czech Republic, Lithuania, Belarus, Ukraine and Russia.
- It belongs to both the North Atlantic Treaty Organization (NATO) and the EU.
- **Mountains: Carpathians** and **Sudetes**. Rivers: **Vistula** and **Oder**.

India-Poland Relations

- **Diplomatic ties:** They began in **1954**. Both countries opposed colonialism, imperialism and racism.
- **Strategic Partnership:** It began during Modi's 2024 visit to Poland. An Action Plan for **2024-2028** was issued then.
- **History:** In World War II, the Maharaja of Jamnagar sheltered Polish women and children. Poland calls him the **Good Maharaja**.
- **Trade:** It rose from **$1.95 billion** in 2013 to **$6.36 billion** in 2025. It more than tripled.
- Poland is India's largest trading and investment partner in Central and Eastern Europe.
- The India-EU FTA will open new export opportunities to Poland once it enters into force.



Way Forward

- Poland helps India access European markets, diversify defence and technology partnerships, and build resilient supply chains.
- Effective implementation of the Action Plan (2024-2028) is crucial.

INDIA-SWITZERLAND TIES

Swiss President Guy Parmelin made a three-day state visit to India from 5 October 2026. The two sides signed five agreements.

Agreements Signed

- **Migration and Mobility Partnership (MMP):** This MoU builds cooperation on migration and mobility under equal treatment principles.
  - It gives multiple-entry visas for up to **5 years**, with stays of up to **6 months** per visit.
  - It also gives renewable **1-year** student permits.
- **Young Professionals Exchange (YPS):** Each country will send **300** persons yearly, rising to **500**.
  - It sets a **30/90-day** timeline to verify nationality or residency status.
- **Transport MoU:** It promotes cooperation on transportation technologies, mobility systems and infrastructure.
- **Research MoU:** It supports exploratory scientific collaboration between the two research communities.
- **Implementation Arrangement:** It covers innovation, technology transfer and entrepreneurship between India's Department of Science and Technology and the Zurich University of Applied Sciences.

Bilateral Ties

- Diplomatic relations began with the **Treaty of Friendship** in **1948**. The 75th anniversary was marked in **2023**.
- The Joint Economic Commission began in **1959**. Secretary-level Foreign Office Consultations (FOC) began in **1996**. A Joint Committee on Science and Technology also meets.
- The inter-governmental science and technology agreement dates to **2003**. It covers joint research, innovation, advanced technology and academic exchanges.
- Over **29,248** Indians live in Switzerland, including about **9,662** persons of Indian origin. Most work in engineering, IT, pharmaceuticals, paramedical and nursing fields.

Trade and Investment

- Trade was **$23.27 billion** in FY 2024-25. Switzerland ranked **15th** among India's trading partners.
- Switzerland is a major global gold refining centre.
- The **Trade and Economic Partnership Agreement (TEPA)** with the European Free Trade Association (EFTA) took effect on **1 October 2025**.
  - EFTA states are Iceland, Liechtenstein, Norway and Switzerland.
  - They were the first European partners to conclude a free trade agreement with India.
- EFTA aims to promote **$100 billion** of investment over **15 years** and **1 million** direct jobs.
- Swiss FDI from 2000 to 2025 was **$10.87 billion**, the **12th** highest globally. It grew **53%** during 2015-2023.

Significance for India

- **Market access:** TEPA widens access to EFTA markets for goods and services.
- **Technology:** Switzerland excels in precision engineering, pharmaceuticals, advanced manufacturing and research.
- **Diplomacy:** Its neutrality, multilateral role and Geneva-based international organisations matter for India.
- Ties have grown from traditional friendship into a multidimensional partnership, with TEPA as a new foundation.

INDIA JOINS SIOFA AS A FULL MEMBER

The government approved India's accession to the Southern Indian Ocean Fisheries Agreement (SIOFA) in October 2026. India moves from a Cooperating Non-Contracting Party, its status since 2022, to a full Contracting Party. Accession means formally joining a treaty. A cooperating party works with the body without full membership.

About SIOFA

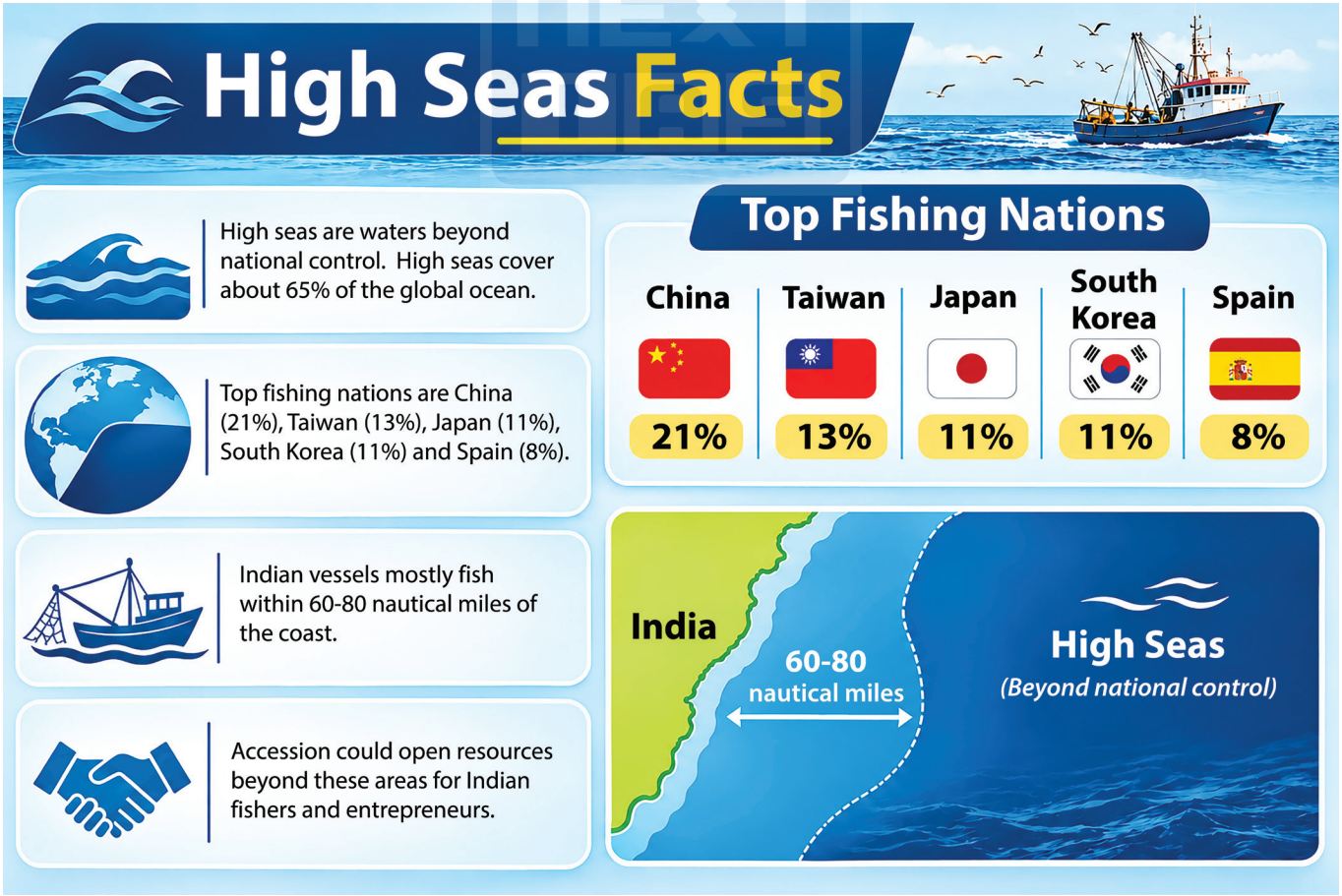
- It is a regional agreement to conserve and manage fishery resources in the high seas of the Southern Indian Ocean.
- High seas are waters beyond national control.
- It was adopted in 2006 under the Food and Agriculture Organization (FAO) and took effect in 2012.
- It covers fish, molluscs, crustaceans and other sedentary species.
- Sedentary species stay fixed or move little.
- It excludes highly migratory species listed in Annex I of the United Nations Convention on the Law of the Sea (UNCLOS). It also excludes sedentary species under coastal states' jurisdiction.
- Highly migratory species, such as tuna, travel long distances.

Indian Ocean Frameworks

- The region has two major fisheries frameworks, SIOFA and the Indian Ocean Tuna Commission (IOTC).
- India is already an IOTC contracting party. The IOTC manages highly migratory tuna and tuna-like species.
- So the two bodies split the work by species. SIOFA handles non-tuna stocks.

Significance

- Full status gives India a say in binding conservation decisions and catch-allocation talks.
- Indian vessels can fish squid, toothfish and alfonsino within SIOFA's area.
- The step supports the Blue Economy. It also helps curb illegal, unreported and unregulated fishing.



3 ECONOMY

RoSCTL SCHEME

The Ministry of Textiles extended the Rebate of State and Central Taxes and Levies (RoSCTL) Scheme by three months, from 1 October to 31 December 2026, at existing rates and norms.

About the Scheme

- **Launch:** March **2019**, by the Ministry of Textiles.
- **Aim:** To rebate embedded State and Central taxes and levies not covered under any other scheme.
- **Principle: Zero-rating of exports**. Unrefunded taxes in exported products are remitted.
- **Coverage:** Apparel, garments and **made-ups**.
- **Taxes:** Examples are electricity duty, mandi tax and VAT on fuel.
- **Mode:** Exporters receive transferable duty credit e-scrips in the Customs system, based on export value. They can pay import customs duty.
- **Role:** It supports textile exports, especially **MSME** exporters, who form a major share of beneficiaries. It improves the global competitiveness of apparel and made-ups.

Progress and Importance

- In **2025-26**, around **15,400** exporters in **444+ districts** benefited.
- Most beneficiaries were MSMEs.
- The wide coverage strengthens a dispersed manufacturing ecosystem and brings small exporters into global markets.
- The extension gives policy **continuity and predictability**. It helps the labour-intensive clothing sector stay competitive.

ANNUAL SURVEY OF INDUSTRIES 2024-25

On 30 September 2026, the Ministry of Statistics and Programme Implementation (MoSPI) released the Annual Survey of Industries (ASI) results for 2024-25, that is, April 2024 to March 2025.

About ASI

- It is the main survey of the **registered manufacturing sector**, conducted annually since **1960**.
- **Objective:** To show changes in the composition, growth and structure of industries. It tracks output, value added, employment, capital formation and other parameters.
- **Uses:** It guides policymaking, supports **National Accounts Statistics** and meets the data needs of Ministries.
- **Legal basis:** The Collection of Statistics Act, 2008.
- **Coverage:** Factories under the **Factories Act, 1948**, bidi and cigar units, and some electricity undertakings.

Key Findings

- **Factories:** Up 2.64% to about 2.7 lakh.
- **Output:** Up 7.81%.
- **Gross Value Added (GVA):** Up 9.59%, from ₹24.58 lakh crore to ₹26.94 lakh crore.
- **Top sectors:** Basic metals, motor vehicles, chemicals, pharmaceuticals and food products gave over **45%** of GVA.
- **Persons engaged:** Up 7.19%, from 1.96 crore to 2.10 crore.
- **Workers:** About 1.67 crore.
- **Emoluments:** Up 12.08%.
- **Average wage:** Up 5.3% to ₹2.28 lakh per worker.

State Highlights

- **GVA:** Maharashtra led, followed by Gujarat, Tamil Nadu, Karnataka and Uttar Pradesh.
- **Employment:** Tamil Nadu, Maharashtra, Gujarat, Uttar Pradesh and Haryana led.
- **Tamil Nadu:** It has the most factories (**41,221**) and about 26.1 lakh workers.
- **Uttar Pradesh:** Factories rose **12.8%** to **24,964**, workers rose 14% and wages rose 6.7%.
- **Gujarat:** Factories fell 1% to a 12.4% national share, and wages rose 2%.
- **Bihar:** Wages rose **16.7%**, the highest among big states, yet its workforce fell 2%.
- **Jharkhand:** It was the only state where wages fell, by **5.2%** to ₹3.04 lakh.

US 30-YEAR TREASURY YIELD SURGE

In October 2026, the yield on the 30-year US Treasury bond rose above 5.7%, its highest since 2002.

Bond and Bond Yield

- A **bond** is a loan from an investor to a government or company. The investor earns interest.
- **Yield** is the return a lender can expect on a bond for a given period.
- Bond **price and yield move inversely**. A price rise usually lowers the yield.

Reasons for the Rise

- The US Government is borrowing heavily.
- Investors fear **inflation** and higher future interest rates. Brent crude above $100 added to these fears.
- They therefore demand higher returns for lending long-term.

Implications

- **Higher borrowing costs:** Rising yields mean the US Government pays more interest on new debt.
- **Global impact:** US bonds are a **global benchmark**. Higher yields can shift investment flows and affect currencies, interest rates and stock markets worldwide.

RABI MSP FOR MARKETING SEASON 2027-28

On 30 September 2026, the Cabinet Committee on Economic Affairs (CCEA) approved higher Minimum Support Prices (MSPs) for all six mandated Rabi crops for 2027-28.

22 Mandated Crops

14 Kharif Crops

- Paddy
- Jowar
- Bajra
- Maize
- Ragi
- Tur (Arhar)
- Moong
- Urad
- Groundnut
- Soyabean
- Sunflower Seed
- Sesamum
- Nigerseed
- Cotton

6 Rabi Crops

- Wheat
- Barley
- Gram
- Masur (Lentil)
- Safflower
- Rapeseed & Mustard

2 Commercial Crops

- Jute
- Copra

New MSP (₹ per quintal)

- **Wheat:** 2,610, up 25.
- **Barley:** 2,286, up 136.
- **Gram:** 5,958, up 83.
- **Lentil (masur):** 7,390, up 390.
- **Rapeseed and mustard:** 6,613, up 413.
- **Safflower:** 7,215, up 675, the highest rise.

About MSP

- The Government announces MSPs for **22 mandated crops**. It acts on the advice of the **Commission for Agricultural Costs and Prices (CACP)** and consults States and Central Ministries.
- MSP for **Toria** follows rapeseed and mustard. MSP for **de-husked coconut** follows copra.

Factors Considered by CACP

- Cost of production, demand-supply, and domestic and world prices.
- Inter-crop price parity, and terms of trade between agriculture and non-agriculture.
- Likely effect on the economy, and a margin of at least **50%** over cost.



FORCED-LABOUR IMPORTS AND EXCESS CAPACITY

Recently, at the G20 Trade Ministers' Meeting in Milwaukee, India defended its trade policies against US concerns about forced-labour-linked imports and structural excess capacity.

Key Terms

- **Forced-labour import:** A product made wholly or partly using forced labour at any stage.
- **Structural excess capacity:**
  - Production capacity in a sector that persistently exceeds domestic and global demand.
  - It can cause overproduction, falling prices and distortions.
- **Anti-dumping duty:** An extra import duty when a foreign firm exports below the product's normal value and harms domestic industry.
- **Countervailing duty:** An extra import duty to offset the advantage of foreign government subsidies.

India's Stand

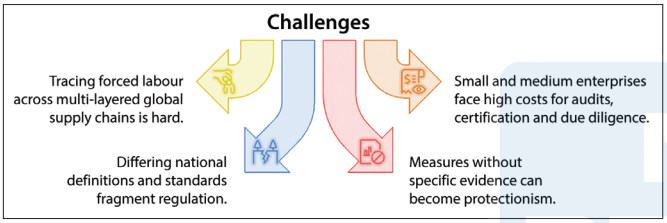
- **WTO-based approach:** Unfair trade practices should be tackled through tools compatible with the **World Trade Organization (WTO)**, such as anti-dumping and countervailing duties.
- **Evidence-based:** Restrictions need verifiable evidence on specific goods, firms or supply chains, not assumptions about a country or sector.
- **Voluntary sharing:** India backs sharing good practices, but opposes monitoring and new obligations.
- **Excess capacity:** India says it has none in the identified sectors, as demand is domestic-driven.

Legal Framework in India

- **Article 23:** It prohibits the traffic in human beings, **begar** and similar forced labour.
- **Bonded Labour System (Abolition) Act, 1976:** It bans debt-linked servitude and provides for the rehabilitation of released labourers.
- **ILO conventions:** India ratified the International Labour Organization's No. 29 (1930) and No. 105 (1957).
- **Import ban:** In July 2026, the Foreign Trade Policy was amended to prohibit the import of goods made using forced labour.
- **Child and Adolescent Labour (Prohibition and Regulation) Act, 1986:** It bans work by children under 14 and regulates adolescents aged 14 to 18.

US Context

- The US imposed Section 301 forced-labour tariffs on 60 economies in July 2026. India pays **10%**.

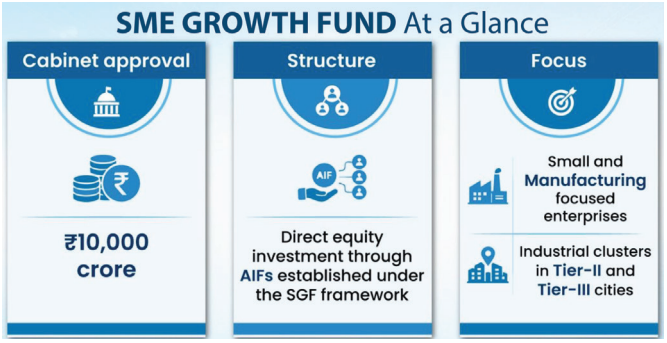


SME GROWTH FUND

Recently, the Union Cabinet approved a ₹10,000 crore central commitment to set up the Small and Medium Enterprises (SME) Growth Fund (SGF), proposed by the Ministry of Finance.

About SGF

- It aims to catalyse **growth capital** for SMEs and help champion Indian enterprises emerge in manufacturing, services, technology, innovation-driven sectors and strategic value chains.
- It was announced in the **Union Budget 2026-27**.
- It is a **direct equity investment fund**, operating as an **Alternative Investment Fund (AIF)** under the SGF framework.
- An AIF is a privately pooled fund in India. It raises money from investors and invests it under a defined policy.
- It will give **patient equity capital** to high-potential SMEs with proven viability and scalability.



Strategic Focus

- **Manufacturing:** A major share goes to manufacturing-focused SMEs expanding capacity, adopting technology, raising productivity and strengthening exports.
- **Industrial clusters:** SMEs in **Tier-II and Tier-III** cities will also be considered. This supports balanced regional development, local supply chains and quality jobs.

Need for the Fund

- Existing equity funds mostly back early-stage and micro enterprises. SMEs lack growth equity.
- Long-term capital will help SMEs scale, invest in technology, enter global markets and join global value chains.
- It will also support sectors of national importance.

Classification of **Micro, Small and Medium Enterprises (MSMEs)**

The criteria are investment in plant and machinery or equipment, and annual turnover.

MICRO	SMALL	MEDIUM
Investment up to **₹2.5 crore** and turnover up to **₹10 crore**.	Investment up to **₹25 crore** and turnover up to **₹100 crore**.	Investment up to **₹125 crore** and turnover up to **₹500 crore**.

India's MSME Ecosystem

- **Economic Survey 2025-26:** MSMEs account for **31.1%** of GDP, **35.4%** of manufacturing output and **48.58%** of exports.
- **Registrations:** About **9.78 crore** on Udyam and the Udyam Assist Platform, with about 43.28 crore reported jobs.
- **Women:** Female-owned enterprises hold **37.6%** of registrations.
- **Activity:** Trading has about 4.08 crore, services 3.77 crore and manufacturing 1.93 crore registrations.

NATIONAL HOUSEHOLD TRAVEL SURVEY 2025-26

The National Statistics Office (NSO) of the Ministry of Statistics and Programme Implementation released India's first all-India survey on household travel, covering July 2025 to June 2026.

About the Survey

- It records household trips exceeding **1 km** in distance.
- It covers the **purpose** of travel (employment, education, social, cultural and leisure activities, tourism, domestic work, caregiving), **mode of transport**, and trip time and distance.

Key Findings

- **Commuting mode:** Two-wheelers lead for travel to fixed workplaces, used by **42.6%** of workers.
- **Overnight travel:** Buses and railways account for **73.5%**, followed by cars (15.1%) and two-wheelers (8.8%).
- **Gender gap: 61.9%** of male workers make daily work trips, against **41.9%** of female workers.
- **Commuting cost:** The average is **₹785** a month per worker.
  - Urban workers spend ₹1,044 and rural workers ₹612.
  - Male workers spend ₹835 and female workers ₹533.

INTEROPERABILITY PUSH FOR ACCOUNT AGGREGATORS

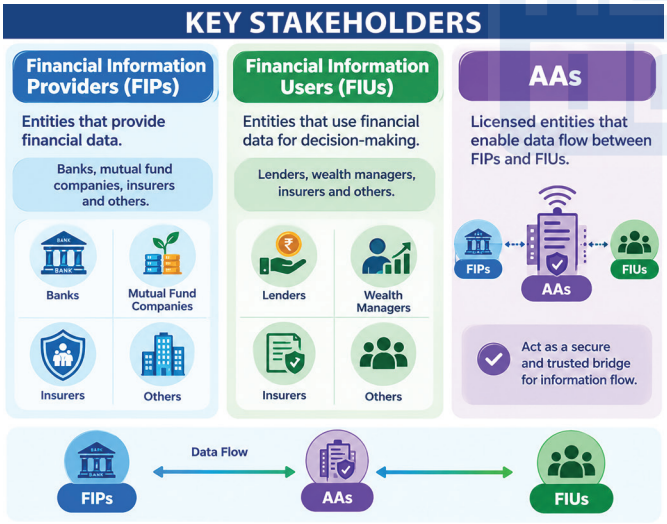
Recently, the Reserve Bank of India (RBI) announced interoperability among Non-Banking Financial Company Account Aggregators (NBFC-AAs). Customers can then access their financial data through any NBFC-AA.

Expected Change

- Customers can link bank accounts with **demat accounts** and see consolidated financial information through their aggregator.
- Depositories regulated by the **Securities and Exchange Board of India (Sebi)** can include bank deposit details in their **Consolidated Account Statements (CAS)**.
- Both measures are due by **31 December 2026**.

About Account Aggregators

- An AA is an **NBFC regulated by the RBI**. The RBI issued its Master Direction in **2016** and has registered 17 AAs.
- It is a **consent-based** platform for securely sharing financial information between institutions.
- It does **not store** customer data. It only facilitates secure transfer.
- **Examples:** CAMS FinServ, a subsidiary of Computer Age Management Services (CAMS), and OneMoney, run by FinSec AA Solutions.



57TH GST COUNCIL

The 57th Goods and Services Tax (GST) Council meeting on 8 October 2026 recommended easier registration, refunds and litigation, and proposed raising the prosecution threshold from ₹1 crore to ₹5 crore.

About the GST Council

- It is a constitutional body under **Article 279A**, inserted by the **101st Constitutional Amendment Act, 2016**.
- The Union Finance Minister chairs it.
- **Members:** the Union Minister of State for Finance and the State Finance or Taxation Ministers.
- The Centre has one-third of the weighted votes and States have two-thirds.
- It recommends rates, exemptions, model laws and levy principles.

Good and Simple

The 57th meeting of the GST council decided to enhance simplification, improve certainty in tax treatment, and ease the compliance burden on small businesses.

KEY DECISIONS

- Tax officers' power to arrest scrapped
- Prosecution limit increased to 5 crore tax evasion amount
- Export of services brought into input tax credit system
- Automated registrations, reduced paperwork, and eased input tax credit processes
- No notices for amounts below ₹10,000, pending notices to be cancelled

The committee has also decided to examine proposal to allow small taxpayers to file returns once a year.

New measures likely to come into force from April 1, 2027.

Key Decisions

- **Enforcement:**
  - Arrest powers of GST officers to be removed.
  - General penalty cut from ₹25,000 to ₹10,000.
  - Only the supplier's or destination State's officers may inspect, detain or seize goods moving inter-State.
  - Interception needs specific intelligence and approval of an officer not below **Joint Commissioner**.
- **Registration:**
  - Clearer document requirements.
  - **61%** of taxpayers get automatic registration within three working days.
  - Small e-commerce sellers can register in one State.
- **Refunds:**
  - Applications to be acknowledged within **10 days**, not 15.
  - About **90%** of claims to be released within three working days of acknowledgement, based on risk.
  - Smoother Input Tax Credit (ITC) release.
- **Small businesses:** An optional annual-return scheme for business-to-consumer (B2C) businesses with turnover up to **₹5 crore**.
- **Digital taxation:** Faceless Central GST assessment is proposed. Rate changes will be considered once a year, effective from the next financial year.
- Most changes are expected from **1 April 2027**.

Significance

- Lower compliance costs and quicker refunds improve small businesses' cash flow.
- Trust-based enforcement encourages voluntary compliance and fewer arbitrary stoppages of goods.
- Clearer powers ease Centre-State friction.

Challenges

- Balancing taxpayer rights against fake invoices and ITC misuse.
- Risk-based systems need quality data and cybersecurity.
- Annual rate-setting may reduce flexibility in shocks.
- Smaller firms face digital literacy gaps.

Way Forward

- Stable rules, stronger analytics, time-bound refunds and effective appeals can deliver **minimum intrusion, maximum compliance**.

GROSS DOMESTIC KNOWLEDGE PRODUCT

Recently, NITI Aayog Member R. Balasubramaniam mentioned that India is working on a Gross Domestic Knowledge Product (GDKP).

About GDKP

- It is a proposed measure of the knowledge generated, accumulated, shared and applied in a country.
- **Gross Domestic Product (GDP)** measures the money value of final goods and services produced. GDKP would measure knowledge resources and their contribution to development.
- It could consider **research and development (R&D)**, scientific discoveries, patents, innovation and academic output.
- Spending on **Intellectual Property Products (IPP)** is recorded under **Gross Fixed Capital Formation (GFCF)**, the GDP indicator for capital investment.

Knowledge Economy

- Human capital drives growth here, including skills, information, innovation and intellectual property, and not physical inputs or natural resources.
- **Codified knowledge:** Documented and transferable (know-what, know-why), such as patents, software and research.
- **Tacit knowledge:** Experience-based and harder to transfer (know-how, know-who), such as artisanal skills and traditional medicine.
- In major **Organisation for Economic Co-operation and Development (OECD)** economies, knowledge-based activities contribute over 50% of GDP.
- India's IT sector, start-ups, pharmaceutical R&D and traditional knowledge remain invisible in national accounts.

KHADI AND VILLAGE INDUSTRIES

In 2025-26, the Khadi and Village Industries (KVI) sector recorded its highest-ever sales of ₹1.87 lakh crore. It strengthens rural livelihoods, jobs and Atmanirbhar Bharat.

About KVIC

- It is a **statutory body** set up in **1957** under the **KVIC Act, 1956**.
- It works under the Ministry of Micro, Small and Medium Enterprises (MSME).
- **Aim:** To generate rural employment, encourage self-employment and strengthen local production.
- **Functions:** Finance, artisan training, marketing support and village enterprises.

Performance in 2025-26

- **Sales:** ₹1,87,105 crore, up 501% since 2013-14.
- **Production:** ₹1,25,296 crore, up 380%.
- **Employment:** 2.04 crore, up from 1.30 crore.

Initiatives

- **Khadi Vikas Yojana (KVY):** It supports khadi through these components:
  - Modified Market Development Assistance (MMDA).
  - Interest Subsidy Eligibility Certificate (ISEC).
  - Workshed Scheme for Khadi Artisans.
  - Strengthening weak Khadi institutions and marketing infrastructure.
  - Khadi (Science and Technology).
- **Gramodyog Vikas Yojana (GVY):** It promotes village industries through common facilities, technology upgradation, training and toolkits.
- **Centre of Excellence for Khadi:** KVIC set it up with the National Institute of Fashion Technology (NIFT), New Delhi. It offers design, product and market support.

INDIA & GLOBAL GREENFIELD INVESTMENT

The UN Conference on Trade and Development (UNCTAD) reports that India held a 5.7% share of global greenfield investment during 2020-25.

Greenfield Investment

- It is a type of **foreign direct investment (FDI)**. A parent company starts a new business abroad, building everything itself.
- It builds from the ground up. **Brownfield** investment uses existing structures.
- **Risks include large capital requirements, significant** time and effort, and unfamiliar business and political environments.
- Developing countries use incentives to attract it, as it creates jobs and boosts economies.

Findings of the Trade and Development Report 2026

- **Strategic sectors:** Their share of global greenfield investment rose from **16% to 44%** between 2020 and 2025.
- **Top sectors:** Artificial intelligence (AI) infrastructure and related technologies had the largest share, at 12.4%.
  - Next came the **semiconductor** value chain (8.1%) and **energy transition** technologies and services (7.8%).
- **Regions:** Europe took **28.4%** of strategic investment and North America took **28%**.
- **Developing Asia:** It drew **26.5%**. China, India, Indonesia, Malaysia and Singapore led.

India

- India's share was **5.7%**, followed by Malaysia (4%), Indonesia (3.8%) and China (2.8%).
- India ranks high on the number of industrial policies adopted over two decades.
- In 2008-21, India implemented **1,416** industrial policies, behind only China (4,201) and the US (4,025).
- In 2022-25, it implemented **707** measures, and its rank fell as the US, China, Australia and Brazil did more.

MISSION FOR AATMANIRBHARTA IN PULSES

India is the world's largest producer of pulses, yet remains a major importer. Pulse import value fell 31.52% in 2025-26.

About the Mission

- The Union Cabinet approved it on 1 October 2025, and it was launched on **11 October 2025**.
- **Outlay:** ₹11,440 crore for 2025-26 to 2030-31.
- Pulses add to farm exports.

Key Features

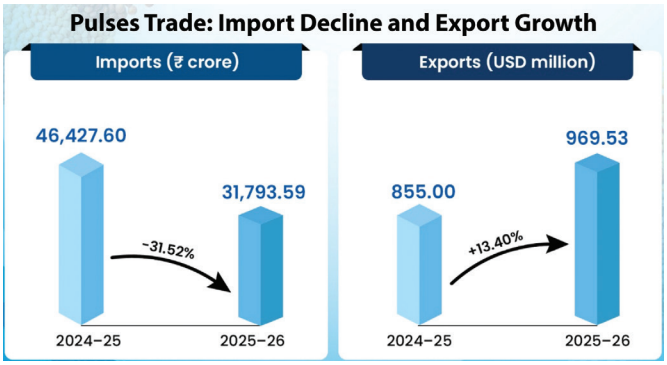
- **Targets by 2030-31:** production of about 350 lakh tonnes and a yield of **1,130 kg per hectare**.
- **Area:** An extra 35 lakh hectares, for a total of **310 lakh hectares**.
- **Focus crops:** Tur, Urad and Masoor.
- **Seeds:** 87.5 lakh free seed kits and 126 lakh quintals of certified seeds over six years, with climate-resilient varieties.
- **Clusters:** 489 districts.
- **Processing:** 1,000 dal mills.
- **Procurement:** Assured purchase of Tur, Urad and Masoor from registered farmers.

Technology and Governance

- **Seed Authentication, Traceability and Holistic Inventory (SATHI) portal:** Tracks seeds from production to sale, curbing spurious seeds.
- **Krishi Mapper:** Geo-tags demonstrations.
- **AgriStack and Digital Crop Survey:** Link Farmer IDs, soil health and verified plots for accurate forecasts.
- **E-Samriddhi and Vistaar:** Enable direct payments and price information.
- **Monitoring:** A three-tier Steering Committee, from national to district level.

Significance

- **Nutrition:** Pulses are an affordable protein source and support the **Public Distribution System (PDS)** and **Pradhan Mantri Poshan Shakti Nirman (PM POSHAN)**.
- **Farmers:** Assured procurement removes price risk, and pulses fix nitrogen.
- **External stability:** Lower imports save foreign exchange and shield against export bans.
- **Inflation and sustainability:** Domestic supply curbs price spikes. Rice-fallow cultivation improves land use and soil health.



Challenges

- Rainfed, marginal land keeps yields below Canada and Myanmar.
- Only about **60%** of registered farmers have benefited, and procurement is concentrated in a few States.
- Masur's modest **Minimum Support Price (MSP)** hike may discourage its cultivation.
- Frequent changes in import duties and stock limits create uncertainty.
- Slow seed replacement and weak extension services limit yields.
- Only **18 of 23** approved **Pradhan Mantri Kisan SAMPADA Yojana (PMKSY)** pulse units are complete.

ANTI-DUMPING PROBE ON CHINESE PENICILLIN G

Recently, India began an anti-dumping probe into Penicillin G and its salts from China, after Lyfius Pharma alleged material retardation to the industry.

About Penicillin G

- It is a **beta-lactam antibiotic** for bacterial infections.
- It is a **Key Starting Material (KSM)** and **Active Pharmaceutical Ingredient (API)** for medicines.
- It treats pneumonia, meningitis, diphtheria and certain dental infections.

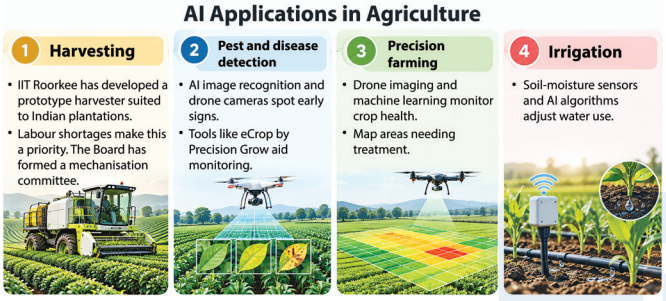
Anti-Dumping Duty

- It is an extra customs duty on imports sold below normal value, when dumping causes or threatens material injury to domestic industry.
- It tackles unfair price competition and does not aim to stop imports.

- The **Directorate General of Trade Remedies (DGTR)**, under the Ministry of Commerce and Industry, investigates and recommends duties. The **Department of Revenue**, Ministry of Finance, decides whether to impose them.
- The probe covers April 2025 to March 2026.

AI-BASED MECHANISATION IN INDIA'S COFFEE SECTOR

The Coffee Board of India proposed Artificial Intelligence (AI)-based farm equipment and harvesting technologies for Indian conditions. It seeks to work with Indian Institutes of Technology (IITs) Roorkee and Dharwad and planters' associations.



Coffee Sector

- India is the **seventh-largest producer**, and the **fifth-largest exporter** of Coffee.
- It produces about 3.6 lakh tonnes a year, and nearly 70% is exported. Exports hit a record **$1.8 billion** in 2024-25.
- **Top destinations:** Italy (18.09%), Germany (11.01%), Belgium (7.47%), Russia (5.28%) and the UAE (5.09%).

Key Takeaways

- India ranks 7th in global coffee production, contributing 3.5%; Annual output is 3.6 lakh tonnes of which 70% exported to 128 countries.
- Karnataka, Kerala, and Tamil Nadu account for 96% of India's coffee production, with Karnataka leading at an estimated 2,80,275 MT (2025-26).
- Coffee exports reached a record USD 1.8 billion in FY 2024-25, marking a 40% increase from the previous year; India positioned as the 5th-largest coffee exporter among the Coffee producing countries.
- Trade pacts like India-UK CETA and India-EFTA TEPA enable duty-free access to the UK, Switzerland, Norway, and Iceland.
- The GST reduction from 18% to 5% on instant coffee is expected to lower prices by 11-12%, boosting domestic demand and expanding market reach.

Growing Conditions

- **Climate:** Warm, humid and shaded. Frost and extreme heat or dryness cut yields.
- **Temperature:** Arabica 15-25°C and Robusta 20-30°C.
- **Altitude:** Arabica 1,000-1,500 m and Robusta 500-1,000 m. Slopes give drainage.
- **Rainfall:** Arabica 1,600-2,500 mm and Robusta 1,000-2,000 mm.
- **Soil:** Well-drained, humus-rich and slightly acidic, with pH 6.0-6.5.

Producing States

- **Karnataka:** The largest, with nearly **70%** of output.
- **Others:** Kerala and Tamil Nadu. Together, the three give about 96%.
- Andhra Pradesh, Odisha and the North-East are emerging.

Geographical Indication (GI)-Tagged Coffees

- Coorg Arabica, Chikmagalur Arabica and Bababudangiri Arabica (Karnataka).
- Wayanad Robusta (Kerala).
- Araku Valley Arabica (Andhra Pradesh), grown at 900-1,100 m.
- Monsooned Malabar Robusta.

Coffee Board

- Set up under the **Coffee Act VII of 1942**, under the Ministry of Commerce and Industry.
- **Headquarters:** Bengaluru.
- It aims to raise production to **9 lakh tonnes by 2047**.

NOBEL PRIZE IN ECONOMICS 2026

Recently, the Royal Swedish Academy of Sciences awarded the 2026 Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel to Robert E. Hall and Michael Woodford.

About the Prize

- It recognises outstanding contributions to the economic sciences.
- The prize is **12 million Swedish kronor**, shared equally.
- The citation is for the **microeconomic foundations of macroeconomic stabilisation**.

Contributions of the Laureates

- **Robert E. Hall (Stanford University):**
  - His 1978 work showed that household consumption is **forward-looking** and changes only with news about lifetime income.
  - Later work on **hand-to-mouth households**, whose spending depends on current income, shows how strongly rate cuts or transfers affect demand.
- **Michael Woodford (Columbia University):**
  - He showed that expectations of the future shape firms' pricing and inflation.
  - He integrated price-setting with consumption and demand theories.

- He showed that transparent, credible policy shapes outcomes by guiding expectations. This principle underpins **forward guidance**.

Macroeconomic Stabilisation

- It means fiscal and monetary measures that reduce swings in growth, output, inflation and unemployment.
- **Slowdown:** Lower interest rates, tax relief and more public spending lift demand.
- **Overheating:** Higher interest rates and tighter fiscal policy contain inflation.

Evolution of Theory

- **Keynesian approach:** After the Great Depression, John Maynard Keynes backed government action to revive demand and jobs.
- **1970s: Stagflation**, meaning high inflation with high unemployment, and oil shocks exposed old policy limits.
- Hall and Woodford added real household behaviour, firms' pricing and expectations to the analysis.

Significance

- Links economy-wide outcomes with individual decisions.
- Credible announcements influence present spending, investment and prices.
- Helps policymakers predict the effects of rate changes and fiscal steps.
- Transparency builds public confidence.

Relevance for India

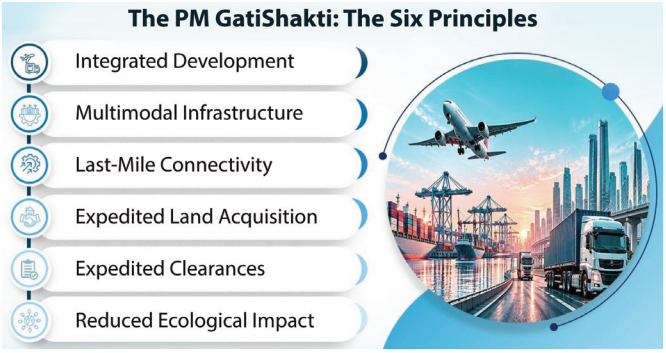
- The **Reserve Bank of India (RBI)** must weigh supply shocks, household expectations and firms' pricing.
- Clear RBI guidance can shape borrowing and spending.
- Tax cuts and targeted spending can support demand in slowdowns.
- Household data can separate vulnerable households from wealthier ones.

FIVE YEARS OF PM GATISHAKTI

The PM GatiShakti National Master Plan (PMGS-NMP) has completed five years on 13 October 2026.

About the Master Plan

- **Launch:** 13 October 2021.
- **Aim:** To give seamless multimodal connectivity to economic zones, improve logistics efficiency, enhance last-mile links and cut travel time.
- **Integrates:** Schemes of Ministries and States such as **Bharatmala, Sagarmala**, inland waterways, dry and land ports, and **Ude Desh ka Aam Nagrik (UDAN)**.
- **Coordination:** No single ministry owns it. The **Department for Promotion of Industry and Internal Trade (DPIIT)** coordinates it.



Key Features

- **Seven engines:** Roads, railways, ports, waterways, airports, mass transport and logistics infrastructure.
- **Whole-of-government planning:** It covers **58** Central Ministries and Departments and all **36** States and Union Territories.
- **Digital planning:** Infrastructure and geospatial data sit on a common **Geographic Information System (GIS)** platform.
- **Data access:** The public platform offers **230** approved datasets for site suitability, connectivity mapping, alignment planning and compliance checks. Private users gained query-based access in October 2025.

Progress

- The Network Planning Group evaluated **396** projects worth about ₹18.66 lakh crore, as of August 2026.
- Of these, 256 were sanctioned and 198 are under implementation.

Institutions

- **Empowered Group of Secretaries (EGoS):** The Cabinet Secretary chairs it. It oversees implementation and approves changes.
- **Network Planning Group (NPG):** It has heads of network planning divisions. It examines proposals, ensures unified planning and monitors progress.
- **Technical Support Unit (TSU):** Experts support evaluation and assist the Logistics Division, which is the Secretariat.

Gati Shakti Vishwavidyalaya (GSV)

- It is a university located in **Vadodara**, devoted to transport and logistics, set up in **2022**. It supports the Master Plan and the National Logistics Policy (2022).
- It had trained over **2.4 lakh officers** by July 2026.

Challenges

- **Interdepartmental Coordination:** Different ministries and state governments may have competing priorities, resulting in delays in project planning and execution.
- **Data Quality and Integration:** Inaccurate, outdated or incompatible datasets can affect the reliability of GIS-based planning and decision-making.

- **Land Acquisition:** Land disputes, rehabilitation requirements and environmental clearances delay infrastructure projects despite integrated planning.
- **Limited Private Sector Access:** Restrictions on access to sensitive datasets limit the information available to private investors for project planning and site selection.

PM DHAN-DHAANYA KRISHI YOJANA

The Pradhan Mantri Dhan-Dhaanya Krishi Yojana completed one year on 11 October 2026.

About the Scheme

- It converges **36 sub-schemes** across **11 ministries and departments** to speed up farm progress.
- **Outlay:** ₹24,000 crore a year for six years from 2025-26.
- **Districts:** 100 low-performing agri-districts, chosen on low productivity, low cropping intensity and low credit disbursement.
- **Beneficiaries: 1.7 crore** farmers.
- A digital dashboard, farmer app and district ranking ensure transparency, access and accountability.

Administrative Structure

- **District:** The District Dhan Dhaanya Krishi Yojana Samiti, led by the Collector, prepares and implements the District Action Plan.
- **State:** The State Samiti, led by the Chief Secretary, reviews district plans.
- **National:**
  - The **National Executive Committee** is led by the Union Agriculture Minister.
  - The **National Monitoring Committee** is led by the Secretary, Department of Agriculture and Farmers Welfare.



About LTCG Tax

- **Holding period:** Gains on assets held beyond 12 months (listed equity) or 24 months (property, unlisted shares) are long-term.
- **Listed equity:** LTCG is **12.5%** above **₹1.25 lakh** a year, up from 10% above ₹1 lakh. Short-term gains face **20%**.
- **Other assets:** Flat 12.5% without indexation. Property bought before 23 July 2024 allows resident individuals to claim the older 20% rate with indexation.
- **History:** Equity LTCG was exempt until 2018, when a 10% tax began. **Securities Transaction Tax (STT)** started in 2004.

Case for Reducing LTCG

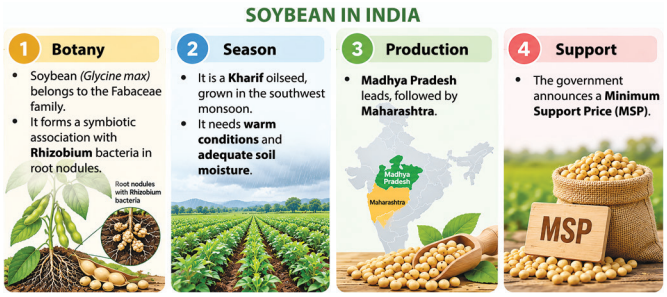
- **Multiple taxation:** Gains come from profits already taxed as corporate income. STT is also levied on trades.
- **Long-term investing:** Higher rates cut post-tax returns, as household savings shift from gold and property to financial assets.
- **Global competitiveness:** Singapore, Hong Kong and the UAE levy no equity capital gains tax. Such measures can add to FPI outflows.

SOYBEAN VARIETIES NRC 268 AND NRC 270

The National Soybean Research Institute, Indore, under the Indian Council of Agricultural Research (ICAR), showcased NRC 268 and NRC 270 on Soybean Harvest Day, 9 October 2026.

About the Varieties

- **Yield:** Both gave about **20 quintals per hectare**, against the national average of 10-11. Favourable conditions may give **22-25 quintals**.
- **NRC 270:** It has larger, heavier seeds that may fetch better prices.
- **Resilience:** They are designed to withstand irregular rainfall, dry spells, pests and diseases.



LONG TERM CAPITAL GAINS TAX: RATIONALISATION DEBATE

The Centre is reportedly reviewing the 12.5% Long Term Capital Gains (LTCG) tax on equities amid record Foreign Portfolio Investor (FPI) outflows. No decision yet.

OMAN OVERTAKES US AS INDIA'S TOP LNG SUPPLIER

Oman became India's largest Liquefied Natural Gas (LNG) supplier in September 2026, replacing the United States. It supplied 27% of total imports.

Supplier Ranking: September 2026

- **Total imports:** 2.17 million tonnes, about 14% lower than August.
- **Oman (1st):** 27% share, about 585,000 tonnes, up 11.6% from August.
- **Nigeria (2nd):** About 351,000 tonnes, down 35% from August.
- **United States (3rd):** Shipments fell 59% from August, when it was first.
- **Qatar (6th):** Only about 94,000 tonnes (4.3% share), despite being a traditional major supplier.

About LNG

- It is natural gas cooled to about **–162°C**. It turns liquid for easy storage and transport.
- Liquefaction cuts its volume to about **one-six-hundredth**.
- Insulated ships carry it. Import terminals convert it back to gas through **regasification**.
- **Uses:** Power generation, fertiliser production, city gas distribution (domestic cooking and transport) and industry.

Reasons for the Shift

- Geopolitical disruptions in **West Asia** hit energy routes and availability.
- European buyers competed for US cargoes, so fewer reached India.
- An Iranian strike in March 2026 hit Qatar's **Ras Laffan Industrial City**. It cut about 17% of Qatar's LNG export capacity.

Significance for India

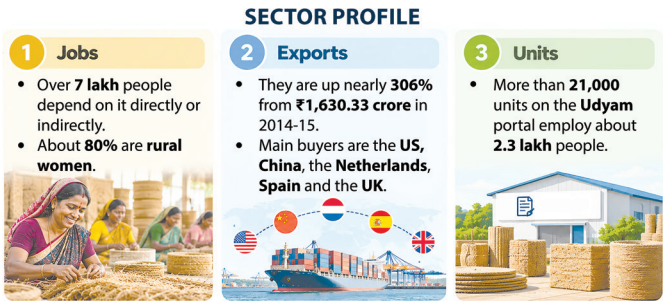
- **Energy security:** Diverse suppliers reduce dependence on a few countries.
- **Price stability:** Many suppliers give flexibility during disruptions.
- **Import vulnerability:** India stays exposed to geopolitical tensions, global competition and price swings.

COIR SECTOR

The Ministry of Micro, Small and Medium Enterprises (MSME) reported on 14 October 2026 that coir exports reached ₹6,614.40 crore in 2025-26.

About Coir

- Coir is a natural fibre from the hard outer covering of coconuts. It makes mats, ropes, brushes and mattresses.
- India is the largest producer and exporter, with nearly **two-thirds** of world output.



Coir Vikas Yojana (CVY)

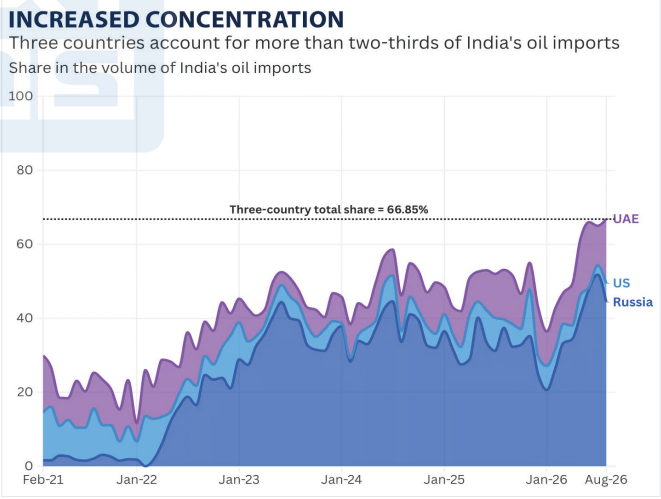
- Run by the Ministry of MSME, this **Central Sector Scheme** helps the industry grow sustainably.
- **Skills:** Artisans, rural women among them, get training.
- **Technology:** Research on new techniques and better machines.
- **Markets:** Help to sell at home and abroad and join trade fairs.
- **Finance:** Funds and better production facilities.
- **Reach:** Over 68,000 people trained, over 80% of them women.

INDIA'S CRUDE OIL IMPORT SOURCES

Russia, the United States (US) and the United Arab Emirates (UAE) together supplied 66.8% of India's crude oil imports by volume in August 2026.

Key Data

- **Total:** 191.2 lakh tonnes, down 10.3% from July but up 3.4% from August 2025.
- **Russia:** 84.8 lakh tonnes, or **44.3%**. Its share slipped from about 51% in July.
- **United States:** 9.7 lakh tonnes, or about **5.1%**. Volume rose nearly 82% over July.
- **UAE:** 33 lakh tonnes, or **17.4%**.
- India depends on imports for about 88-89% of its crude needs. It buys from around 40 countries.



Significance

- **Energy security:** Reliance on a few suppliers exposes India to geopolitical shocks and supply curbs.
- **Economy:** Costlier crude enlarges the import bill. It can strain the current account, lift inflation and weaken the rupee.
- **Diplomacy:** Russian oil purchases have caused friction with the US, which has floated extra tariffs on buyers of Russian energy.
- **Diversification:** New suppliers and routes, including the UAE, ease West Asia disruptions.

CHINA'S EXPORT CURBS

China's Ministry of Commerce and Ministry of Science and Technology issued draft Announcement No. 48 on 16 October 2026, proposing export curbs on 40 technologies.

Scope

- **Sectors:** Artificial Intelligence has 23 items, solar photovoltaic (PV) manufacturing has 12 and biomedicine has 5.
- **Split: 14** face an outright export ban. **26** need a licence.
- **Interim rule:** Exporters must register listed technologies until the final list takes effect.

Reasons for the Tightened Control

- **Strategic edge:** It guards China's lead in solar manufacturing and advanced technologies.
- **Security:** It curbs transfers with military or cyber uses.
- **Leverage:** It offers a bargaining chip against Western limits on advanced semiconductors.

Key Provisions

- **Solar:** Perovskite and tandem cell know-how is banned. Selected polysilicon and wafer processes need licences.
- **AI:** Covers malicious code generation, foundation model parameters, intelligent agents and specialised computing systems.
- **Biomedicine:** Covers gene-editing platforms, cell therapy processes and nucleic-acid drugs.

Implications for India

- **China's grip:** It holds over **85%** of global solar PV manufacturing capacity, including **93-98%** of polysilicon and **95%** of wafers.
- **India's reliance:** China supplies over half of India's solar cell and module imports.
- **Gaps:** India lacks upstream strength in polysilicon and ingots, with cost and technology barriers.
- **Risk:** Denied Chinese technology could slow Indian solar manufacturing.
- **Way forward:** Diversify supply chains, invest in research and development, partner with United States, European Union and Japan, and strengthen domestic manufacturing.

KUFRI JAMUNIA

The Indian Council of Agricultural Research-Central Potato Research Institute (ICAR-CPRI) has highlighted coloured potatoes, a result of biofortification research, to fight hidden hunger.

Background

- **Hidden hunger:** People eat enough calories but miss essential vitamins and minerals.
- **Biofortification:** Plant breeding raises a crop's own nutrient levels, so food supplies more nutrients naturally.

Coloured Potato Varieties

- ICAR-CPRI developed **Kufri Neelkanth** (2018), **Kufri Manik** (2021) and **Kufri Jamunia** (2024).
- They carry antioxidants and micronutrients such as **anthocyanins**, **iron** and **zinc**.

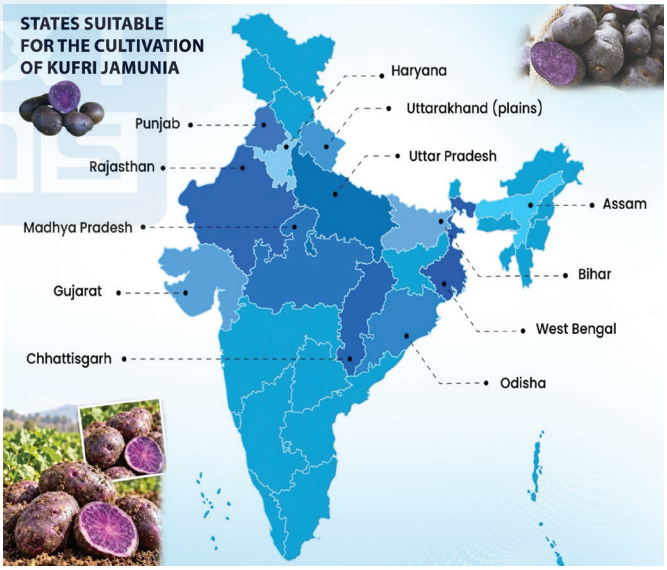
Kufri Jamunia

- **Nutrition:** It has more **ascorbic acid** (vitamin C), anthocyanin and carotenoids than Kufri Manik and Kufri Neelkanth.

Nutritional Comparison

Nutritent *(per 100 gm)*	Kufri Jamunia	Common Potato
Vitamin C	42.75 mg	23.15 mg
Zinc	2.28 mg	0.28 mg
Iron	3.22 mg	0.57 mg

- **Purple flesh:** It signals strong antioxidant content and better nutrition, with more zinc and iron.
- **Yield:** About 32-35 tonnes per hectare under recommended practices.
- **Performance:** Multi-location trials showed stable results.
- **Recommended area:** The North Indian plains.



GLOBAL RATE HIKES AS CENTRAL BANKS FIGHT INFLATION

Central banks are raising interest rates as energy prices, lifted by the United States-Iran war, push up inflation. The Reserve Bank of India raised its repo rate to 5.50% on 7 October 2026.

Reasons for the Rise of Rates

- **Costlier oil:** Crude above **$100** a barrel hurts energy importers such as India by lifting fuel, transport and production costs.

- **Bond yields:**
  - Inflation worries and heavier government borrowing push long-term yields up, as bond prices fall.
  - This raises borrowing costs for governments and businesses.
  - Central banks must anchor inflation expectations and protect credibility, so more hikes are possible.

How Hikes Curb Inflation

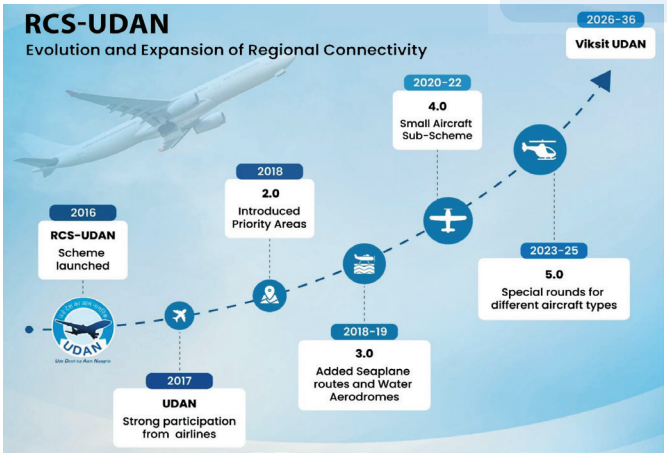
- **Demand:** Costlier loans slow spending and investment. Weaker demand limits firms' power to raise prices.
- **Exchange rate:** Higher returns can draw foreign capital and strengthen the currency, cheapening imports.

10 YEARS OF UDAN SCHEME

The Ude Desh ka Aam Nagrik (UDAN) scheme has completed ten years on 21 October 2026. It has widened air links to unserved and underserved areas.

About the Scheme

- **Launch:** The Prime Minister launched the **Regional Connectivity Scheme (RCS)-UDAN** on 21 October 2016.
- **Basis:** It follows the **National Civil Aviation Policy (NCAP) 2016**. This ten-year vision links Tier-2 and Tier-3 cities through a market-driven, financially supported model.
- **First flight:** Shimla to Delhi, April 2017.
- **Support:** Airlines get concessions and **Viability Gap Funding (VGF)** to fly rural routes at low fares.



Ten-Year Progress

- **Routes:** 687 operationalised.
- **Aerodromes:** 95, including 17 heliports and 2 water aerodromes.
- **Flights:** Over 3.68 lakh.
- **Passengers:** 1.72 crore.
- **Airports:** Up from 74 in 2014 to 166.

Modified UDAN

- **Approval:** The Cabinet approved it on 25 March 2026 for FY 2026-27 to FY 2035-36 with an outlay of ₹28,840 crore.
- **Airports:** 100 from unserved airstrips, costing ₹12,159 crore over eight years.
- **Helipads:** 200 in remote, hilly, island and aspirational areas, costing ₹3,661 crore.
- **VGF:** ₹10,043 crore over ten years for regional airline routes.

Significance

- **Inclusive growth:** Tier-2 and Tier-3 cities join the national market.
- **Regional balance:** Links to the North East, hills and islands deepen border integration.
- **Economic multiplier:** Regional airports boost tourism, Micro, Small and Medium Enterprises (MSMEs) and perishable exports.
- **Industry demand:** It lifts demand for ATR (Avions de Transport Régional) planes, maintenance, repair and overhaul (MRO) services and pilot training, supporting jobs.



ORGANIC PALMYRA JAGGERY POWDER

India exported its first consignment of organic Palmyra Jaggery Powder to Bulgaria.

About

- It is a traditional natural sweetener prepared from the **nectar of Palmyra palm blossoms.**
- The recent export consignment originated from **Gobichettipalayam, Erode district, Tamil Nadu.**
- The exported product is certified under **India's National Programme for Organic Production (NPOP)** and European Union organic standards.

Agricultural and Processed Food Products Export Development Authority (APEDA)

- **Established:** 1986 under the Agricultural and Processed Food Products Export Development Authority Act, 1985.
- **Nature:** Statutory authority.
- **Ministry:** Ministry of Commerce and Industry, Government of India.
- **Headquarters**: New Delhi.

CHINA MERCHANTS EXITS COLOMBO LOGISTICS HUB

Recently, China's state-owned China Merchants Port Holdings withdrew from the proposed $392 million logistics hub at Sri Lanka's Colombo Port.

About the Project

- **Hub:** The **South Asia Commercial and Logistics Hub (SACLH)** was announced in 2023.
- **Ownership:** China Merchants held **70%**. The Sri Lanka Ports Authority (SLPA) and builder Access Engineering held 15% each.
- **Reasons:** The partners agreed to end it, citing changed external circumstances, timelines and commercial considerations.
- **Not a full exit:** China Merchants still runs the **Colombo International Container Terminal (CICT)** and helps manage **Hambantota Port**.

India's Position

- **Existing presence:** The Adani-led **Colombo West International Terminal** runs on a 35-year concession. John Keells and SLPA are partners.
- **Policy: Neighbourhood First**, **SAGAR** (Security and Growth for All in the Region) and **MAHASAGAR** (Mutual and Holistic Advancement for Security and Growth Across Regions) stress partnership, connectivity and shared security, not debt leverage.
- **Crisis support:** India gave about **$4 billion** in 2022 and backed Sri Lanka's International Monetary Fund (IMF) programme, building goodwill.
- **Home capacity:** Vizhinjam and planned mega ports such as Great Nicobar aim to cut reliance on foreign transshipment hubs.

REPO RATE RAISED TO 5.50%

In October 2026, the Reserve Bank of India (RBI) Monetary Policy Committee (MPC) unanimously raised the repo rate by 25 basis points to 5.50% and shifted its stance to calibrated tightening.

Concerns Flagged

- Members noted the West Asia conflict, rising oil prices and inflation spreading beyond food and fuel.

Repo Rate

- The RBI lends short-term funds to commercial banks at this rate. It is the main tool to manage liquidity, inflation and growth.
- A lower rate makes RBI borrowing cheaper, so banks cut lending rates.
  - Credit becomes easier, investment and consumption rise, liquidity grows and slowdowns ease.
- A higher rate does the reverse and cools demand and prices.

Monetary Policy Committee (MPC)

- **Status:** A statutory body under the RBI Act, 1934, amended in 2016.
- **Role:** It sets the repo rate, balancing price stability with growth.
- **Members:** Six. Three are from the RBI, with the Governor as Chairperson. Three external members are appointed by the Government.
- **Meetings:** At least four a year. Decisions follow the majority, with one vote each. The Governor has the casting vote in a tie.

Flexible Inflation Targeting Framework (FITF)

- It was adopted in 2016.
- The Government, with the RBI, sets the target every five years.
- **Current mandate (April 2026 to March 2031):** Consumer Price Index (CPI) inflation of **4%**, with a band of ±2%, that is 2% to 6%.

eMUDHRA QUITS GLOBAL WEBSITE CERTIFICATE BUSINESS

eMudhra announced on 22 October 2026 that it is exiting its global business of issuing website security certificates. Major browsers had blocked its certificates over weak keys.

About eMudhra

- It is a Bengaluru-based **Certificate Authority (CA)**, founded in 2008. It issues digital certificates proving that a website or software publisher is genuine.
- Browsers use website certificates to confirm identity and set up encrypted **Transport Layer Security (TLS)** links. Code-signing certificates show software comes from a real, unaltered publisher.
- **Licence:** The **Controller of Certifying Authorities (CCA)** licenses it under the Information Technology (IT) Act, 2000.
- **Milestones:** It became India's first **eSign Service Provider** in 2015. It had issued over 60 million certificates by 2022-23.
- **Other services:** Document signing, enterprise **Public Key Infrastructure (PKI)** and identity solutions.

Reason

- Eight intermediate certificates were created at a key-generation ceremony on **30 April 2025**.
- A flaw in a key wrap/unwrap step produced a second, weak set of keys beside the strong ones. The weak keys were used.
- All eight used **P-384** private keys with values below **256**. Testing 256 numbers could recover any of them.
- **Risk:**
  - An intermediate's private key can sign a valid certificate for any website.
  - This vulnerability enables fake sites, man-in-the-middle attacks and malware signed as genuine.

Response

- eMudhra revoked the certificates in October, 2026.
- Chrome and Firefox blocked them.
- The exit covers website certificates only, about 1% of revenue.

CORE INDUSTRIES GROWTH

India's core sector output grew 7.9% in September 2026, the fastest in the new series. August's revised growth was 5.9%.

September Snapshot

- **Gainers:** Iron ore (18.4%), electricity (11.4%), coal (10.7%), refinery products (10.3%), cement (9.8%) and steel (4.9%).
- **Decliners:** Fertilisers (-11.7%), natural gas (-4.6%) and crude oil (-1.4%).
- **Half-year:** April to September growth was 5.1%, against 2.5% a year earlier.

About the Index of Core Industries (ICI)

- It tracks monthly production in India's major industrial sectors. These sectors anchor industrial activity.
- The provisional index normally appears on the 20th of the next month, or the next working day.
- Under the new series, these industries carry **32.88%** weight in the Index of Industrial Production (IIP). The old 2011-12 series gave them 40.27%.

Revised Series (Base 2022-23)

- **Released by:** The Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade (DPIIT), on 20 July 2026, with back data from April 2023.
- **Base year:** 2022-23 replaces 2011-12. The overall linking factor with the old series is 1.47.
- **Industries:** Iron ore joins coal, crude oil, natural gas, refinery products, fertilisers, steel, cement and electricity, making **nine**.
- **Weights:** Each industry has its own weight. Electricity leads with 30.93%, followed by refinery products (22.57%), steel (17.58%), crude oil (7.43%), coal (5.60%), iron ore (4.90%), cement (4.41%), natural gas (3.84%) and fertilisers (2.73%).
- **Basis:** A committee headed by **Praveen Mahto**, formed in November 2025, recommended the changes.

Methodology Changes

- **Steel:** Gross production data replaces net data.
- **Coal:** Only raw coal counts. Washed coal and coal middlings are left out to prevent double counting.
- **Weights:** They come from the IIP 2022-23 series and are normalised to 100.

PROPORTIONATE ICI WEIGHTS (BASE YEAR 2022-23)

S. No.	Industry	ICI Weights (Base Year 2011–12)	ICI Weights (Base Year 2022–23)
1	Electricity	19.853	30.932
2	Refinery Products	28.037	22.572
3	Steel	17.917	17.584
4	Crude Oil	8.983	7.430
5	Coal	10.334	5.596
6	Iron Ore	-	4.905
7	Cement	5.372	4.410
8	Natural Gas	6.877	3.841
9	Fertilizers	2.628	2.731
Total		100.000	100.000

4 ENVIRONMENT

CAFE-3 NORMS

The Government has notified the third phase of Corporate Average Fuel Economy (CAFE-3) norms for passenger vehicles. They will be effective from 1 April 2027 to 31 March 2032.

About

- They regulate a carmaker's fleet-average fuel use and carbon dioxide (CO_2) emissions, not every vehicle individually.
- They push makers towards fuel-efficient, low-emission vehicles. This cuts petroleum use and transport emissions.

New Targets

- The benchmark tightens from **3.996** litres per 100 km in 2027-28 to **3.3273** in 2031-32. That is about **16.7%** better over five years.
- They cover new passenger vehicles made or imported for sale in India.
- Reference vehicle weight is **1,229 kg**.
  - Targets adjust for a fleet's average weight against this.
- Fleet fuel use is calculated with the **Modified Indian Driving Cycle (MIDC)** in petrol-equivalent litres per 100 km.
  - MIDC is a standard lab test for measuring fuel use.
- Model-wise fuel use comes from notified tailpipe CO_2 emissions.

Super Credits

In fleet calculations, carmakers count:

- Battery electric vehicle (EV) or range-extended EV: **3**.
- Plug-in hybrid or flex-fuel strong hybrid: **2.5**.
- Strong hybrid: **1.6**.
- Flex-fuel ethanol vehicle: **1.1**.
- Flex-fuel vehicles run on petrol-ethanol blends of varying ratios.

Carbon Neutrality Factors (CNFs)

- They cut the declared CO_2 of eligible vehicles based on biofuel and ethanol-blend use.
- **E20 or higher petrol blends**, including strong and plug-in hybrids: **8%** cut.
  - E20 is petrol with 20% ethanol.
- **Flex-fuel ethanol vehicles: 22.3%** cut.
- **Compressed natural gas (CNG) vehicles:** 5% or notified compressed-biogas blend share, whichever is higher.
- **Diesel vehicles:** The cut equals the actual biofuel blend notified by the Ministry of Petroleum and Natural Gas.

POST-FACTO ENVIRONMENTAL CLEARANCE AFTER THE VANASHAKTI RULING

The Ministry of Environment, Forest and Climate Change (MoEFCC) has told appraisal authorities to resume processing pending post-facto clearance cases after the Supreme Court's Vanashakti v. Union of India judgement.

Understanding Post-Facto Clearance

- Environmental clearance (EC) is generally needed before a project is set up, expanded or modernised under the Environmental Impact Assessment (EIA) Notification, 2006.
- **Post-facto clearance** lets projects that began or expanded without prior EC seek approval later.

Legal Framework

- The **Environment (Protection) Act, 1986** empowers the Centre to protect and improve the environment.
- The **EIA Notification, 2006** requires prior EC for specified projects after screening, scoping, public participation and appraisal.
- The **2017 Notification** was a **one-time amnesty window**, a time-bound procedure for projects that began or grew without prior EC.
- The **2021 Office Memorandum (OM)** operationalised it, framing how to handle non-compliance and post-facto applications.
  - An OM is an executive instruction, not a law.

Vanashakti v. Union of India

- A three-judge bench on **29 July 2026 quashed the 2021 OM**. Projects already given post-facto approval stay valid.
- Pending applications get processed per law. No fresh ones are allowed.
- **Prior EC is mandatory** unless the legal framework is amended.
- The Court **upheld the 2017 Notification** as a narrowly tailored, time-bound legislative measure.
- On **30 September 2026**, MoEFCC directed Expert Appraisal Committees and State Environment Impact Assessment Authorities to resume stalled cases.

Benefits

- **Existing violations:** Projects begun without clearance enter formal compliance.
- **Regulatory certainty:** Long-running projects without a defined status confuse workers, investors, regulators and affected communities. A legal procedure adds clarity.
- **Corrective approach:** It suits cases where harm can still be mitigated.

Concerns

- **Precautionary principle weakened:** Harm may be done before assessment. This principle favours preventing harm before it occurs.
- **Incentive to violate:**
  - Approval after starting makes violation a calculated risk.
  - This is a **moral hazard**, where risk-takers avoid the consequences.
- **Weaker public participation:** Consultation after major construction is less meaningful.

INDIA'S RAMSAR TALLY REACHES 103

Sukhna Lake in Chandigarh and Sauj Jheel in Uttar Pradesh are India's latest Ramsar sites. They take the national tally to 103.

Sukhna Lake, Chandigarh

- It is a **peri-urban reservoir** at the edge of Chandigarh, at the base of the Outer Himalayas.
  - Peri-urban means on the fringe of a city.
- It regulates sediment and water flows from its **catchment**.
  - A catchment is the land that drains into a water body.
- It is vital for resident waterbirds and for birds migrating along the **Central Asian Flyway**.
  - This is a migration route linking the Arctic to the Indian Ocean.
- The birds use it for feeding, breeding, roosting and wintering.
- Notable species are the **common pochard** (*Aythya ferina*, vulnerable) and **Pallas's fish eagle** (*Haliaeetus leucoryphus*, endangered).

Sauj Jheel, Uttar Pradesh

- It is a shallow lake in the **Ganga floodplain**. Farmland surrounds it.
- It regularly supports over **30,000** waterbirds.
- BirdLife International has named it an **Important Bird and Biodiversity Area (IBA)**.
- Notable species are the **sarus crane** (*Grus antigone*) and **greater spotted eagle** (*Clanga clanga*). Both are vulnerable.

Ramsar Convention

- A **Ramsar site** is a wetland of international importance under the convention.
- The treaty protects the ecological character of such wetlands.
- It was signed on **2 February 1971** in **Ramsar, Iran**. It came into force in **1975**.
- India joined in **1982.**

GREAT INDIAN BUSTARDS

Ten captive-bred Great Indian Bustards (GIBs) are set to be released into their natural habitat in Rajasthan's Jaisalmer as part of an effort to rebuild the species' wild population.



The Great Indian Bustard (GIB)

- **Size:** Large bird, standing about **one metre tall** and weighing about **15 to 18 kgs.**
- **Ecological role:** A **keystone species** of **arid and semi-arid open natural ecosystems.**
- **Population:** On the brink of extinction with wild population hovering in the range of **120-150** for many years.
- **Distribution:** Largest population, **130 (+/-20) in Rajasthan** with about **5-6 individuals** across Gujarat, Maharashtra and Karnataka.
- **State bird: Rajasthan.**

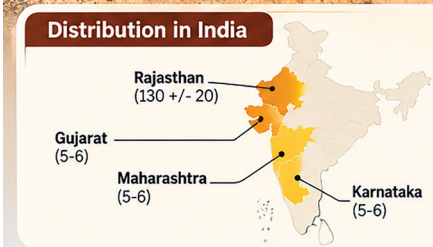
Conservation Status

- **Schedule I** of the Indian Wildlife (Protection) Act, 1972
- **CMS** Listed in the **CMS Convention**
- Listed in **Appendix I** of **CITES**
- **IUCN** **Critically Endangered** on the IUCN Red List

Major Threats

- **Habitat loss**
- **Poaching**
- **Depredation** of individuals and eggs by predators
- **Collisions with power lines** erected to evacuate power from renewable energy projects.

Distribution in India



Habitat



Supreme Court Directive

The Supreme Court has ordered that renewable energy project power lines situated in areas outside the Desert National Park (DNP) have to be **buried underground by December 2027.**



BUXA TIGER RESERVE

Three-year-old tigress T138 has been released into West Bengal's Buxa Tiger Reserve. This starts a phased reintroduction to build a self-sustaining tiger population.

About

- **Location:** Alipurduar district, northern West Bengal, along the India-Bhutan border.
- **Status:** Declared a tiger reserve in **1983** under **Project Tiger**.
  - Project Tiger is India's tiger conservation programme, begun in 1973.
- **Ecology:** It is part of the Eastern Himalayan foothills, linked to forests of Assam and Bhutan.
- **Fauna:** Asian elephant, gaur, sambar, clouded leopard, Indian leopard and Asian golden cat.
- **Rivers:** The **Sankosh** forms part of the eastern boundary along Assam. The **Jayanti** is a prominent seasonal river.

Tiger Absence

- The reserve long lacked a stable resident tiger population. Habitat degradation, **fragmentation** and falling prey caused the decline. Fragmentation splits habitat into small, isolated patches.
- T138 came from Bihar's Valmiki Tiger Reserve.

LIVING PLANET REPORT 2026

The World Wide Fund for Nature (WWF) report says monitored vertebrate populations fell 73% on average between 1970 and 2022.

About the Report

- It uses the **Living Planet Index (LPI)** compiled by the Zoological Society of London. LPI tracks the average change in population sizes over time.
- It covers 35,803 population trends of 5,790 **vertebrate** species. Vertebrates have a backbone, such as mammals, birds, reptiles, amphibians and fish.

Key Findings

- Freshwater fell most at 85%.
- Terrestrial populations fell 69%.
- Marine populations fell 59%.
- About half the populations are stable or increasing. This evidence shows conservation can work.

Threats

- Habitat loss and degradation.
- **Overexploitation** means harvesting beyond sustainable levels.
- Climate change and pollution.
- **Invasive species** are non-native species that harm local ecosystems.
- Disease.

CENTRAL ASIAN FLYWAY DIGITAL HUB

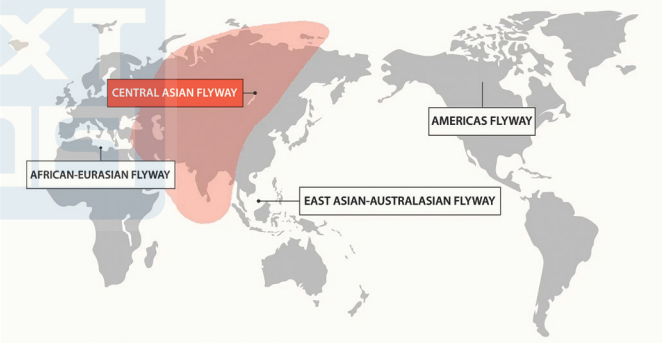
The Central Asian Conservation Network (CACN) has launched a digital hub for migratory bird conservation along the Central Asian Flyway (CAF).

Central Asian Flyway

- It is a corridor across **30 countries** of North, Central and South Asia and the Trans-Caucasus. It links the Arctic and Indian Oceans.
  - A **flyway** is a yearly route followed by migratory birds.
- More than **600** bird species use it.
- These include waterbirds, landbirds and **raptors**.
  - Raptors are birds of prey.
- Many are threatened or declining, so joint action is essential.
- It is recognised under the **Convention on Migratory Species (CMS)**.

Digital Hub

- It aims to improve knowledge sharing for protecting migratory birds.
- It offers details on species, important sites, conservation projects and participation options.
- Two portals record bird collisions and sightings of marked birds.
  - Marked birds wear rings, flags or neck bands.



CEMENT EMISSIONS

India aims for net-zero by 2070. Cement is a hard-to-abate sector that emits about 246 million tonnes of CO_2 equivalent ($MtCO_2e$).

Indian Cement Sector

- India is the second-largest producer after China, with about 13% of global output.
- Output was about 391 million tonnes (Mt) in 2023.
- Emissions are roughly 6% of national greenhouse gas emissions.
- It has 333 units. These are 159 large integrated plants, 116 grinding units, 62 mini plants and 5 clinkerisation units.

Why Cement Emits

- Construction accounts for about a third of global energy and process CO_2.

- **Limestone** is the raw material. It forms from fossilised shells and skeletons of marine life. Mining needs forest and topsoil clearing.
- **Calcination** means heating limestone with clay to about 1,450°C. This reaction releases CO_2 and causes roughly 55% of sector emissions. Fuel burning adds about a third.
- The process yields **clinker**. These hard nodules are ground and mixed with gypsum and fly ash to make cement.

Decarbonisation Options

- **Refuse-Derived Fuel (RDF)** is processed waste burnt instead of coal and petroleum coke.
  - NITI Aayog proposes a 20% **thermal substitution rate** by 2030.
  - It is the kiln heat share from alternative fuels.
  - It could cut about 80 $MtCO_2e$ cumulatively.
- **Lower clinker use** cuts emissions.
  - Fly ash and blast-furnace slag can replace clinker.
  - India's clinker ratio is about 67.5%, against a global average of about 77%.
  - **Blended cements** are Portland Pozzolana Cement and Portland Slag Cement. They use less clinker than Ordinary Portland Cement.
- **Carbon Capture, Utilisation and Storage (CCUS)** traps CO2 for reuse or storage.
  - It handles unavoidable process emissions.
- **Traditional materials** like Taj Mahal lime mortar are alternatives.

Challenges

- Ordinary Portland Cement gains strength faster.
- The industry is used to conventional cement.
- Poor municipal waste segregation limits RDF quality.
- Excess substitution can weaken cement.
- Alternative materials lack standards and large-scale supply.

ROADMAP TO PHASE OUT OLD VEHICLES IN DELHI-NCR

A 15-member expert committee of the Commission for Air Quality Management (CAQM) proposed a phased exit of older vehicles in Delhi-NCR. It also seeks 100% zero-emission new private cars by 2030.

Committee Recommendations

- **BS-I, BS-II and BS-III** vehicles should go immediately.
  - Bharat Stage (BS) is India's emission standard. A higher number means cleaner exhaust.
- **BS-IV** vehicles should go by **2030**, with a pilot winter restriction in **2026**.
- **BS-VI** two-wheelers should exit by **2035** and four-wheelers by **2040**.
- From 2035, BS-VI restrictions may be considered if the average Air Quality Index (AQI) exceeds **200**.
- Manufacturers should sell only **zero-emission** new private four-wheelers by 2030. These have no exhaust, such as battery electric cars.

CAQM

- It was set up under the **Commission for Air Quality Management in the National Capital Region and Adjoining Areas Act, 2021**.
- The Act aims to coordinate research and resolve air quality problems in the National Capital Region (NCR).
- It can restrict polluting activities, prepare codes and guidelines, and issue binding directions on inspections and regulation.
- It may collect compensation from farmers burning stubble, as set by the Centre.
- It issues orders under the **Graded Response Action Plan (GRAP)**. GRAP is a set of stage-wise emergency curbs that depend on air quality.
- Its orders override state governments, the Central Pollution Control Board (CPCB), state Pollution Control Boards and state statutory bodies.

NAMERI WILD CLASSROOM INITIATIVE

Assam's Forest and Climate Change Department launched the Nameri Wild Classroom at Nameri Tiger Reserve for hands-on nature learning.

Initiative

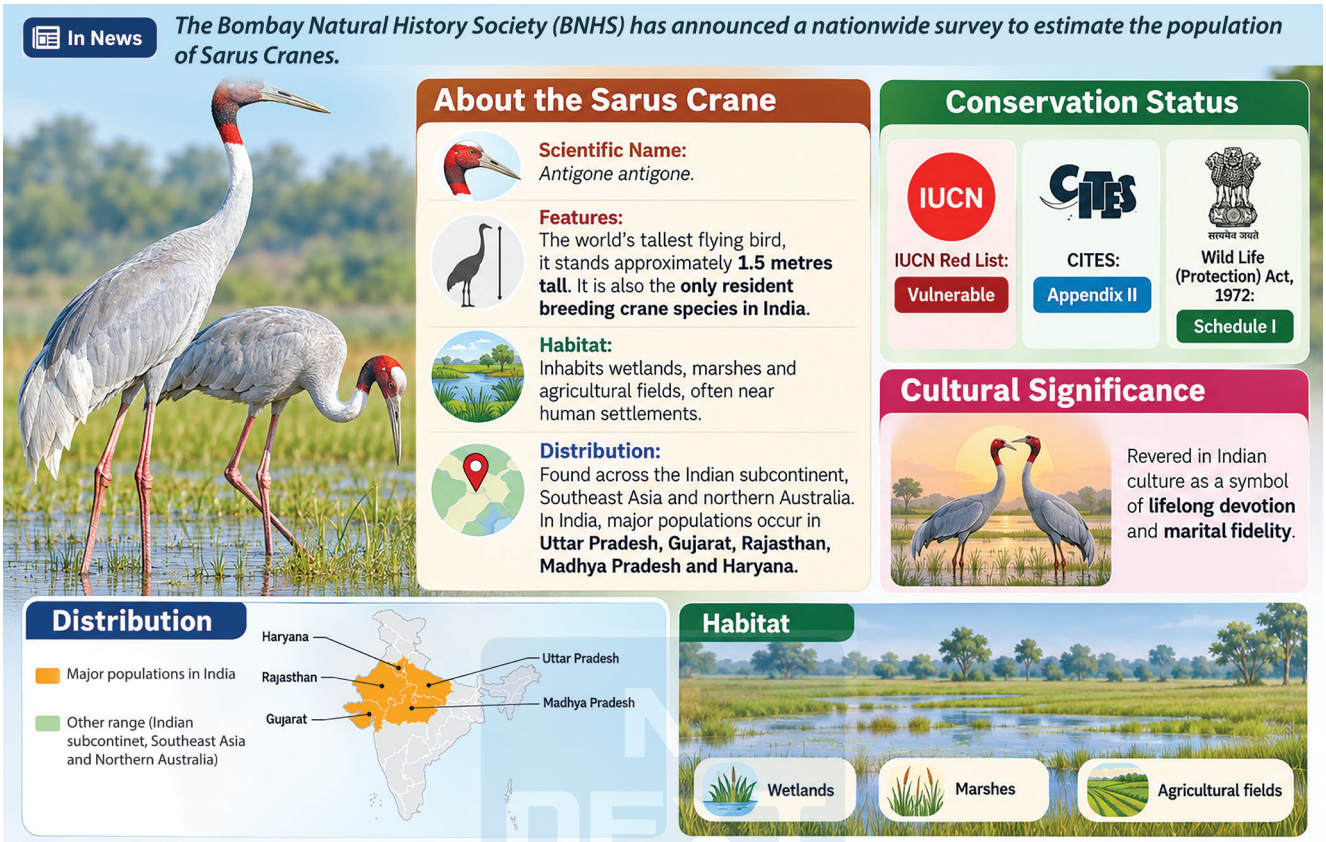
- It is a residential environmental education programme. It offers two-day and three-day field camps for school students from class 8 onwards.
- It aims to build scientific curiosity, environmental awareness and responsibility towards wildlife.
- Activities include birdwatching, learning about biodiversity and ecosystems, and traditional practices of forest-dwelling communities.

Nameri Tiger Reserve

- It lies in **Sonitpur district, Assam**, in the Eastern Himalayan foothills.
- The **Jia-Bharali River** flows through it. It is the **Kameng** in Arunachal Pradesh.
- It gained **Conservation Assured | Tiger Standards (CA|TS)** approved status in **September 2026**.
  - CAITS is a global framework to assess tiger reserve management and protection.
  - It was launched at the first **Asian Parks Congress** in Japan in **2013**.
- All four Assam reserves are now CAITS approved.

SARUS CRANES

The Bombay Natural History Society (BNHS) has announced a nationwide survey to estimate the population of Sarus Cranes.



KIGALI AMENDMENT AT 10

The Kigali Amendment turned 10 on 15 October 2026. It guides the global cut in hydrofluorocarbons (HFCs), and India's cooling choices will shape its success.

Kigali Amendment

- The **Montreal Protocol** of **1987** protects the ozone layer by phasing out ozone-depleting substances.
  - **Chlorofluorocarbons (CFCs)** damage the stratospheric ozone layer and also warm the planet.
- HFCs replaced CFCs because they do not harm the ozone layer. Yet many have a high **global warming potential (GWP)**.
  - GWP shows how much heat a gas traps compared with carbon dioxide.
- It was adopted in **Kigali, Rwanda**, on **15 October 2016**. It came into force on **1 January 2019**.
- It is a gradual **phase-down** of HFC production and consumption, not a complete phase-out.
- Full implementation could avoid about **0.3°C to 0.5°C** of warming by **2100**.

Cooling and Climate

- **Refrigerant leaks:** HFCs escape from air conditioners, refrigerators and other cooling equipment.
- **Electricity use:** cooling equipment emits indirectly when power comes from fossil fuels.
- Low-GWP options include ammonia, carbon dioxide and some hydrocarbons. Equipment needs and safety rules limit their use.

India's Commitments

- India ratified the amendment in **2021**.
- It must freeze HFC production and consumption at its baseline in **2028**. The baseline is the average HFC use from 2024 to 2026, plus 65% of the HCFC baseline.
  - HCFCs are older ozone-depleting refrigerants.
- The cuts are **10%** in 2032, **20%** in 2037, **30%** in 2042 and **85%** in 2047.
- Rising temperatures, urbanisation, incomes and air-conditioner access will push cooling demand up.
- The **India Cooling Action Plan (2019)** aims to cut cooling demand by 20% to 25% by 2037-38.

Practicable Suggestions

- **Energy efficiency:** stricter appliance standards so new equipment uses less power.
- **Refrigerant management:** recover, recycle or safely destroy refrigerants from old equipment.
- **Industry support:** technology, finance and training for manufacturers and technicians.
- **Implementation:** better servicing practices, recovery systems and monitoring of HFC use.

Multilateral Fund

- It was set up in **1990** to help developing countries meet Montreal Protocol obligations.
- It funds technology conversion, capacity-building and training.
- It spares domestic industries the full transition cost.

JEYPORE GROUND GECKO UNDER MINING THREAT

A proposed bauxite mine in Odisha's Balda hills threatens the rare Jeypore ground gecko. Only four individuals were documented there in the past year.

Species



- **Scientific name:** Cyrtodactylus jeyporensis.
- British naturalist **Richard Henry Beddome** described it in **1878**.
- It was presumed extinct for **130 years**. An Indian scientist rediscovered it in **2010**.
- This **nocturnal** gecko is about **3.6 inches** long. It has a large head and a yellow-orange body.
  - Nocturnal animals are active at night.

Distribution and Habitat

- It is **endemic** to the Eastern Ghats. 'Endemic' means it is found naturally nowhere else.
- It lives in southern Odisha and northern Andhra Pradesh.
- It prefers high-elevation, moist semi-evergreen forests at about **1,200 to 1,300 metres**.
- Coffee plantations, hydropower projects and mining are shrinking its habitat.

Conservation Status

- The IUCN lists it as **Endangered**.
- It is in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
  - This appendix regulates international trade to prevent unsustainable exploitation.

BLUE WHALE STRANDINGS

A global database of blue whale strandings flags India's western coast, especially Gujarat, as an important recording region.

About Stranding

- A stranding is when a marine animal washes ashore, alive or dead.

Blue Whale *(Balaenoptera musculus)*

- It is a marine mammal of the group **Cetacea**.
- It is the largest animal known to have lived on Earth. Adults commonly reach **24 to 28 metres**.
- It lives in every ocean except the **Arctic**.
- **IUCN** status is **Endangered**. It is also in **Appendix I** of the **Convention on Migratory Species (CMS)**.
  - Appendix I lists migratory species threatened with extinction that need strict protection.



Five Subspecies of Blue Whale

- **Northern blue whale:** North Atlantic and North Pacific.
- **Antarctic blue whale:** Southern Ocean. It is the largest subspecies.
- **Pygmy blue whale:** Indian Ocean and South Pacific. It is shorter.
- **Northern Indian Ocean blue whale:** Northern Indian Ocean.
- **Chilean blue whale:** Waters off Chile.

Cetaceans

- They are aquatic mammals of the infraorder Cetacea. They include whales, dolphins and porpoises.
- Unlike fish, they breathe with lungs, are warm-blooded and bear live young. They must surface to breathe.
- About 30 to 35 species are reported from the Indian subcontinent's waters, along with the dugong.
  - The dugong is not a cetacean. It is a grazing marine mammal called a sea cow.

International Whaling Commission (IWC)

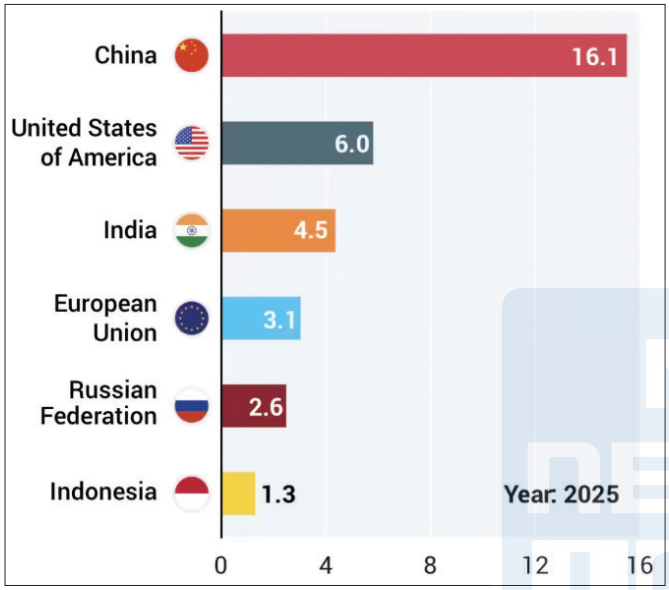
- It manages whaling and whale conservation worldwide.
- It was created under the **International Convention for the Regulation of Whaling**, signed in **1946**.
- Its headquarters is at **Impington**, United Kingdom.
- It adopted a commercial whaling **moratorium** in **1982**, which took full effect in **1986**. (A moratorium is an official pause.)
- **The Convention recognises three whaling types:** commercial, aboriginal subsistence and special permit (scientific).
- It still regulates aboriginal subsistence whaling by indigenous communities, often in remote areas.
- It has **89** member governments. India joined in **1981**.

EMISSIONS GAP REPORT 2026

Recently, the United Nations Environment Programme (UNEP) released its 17th Emissions Gap Report before the November climate summit. It finds that 1.5°C can now be achieved only after overshooting it.

About the Report

- It is UNEP's yearly report, issued before the annual climate negotiations.
- It tracks the gap between expected emissions under current country pledges and the level needed to limit warming to **1.5°C**.
- Each edition suggests ways to close the gap.
- It reviews **Nationally Determined Contributions (NDCs)** to estimate warming if they are fully delivered.
  - NDCs are national climate plans that countries must update every five years.



Key Findings

- Global greenhouse gas emissions in 2025 stayed near 2024 levels, at about **58.4 GtCO2e**.
  - GtCO2e means billion tonnes of carbon dioxide equivalent. It converts all greenhouse gases into carbon dioxide's warming effect.
- Fossil fuel CO2, nitrous oxide and fluorinated gases (F-gases) kept rising.
  - F-gases are man-made, powerful warming gases.
- Methane stayed almost unchanged. Land-use CO2 emissions fell.
- The **G20**, excluding the African Union, accounts for **76%** of global emissions.
- India is the third-largest emitter. Its per capita emissions are far below those of the top two.

Warming Outlook

- Current policies point to **2.8°C** by 2100.
- Full delivery of NDCs leads to **2.6°C**.
- NDCs plus long-term net-zero targets give **2.1°C**.
- Full NDC delivery cuts emissions only 11% to 15% by 2035.
- The best remaining path peaks at **1.7°C to 1.8°C** mid-century. It returns to 1.5°C by 2100 with a 50% chance.
  - This is overshoot, which means temporarily crossing the target.
- Each extra fraction of a degree raises risks, including deadly floods, heatwaves and wildfires.

Way Back to 1.5°C

- Emissions must fall **18%** by 2030, **45%** by 2035 and **69%** by 2040, from 2025 levels.
- About **320 $GtCO_2$** must also be removed from the air this century.

Additional Information

- The **Paris Agreement** (2015) aims to limit warming to 1.5°C above levels from 1850 to 1900.
- UNEP was set up in **1972** and is headquartered in **Nairobi**, Kenya.
- The UN Environment Assembly is its policy-making body.
- Its major reports include the Global Environment Outlook, the Rise of Environmental Crime, Actions on Air Quality, Frontiers and the Adaptation Gap Report.

PFAS FOREVER CHEMICALS

Studies across India have found per- and polyfluoroalkyl substances (PFAS) in groundwater, surface water, sewage and seawater. This raises concerns about drinking-water safety.

About PFAS

- They are **forever chemicals**, a large group of man-made chemicals with many **carbon-fluorine bonds**. These bonds are very strong.
- Many resist heat, water, oil and natural breakdown, so they persist in the environment and can contaminate groundwater, surface water and soil.
- They are used in non-stick cookware, water-resistant textiles, stain-resistant coatings, food packaging, firefighting foams and industrial products.
- Some PFAS build up in humans and wildlife. Exposure to certain ones is linked to harm, including cancer.

Challenges in Removing PFAS

- **Strong bonds** resist conventional biological and chemical treatment.
- **Regulatory gap:** the drinking-water standard **IS 10500:2012** sets no PFAS limit.
- **Precursors** are compounds that can turn into more stable PFAS during treatment. This makes contamination hard to assess.
- **Costly treatment:** activated carbon, ion exchange and reverse osmosis remove many PFAS. Costs, operating needs and waste disposal remain concerns.
- **Unclear sources:** PFAS come from industrial discharge, sewage, landfill leachate and consumer products.

Other Groundwater Contaminants

- **Aquifers** show arsenic, fluoride, nitrate, uranium, salinity and heavy metals together..
- Punjab, Haryana, Rajasthan and Delhi show alarming uranium levels.
- Central India has rising fluoride and nitrate from intensive farming, while eastern states have arsenic pockets.

Drivers

- **Agriculture:** excess nitrogen fertiliser leads to nitrate leaching. Paddy-wheat monoculture depletes groundwater and increases heavy-metal uptake from deeper layers.
- **Geogenic causes:** fluoride and arsenic partly occur naturally. Deeper borewells raise exposure.
- **Human sources:** industrial effluents, untreated sewage, landfill seepage and waste dumping add toxins.
- **Weak governance:** land ownership confers groundwater ownership, which allows unrestricted extraction. Roles are fragmented and monitoring is limited.

Constitutional Basis

- **Article 21** guarantees the right to life, including safe drinking water.
- **Subhas Kumar v. State of Bihar (1991):** the Supreme Court held that Article 21 includes pollution-free water and air.
- **A.P. Pollution Control Board II v. M.V. Nayudu (1999):** Safe drinking water is fundamental to life.
- **Article 243W** empowers Urban Local Bodies on water supply, sanitation and public health.
- **Article 47**, a Directive Principle, directs the State to raise nutrition, living standards and public health.

Water-Related SDGs

- **SDG 6:** Clean Water and Sanitation
  - Ensure universal access to water and sanitation through sustainable management practices.
- **SDG 11:** Sustainable Cities and Communities
  - One of the focus areas of **Target 11.5** of **SDG 11** is to reduce economic losses caused by water-related disasters.
- **SDG 12:** Responsible Consumption and Production
  - One focus of **Target 12.4** of **SDG 12** is to reduce the release of wastes into water through environmentally sound management.

DESERT NATIONAL PARK

The Union Environment Minister and the Wildlife Institute of India (WII) released two captive-bred Great Indian Bustards (GIBs) in Rajasthan's Desert National Park.

About

- The Desert National Park lies in Rajasthan's Jaisalmer and Barmer districts, within the **Thar Desert**.
- It was set up in **1980** under the Wild Life (Protection) Act, 1972 to curb **desertification** (land turning to desert).
- The climate is extremely hot and arid, with less than 100 mm of rain in some areas.
- The landscape has **barchan** (crescent-shaped) and longitudinal dunes, gravel plains, rocky areas and hollows between dunes.
- **Vegetation is sparse:**
  - The main vegetation found here are open grassland, thorny bushes and desert plants.
  - **Khejri** *(Prosopis cineraria)*, a native tree, is protected by the Bishnoi community.

Biodiversity

- It is a habitat of the **Great Indian Bustard** (Godawan), a critically endangered grassland bird.
- It also hosts **chinkara**, **desert cat**, desert hare, long-eared hedgehog and saw-scaled viper.
- The park also supports migratory and resident birds, including **eagles**, **vultures**, **falcons** and **sandgrouse**.



5 GEOGRAPHY

DAL LAKE

The Jammu and Kashmir High Court has banned motorboats, including motorised shikaras and jet skis, in Dal Lake.

About

- It lies in **Srinagar**, in the Kashmir Valley.
- In Kashmiri, "dal" means lake. So "Dal Lake" is a misnomer.
- It is a famous urban lake known for scenic beauty, houseboats and wooden boats called **shikaras**.
- The lake covers about **18 sq km**. The wider wetland, with floating gardens, covers about **21.1 sq km**.
- It has linked basins, including **Gagribal**, **Lokut Dal**, **Bod Dal** and **Nigeen**.
- Winter temperatures can fall to **-11 °C** and freeze the lake.



Highlights and Concerns

- **Attractions:** Floating gardens, houseboats, shikara rides and a floating vegetable market.
- **Economic:** It supports tourism, fishing, horticulture and local livelihoods.
- **Ecological:** It supports aquatic plants, fish and other biodiversity.
  - It also helps regulate the local water balance.
- **Concerns:** Untreated sewage, solid waste, excessive weed growth, siltation and encroachment threaten its health.

ANTELOPE REEF

China is building a runway on Antelope Reef in the disputed Paracel Islands. It could extend China's military reach in the South China Sea.

About

- It is part of the **Paracel Islands** (Xisha Islands in Chinese). They lie in the northern South China Sea, near China's **Hainan Island**.
- Satellite images dated 25 September 2026 show construction under way. Analysts expect the runway by mid-2027.
- China, Vietnam and Taiwan claim the Paracels.
- China has controlled the archipelago since **1974**, when it took it from South Vietnam.

South China Sea

- It is a marginal sea of the Western Pacific Ocean.
  - A marginal sea is partly enclosed by land or islands.
- It lies between southern China, Taiwan, the Philippines, Indonesia, Vietnam, Thailand, Cambodia and Malaysia.
- It is a key shipping gateway between the Pacific and Indian Oceans.



The Dispute

- China, Vietnam, the Philippines, Brunei, Malaysia and Taiwan have long disputed the sea.
- The two main flashpoints are the **Spratly Islands** and the **Paracel Islands**.
- China claims most of the sea through the U-shaped **nine-dash line**.
  - The line covers up to **90%** of these waters.
  - It was drawn from Chinese maps of the 1940s.
  - It marks China's claim over the sea and all land features inside it.
- A 2016 tribunal found no legal basis for China's historic claims within the line. China rejected it.

GHANA

India and Ghana signed a five-year Memorandum of Understanding (MoU) on agricultural research, education, technology transfer and commercialisation.

About Ghana (Accra)

- It is a West African unitary (centrally governed) multiparty republic.
- It became independent from Britain on **6 March 1957** under **Kwame Nkrumah**, inspiring African decolonisation.
- It lies on the **Gulf of Guinea**, slightly north of the Equator. The **Prime Meridian** crosses it.
- The **Volta** River system drains most of it. **Lake Volta**, an artificial reservoir of about **8,500 sq km**, feeds the **Akosombo Dam**'s hydropower.
- Formerly the **Gold Coast**, it has gold, bauxite, manganese, diamonds and offshore petroleum.
  - It is a major cocoa producer and exporter.
- Seasonal movement of the Inter-Tropical Convergence Zone (ITCZ), where trade winds meet, shapes its climate.
- **Harmattan** winds bring dry, dusty Sahara air. Southwesterly monsoons bring Atlantic moisture.



KULSI RIVER

Villagers along the Kulsi River in Assam and Meghalaya protest a proposed 55-MW hydropower-cum-irrigation project, citing displacement, indigenous rights and ecological damage.

About

- It is a tributary of the Brahmaputra, flowing through Meghalaya and Assam.
- It rises in the **West Khasi Hills**, where its upper course is the **Khri** River.
- It enters Assam, flows through **Kamrup** district as the Kulsi and joins the Brahmaputra near **Nagarbera**.
- It shelters the endangered **Gangetic river dolphin** (*Platanista gangetica*), India's **National Aquatic Animal** since **2009**.

ANTICIPATORY ACTION IN DISASTERS

The World Risk Poll 2026 report finds a major gap between receiving disaster warnings and acting on them.

Key Findings

- About **80%** of adults hit by a disaster in the previous five years received at least one advance warning.
- Yet **36%** of those warned could not take protective action.
- Low-income countries faced higher exposure and lower warning access than high-income ones.

What is Anticipatory Action?

- These are pre-agreed measures taken before a predicted hazard.
- It uses forecasts or early warnings to reduce the likely impact on people, livelihoods, and infrastructure.
- For *example*, a high flood forecast may trigger evacuation of vulnerable households, moving livestock, distributing supplies and releasing emergency funds before the water arrives.

Significance

- **Saves lives and property:** Early evacuation, shelters and livestock movement cut casualties and damage before cyclones, floods or heatwaves.
- **Protects livelihoods:** Farmers can harvest early, move livestock and protect equipment.
- **Cuts response costs:** Early action reduces spending on rescue, relief and reconstruction.
- **Protects vulnerable groups:** Older individuals, persons with disabilities, children, informal workers and low-income households have fewer resources to respond.
- **Builds climate resilience:** It helps communities prepare for climate-driven extreme heat and heavy rainfall.

Barriers in India

- **Institutional fragmentation:** Coordination gaps among the National Disaster Management Authority (NDMA), state authorities, districts, forecasters and local bodies delay action.
- **Last-mile gaps:** Warnings may not reach remote communities in accessible languages or formats.
  - The last mile is the final link to people.

- **Financial constraints:** Limited pre-arranged funds delay evacuation, relief and livelihood protection.
- **Forecast uncertainty:** False alarms or wrong local predictions reduce public trust.
- **Limited local capacity:** Trained staff, transport, shelters and equipment are short.
- **Social barriers:** Poverty, low awareness and poor household preparedness stop action even after warnings.

Measures

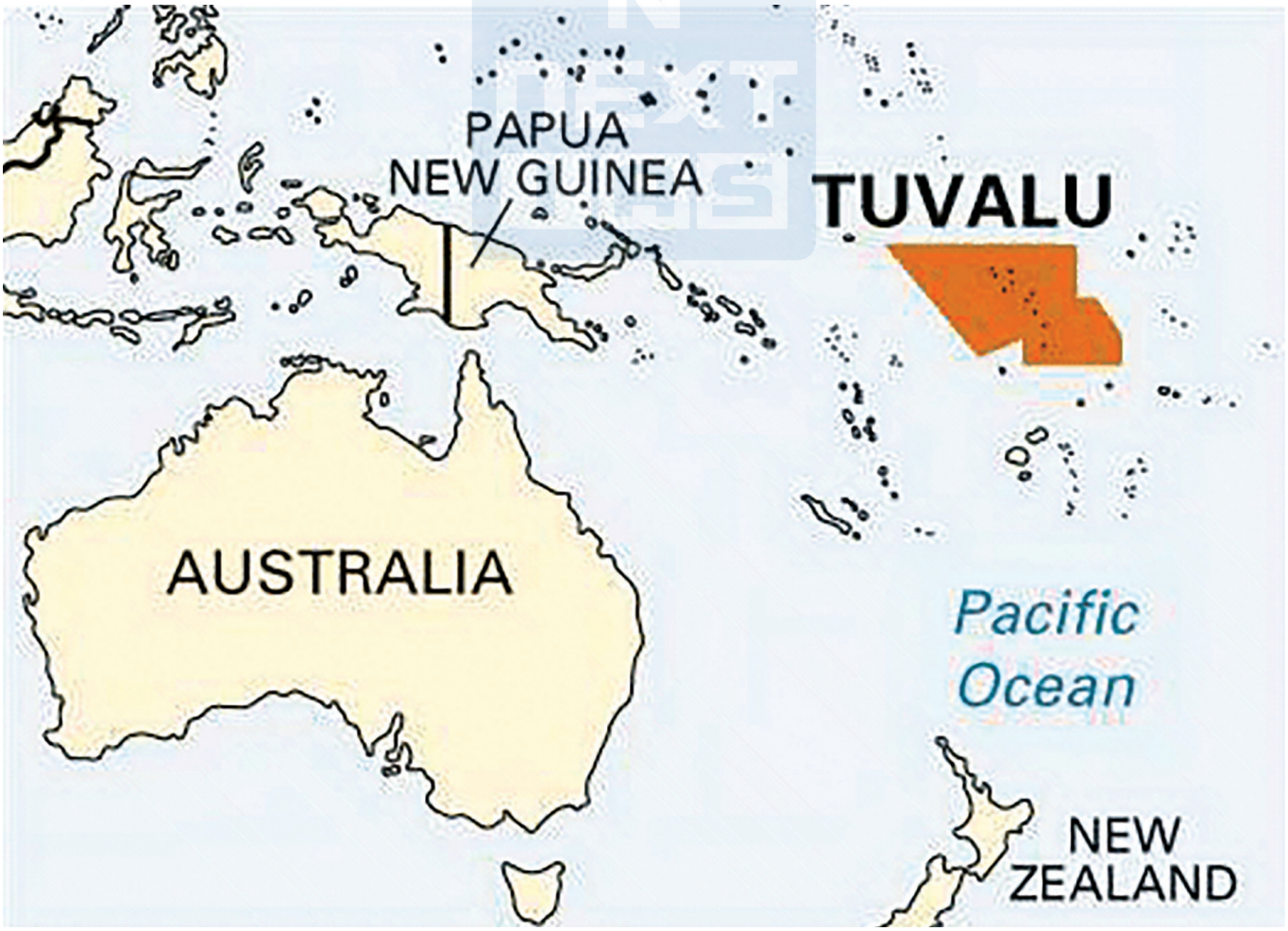
- Strengthen **impact-based forecasting** and set clear trigger thresholds.
  - It forecasts impact, not just weather.
- Expand multilingual, geo-targeted alerts through SMS, radio, sirens and community networks. Build on **SACHET**. SACHET is NDMA's alert system.
- Create pre-approved contingency plans and dedicated funds at district and local levels.
- Integrate anticipatory action into disaster management plans, agriculture, urban planning and health services.
- Train local authorities and involve Panchayats, NGOs and community volunteers.
- Monitor outcomes, including warning reach, response time and losses avoided.

TUVALU

Sea-level rise, marine heatwaves and falling fish stocks threaten Tuvalu. This shows the disproportionate climate vulnerability of Small Island Developing States (SIDS).

About

- It has nine tiny, low-lying islands and atolls in the South Pacific, between Hawaii and Australia.
  - An atoll is a ring-shaped coral island.
- It was once the **Ellice Islands**. It won independence from the United Kingdom in **1978**.
- Average elevation is **1 to 3 metres**. This makes it highly vulnerable to sea-level rise, coastal erosion, saltwater intrusion and storm surges.
- **Capital:** Funafuti



6 INTERNAL SECURITY

SURYA

Recently, Defence Minister Rajnath Singh launched Surya, the Navy's first indigenous Fleet Support Ship (FSS-1), at Visakhapatnam.

About

- **Builder:** Hindustan Shipyard Limited (HSL). It is the first of five ships under a ₹19,000 crore contract of August 2023.
- **Indigenous content:** About **82%**.
- **Size and speed:** About 43,500 tonnes and 20 knots.
- **Role:** Logistical support to warships during long operations at sea.
- **Carries:** Fuel, fresh water, ammunition, spare parts and provisions.
- **Features:** A helicopter deck for multi-role operations and self-defence systems.
- At the same event, the keel of the fifth ship (FSS-5) was laid.

Significance

- It boosts the Navy's **endurance and reach**, supporting a sustained presence in the **Indian Ocean Region (IOR)**.

INS MANGROL

Recently, the Indian Navy commissioned INS Mangrol, the third Anti-Submarine Warfare Shallow Water Craft (ASW-SWC), at the Naval Dockyard, Mumbai.

Navy's Induction Drive

- Ten ships have been commissioned in 2026, and eight more are expected soon.
- By 2034, about **60%** of the Navy's platforms should have an average age below ten years.

About INS Mangrol

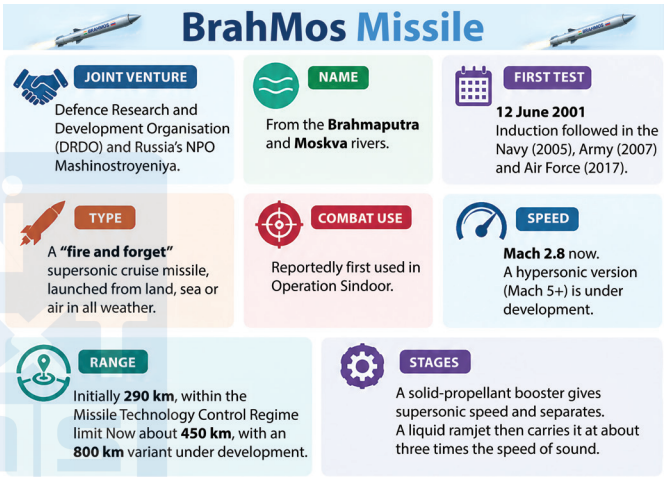
- **Builder: Cochin Shipyard Limited**. It is the third of eight such craft.
- **Name:** From **Mangrol**, a coastal town and fishing harbour in Gujarat. It also carries on the name of the earlier minesweeper INS Mangrol, in service until 2004.
- **Indigenous content:** Over **80%**.
- **Roles:** Underwater surveillance, coastal anti-submarine warfare, low-intensity maritime operations and mine warfare.
- **Equipment:** Waterjet propulsion, torpedoes, anti-submarine rockets, and advanced radars and sonars.
- It marks a milestone in indigenous shipbuilding and the **Aatmanirbhar Bharat** vision.

BrahMos

Recently, the Ministry of Defence signed a contract worth over ₹660 crore with BrahMos Aerospace Private Limited for Fire Control Systems and Launchers for Indian Navy ships.

The Contract

- The BrahMos system on frontline warships is the Navy's primary **surface-to-surface missile** system for maritime strike.
- Indigenous content is at least **68%**.



CRPF MULLS REVIVING LANCE NAIK AND NAIK RANKS

The Central Reserve Police Force (CRPF) is considering reintroducing the lance naik and naik ranks. The aim is to ease delayed promotions and attract retiring Agniveers.

Background

- The Ministry of Home Affairs (MHA) abolished both ranks in the force in **1997**.
- They were merged into the police ranks of **constable** and **head constable**.
- The Army still uses both ranks.

Promotion Structure

- Earlier, a constable would become a lance naik in 5 years, a naik in 10 years, and a head constable in 20 years.
- The CRPF has about **3.25 lakh** personnel and faces acute promotion stagnation.
- A constable now gets the first promotion after **22-25 years** on average.
- Some constables wear an unsanctioned senior constable insignia, equal to lance naik, as an ad hoc arrangement.

Reasons for Restoration

- It would give constables **two more promotions** before they reach head constable.
- This would address their grievances and boost morale.
- It would also make the CRPF attractive for **Agniveers**, whose first batch retires later this year.
- They will be eligible to join the **Central Armed Police Forces (CAPFs)**, including the CRPF.

Agnipath Scheme

- Agniveers are short-term personnel recruited into the three Armed Forces for **four years**.
- The MHA has reserved **10%** of CAPF vacancies for them.
- The first batch gets a **five-year** age relaxation, and later batches get three years.

CRPF

- It began on **27 July 1939** as the **Crown Representative's Police**.
- It assumed its present name under the **CRPF Act, 1949**.
- It works under the **Ministry of Home Affairs**, with headquarters in **New Delhi**.
- **Motto:** Service and Loyalty.
- **Mission:**
  - Help the government maintain the rule of law, public order and internal security.
  - It also safeguards national integrity, fosters social harmony and development, and upholds the supremacy of the Constitution.
- **Specialised Units:**
  - **Commando Battalion for Resolute Action (CoBRA):** Guerrilla warfare and anti-Naxal operations.
  - **Rapid Action Force (RAF):** Riot and crowd control.
  - **Mahila Battalions:** Women's battalions.
  - VIP Security and Parliament Duty groups.

INS SAMARTHAK

On 16 October 2026, the Indian Navy commissioned INS Samarthak at Karwar, Karnataka. It is the lead ship of the Multi-Purpose Vessels (MPVs).

About

- **Builder: Larsen & Toubro (L&T)**, Kattupalli Shipyard, Tamil Nadu. It has over **75%** indigenous content.
- **Size:** 107 metres long, with about 3,750 tonnes displacement.
- **Role:** An auxiliary platform that supports fleet operations and tests indigenous weapons and sensors.
- **Mothership:** It launches, controls and recovers **Unmanned Aerial Vehicles (UAVs)**, **Autonomous Underwater Vehicles (AUVs)** and unmanned surface vehicles (USVs).
- It takes auxiliary tasks off frontline warships and reduces their wear.

SOUTH KOREA'S FIRST INDIGENOUS HYPERSONIC GLIDE VEHICLE TEST

Recently, South Korea test-fired its first domestically developed Hypersonic Glide Vehicle (HGV), amid tensions with North Korea.

The Test

- The **Agency for Defense Development** conducted it at Taean.
- The vehicle separated from its booster, glided and hit its target.
- It verified thermal protection, guidance and low-altitude manoeuvrability.
- Speed and range stayed undisclosed.

Hypersonic Weapons

- They travel at **Mach 5 or higher**, five times the speed of sound.
- **HGVs:** Rocket boosters carry them to high altitudes. They separate, glide towards targets and manoeuvre in flight.
- **Hypersonic Cruise Missiles:** Air-breathing engines like **scramjets** power them. They sustain hypersonic flight within the atmosphere and can manoeuvre at low altitudes.

India's Programmes

- **Hypersonic Technology Demonstrator Vehicle (HSTDV):** It flew at about Mach 6.
- **BrahMos-II:** It is designed for around Mach 7.

POLICE COMMEMORATION DAY

On 21 October 2026, Union Home Minister Amit Shah paid homage at the National Police Memorial. The names of 154 personnel who died in the past year were read out.

Background

- On **21 October 1959**, Chinese troops ambushed a police party at **Hot Springs, Ladakh**. Ten personnel were martyred.
- The day honours their supreme sacrifice and all police personnel who died on duty.
- A memorial stands at Hot Springs. Police personnel from across the country trek there to pay homage.
- A national-level parade has been held at the Police Memorial since **2012**.

National Police Memorial (NPM)

- The Prime Minister dedicated it on Police Commemoration Day, **2018**.
- It is in **Chanakyapuri, New Delhi**.
- It has a central sculpture, a **Wall of Valour** and a museum.
- The central sculpture is a **30-foot** granite monolith.
- The Wall of Valour lists **36,852** martyrs since Independence.

DEFENCE EXERCISES

Exercise	Venue	Participants	Nature
IBSAMAR (9th Edition)	**Simon's Town, South Africa**	**India, Brazil and South Africa**	**Navy**

- Biennial trilateral exercise held since 2008 under the IBSA framework.
- **Theme:** "Stronger Together Towards a Shared Future in the Maritime Domain".
- India was represented by INS Tarkash, a guided-missile stealth frigate, with an integral Chetak helicopter.
- Covered surface, anti-air and anti-submarine warfare, naval air operations, maritime interdiction, Visit Board Search and Seizure (VBSS), anti-piracy, search and rescue, damage control and firefighting.

KONKAN-26	**Off Plymouth, United Kingdom**	**India and UK**	**Navy**

- Annual bilateral exercise since 2004.
- India sent **INS Trishul (a stealth frigate).** The UK sent HMS Sutherland (Duke-class anti-submarine warfare frigate).
- Reinforces the Comprehensive Strategic Partnership under India-UK Vision 2035 and a free, open and secure Indo-Pacific.
- **Other India-UK exercises:** Ajeya Warrior (Army), Indradhanush (Air Force) and Cobra Warrior (multinational air exercise hosted by the UK).

AIME-2026 (2nd Edition)	**Subic Bay, Philippines**	**India and ASEAN countries**	**Navy**

- Theme: "Anchored in Trust, United at Sea".
- India was represented by INS Sahyadri and INS Kulish.
- **A Harbour Phase** (expert exchanges, sports, cultural and community engagement, operational synchronisation) was followed by a Sea Phase of coordinated drills.
- Held in furtherance of the Act East Policy and MAHASAGAR (Mutual and Holistic Advancement for Security and Growth Across Regions).
- The 1st edition (AIME-2023) was hosted by Singapore. 2026 is the ASEAN-India Year of Maritime Cooperation.

Varuna (24th Edition)	**Toulon, France**	**India and France**	**Navy**

- Annual bilateral exercise. Indo-French naval exercises began in 1993 and were named "Varuna" in 2001.
- India was represented by INS Trishul.
- Harbour and sea engagements included cross-deck visits, operational interactions and sporting activities, to share best practices and enhance interoperability.

SAREX-2026 (12th Edition)	**Off Paradip, Odisha**	**Indian Coast Guard (+ 32 international observers from 30 countries)**	**Coast Guard (National Maritime Search and Rescue Exercise)**

- Simulated a Mass Rescue Operation (MRO) involving simultaneous aeronautical and maritime distress situations.
- Aimed to strengthen a faster, technology-enabled and coordinated Search and Rescue framework.
- Aligned with India's vision of SAGAR and the spirit of MAHASAGAR.

7 SCIENCE & TECHNOLOGY

BEAMLINE FOR SCHOOLS 2026

In Indian team, attoPION, is among five winners of the 13th Beamline for Schools competition, organised by the European Organization for Nuclear Research (CERN).

About the Competition

- It is a global physics contest for school students. CERN launched it in 2014.
- A **beamline** supplies high-energy streams of subatomic particles for experiments.
- Winners test their experiments at CERN or partner labs in Germany.

The Indian Team

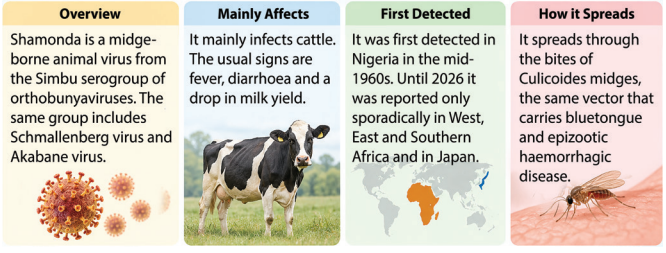
- The team studies **pion charge exchange**. This is how often a charged pion turns neutral when it hits light atoms such as lithium and beryllium.
- **Pions:** Subatomic particles with positive, negative or zero charge.

About CERN

- It is a leading particle physics centre near Geneva, on the Franco-Swiss border.
- **Established:** 1954, to promote peaceful scientific cooperation in Europe.
- **Governance:** Member States run it. Each sends two delegates to the **CERN Council**, the highest authority for all major decisions.
- **Facility:** The **Large Hadron Collider (LHC)** is the world's largest and most powerful particle accelerator.
- **Discovery:** CERN helped find the **Higgs boson** in 2012. It supports the Higgs field, linked to how fundamental particles gain mass.

SHAMONDA VIRUS

French health authorities reported the first known human case of Shamonda infection.



INDIA-SPECIFIC SEVERITY SCORE FOR SICKLE CELL ANAEMIA

Scientists at the Council of Scientific and Industrial Research (CSIR)-Centre for Cellular and Molecular Biology (CCMB) built an India-specific Severity Score (ISS) for sickle cell anaemia (SCA).

About Sickle Cell Anaemia

- It is an inherited blood disorder caused by a mutation in the **HBB gene**, which carries the instructions for making haemoglobin.
- The faulty gene makes abnormal haemoglobin (**HbS**). Red blood cells then turn sickle-shaped. This causes anaemia, severe pain episodes, organ damage and other complications.
- It is most common among people of African, Mediterranean, Middle Eastern and Indian descent.
- **Severity:** It varies widely. Indian patients tend to have a milder course, partly due to higher **foetal haemoglobin**. Some severe complications are rarer than in African patients.
- **Aggravating factors:** Nutritional deficiencies, infections and environmental stress.
- **Diagnosis:** A blood test looks for HbS.

Treatment

- Care aims to relieve symptoms and prevent complications.
- **Bone marrow or stem-cell transplant** may cure the disease. It is costly, risky and needs a matched donor.
- Common options: **hydroxyurea**, pain medicines, blood transfusions and antibiotics.
- **Gene editing:** In December 2023, the US Food and Drug Administration (FDA) approved **Casgevy** and **Lyfgenia**. Casgevy is the first approved genome-editing therapy for sickle cell disease.

India's Mission

- The Centre launched the **National Sickle Cell Anaemia Elimination Mission** in 2023. It aims to end sickle cell disease as a public health problem by **2047**.
- It seeks affordable, quality care and lower prevalence through awareness, changed practices and screening.

Latest Development: ISS

- **Data:** Records of **171 children** treated at a Nagpur government hospital.
- **Gap:** The International Paediatric Severity Score matched expert assessment in only **67%** of cases.

- **Fix:** Researchers added criteria common in Indian children: repeated transfusions, severe anaemia and recurrent febrile infections.
- **ISS1:** About **83%** concordance.
- **ISS2:** About **85%** concordance. It relies mostly on visible clinical signs and needs fewer lab tests.
- **Use:** It can support timely treatment decisions, including hydroxyurea management.
- **Caveat:** Validation is needed in larger, more diverse groups.

CHEMICAL SIGNATURES (BIOMARKERS)

Chemical signatures, or biomarkers, are being studied to diagnose diseases earlier, especially those of the brain and nervous system.

About Chemical Signatures

- They are measurable patterns of molecules, elements or isotopes in the body.
- Results can point to a disease or a hidden biological process.
- Tests use blood, **cerebrospinal fluid (CSF)** and other samples.
- They help detect disease before clear symptoms appear.

Applications across Neurological Conditions

Alzheimer's disease	Parkinson's disease	Autoimmune encephalitis	Cancer
Amyloid-beta and tau proteins, including phosphorylated tau (p-tau217), signal brain changes.	Alpha-synuclein is studied for detecting and understanding the disease.	Specific antibodies show when the immune system attacks the brain.	Shifts in metabolites and proteins may reveal patterns linked to some cancers.

Challenges

- Accuracy, cost, lab standardisation and access limit routine use in India.
- A marker alone cannot confirm a disease.

WHITE HOUSE ACCORD ON SUPER INTELLIGENCE

Recently, President Donald Trump announced the White House Accord on Super Intelligence, signed by leaders of major American artificial intelligence (AI) firms.

About the Accord

- **Full title:** Joint Commitment on Frontier Responsibilities.
- **Aim:** Safe AI development and public trust.
- **Signatories:** Sundar Pichai (Google), Dario Amodei (Anthropic), Mark Zuckerberg (Meta), Greg Brockman (OpenAI), Elon Musk (xAI) and Jensen Huang (Nvidia).

Four Commitments

- Robust controls to stop unintended AI hacking.
- An internal team to run safety operations.
- Independent external audits.
- An independent board committee to act on reports.

Limits

- It is **voluntary**, not legally binding, and carries **no penalties**.
- Trump called it "morally binding".

Significance

- Worries grow over AI systems 'going rogue', privacy and child-safety risks, and AI agents trying to hack secure platforms.

PHP2 SHELL

Two critical flaws in PHP, a web programming language, forced emergency security updates on 21 October 2026. Authorities advised patching or going offline.

About PHP

- **Hypertext Preprocessor (PHP)** is a free, open-source, volunteer-maintained language for dynamic websites and web applications.
- It lets sites process logins, applications and purchases.
- **WordPress** runs on PHP and powers over 40% of websites. These include blogs, government portals, news sites and online shops.

About PHP2 Shell

- It names two flaws with **Common Vulnerabilities and Exposures (CVE)** IDs **CVE-2026-109618** and **CVE-2026-109619**.
- They let attackers run malicious code remotely on web servers without logging in. One also exposes data held in server memory.
- The flaws sit in PHP itself. Attacks may succeed before a site's own login checks, depending on configuration and conditions.
- **Fix:** Patched versions include PHP 8.5.12, 8.4.27, 8.3.36 and 8.2.35.

RABIES IN INDIA

A study led by the Indian Council of Medical Research (ICMR) in The Lancet Infectious Diseases estimated 5,726 human rabies deaths in India every year.

Study Findings

- Nearly **9.1 million** animal bites occur yearly.
- About **76.8%** are from dogs.

About Rabies

- A viral, zoonotic, neglected tropical disease of the **central nervous system**.
- **Cause:** The rabies virus, genus **Lyssavirus**, family **Rhabdoviridae**.
- **Burden:** A serious public health problem in over 150 countries and territories, mainly Asia and Africa.
- **Spread:** Saliva spreads the virus through bites, scratches or contact with mucosa (eyes, mouth, open wounds).

- **Symptoms:** Fever, headache, nausea, hallucinations and fear of water (**hydrophobia**).
- **Outcome:** Once symptoms appear, it is almost always fatal.

India's Response

- The **National Action Plan for Dog-Mediated Rabies Elimination (NAPRE)** aims for zero human deaths by **2030**.

NOBEL PRIZE IN PHYSIOLOGY OR MEDICINE 2026

The 2026 Nobel Prize in Physiology or Medicine honours the discoveries that led to optogenetics. This technique uses light to control chosen nerve cells.

The 2026 Prize

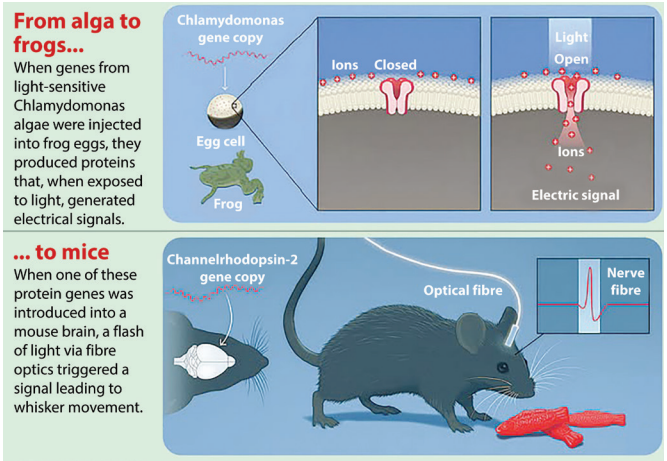
- **Announced:** 5 October 2026, by the **Nobel Assembly at Karolinska Institutet.**
- **Citation:** For discoveries on **light-gated ion channels** and optogenetics.
  - **Light-gated ion channels** are proteins that sit in a cell's outer membrane and open or close when light hits them. Ion channels in general are pores that let charged particles (ions such as sodium or calcium) cross the membrane. Most channels respond to voltage or to a chemical signal. These respond to light.
- **Money:** 12 million Swedish kronor, about US$1.2 million, shared equally.
- **Laureates: Karl Deisseroth** (Stanford University, USA), **Peter Hegemann** (Humboldt University, Berlin) and **Georg Nagel** (University of Würzburg, Germany).
- **Impact:** Their work moved neuroscience from watching neurons to testing their causal role in behaviour and emotions.

What is Optogenetics?

- It combines genetic engineering and optics to control chosen cells with light.
- Light-sensitive proteins called **opsins** are placed in specific neurons. Light then moves ions across the membrane and switches activity on or off.
- It beats drugs and electrical stimulation in timing and cell-level precision.

How it Developed

- Hegemann studied the alga *Chlamydomonas* in the 1990s and saw light trigger a quick electrical signal.
- He and Nagel identified **channelrhodopsins**, which are light-gated ion channels.
- **Channelrhodopsin-2 (ChR2)** opened in about 0.2 milliseconds, letting positive ions in.
- Its gene made mammalian cells light-sensitive. Deisseroth saw the value of pairing it with genetic targeting of neurons.



Applications

- It has reshaped research on pain, attention, sleep, memory and social behaviour.
- It helps study schizophrenia, depression, Alzheimer's, Parkinson's, epilepsy, and vision and hearing restoration.
- A channelrhodopsin-like protein placed in a blind person's retina let them locate and pick up nearby objects.

About the Nobel Prize

- **Origin:** Funded by the will of Alfred Nobel, a Swedish inventor, engineer and industrialist, who died in 1896. It rewards exceptional contributions that benefit humanity.
- **First awards:** 1901.
- **Original categories:** Physics, Chemistry, Physiology or Medicine, Literature and Peace.
- **Economic Sciences:** The Sveriges Riksbank Prize in Memory of Alfred Nobel began in 1968 and was first given in 1969. It is not an original Nobel Prize.
- **Awarding bodies:** The Royal Swedish Academy of Sciences (Physics, Chemistry, Economic Sciences), the Nobel Assembly at Karolinska Institutet (Physiology or Medicine), the Swedish Academy (Literature) and the Norwegian Nobel Committee (Peace).
- **Venues:** Oslo hosts the Peace Prize presentation. The others are in Stockholm.
- **Selection:** Nominations, expert assessment and deliberation. Laureates get a medal, diploma and prize money.

ANDHRA PRADESH'S 3D-PRINTED HOUSING PILOT

Andhra Pradesh has begun India's first national-level pilot for building rural houses by 3D Concrete Printing (3DCP) under Pradhan Mantri Awas Yojana-Gramin (PMAY-G).

About

- **Charles W. Hull** invented **stereolithography (3D printing)** in the 1980s, which later evolved into **3D Concrete Printing**.

- Plastic, composites or bio-materials are stacked layer by layer into objects of varied shape, size, rigidity and colour.
- A 3DCP robot follows a digital **Building Information Modelling (BIM)** design. It extrudes **cementitious** (cement-based) material in layers.
  - BIM is a digital building model.



Applications

- **Healthcare:** Patient-specific prosthetics, implants, surgical guides and dental devices.
- **Defence:** Custom parts nearby reduce reliance on long supply chains.
- **Automotive and education:** Carmakers test designs without costly moulds. Schools build models, prototypes and experimental parts.

Advantages

- **Faster prototyping:** Digital models become prototypes, easing repeated testing.
- **Complex designs:** Internal channels and **lattice structures** become possible.
  - A lattice is a light, open framework.
- **Less waste and tooling:** Material is added only where needed. Fewer moulds, dies and tools suit prototypes, custom and low-volume output.
- **Decentralised production:** Digital designs print near the need, suiting spare parts, remote sites and emergencies.

Limitations

- **Costs and materials:**
  - Printers, materials and software are costly.
  - Some materials lack strength, durability or precision.
- **Quality:**
  - Poor layer bonding, defects, **porosity**, thermal stress and variable conditions.
  - Porosity means internal air gaps.
- **Skilled manpower:** Needs materials science, mechanical engineering, Computer-Aided Design (CAD), software, robotics and process control.
- **Security and regulation:**
  - Tampered or pirated digital files raise safety and legal risks.
  - Aircraft parts, medical implants, vehicles and structures need testing, certification and standards.

SIBERIA'S SUSPECTED PLAGUE DEATH

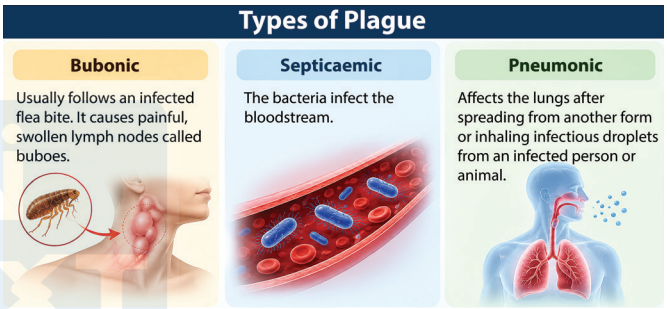
A laboratory worker at Russia's Irkutsk Anti-Plague Research Institute in Siberia died in October 2026. Suspected pneumonic plague prompted quarantine, but authorities cite pneumonia of unknown cause.

Disease

- **Plague** is caused by the bacterium **Yersinia pestis**. It usually lives in small mammals and their fleas.
- It occurs on every continent except **Oceania**.

Transmission

- Fleas pass it between animals.
- Humans catch it through infected flea bites, unprotected contact with infectious body fluids or contaminated materials, or inhaling respiratory particles from a pneumonic plague patient.



Symptoms, Fatality and Treatment

- **Symptoms:** High fever, chills, severe headache and weakness, then shortness of breath, chest pain and cough.
- **Fatality:** Untreated, the **case-fatality ratio** is 30% to 100%.
  - This is the share of patients who die.
- **Treatment:** Antibiotics such as gentamicin, ciprofloxacin or doxycycline work. Early recognition is critical.

NOBEL PRIZE IN PHYSICS 2026

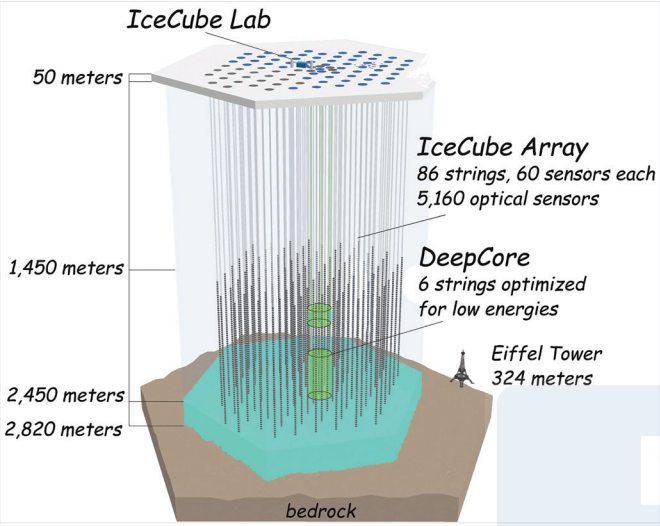
The 2026 Nobel Prize in Physics went to Francis Halzen for pioneering the IceCube Neutrino Observatory and discovering high-energy neutrinos of astrophysical origin.

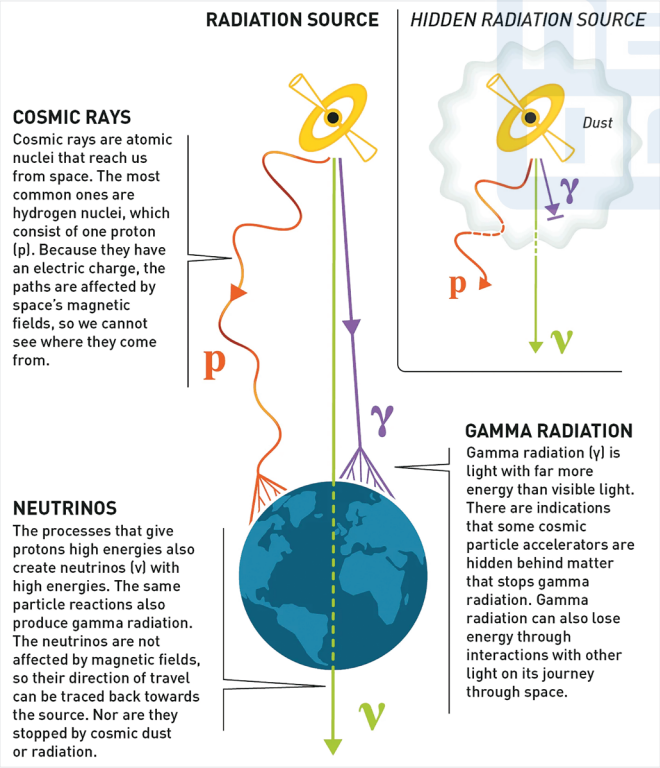
IceCube Neutrino Observatory

- At the **South Pole**, it mainly detects **high-energy astrophysical neutrinos**, which come from space.
- About **1 cubic kilometre** of ice contains 5,160 optical sensors, known as **Digital Optical Modules**.
- Halzen proposed Antarctic ice as a detector in **1988**. The observatory was completed in **2010**.
- **2013:** First evidence of high-energy cosmic neutrinos, including two nicknamed **Bert and Ernie**.
- **2018:** One neutrino was traced to a distant **blazar**.
  - A blazar is an active galaxy with a supermassive black hole and a near-light-speed jet aimed at Earth.

How it Works

- A neutrino rarely strikes an atomic nucleus in the ice, producing a charged particle.
- If this particle outruns light in ice, it emits **Cherenkov radiation**, seen as a faint blue flash. It is light's version of a sonic boom.
- Rare interactions need huge volumes. Clear, stable Antarctic ice provides this.





Neutrinos

- They are fundamental particles of the **lepton** family in the **Standard Model**.
  - Leptons, like electrons, cannot be split further.
- Sources include the Sun, nuclear reactions, supernovae and cosmic-ray interactions.
- They carry no electric charge, so electromagnetic forces ignore them.
- Their mass is tiny but non-zero, shown by **neutrino oscillations** (flavour change).
- Three **flavours** exist: electron, muon and tau. They switch flavour in flight.
- They interact mainly through the **weak nuclear force** and gravity, so detection is hard.
- Trillions cross Earth and the human body every second.
- Magnetic fields cannot deflect them, unlike charged cosmic rays. So they help trace energetic cosmic sources.
- They illuminate particle physics, astrophysics, cosmology and extreme cosmic environments.

India's Contribution

- **1950s-60s:** Tata Institute of Fundamental Research (TIFR) scientists studied cosmic rays in Karnataka's deep Kolar Gold Fields (KGF) mines.
- **1964-65:** Detectors 2.3 km underground recorded **atmospheric neutrinos**, almost simultaneously with a South African gold-mine experiment.
  - These arise when cosmic rays hit air molecules.
- KGF work ended when the mines closed in **1992**.
- The **India-based Neutrino Observatory (INO)** was proposed at Pottipuram, Theni, Tamil Nadu. Its 50,000-tonne magnetised **Iron Calorimeter (ICAL)** would study atmospheric neutrino oscillations and matter effects inside the Earth.

NOBEL PRIZE IN CHEMISTRY 2026

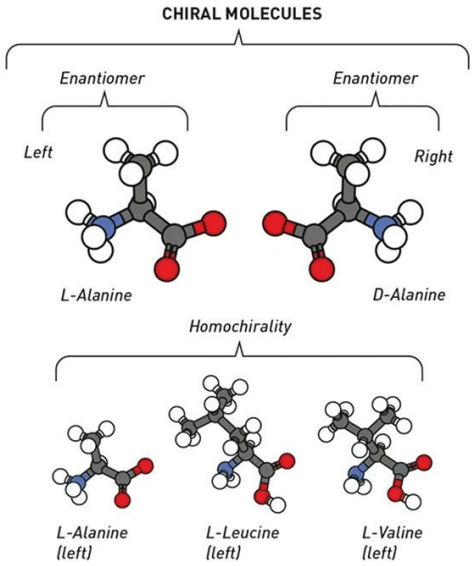
The 2026 Nobel Prize in Chemistry honoured Henri B. Kagan and Kenso Soai for discovering non-linear effects and autocatalysis in asymmetric organic synthesis.

The Prize

- Under **Alfred Nobel's will**, it rewards chemistry discoveries or improvements of greatest benefit to humankind.
- The laureates explained how reactions can create and amplify one **enantiomer** over its mirror image.
- Their work links **stereochemistry** with the chemistry of life.
  - Stereochemistry studies the 3D arrangement of atoms.

Chirality

- A **chiral** object or molecule cannot be superimposed on its mirror image, like left and right hands.
- The two mirror-image forms are **enantiomers**. They share atoms and connectivity but differ in 3D arrangement.
- Living systems show **homochirality**, a strong preference for one enantiomer. Proteins mainly use **L-amino acids**. Biological sugars mostly occur in the **D-configuration**.
- This molecular handedness is a major puzzle about life's origin.



Kagan's Non-linear Effects (1986)

- Ordinary synthesis of a chiral compound gives both enantiomers in nearly equal amounts. This is a **racemic mixture.**
- Kagan showed **non-linear effects** in **asymmetric catalysis**. A catalyst with modest **enantiomeric excess** can give a product with a much higher one. The link is not proportional.
  - A catalyst speeds a reaction without being consumed. Enantiomeric excess measures one enantiomer's surplus.
- This founded **asymmetric synthesis**, which deliberately favours one enantiomer.

'FOR THE DISCOVERY OF NON-LINEAR EFFECTS AND AUTOCATALYSIS IN ASYMMETRIC ORGANIC SYNTHESIS'



"Like hands, all amino acids exist as two mirrored variants, but only one of them is found in the proteins in your cells. The other is rarely found in nature."



HENRI B KAGAN, 96
Professor Emeritus at then Université Paris-Sud, France



KENSO SOAI, 76
Professor Emeritus at Tokyo University of Science, Japan

WHEN MIRROR-IMAGE MOLECULES HARMED BABIES

A DRUG FOR MORNING SICKNESS: Thalidomide was introduced in the late 1950s and marketed by a West German pharma company as a sedative. It was widely prescribed, including to pregnant women for morning sickness.



BIRTH DEFECTS: By 1961, doctors had linked the drug to severe birth defects. Thousands of babies across 46 countries were affected, many with phocomelia, in which limbs are severely shortened or absent.

THE MIRROR-IMAGE PROBLEM: Thalidomide exists as two mirror-image molecules, or enantiomers. One caused birth defects while the other produced the desired effects. Later, it was found the two forms can interconvert (change into each other) in the body.

ON THURSDAY: NOBEL PRIZE IN LITERATURE

Soai's Autocatalysis (1995)

- In **autocatalysis**, the product promotes the making of more product.
- In the **Soai reaction**, a tiny initial imbalance grows because the chiral product catalyses its formation.
- This self-replicates handedness and can reach exceptionally high enantiomeric excess. Strong chiral amplification thus works outside living systems.

Origin of Life

- This work does not solve the origin-of-life problem. It shows homochirality need not be exclusive to biology.
- It offers a plausible way for a tiny asymmetry to grow into dominant handedness. This informs **prebiotic chemistry** theories.
  - Prebiotic chemistry studies chemistry before life.

Pharmaceutical and Industrial Uses

- Enantiomers can interact differently with biological **receptors**. One may be useful, while another may be less effective or harmful.
- Manufacturers once made racemic mixtures, then separated the desired enantiomer. This raised cost, waste and complexity.
- Asymmetric synthesis makes the desired enantiomer at the reaction stage. It also benefits agrochemicals, pesticides, flavours and fragrances.

When Mirror Image Molecules harmed thousands of babies



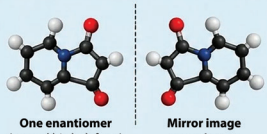
1 A drug for morning sickness

Thalidomide was introduced in the late 1950s and marketed by a West German pharma company as a sedative. It was widely prescribed, including to pregnant women for morning sickness.



2 Birth defects

By 1961, doctors had linked the drug to severe birth defects. Thousands of babies across 46 countries were affected, many with phocomelia, in which limbs are severely shortened or absent.



One enantiomer (caused birth defects)

Mirror image enantiomer (produced desired effects)

3 The mirror-image problem

Thalidomide exists as two mirror-image molecules, or enantiomers. One caused birth defects while the other produced the desired effects. Later, it was found the two forms can interconvert in the body.

WHO'S FIRST GLOBAL CHILD OBESITY GUIDELINES

The World Health Organization (WHO) issued its first global guidelines on tackling obesity in children and adolescents on 7 October 2026.

Obesity

- It is a **chronic, relapsing disease**, with effects starting early in life. Relapsing means it can return.
- In adults, overweight is a **BMI of 25 or more** and obesity is **30 or more**. Body Mass Index (BMI) is weight in kilograms divided by height in metres squared.
- It raises the risk of **non-communicable** (non-infectious) **diseases**, such as **type 2 diabetes** and cardiovascular disease.

- Affected children may also face mental health challenges, stigma, discrimination and bullying.

Status in 2024

- About **170 million** people aged 5-19 lived with obesity: **70 million** aged 5-9 and **100 million** aged 10-19.
- Prevalence in this group has **quadrupled** since 1990, from **2% to 8%**.

Recommendations

- **Strong:** Structured diet, physical activity and behaviour-change interventions.
- **Conditional:** Digital health interventions, under parent or caregiver supervision.
- **Ages 0-9:** No weight-loss medicines, **bariatric** (weight-loss) surgery or devices.
- **Ages 10-19:** Approved medicines may be considered only after a supervised multimodal lifestyle programme fails. Multimodal means combined diet, activity and behaviour support.
- Adolescents with severe obesity may have such surgery only under strict conditions.
- Health workers should treat obesity and mental health together, using inclusive, age-appropriate, family-involving approaches.

INDIA'S DIABETES BURDEN

The Indian Council of Medical Research (ICMR) India Diabetes (INDIAB) study estimates 101 million Indians have diabetes and 136 million have prediabetes.

Burden in India

- India is often called the **diabetes capital** of the world.
- **ICMR-INDIAB (2021 data):** Diabetes affects 11.4% of adults, about 1 in 9. Prediabetes affects 15.3%.
- **International Diabetes Federation (IDF) Atlas 2025:** 89.8 million adults aged 20-79 had diabetes in 2024, second only to China. This may reach 156.7 million by 2050.
- About **43%** of these cases are undiagnosed. Avoidable complications are also rising.

About Diabetes

- It is a chronic **metabolic disorder**. The body makes too little insulin or cannot use it well, so blood glucose (sugar) rises.
- **Insulin**, a hormone made by the pancreas, helps glucose from food enter cells for energy. Without working insulin, glucose stays in the blood.

Types

- **Type 1:** An **autoimmune** disease where the immune system destroys insulin-producing cells. Little or no insulin is made. It usually begins in childhood or adolescence and needs lifelong insulin injections.
- **Type 2:** The most common type. The body becomes **insulin resistant** or makes too little insulin. Obesity, inactivity, poor diet and family history raise risk. Diet, exercise, oral medicines and sometimes insulin manage it.
  - Insulin resistance means cells respond poorly to insulin.
- **Gestational:** It occurs in pregnancy and usually ends after delivery. It raises the risk of later type 2 diabetes.

World Diabetes Day

- It falls on **14 November** each year. It raises awareness of diabetes, prevention and management, supports patients and encourages collective action to cut the burden.

BHARAT 6G SYMPOSIUM 2026

The 3rd International Bharat 6G Symposium 2026 concluded on 9 October at New Delhi's Yashobhoomi.

The Symposium

- The Bharat 6G Alliance (B6GA) organised the three-day event alongside the **India Mobile Congress 2026**.
- Telecom leaders, industry, academia and researchers discussed the roadmap towards **IMT-2030** and beyond.
- Five new **memorandums of understanding (MoUs)** were exchanged with **GSMA, one6G, GTI Alliance, 6G Innovation Forum (6G IF) Taiwan and VOICE**, boosting international cooperation.

About 6G

- **6G** will follow 5G with faster, smoother connections.
- The International Telecommunication Union (ITU) calls it **IMT-2030**, meaning International Mobile Telecommunications for 2030.
- Its research target for **latency** is 0.1 to 1 millisecond.
  - Latency is the data transfer delay.

Bharat's 6G Mission

- India aims to lead in next-generation wireless, building an ecosystem of innovators, researchers, start-ups and policymakers.
- Established in **2023**, the **Bharat 6G Alliance** is an industry-led platform of telecom service providers, industry, start-ups, academia and research institutions.
- It promotes indigenous research, intellectual property, international standards engagement and partnerships for an affordable, secure, sustainable and globally interoperable 6G ecosystem.

Challenges

- R&D investment is needed in semiconductors, AI processors and advanced **System-on-Chips (SoCs)**.
  - An SoC puts main circuits on one chip.

- Hyper-connected networks raise cybersecurity and privacy concerns.
- **Small cells**, fibre-optic **backhaul** and **edge computing** could raise deployment costs, especially in rural, remote and difficult areas. Small cells are mini towers. Backhaul links them to the core network. Edge computing processes data nearby.

Government Initiatives

- **100 5G labs** at academic institutions build capacity and a 6G-ready academic and start-up ecosystem.
- The **Telecom Technology Development Fund (TTDF)** began in **2022**. It funds telecom R&D, including 6G, and links academia, start-ups, micro, small and medium enterprises (MSMEs), research institutes, and industry.
- A **Technology Innovation Hub** at Indian Institute of Information Technology (IIIT) Bangalore, under the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS), focuses on Advanced Communication Systems for future 6G networks.

Significance

The scale and scope of the following will greatly benefit from the development of the 6G internet:

- **Healthcare:** Telemedicine, robotic surgeries and AI-based diagnostics.
- **Agriculture:** Smart monitoring and precision farming using **Internet of Things (IoT)** sensors.
- **Education:** Real-time immersive learning through augmented and virtual reality.
- **Industry:** Industry 4.0 gains better machine-to-machine communication, **digital twins** (a machine's **virtual copy**) and IoT.

SPACE RADIATION

A study in Monthly Notices of the Royal Astronomical Society (SNIFFLES programme) found low-Earth orbit (LEO) satellites of Starlink, OneWeb and China's Guowang emit interfering radio signals.

Space Radiation

- High-energy particles, mostly bare atomic nuclei, travel near light speed.
- **Types:** Particles trapped in Earth's magnetic field.
  - Solar particle events from solar flares.
- **Galactic cosmic rays:** protons and heavy ions from beyond the solar system.
- All are **ionizing radiation**.
  - It can strip electrons from atoms.

Findings and Recommendations

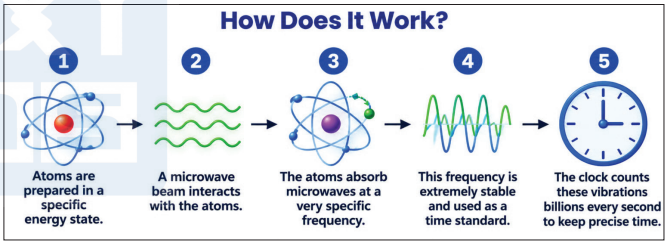
- A OneWeb signal at **1,613.19 MHz** could disturb observations of hydroxyl (OH).
- Some emissions were up to **100 billion times** brighter than typical astronomical sources, swamping telescopes.
- Apply existing international radio-emission rules to satellites.
- Operators, designers and space agencies should continuously monitor emissions, especially as **direct-to-cell** (phone-to-satellite) services expand.

WORLD'S FIRST WORKING NUCLEAR CLOCKS

Scientists in Vienna and Beijing have independently built the world's first two operating nuclear clocks.

About Nuclear Clock

- It keeps time using the frequency of energy transitions inside an atom's nucleus.
  - A transition is a jump between energy levels.
- It does not run on nuclear fission or fusion. **"Nuclear"** only names the part of the atom serving as the timekeeping reference.
- Lasers push the nucleus of **thorium-229** back and forth between energy levels.
- Both teams embedded thorium-229, an **isotope** of radioactive thorium, in **calcium fluoride** crystals.
  - An isotope is a version of an element with a different neutron count.
- Most nuclei need extremely high-energy radiation to excite. Thorium-229's low-energy transition responds to laser light.



Atomic Clocks Compared

- **Atomic clocks** first appeared in **1949** and are among the most accurate timekeepers. Ordinary clocks rely on mechanical movement or quartz vibrations.
- Atomic clocks use lasers or microwaves to make **electrons** jump between two energy levels in an atom's shell, using elements such as caesium or strontium.
- The international definition of a second rests on a specific transition in **caesium-133**.

Potential Applications

- **Navigation:** GPS determines position from signal travel time. Tiny timing errors cause big position errors, so precise clocks help.
- **Communications:** Precise timing synchronises data across mobile networks, fibre-optic links and communication systems.
- **Finance:** Accurate synchronisation orders transactions and keeps financial networks reliable.

- **Fundamental physics:** Nuclear clocks could probe how ultralight **dark matter** interacts with ordinary matter. They could also test whether fundamental constants change over time. Dark matter is unseen matter that can only be detected through its gravitational effects.

Challenges

- **Performance:** Nuclear clocks have not yet beaten the best atomic and optical clocks.
- **Laser technology:** Making and stabilising **vacuum-ultraviolet** laser light is challenging.
  - Its short wavelength is absorbed by air.
- **Materials and complexity:** Crystals need good optical properties and enough thorium.
  - Stability, reproducibility and practical reliability need improvement.
- **Limited use:** Applications in navigation and communications remain prospective.

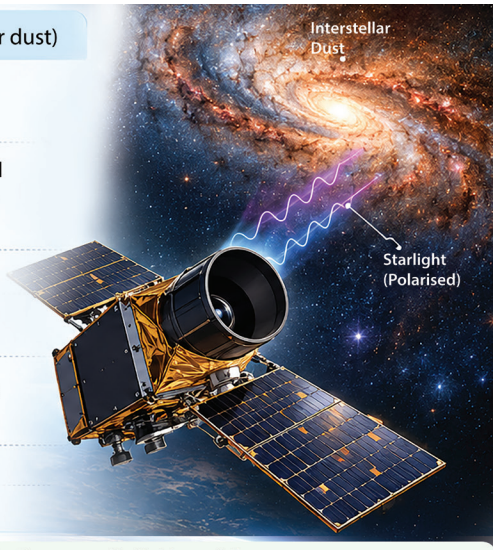
Atomic Clocks vs Nuclear Clocks

Features	Atomic Clocks (Today's Best Timekeepers)	Nuclear Clocks (The Next Generation)
What they Use	Measure energy transitions of electrons in an atom (usually caesium, rubidium, strontium, etc.).	Measure energy transitions inside the atomic nucleus (using thorium-229).
Transition Energy	Relatively low energy. Can be controlled using microwaves or visible lasers.	Very low nuclear transition energy in thorium-229, activated using ultraviolet (148 nm) lasers.
Sensitivity to Environment	More affected by external electric and magnetic fields, temperature changes, and other environmental noise.	Far less affected by external disturbances. The nucleus is deeply shielded, making it inherently more stable.
Stability & Accuracy	Extremely accurate. Current best lose about 1 second in 15 billion years.	Potentially even more accurate than the best atomic clocks. Could lose 1 second in trillions of years.
Technology Maturity	Well-developed and used worldwide in labs, satellites, and navigation systems.	Very new technology. First working nuclear clocks just demonstrated in labs (China & Europe, 2024).
Practical Use/ Application	Used in GPS, telecom, financial systems, space missions, and scientific research.	Ultra-precise navigation, gravitational sensing, dark matter searches, and tests of fundamental physics.
Key Advantage	Proven technology with excellent accuracy and reliability.	Next-generation potential with higher stability and groundbreaking possibilities.

PUFFINS TELESCOPE MISSION

Bengaluru-born astronomer Dr. Ramya Anche has been selected as Principal Investigator of NASA's $20-million PUFFINS space telescope mission.

About PUFFINS (Polarimetry in the Ultraviolet to Find Features in Interstellar dust)



- **Type:** Small Satellite (SmallSat) mission in **Low-Earth Orbit**.
- **Organisation:** Funded by **NASA's Astrophysics Pioneers programme** and led by the University of Arizona's Steward Observatory, with support from McDonald Observatory, University of Texas.
- **Objective:** To study the **composition, structure and magnetic alignment of interstellar dust grains** and their role in star and planet formation.
- **Ultraviolet Spectropolarimetry:** It measures the **polarisation of ultraviolet starlight** across different wavelengths to study dust properties.
- **Small Dust Grains:** Investigates interstellar particles **smaller than approximately 50 nanometres**.

Significance: The mission will improve understanding of interstellar dust, galactic magnetic fields and the processes governing star and planetary system formation.

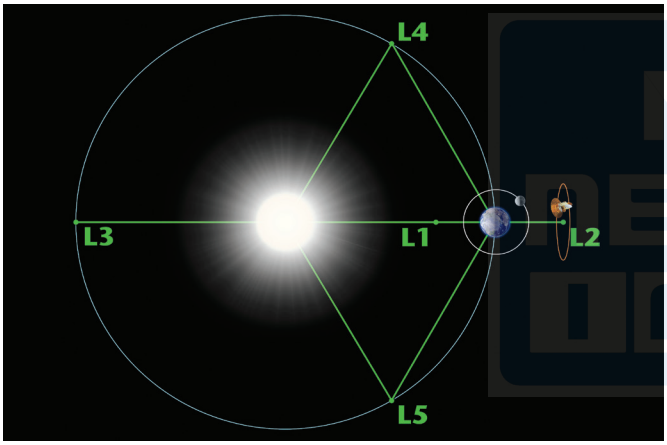
ADITYA-L1'S DOPPLER IMAGES OF THE SUN'S CORONA

Scientists have produced Doppler velocity images of solar corona activity using data from India's first solar mission, Aditya-L1.

The Images

- Indian Institute of Astrophysics (IIA) scientists made them from **Visible Emission Line Coronagraph (VELC)** data.
- Positive and negative Doppler velocities show solar **plasma** moving away from and towards the observer.
  - Plasma is hot, electrically charged gas.
- The **Doppler effect** is the frequency shift of waves from moving objects. It reveals motion along the line of sight.
- The images should show how **coronal mass ejections (CMEs)** travel along the Sun-Earth line, which was unavailable so far.
  - CMEs are huge plasma eruptions from the Sun.

About Aditya-L1



- It was launched in **September 2023** and is India's first space-based Sun observatory.
- It sits at **Lagrange point L1**, studying the Sun's chromospheric and coronal dynamics. At L1, the gravitational pulls of the Sun and Earth balance, so objects stay relatively stable.
  - Of five Lagrange points, L1, L2 and L3 are unstable. L4 and L5 are stable.
- **Advantages over low Earth orbit (LEO):** The Sun-spacecraft velocity changes smoothly, suiting **helioseismology**.
  - It lies outside Earth's magnetosphere, so **in situ** sampling of solar wind and particles is possible.
  - It gets unobstructed, continuous Sun views and a view of Earth for continuous ground communication.
- It carries **seven payloads:** Four for remote sensing and three for in-situ observation. Remote sensing observes from afar.
  - In situ measures on the spot.

Payloads

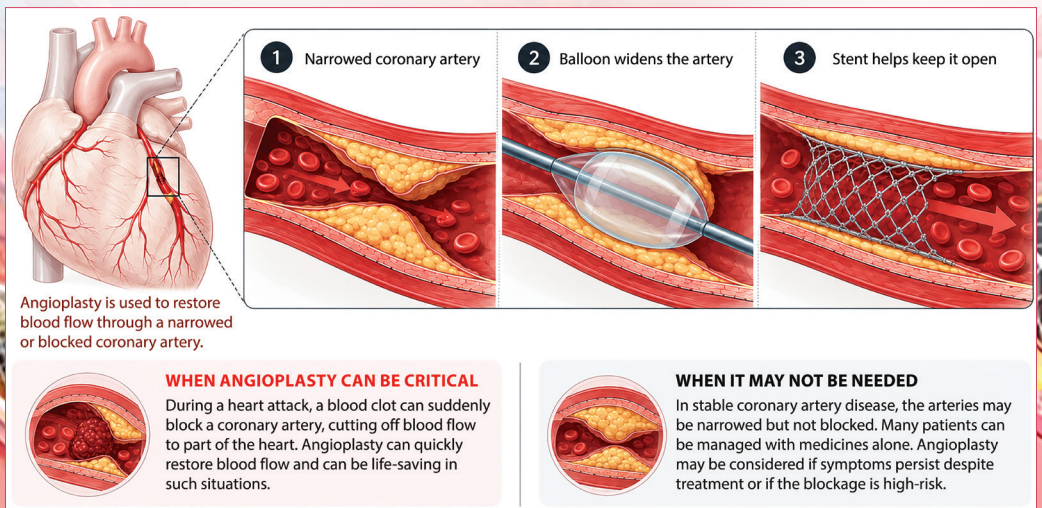
- **VELC:** Corona imaging, spectroscopy and CMEs.
- **Solar Ultraviolet Imaging Telescope (SUIT):** Photosphere and chromosphere imaging, narrow and broadband. It also measures solar irradiance changes.
- **Solar Low Energy X-ray Spectrometer (SoLEXS)** and **High Energy L1 Orbiting X-ray Spectrometer (HEL1OS):** Soft and hard solar X-ray flares across a wide energy range.
- **Aditya Solar wind Particle Experiment (ASPEX)** and **Plasma Analyser Package For Aditya (PAPA):** Solar wind electrons and protons, and energetic ions.
- **Advanced Tri-axial High Resolution Digital Magnetometers:** The interplanetary magnetic field at L1.

ANGIOPLASTY

The Chief Minister of Keralam called for a campaign against unnecessary angioplasty.

About

- An angioplasty is a procedure to open a narrowed or blocked heart artery with a small balloon, often followed by **placement of a stent** or a mesh bridge to keep it wide enough for oxygenated blood to flow.
- **Modern stents are drug-coated** with clotting medicines and are designed to last a lifetime.



8 SOCIETY

UNTOUCHABILITY

A purification ritual at Haldwani, Uttarakhand, in August 2026 has revived debate on untouchability's survival despite constitutional and legal safeguards.

About

- It is historical caste-based exclusion rooted in beliefs about **purity and pollution**. It denies equal access to social spaces, resources and opportunities because of caste.

Safeguards

- **Article 15(2):** It bars any disability, liability, restriction or condition on grounds only of religion, race, caste, sex or place of birth in access to shops, public restaurants, hotels and places of public entertainment.
  - It also covers use of wells, tanks, bathing ghats, roads and public resorts maintained from State funds or meant for the public.
- **Article 17:** It abolishes untouchability in all its forms.
- **Protection of Civil Rights Act, 1955:** It penalises untouchability and enforces its disabilities.
- **SC/ST (Prevention of Atrocities) Act, 1989:** It prevents atrocities against SCs and STs and provides for trials, relief and rehabilitation.

Factors Responsible for its Persistence

- **Sociological:** Families and customs perpetuate caste hierarchies. **Endogamy** reinforces divisions.
- **Cultural:** Separate utensils, segregated seating and temple entry bans pass as tradition.
- **Economic:** Landlessness, insecure jobs and dependence on dominant castes deter challenges. Manual scavenging and hazardous sanitation work persist despite laws.

Key Judgements

- **Devarajiah v. B. Padmanna (1957):** The Mysore High Court held that Article 17 means historical caste-based disabilities imposed by birth, not the literal sense.
- **Surya Narayan Choudhary v. State of Rajasthan (1988):** The Rajasthan High Court held that caste-specific ritual conditions for temple entry are untouchability.
- **State of Karnataka v. Appa Balu Ingale (1992):** The Supreme Court said the caste system must be dismantled and urged strict enforcement of the 1955 Act.
- **Sukanya Shantha v. Union of India (2024):** The Supreme Court held that Article 17 covers discrimination based on presence or touch.

Way Forward

- **Education:** Teach equality and anti-caste reform, and sensitise teachers.
- **Social integration:** Promote shared facilities and inter-caste interaction.
- **Civil remedies:** Provide accessible remedies alongside prosecution.
- **Enforcement:** Ensure prompt complaints, impartial probes, time-bound trials and victim protection.

ADULTERY AND MILITARY DISCIPLINE

An Armoured Corps officer got a show-cause notice under the Army Rules, 1954, proposing administrative termination of service over adultery allegations.

Adultery under Section 497 IPC

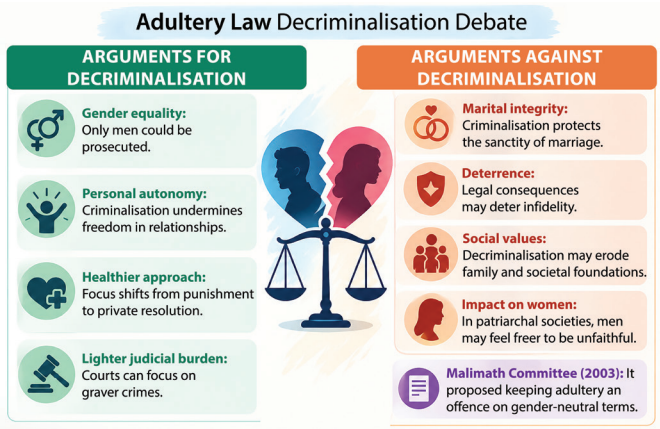
- **Section 497** of the **Indian Penal Code (IPC), 1860**, made adultery a crime.
- It covered sexual intercourse with a person known, or believed, to be another man's wife, without that man's consent.
- Only the man could be prosecuted and punished.
- **Punishment:** Up to five years' imprisonment, a fine, or both.

Decriminalisation

- In **Joseph Shine v. Union of India (2018)**, the Supreme Court struck down Section 497 as unconstitutional.
  - Adultery is a private matter and does not warrant criminal prosecution.
  - It violates **Article 14** (equality), **Article 15** (non-discrimination) and **Article 21** (life and personal liberty).
  - Marriage is a personal relationship, and the state should not impose criminal liability.
- The Court clarified that adultery remains a moral wrong and a ground in civil proceedings.

Why the Army Can Still Act?

- **Article 33** lets Parliament modify or restrict fundamental rights of armed forces members to ensure duty and discipline.
- **Army Act, 1950:**
  - **Section 45:** Conduct unbecoming of an officer.
  - **Section 63:** Acts prejudicial to good order and military discipline.
  - They still apply to adulterous conduct that affects unit cohesion or discipline.
- In **2023**, the Supreme Court clarified that Joseph Shine does not hinder disciplinary action under the Army, Navy and Air Force Acts.



PRADHAN MANTRI SAMAJIK SAHAYATA YOJANA (PMSSY)

The Union Cabinet approved continuing the National Social Assistance Programme (NSAP) for 2026-27 to 2030-31 with ₹53,428 crore. It renamed the programme Pradhan Mantri Samajik Sahayata Yojana (PMSSY).

About the Scheme

- **Launch:** 15 August 1995, as the NSAP.
- **Ministry:** Ministry of Rural Development.
- **Nature:** A **100% centrally sponsored**, non-contributory social assistance programme.
- **Area:** Rural and urban areas. The basic condition across components is that the household is **below the poverty line (BPL)**.
- **Objective:** It gives a minimum support to vulnerable BPL households anywhere in the country. These include elderly persons, widows, persons with disabilities and families losing their main breadwinner.
- **Constitutional basis: Article 41** of the Directive Principles directs the State to provide public assistance in cases of unemployment, old age, sickness, disability and undeserved want, within its economic capacity.

Components and New Names

- **Old-age pension:** The Indira Gandhi National Old Age Pension Scheme is now **Pradhan Mantri Vridhavastha Pension Yojana**.
- **Widow pension:** The Indira Gandhi National Widow Pension Scheme is now **Pradhan Mantri Vidhawa Pension Yojana**.
- **Disability pension:** The Indira Gandhi National Disability Pension Scheme is now **Pradhan Mantri Divyangjan Pension Yojana**.
- **Family benefit:** The National Family Benefit Scheme is now **Pradhan Mantri Parivar Labh Yojana**. It gives a one-time grant to BPL households when the primary breadwinner dies.

Changes in Disability Pension

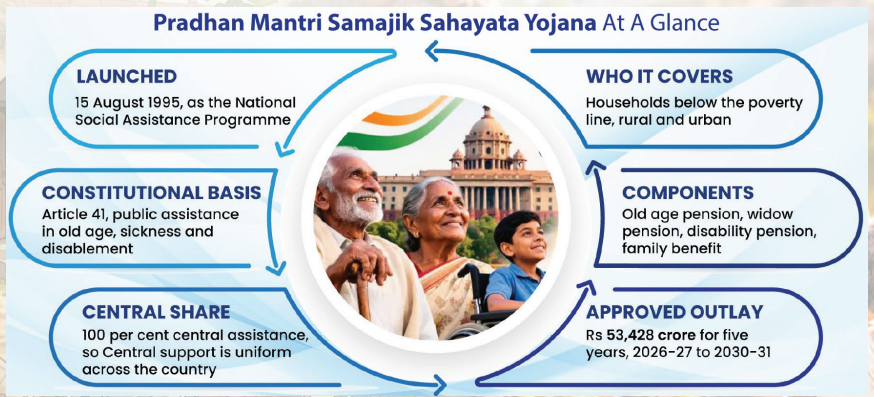
- **Wider eligibility:** The threshold falls from **80%** to **40%** disability under the **Rights of Persons with Disabilities Act, 2016**. The Act requires disability assistance to be 25% higher than similar schemes for other categories.
- **No minimum age:** Benefits can begin from birth.
- **Monthly assistance: ₹375** for ages 0 to 79 and **₹625** for 80 and above.

Approval and Reach

- The Cabinet approved it on 14 October 2026, on a proposal from the Department of Rural Development.
- The old-age pension, widow pension and family benefit continue in their existing form.
- Guidelines are due within three months.
- About **3.20 crore** beneficiaries across 36 States and Union Territories.

Divyangjan Pension *(Before and After 14 October 2026)*

Criteria	Until 14 October 2026	From 14 October 2026
Disability criterion	Severe or multiple disability, 80 per cent, section 2(o), National Trust Act 1999	Benchmark disability, 40 per cent, section 2(r), Rights of Persons with Disabilities Act 2016
Minimum age	18 years	**None.** Eligibility runs from birth
Central assistance a month	Rs 300 up to 79 years, Rs 500 at 80 and above	Rs 375 up to 79 years, Rs 625 at 80 and above

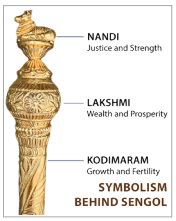


9 CULTURE & HISTORY

SENGOL

The new NCERT Class 9 Social Science textbook, Understanding Society: India and Beyond, Part 2, presents the Sengol as a symbol of righteous governance.

About



- It is a traditional Tamil royal **sceptre** from **Tamil Nadu**, also called **Chenkol**. Rulers used it as a ceremonial emblem.
  - A sceptre is a ruler's ceremonial staff.
- It stood for monarchy, righteousness, justice and rightful authority.
- It signified **dharmic kingship**, meaning a ruler's power was valid and answerable to divine and ethical ideals.
- In the Great **Chola** Empire, it symbolised duty, service and nationhood.

Regional Uses

- The **Madurai Nayakas** linked it with goddess **Meenakshi**. It was kept in the throne room to remind kings of their duties.
- The **Sethupatis of Ramnad** received a ritually blessed Sengol from Rameswaram temple priests when they became kings.

1947 and the NCERT Account

- NCERT says Shaivite **Adheenam** saints gave it to **Jawaharlal Nehru** in **1947**. This marked the transfer of authority from British rule to an independent India.
  - Adheenams are Shaivite monastic institutions of Tamil Nadu.
- The Union Ministry of Culture also calls it a symbol of ethically exercised kingship.
- Under C. Rajagopalachari's guidance and the Adheenam sages, it became a symbol of the transfer of power.

Debate

- Historians, including **Rajmohan Gandhi**, say Nehru's and Rajagopalachari's papers do not record it as a formal symbol of the transfer of power.

RAMAPPA TEMPLE

Heritage conservationists in Telangana fear that a proposed deep opencast coal mine, about 5 km away, could harm the Ramappa Temple.

About

- Its formal name is the **Kakatiya Rudreshwara Temple**.
- It stands in **Palampet** village, Telangana, about 200 km north-east of Hyderabad.
- It is dedicated to **Shiva**. The presiding deity is **Ramalingeswara Swamy**.
- **Recherla Rudra**, a general of Kakatiya king **Ganapati Deva**, built it in **1213 AD**.
- It is named after the sculptor **Ramappa**, who worked on it for 40 years.
- **UNESCO** inscribed it as a World Heritage Site in **2021**.

Key Architectural Features

- It rests on a 6-foot-high, star-shaped platform.
- Its walls, pillars and ceilings carry intricate carvings.
- It is built of sandstone. Its beams and pillars use carved granite and dolerite.
  - Dolerite is a hard, dark volcanic rock.
- Its **Vimana** is made of lightweight porous bricks, also called **floating bricks**.
  - A Vimana is the tower above the inner shrine.
- Its bracket figures are carved from dolerite. They have a metal-like finish and lasting lustre.

KASHI TAMIL SANGAMAM 5.0

The Education Minister launched the registration portal for the fifth Kashi Tamil Sangamam (KTS 5.0). Its theme is Thirukkural Payilvom, which means "Let Us Learn the Thirukkural".

About

- It strengthens the bonds between **Tamil Nadu** and **Kashi**, two seats of learning.
- It reflects the spirit of **Ek Bharat Shreshtha Bharat**.
  - It pairs states for cultural exchange.
- The first edition was published in 2022 by the Ministry of Education in collaboration with the Uttar Pradesh Government.
- KTS 5.0 runs 28 November to 12 December 2026.

Thirukkural

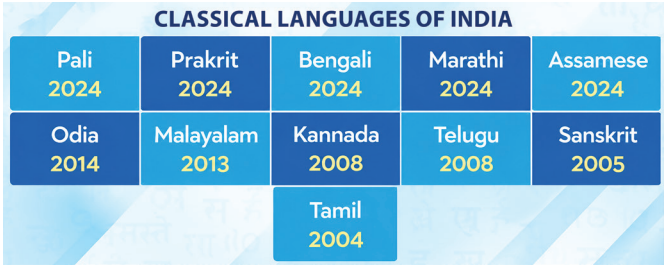
- This classical Tamil work offers ethical and practical guidance on conduct, social life and governance.
- **Thiruvalluvar**, a poet and philosopher, wrote it.
- It has **1,330 couplets** (*kurals*) in **133 chapters** of 10 each.
- Its three parts are **Aram** (virtue), **Porul** (wealth) and **Inbam** (love).

FIVE NEW CENTRES OF EXCELLENCE FOR CLASSICAL LANGUAGES

The Ministry of Education has approved five Centres of Excellence (CoE) for the study of classical Assamese, Bengali, Marathi, Pali and Prakrit.

The Five Centres

- **Classical Assamese:** Tezpur University, Assam.
- **Classical Bengali:** Visva-Bharati University, West Bengal.
- **Classical Marathi:** Deccan College Post-Graduate and Research Institute, Pune.
- **Classical Pali:** Central University of Odisha.
- **Classical Prakrit:** Central University of Gujarat.
- They will support advanced research, preservation, digitisation and wider sharing of these languages' literary and linguistic heritage.



Classical Languages

- India has **11** classical languages.
- **Tamil** (2004), **Sanskrit** (2005), **Telugu** and **Kannada** (2008), **Malayalam** (2013) and **Odia** (2014) were declared first.
- The Union Cabinet added the other five in **October 2024**.

Criteria

- Early texts or recorded history must be highly ancient, spanning **1,500 to 2,000 years**.
- Ancient literature must be treasured as heritage by generations of speakers.
- Knowledge texts, especially prose, must exist along with poetry and inscriptional evidence.
  - Inscriptional evidence means engraved records.
- The classical form may differ from the modern language or break from later forms.

LOKNAYAK JAYAPRAKASH NARAYAN

The Prime Minister paid tribute to Loknayak Jayaprakash Narayan on his 124th birth anniversary, 11 October 2026.

About

- He was born on **11 October 1902** at Sitab Diara. He died on **8 October 1979**.
- He was a political leader, socialist thinker and independence activist.
- People called him **Lok Nayak** (People's Leader). He argued for social and economic equality and refused political power.

Freedom Struggle

- **Congress Socialist Party (1934):** He co-founded this socialist group inside the Indian National Congress.
- **Quit India Movement (1942):** The British jailed him. He escaped from Hazaribagh Central Jail in Bihar and helped in organising resistance.
- After independence, he became a leading socialist voice. He then moved from electoral politics to constructive social work.

Contribution

- **Bhoodan and Sarvodaya:** From the 1950s, he supported Vinoba Bhave's **Bhoodan** movement. Landowners voluntarily donated land to the landless. (**Sarvodaya** means the welfare of all)
- **Total Revolution (1974):** He gave this call on **5 June 1974** at Gandhi Maidan, Patna.
  - He sought public participation, government accountability and action on corruption.
  - He also demanded the resignation of Bihar's government.
- **Participatory democracy:** He backed decentralised power, stronger village institutions and citizen involvement in decisions.
- **Ethical politics:** He stressed integrity, accountability of leaders and checks on concentrated power.
- **Non-violence:** He chose peaceful mass mobilisation over armed revolution.
- He guided the formation of the **Janata Party**, which won power in 1977 after the Emergency.

Honours

- **Ramon Magsaysay Award (1965):** named after a former Philippine president, it honours exceptional service in Asia.
- **Bharat Ratna (1999):** He received India's highest civilian award posthumously.

MAHARAJA AGRASEN

Prime Minister Narendra Modi paid tribute to Maharaja Agrasen on his birth anniversary, 11 October 2026.

About

- He is regarded as an ancient king linked to **Agroha** in present-day **Haryana**.
- **Agrasen Jayanti** follows the Hindu lunar calendar, usually in September or October.
- Tradition places him in the **Suryavansha** (Solar dynasty). It claims descent from the Sun.
- He is regarded as the founder of Agroha, an important centre of the **Agrawal** community.
- He is linked with the worship of **Goddess Lakshmi**. He promoted prosperity through ethical trade and social responsibility.

Historical Evidence

- His life, reign and chronology rest largely on community legends.
- Contemporary evidence does not firmly establish his period or biography.

Agroha Dham

- This Haryana site is a major religious and cultural centre associated with Agrasen and Goddess Mahalakshmi.

GARBA

Navratri festivities feature traditional outdoor Garba dances in praise of Goddess Ambe Maa.

About

- It is a traditional Gujarati **folk dance** performed during the nine-day **Navratri** festival. It celebrates the victory of good over evil.
- Its name comes from the Sanskrit word for **womb**, which stands for life and creation.
- The dance honours fertility, womanhood and devotion to the Mother Goddess.

Performance

- Dancers move in a circle around a lamp or an image of **Goddess Shakti**. Shakti is the feminine energy of the universe.
- Rhythmic music, singing and clapping accompany it.
- People of all ages, genders and social backgrounds can join.
- **Dandiya Raas**, traditionally danced by men, shaped modern Garba's energetic form.

Recognition

- UNESCO inscribed it on the Representative List of the Intangible Cultural Heritage of Humanity in December 2023.

INDIA'S UNESCO TENTATIVE LIST

Three Indian sites have joined UNESCO's Tentative List of World Heritage Sites, taking India's total to 81.

About the Tentative List

- A site must be on this list before it can be nominated to the World Heritage List.

Baratang Karst-Mud-Volcano Complex

- It lies on **Baratang Island**, Andaman and Nicobar Islands.
- It has limestone caves and active **mud volcanoes**.
  - They release mud, water and gases, not molten rock.

Andaman Subduction Volcanoes

- This Andaman site covers **Barren Island** and **Narcondam Island**.
  - Subduction is when one tectonic plate sinks beneath another.
- It shows volcanic processes and **ecological succession**.
  - This is the gradual change in a habitat's life over time.
- Barren Island has India's only confirmed active volcano, erupting since the late 18th century.
- Narcondam is a forested volcanic island rich in biodiversity.
  - The **Narcondam hornbill** occurs naturally only there.

Sirpur Cultural and Archaeological Landscape

- It lies in Mahasamund district, Chhattisgarh, on the Mahanadi's eastern bank. It is about **78 km** from Raipur.



- Sirpur, also called Shripur, was the capital of **Dakshina Kosala** under the Sharabhapuriya dynasty and grew under the **Panduvamshi** dynasty.
- Its remains show architecture, trade links and the influence of several faiths.

India's World Heritage Sites

- India has **45** sites: 37 cultural, seven natural and one mixed. The latest is ancient Buddhist **Sarnath** (July 2026).

KERALA'S JEWISH COMMUNITY

A fire near Ernakulam's Kadavumbhagam Synagogue and another at Fort Kochi's Koder House have renewed attention on Kerala's declining Jewish community.

Recent Incident

- On 12 October 2026, a man set fire to a signboard near the Kadavumbhagam Synagogue. Police are probing suspected foreign links.

Origins

- Jewish settlement in Kerala is linked to the ancient spice trade.
- The state has two main groups. They are the Malabari ("black") Jews and the Paradesi ("white") Jews.
- Two smaller groups also lived in Cochin.
  - **Baghdadi Jews** came in the 18th and 19th centuries from West Asia. They were later counted as "white" Jews.

- **The Meshuchrarim** were part of the Paradesi fold. They included freed slaves brought from Europe, as well as converts and their descendants.

Malabari (Cochin) Jews

- Tradition traces them to King Solomon's time, about 3,000 years ago.
- They first settled in **Cranganore** (present-day Kodungallur, Thrissur). They called it **Shingly**.
- After the Portuguese arrived in the 16th century, they moved south to **Cochin**.
- The Kadavumbhagam Synagogue in Ernakulam is traditionally linked to them.

Paradesi Jews

- The word **'Paradesi' means 'foreign'.**
- They came in the 15th and 16th centuries from the **Iberian Peninsula**, which holds Spain and Portugal.
- They fled persecution by the Catholic rulers of Spain and Portugal.
- They settled on the Malabar coast beside earlier Jewish communities, and in Madras (Chennai).
- In Cochin they traded spices. In Madras they traded **Golconda** diamonds and other gems.

Decline

- Kerala Jews have steadily migrated to Israel since the 1950s.
- **Aliyah** means Jewish immigration to Israel. Large-scale departures followed Israel's creation in 1948.
- **Queenie Hallegua,** the last Jewish woman of Kochi, died in 2024.

SILK ROAD

Despite its name, the Silk Road was a network of land and sea routes. It linked China with the Middle East and Europe.

Origins

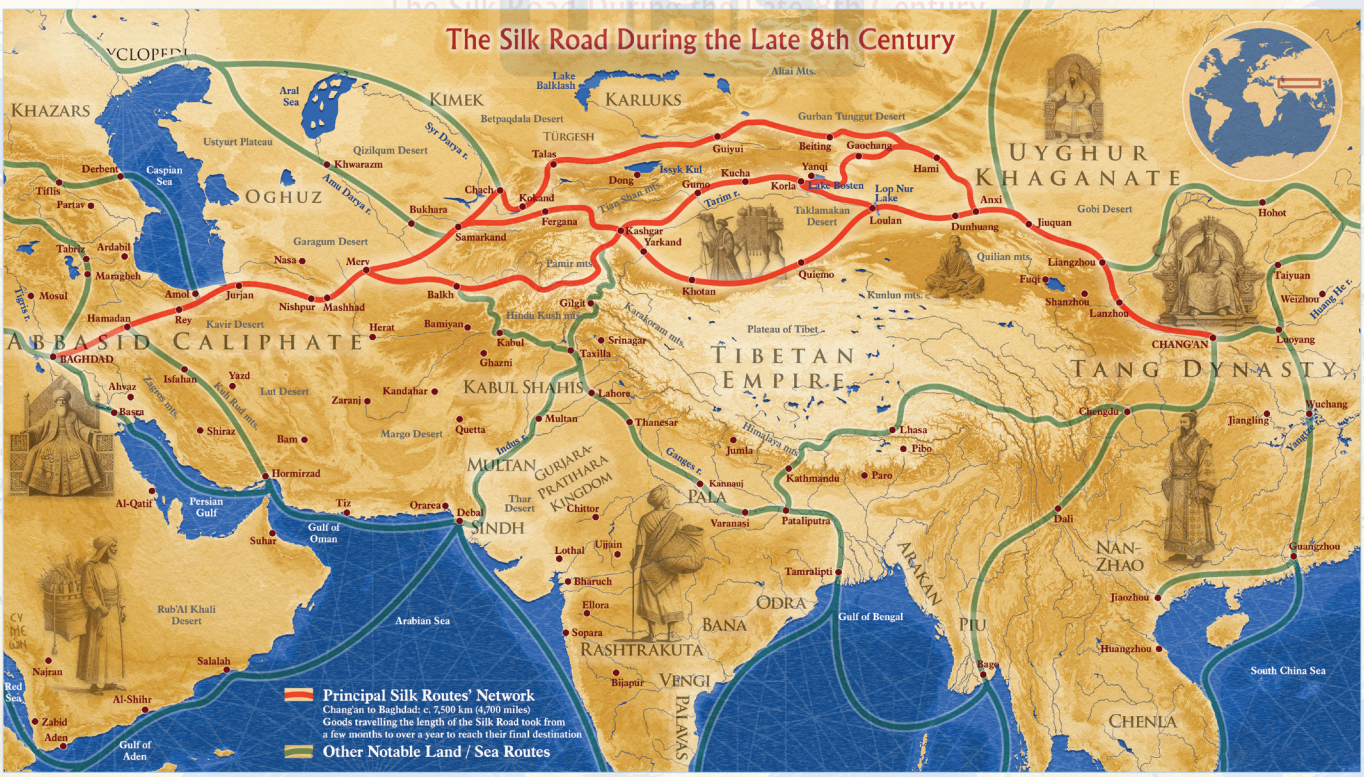
- It gained importance from the **second century BC**. The **Han dynasty** of China expanded west and made contact with Central Asian states.
- The name comes from prized Chinese silk.
  - **Ferdinand von Richthofen** coined the term in the 19th century.

Trade and Exchange

- Silk travelled west except in harsh winters. Gold, silver coins and other valuables came back.
- The routes also carried technologies, religions, art styles, languages and natural philosophy across Eurasia.

Decline

- Many accounts say the routes ended in **AD 1453**, when the **Ottoman Empire** boycotted trade with China and closed them.
- UNESCO says some stayed in use until the 19th century.



10 MISCELLANEOUS

SAKHAROV PRIZE 2026

The European Parliament awarded the 2026 Sakharov Prize for Freedom of Thought to the International Criminal Court (ICC) and its officials. The honour comes amid US sanctions on the Court.

About the Prize

- It began in **1988**. It honours **Andrei Sakharov**, the Soviet dissident who won the Nobel Peace Prize.
- The award recognises **individuals and groups** who defend human rights and fundamental freedoms.
- The **Conference of Presidents** picks the winners. This European Parliament body has the President and the heads of every political group.
- The prize carries **€50,000**. It is presented in **Strasbourg**, France, each December.
- Some laureates later won the Nobel Peace Prize. They include **Nelson Mandela**, **Malala Yousafzai** and Venezuelan opposition leader **María Corina Machado**.

International Criminal Court

- It is an international tribunal in **The Hague**, Netherlands. It is legally independent of the United Nations.
- It was established in **2002** under the **Rome Statute**.
- ICC is the first, and still the only, permanent court of its kind for prosecuting individuals.
- Its jurisdiction covers genocide, crimes against humanity, war crimes and the crime of aggression.
- It has **125** States Parties. Ukraine is the latest to join.

International Court of Justice (ICJ)

- The ICJ is a United Nations organ.
- It hears disputes between states.

NOBEL PRIZE IN LITERATURE 2026

The Swedish Academy awarded the 2026 Nobel Prize in Literature to Canadian author Anne Carson.

About Anne Carson

- She was born in **1950** in **Toronto**, Canada.
- She is a poet, essayist, translator and classicist.
  - A classicist studies ancient Greek and Roman culture.
- Her work links ancient Greek literature with modern experience.
- Her notable works are ***The Glass Essay (1995)***, ***Autobiography of Red: A Novel in Verse (1998)*** and ***Float (2016)***. They reflect her experimental style.

Nobel Prize in Literature

- It is one of five Nobel Prizes set up by the will of **Alfred Nobel** in **1895**. It was first awarded in **1901**.
- It honours an author from any country whose work is the most outstanding "in an **idealistic direction**". It usually rests on the whole body of work.

Tagore and the Prize

- **Rabindranath Tagore** is the only Indian to win the Nobel Prize in Literature so far.
- He won in **1913** for ***Gitanjali***. This verse collection has spare lyricism and philosophical clarity. It took Bengali poetry to a world audience.
- He was also the first Asian to win any Nobel Prize.

NOBEL PEACE PRIZE 2026

The Norwegian Nobel Committee awarded the 2026 Nobel Peace Prize to Navanethem "Navi" Pillay for promoting peace and international law.

About Navi Pillay

- She was born in **Durban**, South Africa, into a family of Indian Tamil origin under apartheid.
  - **Apartheid** was a system of legalised racial segregation.
- She became a lawyer and legal pioneer who confronted discrimination, segregation and exclusion.
- She chaired the **UN Commission of Inquiry on the Occupied Palestinian Territory.** Its 2025 report found that Israel had committed genocide in Gaza.

Nobel Peace Prize

- The Norwegian Nobel Committee selects the winner. The Norwegian Parliament appoints its members.
- The first prize came in **1901**. It was shared by **Frédéric Passy** of France and **Henry Dunant** of Switzerland. Dunant co-founded the International Committee of the Red Cross (ICRC).
- Individuals and organisations can win it. Individuals cannot receive it posthumously.

Gandhi and the Prize

- **Mahatma Gandhi** was nominated five times but never received it.

SIDM CHAMPION AWARDS 2026

Recently, the Raksha Mantri Rajnath Singh presented the SIDM Champion Awards 2026. The event was the 8th Annual Session of the Society of Indian Defence Manufacturers (SIDM).

About the Awards

- **15** organisations received awards.
- They recognise achievements in indigenous technology development, product innovation, design, import substitution, manufacturing excellence and exports. Import substitution means replacing imported goods with domestic ones.
- They encourage Indian industry to invest in technology and product innovation. This helps to meet the capability gaps of the defence forces.

Eligibility

- All Indian manufacturing companies can take part.
- Foreign holding can be up to **50%**. The company must not be a subsidiary of a foreign company.

About SIDM

- It was established in **2017** as a not-for-profit apex body of the Indian defence industry.
- It acts as an advocate, catalyst and facilitator for the industry's growth and capability development.

WORLD MENTAL HEALTH DAY 2026

World Mental Health Day was observed on 10 October 2026. Its theme was "Lived Experiences Heard: Real Voices, Real Change".

About the Day

- The **World Federation for Mental Health (WFMH)** began it in **1992**. It aims to raise awareness and mobilise support for mental health worldwide.

Understanding Mental Health

- Mental health is emotional, psychological and social well-being. It helps a person cope with normal stresses, learn, work well and contribute to the community.
- Poor mental health can cause anxiety, depression and severe disorders, harming physical health, relationships and functioning.

Challenges in India

- **Social stigma:** Fear of discrimination stops families from seeking professional help.
- **Low mental health literacy:** People miss signs of depression, delaying treatment.
- **Neglect of the elderly:** Loneliness and isolation hurt them. Families may mistake depression for normal ageing.
- **Unequal access:** Professionals and facilities cluster in cities.
- **Misinformation:** Myths discourage evidence-based care.

Initiatives in India

- **Tele-MANAS:** This 24x7 helpline gives free counselling and psychological support. It began on **10 October 2022** and is vital after COVID-19.
- **Ayushman Arogya Mandirs:** Over **1.75 lakh** Sub Health Centres and Primary Health Centres became centres offering mental health services under Comprehensive Primary Health Care.
- **National Mental Health Programme (NMHP), 1982:** It tackles rising mental disorders and inadequate services.
- **District Mental Health Programme (DMHP), 1996:** It was later integrated into the NMHP.
  - It follows Karnataka's **Bellary Model** of community-based care.
- **Mental Healthcare Act, 2017:** It protects the dignity and rights of persons with mental illness and aligns India with the UN Convention on the Rights of Persons with Disabilities.

Global Initiatives

- **WHO Comprehensive Mental Health Action Plan 2013 to 2030:** It strengthens leadership, community-based services, prevention and information systems.
- **WHO Mental Health Gap Action Programme (mhGAP):** It helps non-specialist workers deliver evidence-based care in resource-poor settings.
- **Sustainable Development Goal 3.4:** It promotes mental health and well-being and cuts premature deaths from non-communicable diseases.

Mental Health Concerns in India

Key Statistics At A Glance

- According to the **National Mental Health Survey (NMHS) 2015-16** by NIMHANS, 10.6% of Indian adults currently suffer from mental disorders, with ~15% needing intervention; lifetime prevalence is 13.7%.
- The treatment gap remains alarmingly high (70-92% across disorders), resulting in millions untreated and contributing to 2443 **Disability-Adjusted Life Years (DALYS)** per 10,000 population.
- **Poor mental health drives major impacts:** high productivity losses, absenteeism, economic costs (~USD 1.03 trillion from 2012-2030), reduced well-being, increased disability, over 1.7 lakh annual suicide deaths (recent NCRB data), elevated years lived with disability development challenges.



DATA RECAP

- Section 163 of the BNSS replaced Section 144 of the CrPC. Its orders normally last two months and can be extended up to six.
- The 57th GST Council proposed removing GST officers' arrest powers and raising the prosecution threshold from ₹1 crore to ₹5 crore.
- The 16th Finance Commission, chaired by Arvind Panagariya, kept the States' share of central taxes at 41% for 2026–31.
- The Prototype Fast Breeder Reactor at Kalpakkam achieved its first criticality in April 2026. This advancement moved India into Stage 2 of its nuclear programme.
- The 2026 monsoon gave 759.4 mm of rain, 12.6% below the long period average. It was the weakest since 2015.
- The CEA monitors 191 thermal power plants. A plant is **"critical"** when its coal stock falls below 25% of the required level.
- Keralam passed its Senior Citizens Bill on 26 October 2026. It is the first State with such comprehensive elder-care legislation.
- The India–UK trade agreement (CETA) came into force on 15 July 2026. It gives duty-free entry to about 99% of tariff lines.
- President Murmu appointed new Governors for six States on 12 October 2026. A Governor must be an Indian citizen aged at least 35.
- The CAPF (General Administration) Act 2026 came into force on 8 October 2026. It reserves 50% of Inspector General posts for IPS officers.
- In the Special Summary Revision, draft rolls appear on 12 November 2026 and final rolls on 4 January 2027. The qualifying date is 1 January 2027.
- The Supreme Court held that children have a right to Internet access under Articles 21 and 19(1)(a).
- Census 2027 will be India's first digital Census. Its reference date is 1 March 2027.
- India and Japan launched the Operational Manual for their Joint Crediting Mechanism. It falls under Article 6.2 of the Paris Agreement.
- The SCO has ten members and was founded on 15 June 2001. Pakistan chairs it now, and the next leaders' summit is in August 2027.
- BIMSTEC's first Home Ministers' Meeting in New Delhi ended with the Delhi Declaration. BIMSTEC's secretariat is in Dhaka.
- Pakistan, Turkey, Qatar and Indonesia signed the Badr MoU in Doha on 21 October 2026. It aims to deepen military and industrial cooperation.
- The RBI's Monetary Policy Committee raised the repo rate by 25 basis points to 5.50% in October 2026.
- The Cabinet approved higher Rabi MSPs for 2027–28. Wheat rose by ₹25 to ₹2,610, and safflower saw the highest rise of ₹675.
- The Nobel Prize in Economics 2026 went to **Robert E. Hall and Michael Woodford**. Their work covers the microeconomic foundations of macroeconomic stabilisation.
- **Sukhna Lake in Chandigarh and Sauj Jheel in Uttar Pradesh** became Ramsar sites. India now has 103.
- The Kigali Amendment was adopted on 15 October 2016 and came into force on 1 January 2019. It phases down HFCs.
- The WWF Living Planet Report 2026 shows monitored vertebrate populations fell 73% between 1970 and 2022. Freshwater populations fell most, by 85%.
- China is building a **runway on Antelope Reef** in the disputed **Paracel Islands**. China has controlled the islands since 1974.
- **Francis Halzen** won the 2026 Nobel Prize in **Physics** for the **IceCube Neutrino Observatory** at the South Pole.
- Scientists in Vienna and Beijing built the first working nuclear clocks. Both use thorium-229 embedded in calcium fluoride crystals.
- Bt cotton is India's only approved genetically modified crop. Herbicide-tolerant Bt cotton remains unapproved but is reportedly grown on a large scale.
- India has 11 classical languages. The Cabinet added Assamese, Bengali, Marathi, Pali and Prakrit in October 2024.
- Jayaprakash Narayan gave the call for Total Revolution on 5 June 1974 at Gandhi Maidan, Patna. He received the Ramon Magsaysay Award in 1965.
- The International Criminal Court won the 2026 Sakharov Prize. It was established in 2002 under the Rome Statute and sits in The Hague.
- **Navi Pillay** won the 2026 **Nobel Peace Prize. Anne Carson of Canada** won the **Nobel Prize in Literature**.

TEST YOURSELF

Objective Questions

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SUBJECTIVE QUESTIONS

1. With the monsoon at 87% of its long period average and East and North-East India recording their driest season since 1901, examine the roles of El Niño, the Indian Ocean Dipole and the Madden-Julian Oscillation in shaping the 2026 monsoon.
2. "The monsoon is the real finance minister of India." In light of the 2026 deficit, discuss its linkages with rural demand, food inflation and fiscal pressure.
3. India's 60-plus population is projected to reach about 347 million by 2050. Examine the socio-economic challenges faced by the elderly and the feminisation of ageing.
4. Discuss the case for building a trained and certified care workforce in India as both a social necessity and an economic opportunity.
5. "Peaceful dissent is a constitutional right, not a threat to order." Critically examine the use of Section 163 and Sections 170 and 172 of the BNSS against peaceful protesters in light of Articles 19 and 21.
6. Distinguish between law and order, public order and security of the State. Discuss why this distinction is central to testing the legality of preventive detention.
7. Discuss the safeguards in Article 22 and the judicial approach to preventive detention from A.K. Gopalan to recent rulings. Is the framework adequate to prevent abuse?
8. Custodial deaths violate Articles 20, 21 and 22 and erode the rule of law. Examine the reasons for their persistence despite D.K. Basu and Paramvir Singh Saini.
9. Evaluate the case for a dedicated anti-torture law and ratification of UNCAT by India.
10. Suggest institutional and police reforms to ensure accountability and prompt compensation in cases of custodial violence.
11. Explain vertical and horizontal fiscal imbalance in India. How far has the 16th Finance Commission addressed them?
12. The growing share of cesses and surcharges in gross tax revenue is said to undermine cooperative federalism. Critically examine.
13. Discuss the challenges to State fiscal autonomy after GST, and suggest measures to strengthen local government finances.
14. Distinguish between women's development and women-led development. Why is the shift from welfare-based empowerment to women-led development necessary?
15. Despite progressive laws, women often lack ownership and control over property. Examine the legal, social and institutional barriers.
16. Discuss the role of SHGs, Panchayati Raj Institutions and legal aid in making women agents rather than recipients of change.
17. The India-US partnership is described as a convergence of democracies and not a treaty alliance. Examine in light of recent developments in energy, trade and defence.
18. Discuss the challenges to India's strategic autonomy posed by US tariffs, sanctions on Russian energy buyers and export controls.
19. Evaluate the role of defence foundational agreements and technology initiatives in deepening India-US strategic ties.
20. Distinguish between liberalisation, disinvestment and privatisation. Critically examine the rationale for strategic disinvestment, with reference to the IDBI Bank sale.
21. Critically examine the reasons behind the critically low coal stocks at many thermal power plants in 2026.
22. Why does coal continue to dominate India's power sector despite the push for renewables? Discuss the concerns arising from this dependence.
23. Evaluate the performance of GST after rate rationalisation, and discuss the challenges that remain in making it a simple and taxpayer-friendly regime.
24. Discuss the main elements of India's nuclear doctrine. Should India review its No First Use policy?
25. The rise of cross-border cyber fraud has exposed an enforcement and recovery gap. Examine the causes, effects and limitations of the current response.
26. Discuss the significance of the UN Convention against Cybercrime for India and the steps needed to strengthen its institutional response.
27. Evaluate the role of PM MITRA, PLI and the new free trade agreements in making India's textile sector globally competitive.
28. Examine the policy measures and challenges in expanding pumped storage capacity in India to support the 500 GW non-fossil target.
29. "Formal authority commands obedience, but only moral authority earns trust." Discuss with examples from public life.
30. Distinguish between character and conduct. Why is character called the inner compass of a civil servant when rules are unclear or silent?