NEXT IAS
THE CRUX

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Contents

Cover Story

Feature Articles

Contents | In-Shorts

NEXT IAS
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PROMOTION AND REGULATION OF ONLINE GAMING ACT, 2025

The Parliament has passed the Promotion and Regulation of Online Gaming Act, 2025, which enforces a nationwide ban on real money games.

Provisions of the Act:

➲ **Applicability:** The Act applies to **all of India**, covering both domestic and foreign online gaming platforms.
  - Even if the service is operated from outside India, it will still fall under the law as long as it is accessible to users in India.

➲ **Key Definitions:**
  - **E-sports**: Recognised as legitimate sports, based on skill, strategy, and competition, without betting.
  - **Online Money Game**: Any game involving **money or stakes** where users expect monetary rewards, regardless of skill or chance. For **Example,** Dream 11, MPL etc.
  - **Online Social Game**: Games for fun, education, or skill-development, without monetary wagering; may charge subscription fees.

➲ **Promotion & Recognition:**
  - **E-sports** will be promoted through **training academies, research centres, incentives, and policy support**.
  - **Online social games** will be registered and encouraged for **education, digital literacy, and safe recreation**.

➲ **Prohibition Provisions:**
  - **Ban on Money Games**: Offering or participating in money games is prohibited to protect society.

  - **Ban on Advertisements**: No ads, celebrity endorsements, or promotions for money gaming.
  - **Ban on Payments**: Banks and payment gateways cannot process money game transactions.

➲ **Regulatory Authority:** A central **Authority on Online Gaming** will be established or designated.
  - It will **classify games**, register them, decide if a game is a money game, and address complaints.

➲ **Other Powers of Government:** The government can also **block apps/websites** offering money games.
  - Officers can **search, seize, and arrest without warrant** (including in digital spaces). Officials acting in **good faith** are protected.
  - The government can frame **rules** and issue orders to remove difficulties.

Facts Related to India's Online Gaming Sector

Global Ranking
Second largest globally with 42.5 crore gamers

Investment
Attracted ₹22,931 crore investments from FY20–FY24

Economic Potential
Potential to boost FDI, jobs, and allied sectors

Job Creation
Supports 1 lakh jobs, expected to rise to 2.5 lakh by 2025

WHAT'S PROHIBITED?

All Online Money Games: A complete ban on any game involving monetary stakes or winnings, regardless of whether it is based on skill or chance.

This includes: Online Fantasy Sports and Lotteries.

Also Banned: All advertising, promotion, and financial transactions (via banks or payment apps) related to money games.

WHAT'S PROMOTED?

E-Sports: Recognised as a Sports and supported. The government will support training academies, research, and official recognition.

Social & Educational Games: A framework will be created to register and promote safe, age-appropriate games for recreation and skill development.

THE PROMOTION AND REGULATION OF ONLINE GAMING ACT, 2025

The government, on Aug 20, introduced the Bill to promote legitimate gaming like e-sports while imposing a blanket ban on all online money games.

STRICT PENALTIES

Offering Money Games: Up to 3 years jail and/or ₹1 crore fine.

Advertising Money Games: Up to 2 years jail and/or ₹50 lakh fine.
Repeat Offences: Harsher penalties – 3-5 years of jail, fines up to ₹2 crore.
Key offences are cognizable and non-bailable.

THE REGULATOR: ONLINE GAMING AUTHORITY

A new national-level body will be established to:
- Categorise and register online games.
- Determine if a game is a prohibited "money game".
- Handle user complaints and ensure compliance.

Capital Outlay
Initial Setup: ₹ 50 Crore
Annual Cost: ₹ 20 Crore

Benefits of the Act:

- **Protects Youth & Families** – In India, over **40% of online gamers are aged 16–24** (IAMAI 2024). Ban on money games helps prevent youth addiction, debt, and family financial ruin.
- **Curb on Illegal Gambling** – Reports show India's illegal betting market is worth **₹3 lakh crore annually**.
  - Regulation aims to stop money laundering and fraud linked to unregulated apps.
- **National Security Benefit** – ED probes have linked betting apps like **Mahadev Book** to **hawala and terror funding networks**.
  - The Act cuts off such offshore illegal platforms.
- **Uniform Framework** – Earlier, states like Tamil Nadu banned money games, while others allowed skill-based games, creating confusion.
  - A single national law ensures consistency.
- **Boost to Positive Gaming** – India's **e-sports industry grew 30% in 2023** (FICCI report). Recognising e-sports as sport encourages innovation, jobs, and global competitiveness.
- **Protects Financial System** – RBI flagged misuse of **UPI and wallets** for illegal betting. Blocking payments for money games prevents fraud and strengthens digital finance.
- **Public Health Focus** – NCRB data shows rising **suicides due to online betting losses**. The Act reduces compulsive gambling, linked to stress, anxiety, and family breakdowns.

Issues with the Act:

- **Revenue Loss to Government –** The ban could mean ₹15,000–20,000 crore annual loss in potential tax revenues from regulated online gaming.
- **Overbroad Ban** – Even skill-based games like **rummy, fantasy sports, poker**, recognised by some courts as legal, may be hit, hurting a sector employing lakhs.
- **Federalism Clash** – Gambling is in the **State List (Entry 34)**. States like Kerala and Meghalaya had separate laws; a central law may invite constitutional disputes.
- **Enforcement Gaps** – Offshore apps like **1xBet, Betway**, using **VPNs and crypto**, can bypass Indian laws, making enforcement practically difficult.

- **Investment Barrier** – India's gaming startups attracted **$2.8 billion FDI (2018–23)**. Uncertainty and harsh penalties may drive investors to countries like Singapore.
- **Civil Liberty Concerns** – Powers of **warrantless search, blocking, and seizure** may lead to misuse against genuine tech platforms, raising privacy concerns.
- **Implementation Burden** – India has **over 900 gaming apps** (Google Play 2024). Monitoring compliance will strain regulatory and enforcement machinery.
- **Innovation Slowdown** – Fear of criminal penalties may discourage startups experimenting in AR/VR gaming, slowing India's **$8.6 billion gaming industry (KPMG 2024).**
- **Skill vs. Chance Debate:**
  - Just as skilled investors use research, technical analysis, and strategies to maximise returns, skilled gamers use planning and decision-making to win.
  - If gaming is banned for involving chance, the same argument could unfairly extend to the stock market.

Way Forward:

- **Balanced Regulation** – Instead of a blanket ban, classify games into **skill-based vs chance-based**; regulate the former (like fantasy sports) while banning pure gambling.
- **Technological Enforcement** – Use **AI-driven monitoring, geo-blocking, and crypto-tracking** to check offshore betting platforms and VPN misuse.
- **Consumer Awareness** – Launch campaigns like **Responsible Gaming Awareness Week** to educate youth about risks of online gambling.
- **Support for E-sports** – Provide **tax incentives, training centres, and scholarships** to promote India's e-sports industry as a legitimate career path.
- **International Cooperation** – Collaborate with countries like Singapore & UK, which regulate online betting, for **cross-border enforcement and knowledge sharing**.
- **Alternative Entertainment Options** – Promote **educational games, digital literacy apps, and skill-based competitions** as safe alternatives to money gaming.

Global Case Studies on Online Gaming Regulation		
Country	**Regulatory Approach**	**Key Features**
Malta	Proactive licensing via Malta Gaming Authority (MGA)	Licensing for operators, duty of care, player protection, AML compliance, independent game testing
France	Independent authority – Autorité Nationale des Jeux (ANJ)	Licenses operators, protects vulnerable users, blocks illegal sites via ISPs, imposes heavy penalties
China	Strict restrictions on minors (2021 regulations)	Real-name verification, minors limited to 1 hour/day on weekends & holidays
South Korea	"Cinderella Law" under Youth Protection Act	Bans under-16s from gaming between midnight–6 a.m., addiction treatment programmes

SC's DIRECTIVE ON STRAY DOGS

On August 22, 2025, the Supreme Court revised its earlier suo motu order that required all stray dogs in the Delhi–NCR to be confined to shelters and barred from being released back.

Background:

- India faces a rising **stray dog population**, leading to frequent human–dog conflicts, including bites and rabies cases.
- The **Animal Birth Control (ABC) Rules, 2023** mandate sterilisation, vaccination, and release of stray dogs back to their original areas.
- On **August 11, 2025**, a two-judge SC bench ordered that all stray dogs in Delhi-NCR be moved to shelters and not returned to the streets.
- The order faced strong opposition from **animal rights groups**, citing lack of infrastructure and violation of ABC Rules.

Supreme Court Judgment

- **Earlier Order Modified**: The three-judge bench said the blanket shelter order was "too harsh" and not practical.
- **Return to Locality**: Stray dogs must be sterilised, dewormed, vaccinated, and then released back to the same area. Releasing dogs back to their localities prevents overcrowding in shelters and is more compassionate.
- **Exceptions**: Dogs infected with rabies or showing aggressive behaviour should not be released; they must be kept in shelters.
- **Feeding Rules**: Feeding stray dogs on streets is banned; they can only be fed at **dedicated feeding zones** in each municipal ward.
- **Action on Violations**: People feeding dogs outside designated areas will face legal action. Municipalities must set up helplines for complaints.
- **Infrastructure Burden**: Court noted housing all strays in shelters is unrealistic due to limited manpower, vets, cages, and vehicles.
- **Examples of Success**: Cities like **Dehradun and Lucknow** have shown that strict sterilisation programmes reduce stray dog numbers.
- **National Scope**: The case now covers all States and UTs; pending High Court cases will be transferred to SC for a **uniform national policy**.

Facts Related to Stray Dog

- India is home to over 60 million stray dogs, accounting for 37% of the global stray dog population.
- **Dog bites** occur every 10 seconds in India, totaling over 3 million annually.
  - Rabies claims two lives every three hours, making India the global epicenter for rabies-related deaths.
- Infants and elderly citizens are increasingly vulnerable, with fatal attacks reported in **Delhi, Telangana, and Punjab.**

Challenges in Handling Stray Dogs

- **Irresponsible Pet Ownership:** Pet ownership is rising rapidly, with 30 million pet dogs recorded in 2024 and is growing at 10–15% annually.
  - A significant portion of the problem stems from *irresponsible pet ownership like abandonment of pets, unneutered pets, and lack of identification.*
- **Unregulated Breeding**: Backyard and commercial breeders sell unvaccinated, unneutered puppies, feeding the stray population.
- **Proxy Petting & Street Feeding**: Well-meaning feeding on roads makes dogs territorial and aggressive towards non-feeders.
- **Urbanisation & Waste**: Poor waste management and open garbage dumps provide food sources, helping stray packs multiply.
- **Weak Municipal Implementation**: Sterilisation and shelter laws exist, but are poorly funded, understaffed, and weakly enforced.
- **Public Health Risk**: Nearly **20,000 rabies deaths annually** are linked to stray dog bites and poor vaccination coverage.
- **Legal and Institutional Gaps**: Existing animal welfare laws often prioritise protection but fail to balance it with citizen safety.

Earlier Attempts to Control Stray Populations

- **Lethal Measures:** Past methods like electrocution, poisoning and shooting proved both inhumane and ineffective.
  - Reduced competition for food led to increased breeding among survivors.
- **Sterilisation Drives:** The **Animal Birth Control (ABC) programme**, introduced in 1992 and formalised in 2001, requires sterilising at least two-thirds of a canine population in a short window to work.
  - No Indian city has consistently met this target, and pet dogs breeding with strays undo much of the progress.

Legal Provisions available to tackle Stray Dogs

- **Animal Birth Control (ABC) Rules, 2023**: Mandate sterilisation, vaccination, and release of dogs back to their local areas; rabid or aggressive dogs must be kept in shelters.
- **Prevention of Cruelty to Animals Act, 1960**: Protects animals from cruelty but also allows regulation to prevent harm to humans.
- **Municipal Laws**: Local bodies can frame by-laws on sterilisation, waste management, and dedicated feeding zones to regulate stray dog population.

INDIA-JAPAN 15TH ANNUAL SUMMIT

The Indian Prime Minister's recent visit to Japan for the 15th Annual Summit underscored the strengthening strategic partnership between the two countries in the backdrop of global geopolitical uncertainties.

Key Outcomes of Recent Meet:

- **Joint Vision for the Next Decade** adopted, focusing on eight pillars including economy, technology, mobility, health, environment, and people-to-people ties.
- **Defence & Security ties elevated** through a new Joint Declaration; major exercises like Veer Guardian, MILAN, and Tarang Shakti mark growing military cooperation.
- **Economic Security Initiative launched** to strengthen supply chains and cooperation in critical minerals, semiconductors, clean energy, and telecom.
- **Investment Target doubled** — new goal of **10 trillion Yen private investment** in India, with focus on Japan Industrial Townships and MSMEs.
- **Digital Partnership 2.0 & AI Initiative** announced, covering large language models (LLMs), data centres, startups, and research collaboration.
- **Clean Energy Partnership expanded** with MoUs on hydrogen, ammonia, and Joint Crediting Mechanism to advance net-zero pathways.
- **Human Resource Exchange Plan launched** with a target of **500,000 exchanges in 5 years**, including 50,000 skilled Indian professionals to Japan.

Significance:

Historical & Cultural Ties:

- India and Japan share **deep civilizational and spiritual links**, exemplified by Bodhisena's consecration of the Great Buddha statue at Todaiji Temple in 752 AD, which laid the foundation for cultural affinity.
- Elements of Japanese tradition, such as the **Shichifukujin (seven lucky gods)**, trace their roots to Hindu traditions, showing India's cultural imprint on Japan.
- Eminent Indians like **Swami Vivekananda, Rabindranath Tagore, Netaji Subhash Chandra Bose, Rash Behari Bose, and Justice Radha Binod Pal** enhanced goodwill and trust, which still shapes Japanese perceptions of India.
- The **India–Japan Association (1903)**, Japan's oldest international friendship body, reflects the historic depth of ties.

Geopolitical and Geostrategic Dimensions:

- Bilateral relations have steadily deepened, from **Global Partnership (2000)** to **Special Strategic and Global Partnership (2014)**, underlining their shared strategic vision.
- India's **Act East Policy, SAGAR, and Indo-Pacific Oceans Initiative** align with Japan's **Free and Open Indo-Pacific (FOIP)**, strengthening their regional role in maintaining a rules-based order.
- Both countries are key players in **Quad** and the **Supply Chain Resilience Initiative**, boosting security and economic stability in the Indo-Pacific.
- Japan's participation in India-led initiatives such as **ISA, CDRI, and LeadIT** highlights mutual commitment to global sustainability and resilience.

Geo-Economic Ties

- The **Comprehensive Economic Partnership Agreement (CEPA, 2011)**, which removed tariffs on 94% of traded items, has become a cornerstone of bilateral trade.
- Bilateral trade stood at **$21.96 billion in 2022–23**, though imbalanced (India's exports $5.46 bn; imports $16.49 bn), reflecting the need for diversification.
- Initiatives like the **Clean Energy Partnership (2022)** and the **Year of Tourism Exchange (2023–25)** add new drivers of cooperation, linking sustainable growth with cultural exchanges.

Investment & Development Assistance (ODA)

ODA	FDI	Infrastructure Projects
Japan has been India's largest ODA donor since 1958, with JPY 580 billion (USD 4.5 bn) in 2023–24.	With cumulative inflows of $40 billion till 2023, Japan is India's fifth-largest FDI source.	The Mumbai–Ahmedabad High-Speed Rail project is a symbol of trust and technology transfer.
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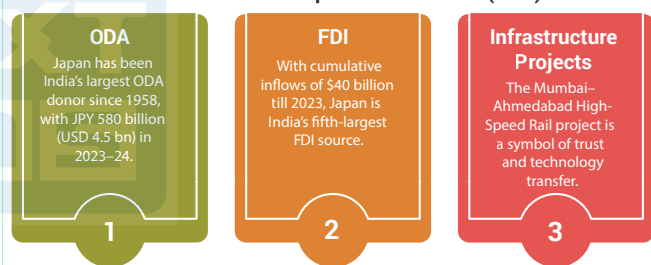
Defence & Security Cooperation

- The **Joint Declaration on Security Cooperation (2008)**, followed by agreements on **equipment transfer, intelligence sharing, and logistics (2020)**, forms the core of defence ties.
- Joint exercises like **Malabar (naval), Veer Guardian (air force), Dharma Guardian (army), and JIMEX (naval)** demonstrate operational synergy and preparedness.
- Institutional frameworks like the **2+2 Ministerial Dialogue** and **NSA-level meetings** ensure regular coordination on Indo-Pacific and global security.

Technological and Sectoral Cooperation

- The **India–Japan Digital Partnership (2018)** created a start-up hub in Bengaluru and is exploring **UPI deployment in Japan**, showcasing India's tech capabilities globally.
- Skill-building efforts have set up **35 Japan–India Institutes of Manufacturing** and **11 Japanese Endowed Courses**, creating a pipeline of talent trained in Japanese standards.

➲ Healthcare collaboration aligns **Ayushman Bharat** with Japan's **Asia Health and Wellbeing Initiative**, addressing demographic challenges in both nations.

➲ **ISRO–JAXA space cooperation** spans lunar exploration, satellite navigation, and space situational awareness, advancing regional space security and science.

➲ Joint initiatives on **clean energy, climate change, and waste management** show convergence on sustainable development goals.

Cultural & People-to-People Exchanges

➲ Over **665 academic and research partnerships** and student exchanges strengthen educational collaboration and innovation.

➲ The **Samvad Conference (since 2015)** highlights democracy and non-violence as shared civilizational values shaping Asia's future.

➲ The **Indian diaspora in Japan (40,000+)**, particularly IT professionals and academics, act as a living bridge between the two nations.

Challenges

➲ **China Factor in Indo-Pacific:** Chinese assertiveness in the East and South China Seas threatens regional security. India is openly critical post-Galwan, while Japan is restrained due to economic dependence.

➲ **Supply Chain Vulnerabilities:** Both nations remain overdependent on China for semiconductors and rare earths. Diversification requires higher investments, innovation, and technology transfer.

➲ **Strategic Balancing:**
  ◆ Quad coordination faces strain due to Trump 2.0's tariff policies.
  ◆ India balances Quad with BRICS, SCO, AIIB; Japan remains more firmly aligned with the US.

➲ **Russia Factor:**
  ◆ Japan follows G7 sanctions, while India maintains energy imports and defence ties.
  ◆ India's participation in Vostok exercises near Kuril Islands highlighted divergences.

➲ **Economic Constraints:** Bilateral trade between India and Japan was **USD 21.96 billion in 2022–23**, far lower than India–China trade which crossed **USD 136 billion in 2022.**

◆ Indian exporters face language barriers, stringent Japanese quality standards, and divergences on **RCEP and Osaka Track (E-commerce rules).**

Way Forward:

➲ **Diversify Trade & Reduce Imbalance:**
  ◆ Strengthen the **Comprehensive Economic Partnership Agreement (CEPA)** and diversify India's exports (pharmaceuticals, textiles, agro-processing) to reduce overdependence on limited sectors.
  ◆ Align standards and certification systems to access Japan's high-value markets, complementing **Make in India** and **Atmanirbhar Bharat Abhiyan.**

➲ **Strengthen Supply Chain Resilience :**
  ◆ Deepen cooperation in **semiconductors, rare earth elements, and clean energy technologies** under the *Supply Chain Resilience Initiative (SCRI)* and the *Quadrilateral Security Dialogue (Quad)* framework.
  ◆ Joint investments in **critical minerals** will reduce dependence on China and secure strategic autonomy for both economies.

➲ **Accelerate Infrastructure & Defence Projects:**
  ◆ Fast-track implementation of the **Mumbai–Ahmedabad High-Speed Rail (MAHSR)** project and development of Northeast connectivity under the **Act East Policy.**
  ◆ Address bureaucratic bottlenecks in defence technology transfer and promote joint production to support the **Free and Open Indo-Pacific (FOIP)** vision.

➲ **Expand Skill & Mobility Frameworks:**
  ◆ Institutionalise **migration frameworks and social security coordination** to integrate Indian workers under Japan's **Specified Skilled Worker (SSW)** scheme.
  ◆ Leverage India's **demographic dividend** through the **Skill India Mission**, meeting labour demands of Japan's ageing society.

➲ **Enhance People-to-People Connect:**
  ◆ Promote **tourism, language training, and academic exchanges**, while strengthening platforms like the **Samvad Conference** to foster shared civilizational values.
  ◆ Deepen cultural diplomacy and societal trust to complement synergy between *Free and Open Indo-Pacific (FOIP)* and the *Indo-Pacific Oceans' Initiative (IPOI).*

Infrastructure & Defence Issues
Hurdles in financing and bureaucratic delays in projects

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Other Challenges

3

Climate & Energy Gaps
Limitations in green technology transfer and climate finance

Demographic Mismatch
The imbalance between Japan's ageing population and India's youth

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Limited Societal Connect
Shallow people-to-people ties beyond elite circles

INDIAN PORTS ACT, 2025

The Parliament has passed the Indian Ports Act, 2025 that replaces the Indian Ports Act of 1908.

Key Features of the Act

- **State Maritime Boards**: Given statutory recognition to regulate non-major ports, handle licensing, tariffs, and safety compliance.
- **Maritime State Development Council**: Chaired by the Union Shipping Minister, with coastal state ministers and Navy/Coast Guard officials. Issues guidelines on tariff transparency, port data, and national perspective planning.
- **Dispute Resolution Committee (DRC)**: States must set up DRCs to settle disputes between ports, concessionaires, service providers, and users. Appeals lie with the High Court, not civil courts.
- **Tariffs**: Major ports' tariffs fixed by their Boards; non-major ports' tariffs set by State Maritime Boards or concessionaires.
- **Environmental Safeguards**: Ports must comply with **MARPOL** and **Ballast Water Management Convention**. They must prepare pollution control and disaster management plans, audited by the Centre.
- **Port Officers**: Conservator retains powers over safety, movement, and fees, and now can adjudicate penalties.
- **Offences & Penalties**: Some offences decriminalised (replaced with monetary fines), new offences added like disturbing seabed or not reporting pollution.
  - First-time offences can be compounded.

Ports in India: Classification and Regulation

Major Ports

- **Definition:** Ports notified by the **Central Government** as "major ports".
- **Number:** India has 12 major ports (Union Government notified 13th as Galathea and 14th as Vadhvan).
- **Constitutional Status**: In the **Union List** (Seventh Schedule).
- **Regulator:**
  - **Major Port Authorities Act, 2021** – each major port is run by a **Board of Major Port Authority**.
  - **The Union Ministry of Ports, Shipping and Waterways** has overall control.

Minor (Non-Major) Ports:

- **Definition:** Ports not notified as major by the Centre; mostly smaller, state-administered.
- **Number: 213 non-major ports**, of which more than 60 handle cargo and the rest are fishing ports.
- **Constitutional Status:** In the **Concurrent List** (Seventh Schedule).
- **Regulator:** Primarily managed by **State Governments** through **State Maritime Boards**.
  - Indian Ports Act, 2025 gives statutory recognition to these Boards.

Comparison		
Aspect	**Indian Ports Act, 1908**	**Indian Ports Act, 2025**
Scope	Covered all ports and navigable rivers.	Expanded to include aircraft on water using ports.
Jurisdiction	Major ports under Centre; non-major under States.	Same division retained.
Statutory Bodies	No statutory bodies created.	Recognises Maritime State Development Council and State Maritime Boards; mandates Dispute Resolution Committees.
Port Management	Conservator, harbour master, health officer.	Same officers, but conservators also empowered to impose penalties.
Tariff Determination	Centre fixed tariffs for major ports, States for minor ports.	**Major ports:** Board of Major Port Authority; Non-major ports: State Maritime Boards or concessionaires.
Obligations of Ports	Focused on safety and cooperation in emergencies.	Adds waste handling, disaster management, and seafarer welfare.
Pollution Control	Banned discharge of ballast, oil, or rubbish at ports.	Compliance with International Convention for the Prevention of Pollution from Ships (MARPOL) & Ballast Water Management Convention; mandatory pollution control and emergency plans.

Benefits of the Indian Ports Act, 2025

Environmental Protection

Aligns with international conventions, pollution control. Mandates disaster management plans.

Framework Modernisation

Updated provisions for India's maritime economy. Replaces colonial-era law.

Transparency

Clarity in tariff setting and dispute resolution. Reduces reliance on courts.

Federal Coordination

Legal recognition to State Boards, ensuring cooperation. Centre and State collaboration.

Key Issues:

⮞ **No Appeal Mechanism**: The Act does not allow appeals against penalties imposed by the conservator, creating scope for arbitrary use of power.

⮞ **Conflict of Interest**: The conservator may penalise entities like Port Authorities, which are its supervising bodies, raising doubts about fairness.

⮞ **Unregulated Inspection Powers**: Conservator and health officers can enter and inspect vessels without safeguards, increasing risk of misuse.

⮞ **Unclear Role of Mega Ports**: The Act empowers the Centre to designate "mega ports," but provides no clarity on their purpose, governance, or benefits.

Way Forward

⮞ **Fairness in Penalties**: Introduce an **appeal mechanism** above the conservator to ensure accountability and protect stakeholders from arbitrary fines.

⮞ **Safeguards for Inspections**: Clearly define procedures for inspections, drawing from **BNSS, 2023** provisions (written reasons, electronic records, witnesses).

⮞ **Clarity on Mega Ports**: Provide a legal and operational framework explaining why a port is declared "mega" and what special rules will apply.

⮞ **Capacity Building**: Strengthen **State Maritime Boards** with manpower, funding, and technology for effective implementation of new functions.

⮞ **Uniform Policy**: Develop national guidelines to ensure tariff transparency, dispute resolution efficiency, and balanced Centre–State coordination.

MAJOR PORTS IN INDIA

- Kandla Port — GUJARAT
- Mumbai Port Trust
- JNPT
- Vadhavan Port
- Mormugao — GOA
- Mangaluru
- Kochi
- Tuticorin / V. O. Chidambaranar Port Trust
- Chennai
- Ennore (Kamarajar Port)
- Visakhapatnam
- Paradip
- Kolkata
- Galathea Bay

Arabian Sea

Bay of Bengal
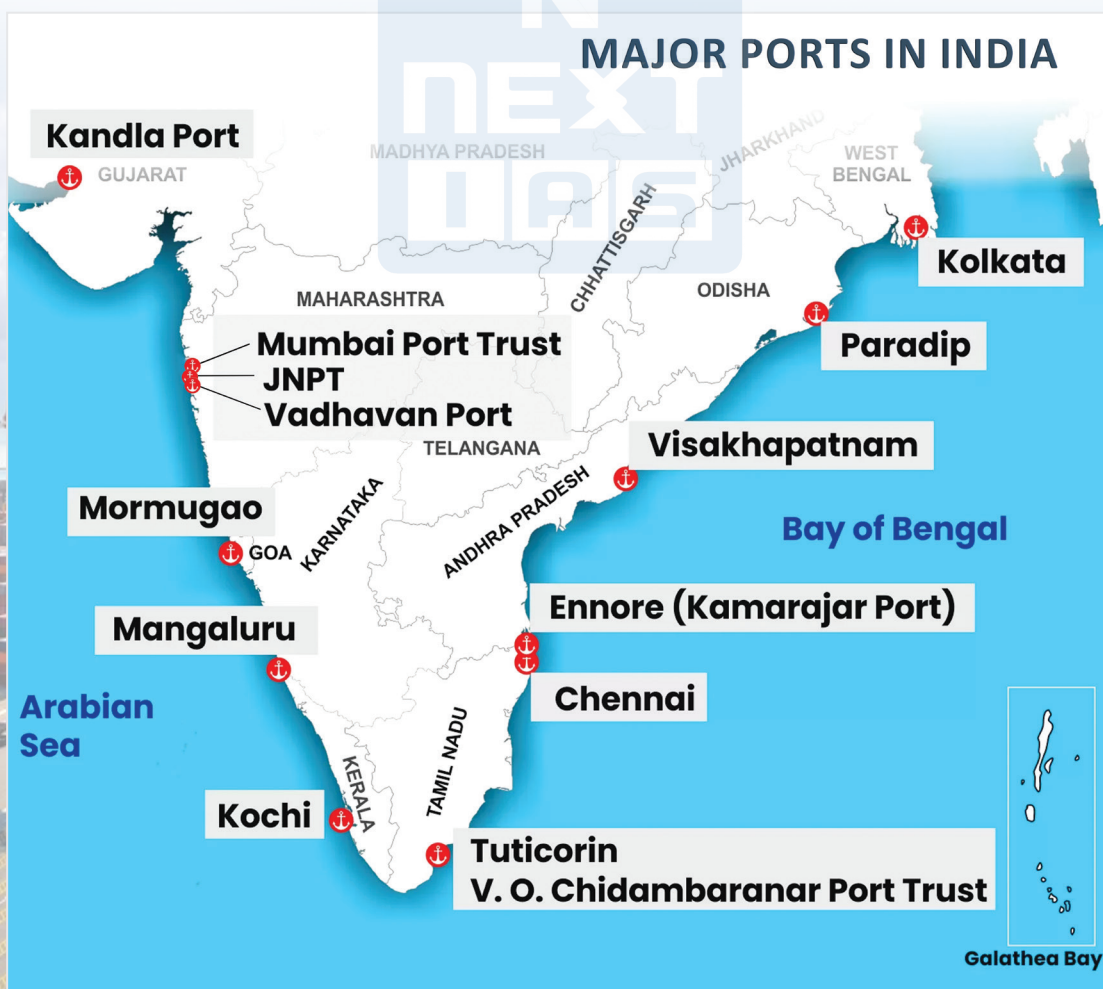
INTER-STATE RIVER WATER DISPUTES (ISRWD)

The Ravi–Beas Tribunal has received another one-year extension to settle disputes among Punjab, Haryana, and Rajasthan.

Background of Ravi–Beas River water Dispute:

➲ The dispute started after the **Punjab Reorganisation Act, 1966**, when **Haryana** was carved out and began claiming a share in Ravi–Beas waters along with **Punjab and Rajasthan**.

➲ The **1976 Central Award** allocated 3.5 MAF to Haryana, but Punjab opposed it citing reduced river flows. A later **1981 Agreement** fixed total allocation at 17.17 MAF among the three states, but Punjab withdrew, arguing riparian rights.

➲ To settle the issue, the **Ravi-Beas Tribunal** was set up in **April 1986** under the **ISRWD Act, 1956**. It gave an **initial report in 1987**, but continuous clarifications sought by states have delayed the final award.

➲ The conflict is closely tied to the **Sutlej–Yamuna Link (SYL) Canal project**, meant to carry Haryana's share, which faces strong opposition in Punjab.

➲ With disputes unresolved for **nearly 39 years**, it has become **India's oldest pending water tribunal case**.

WATER LAWS AND BATTLES

- **No national (unified) law |** Many countries like Israel, South Africa, and Australia have national water laws.

- **Primarily, water is a 'State' subject in India |** States are free to deal with issues of water supply, irrigation and canals, and drainage embankments in their own way.

- Centre can only regulate, develop inter-state rivers

- Absence of concrete regulatory regime leads to mismanagement of water resources.

- Centre assists states in conservation, river cleaning, and building infrastructure.

- Centre can also deal with issues under the Environment (Protection) Act, 1986 and the Water (Prevention and Control of Pollution) Act, 1974.

Five tribunals are hearing river water disputes

Ravi-Beas | Punjab, Haryana & Rajasthan

Mahanadi | Odisha and Chhattisgarh

Mahadayi | Goa, Karnataka and Maharashtra

Vansadhara | Andhra Pradesh and Odishaa

Krishna | Maharashtra, Karnataka, Telangana and Andhra Pradesh
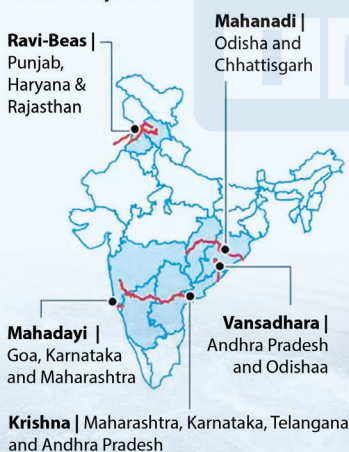
For Cauvery, a tribunal has issued a final award and Centre has set up a panel for release of water as per orders. However, the two states still have differences on several counts.

Reasons for ISRWD in India:

➲ **Unequal Access to Rivers:** Upstream states control the headwaters and can build dams or divert flows, leaving downstream states dependent and vulnerable.

  ◆ *Example:* Karnataka–Tamil Nadu conflict over Cauvery water.

➲ **State Reorganisation:** Boundaries after 1956 were drawn on linguistic and political lines, not on river basins, which created overlapping claims on rivers.

  ◆ *Example:* Andhra Pradesh and Telangana over Krishna waters.

➲ **Rising Water Demand:** Population growth, agriculture expansion (like water-intensive paddy and sugarcane), urbanisation, and industries have sharply increased demand for river water.

➲ **Development Projects:** Large dams, canals, and hydropower projects often trigger disputes.

  ◆ *Example:* Narmada dam led to years of conflict between Madhya Pradesh, Gujarat, and Maharashtra.

➲ **Fragmented Governance:** Union and states pursue different strategies without coordination. There is no effective system for integrated river basin management across states.

➲ **Poor Data Sharing:** Lack of uniform, transparent data on river flows and rainfall breeds mistrust. States often accuse each other of hiding or manipulating water statistics.

Legal and Constitutional Framework:

➲ **Article 262:** Empowers Parliament to make laws on adjudicating ISWDs and bars SC or HC from intervening in such disputes directly.

➲ **River Boards Act, 1956:** Allows Centre to set up boards for regulation and development of inter-state rivers, but rarely used.

➲ **Inter-State River Water Disputes Act, 1956:** Provides for constitution of tribunals when states approach the Centre with disputes.

➲ **Seventh Schedule:** Union List (Entry 56) gives Centre power to regulate inter-state rivers; State List (Entry 17) gives states power over local water use, subject to Union law.

Way Forward:

➲ **Speed up the passing of legislations:**

  ◆ **ISWD (Amendment) Bill, 2019:** Proposes a permanent Disputes Resolution Committee, a single national tribunal with multiple benches, strict timelines, and a national water data bank.

  ◆ **Draft River Basin Management Bill, 2018:** Suggests cooperative, equitable, and sustainable water use through River Basin Authorities and Master Plans.

➲ **Strengthen Cooperative Federalism:** Union must act as mediator, creating a **permanent dialogue platform under NITI Aayog** to build trust among states.

➲ **Policy Reforms:** Bring disputes under the **Inter-State Council (Article 263)** for political dialogue; amend ISWD Act, 1956 to ensure faster resolution.

➲ **Scientific Data & Technology:** Develop a **national river basin data bank** using **AI, remote sensing, and IoT sensors** for transparent flow measurement and end-use tracking.

JAN VISHWAS 2.0

The Jan Vishwas (Amendment of Provisions) Bill, 2025 was introduced in Lok Sabha.

Key Purpose & Rationale

➲ Rationalises punitive provisions in business, industrial, and socio-economic legislations.

➲ Replaces criminal penalties with monetary fines for minor and procedural violations to foster **"Trust-based Governance."**

➲ Inspired by the vision of reducing **"inspector raj"** and arbitrary harassment.

Key Features of the Bill:

➲ **Decriminalisation:** Removes jail terms for minor offences in **288 provisions**, replacing them with monetary fines or warnings.
- Four Acts already covered under Jan Vishwas Act, 2023—**Tea Act (1953), Legal Metrology Act (2009), Motor Vehicles Act (1988), and Drugs & Cosmetics Act (1940)**—are set for further decriminalisation.

➲ **Rationalisation of Penalties:** Penalties will now be proportionate, with higher fines for repeated offences.

➲ **First-Time Contraventions:** For **76 offences under 10 Acts**, first-time violations will only invite an advisory or warning.

➲ **Ease of Living Measures:** Amendments in the **New Delhi Municipal Council Act (1994)** and **Motor Vehicles Act (1988)** to make everyday compliance simpler for citizens.

➲ **Simplified Adjudication:** Empowering designated officers to impose penalties directly through administrative processes, reducing the burden on courts.

➲ **Automatic Penalty Revision:** Fines and penalties will automatically increase by **10% every three years** to maintain effectiveness without new laws.

Need of the Bill

➲ **Reduce Over-Criminalisation:**
- Over 75% of offences lie outside core criminal law, in areas like taxation, shipping, and governance.

➲ **Correct Disproportionate Punishments:**
- Many routine offences carry unreasonably high punishments, needing rationalisation.

➲ **Boost EoDB:**
- Simplifies regulations to help businesses, especially MSMEs and startups, operate smoothly.

➲ **Ease of Living:**
- Makes everyday laws citizen-friendly by cutting unnecessary compliance burdens.

➲ **Lower Judicial Load:**
- Shifts minor cases to administrative processes, reducing pressure on courts.

Issues

➲ **Risk of Dilution of Accountability:**
- Decriminalisation reduces the threat of imprisonment, which may embolden willful defaulters in areas like corporate fraud, environmental violations, or financial misconduct.
- Monetary fines alone may not act as a sufficient deterrent for large firms where the cost of penalties is negligible compared to profits.

➲ **Administrative Overreach:**
- Vesting adjudicatory powers in officers risks inconsistent decision-making, where outcomes depend more on individual discretion than objective rules.
- Such discretion can fuel corruption, rent-seeking behaviour, and harassment of smaller enterprises under the guise of compliance checks.

➲ **Automatic Penalty Escalation:**
- A blanket 10% penalty increase every three years fails to consider inflation, industry cycles, or firm size.
- For MSMEs, these rising penalties could create financial stress, forcing shutdowns or informal operations rather than promoting compliance.

➲ **Uneven Enforcement:**
- State-level variations in administrative efficiency and capacity may lead to different enforcement standards across India.
- Businesses operating in multiple states could face uncertainty, with stricter enforcement in some regions and laxity in others, undermining fairness.

➲ **Neglect of Systemic Reforms:**
- The bill addresses punishment but not root problems like cumbersome procedures, overlapping laws, or excessive inspections.
- Without simplifying compliance frameworks, reducing bureaucratic touchpoints, and modernising regulations, penalties alone may not improve ease of doing business.

Way Forward

Balance Decriminalisation	Strengthen Oversight	Support MSMEs	Comprehensive Reforms
Retain penalties for fraud, ease minor lapses.	Ensure transparency and checks on officers.	Provide graded penalties and compliance support.	Simplify procedures and update regulatory frameworks.
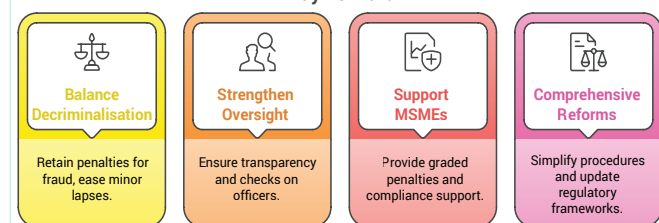
PRESIDENT OF PHILIPPINES STATE VISIT TO INDIA

In August 2025, India and the Philippines elevated their ties to a Strategic Partnership during the Philippine President's state visit to India.

Key Outcomes of the Visit:

- **Strategic Partnership Declaration**: India and the Philippines upgraded ties to a Strategic Partnership, reaffirming the **1952 Treaty of Friendship** and marking 75 years of relations.
  - It aligns with **India's Act East Policy and MAHASAGAR Vision** for Indo-Pacific outreach.
- **Plan of Action (2025–2029)**: A 5-year roadmap was adopted to deepen cooperation in defence, connectivity, maritime security, digital economy, tourism, and climate action.
- **Consular & Legal Cooperation**: Manila granted visa-free entry to Indians, while India extended gratis e-visas. Both signed the Mutual Legal Assistance Treaty (MLAT) and the Treaty on Transfer of Sentenced Persons.
- **Infrastructure & Digital Cooperation**: India offered its Gatishakti platform for infrastructure planning and announced support for the Philippines' Sovereign Data Cloud Infrastructure to boost digital autonomy.
- **Maritime Security Cooperation**: The Philippines was invited to join the Information Fusion Centre–Indian Ocean Region (IFC-IOR), linking Pacific and Indian Ocean security frameworks with India's vision.

Significance

- **Geo-Political Engagement:** India and the Philippines established ties in 1949. In 2024, Manila became the ASEAN–India Dialogue Coordinator, showing trust in India's role.
- **Geo-Economic Relations:** Trade grew from USD 2.03 bn (2020–21) to **USD 3.53 bn** (2023–24).
  - India exports pharma, rice, auto parts; imports semiconductors and copper.
- **Geo-Strategic Dimension**: The Philippines' location in the South China Sea makes it vital for sea-lane security and balancing China's growing power.
  - **Indo-Pacific Convergence**: Both nations are democracies that support UNCLOS 1982 and a rules-based order. India backs Manila against China's Nine-Dash Line claims.
  - **ASEAN Engagement**: As a key ASEAN member, the Philippines strengthens India's Look East and Act East policies and widens India's reach in Southeast Asia.
- **Multilateral Cooperation:** The Philippines backs India's UNSC bid, while India supports Manila's candidature for 2027–28, showing diplomatic reciprocity.
  - **Both countries are members of:** ASEAN Regional Forum (ARF), East Asia Summit (EAS), India-ASEAN Dialogue Mechanism and BIMSTEC (Observer status by Philippines).

- **Defence Cooperation:**
  - **BrahMos Supersonic Missile Deal:** $375 million contract signed in 2022, India delivered the first batch of BrahMos missile system in 2024, making **Philippines the first foreign nation** to acquire the missile weapon system.
  - **Maritime Security**: Joint patrols, naval capacity-building, and hydrographic cooperation are expanding.
    - In **July 2025**, the two navies held their first joint exercise **"Samudra Bandhan"** in the South China Sea, signalling shared commitment to a rules-based order.
  - **Regular dialogues:** Joint Defence Cooperation Committee (JDCC) and Service-to-Service Staff Talks.
- **Indian Diaspora:** It is estimated to be more than 70,000 in the Philippines.
  - There has been a growing number of Indian professionals, estimated around 800, who are working in Indian and multinational corporations in the Philippines.

Challenges

- **China's Sensitivities:** China opposes India–Philippines naval ties, pressuring Manila to balance relations with India, the US, and China.
- **Limited Trade Volume:** Trade is rising but still small compared to India–Vietnam (USD 14 bn) and India–Singapore (USD 35 bn); Preferential Trade Agreement (PTA) progress is slow.
- **Implementation Gaps:** Agreements in defence, digital, and infrastructure face delays due to limited capacity and bureaucratic hurdles.
- **Connectivity Issues:** Weak direct air and sea links hinder trade, tourism, and business exchanges.
- **Investment Barriers:** Indian investors face complex rules in the Philippines, while Philippine firms find India a tough market.
- **Regional Instability:** South China Sea tensions and domestic security issues in the Philippines slow cooperation.
- **Awareness Gap:** Limited people-to-people contact and low cultural awareness reduce mutual opportunities.

What Needs to be Done

Defence Capacity-Building	Accelerate Trade Negotiations	Expand People-to-People Links	Regional Engagement	Sustain Maritime Cooperation
Expand training, supply hardware, and co-develop naval platforms. This fosters a stronger defence relationship.	Push for a Preferential Trade Agreement to boost cooperation. Focus on pharmaceuticals, electronics and digital services.	Offer scholarships and cultural exchanges to build goodwill. Focus on science, technology and medicine.	Work together under ASEAN and push for reforms. Focus on the UN and WTO.	Conduct joint patrols and share information. Strengthen the Indo-Pacific region.

US IMPOSES 50% TARIFFS ON INDIA

Recently the Trump administration increased tariffs
on many Indian goods by 25%, bringing the total tariffs up to 50%.

About:

- The recent 50% tariff on India includes a 25% penalty for India's refusal to stop buying oil from Russia.
- The US has accused India of indirectly funding the Russian aggression on Ukraine by buying Oil from Russia.
- It is the highest amount of tariffs charged by the US from any of its trading partners except Brazil which also falls under the same bracket of 50% tarrifs. For instance China (30%), Bangladesh (20%), Vietnam (20%), Japan (15%), South Korea (15%).

USA's Point of View

- **High Indian Tariffs on US Goods:** India's high tariffs on U.S. goods, which the US President called 'among the highest in the world'. The U.S. goods trade deficit with India was $45.8 billion in 2024.
- **India's Non-monetary Trade Barriers:** The US accuses India of maintaining high tariffs and other non-tariff barriers, particularly citing India's agricultural subsidies and sanitary and phytosanitary (SPS) measures related to food safety.
- **India's Energy and Defense Ties with Russia:** India has been keen on purchasing discounted oil from Russia since the outbreak of Russia-Ukraine war.
  - India is also a traditional buyer of Russian arms with long-standing defense ties with Moscow.
- **India's BRICS Membership:** The US views BRICS, the emerging markets bloc which India is part of, as an anti-dollar coalition that challenges US economic leadership.
- **Delayed Bilateral Trade Agreement (BTA) Negotiations:** A bilateral trade deal is still in a state of limbo, though it has been under consideration for long by both the parties.

Impact on Trade:

- The additional tariffs have put India at a significant disadvantage against regional competitors such as Vietnam and Bangladesh.
- Could affect nearly 55% of India's $87 billion in merchandise exports to the U.S.
- Sustained tariffs at this rate could dent India's growing appeal as an alternative manufacturing hub to China.

Impact on Economy:

- Up to 2 million jobs are at risk in the near term.
- Overall GDP growth could decline by 0.2–0.5%.
- May lead to weakening of Indian Rupees, thus imported inflation and increased borrowing costs for foreign debt-laden companies.

Items	Share of U.S. in India Exports	Share of India in U.S. imports	Tariff Exempt	Impact on Exports	Impact
Capital Goods	18%	2%	No	High	$12 bln
Textiles	28%	9%	No	Moderate	$5 bln
Gems & Jewellery	31%	13%	No	Moderate	$5 bln
Pharmaceuticals	36%	6%	Yes	Low	$0 bln
Smartphones	33%	6%	Yes	Low	$0 bln
Chemicals	14%	3%	No	High	$7 bln
Food & Beverages	11%	2%	No	High	$6 bln
Oil & Gas	6%	1%	Yes	Low	$0 bln
Auto	12%	1%	No	High	$3 bln
Other	N/A	N/A		Moderate	$7 bln
Total	**18%**	**3%**		**Moderate**	**$44 bln**

Note: Data as of 2024. The impact is based on 50% tariff on all sectors except pharmaceuticals, smartphones and oil & gas which are currently exempted from tariffs.

- **Skewed Impact:** The tariffs disproportionately affect labor-intensive and low-margin sectors, while some industries remain exempt.

Affected Sectors:

- **Textiles and Apparel:** India, a major supplier of garments and fabrics to the U.S., now faces a cost disadvantage compared to competitors like Vietnam and Bangladesh, which face lower tariffs.
  - Production halts have been reported in textile hubs like Tirrupur and Surat.
- **Gems and Jewelry:** A key export sector, with significant U.S. market share of about $10 billion is at risk of losing competitiveness.
  - Exporters in Jaipur reported an "atmosphere of panic," with potential factory scale-downs or closures.
- **Marine Products (e.g., Shrimp):** India, the world's second top shrimp exporter, relies heavily on the U.S. market. The tariffs threaten to make Indian shrimp uncompetitive.
- **Leather and Chemicals:** These sectors face reduced demand and potential job losses due to higher costs in the U.S. market.
- **Engineering Goods:** The US accounts for 27% of India's auto component exports, 15-20% of India's exports to the US could be lost in the short term.

Exempted Sectors:

- **Pharmaceuticals:** India's generic drug exports, account for a significant chunk of the U.S. market, are exempt, for now.
- **Semiconductors and Electronics:** Products like smartphones (e.g., Apple's iPhone exports from India) are unaffected, preserving India's role in global supply chains.

➲ **Energy and Critical Minerals:** These remain exempt, supporting India's energy security.

India's Response

India has adopted a multi-pronged strategy to mitigate the impact:

➲ **Diplomacy:** India in a cautious tone condemned the tariffs as "unfair, unjustified, and unreasonable," noting that many other countries importing Russian oil face lower or no penalties.

➲ India politely insists on maintaining its energy security, and its sovereign rights to buy oil from the cheapest possible source.

◆ India has saved at least $17 billion by purchasing Russian crude since the commencement of the Russia-Ukraine war in February 2022

➲ **Market Diversification:**

◆ India is targeting 40 countries, including the UK, Japan, South Korea, and the UAE, to boost textile exports through dedicated outreach programs.

◆ Recent free trade agreements (e.g., with the UK and EFTA countries) are being leveraged to reduce U.S. market dependency.

➲ **Domestic Support Measures:**

◆ Prime Minister Modi has pushed a "Swadeshi" (self-reliance) campaign, urging citizens to buy local goods to offset export losses.

◆ The government is considering relief measures like interest subsidies, loan moratoriums, emergency credit lines for MSMEs, and extended export realization periods to ease liquidity issues.

◆ Finance Minister Nirmala Sitharaman assured exporters of "comprehensive support" to protect jobs and industries.

◆ Tax cuts including GST reforms aimed to boost domestic consumption.

➲ **Strategic Reforms:** Analysts see the tariffs as a potential catalyst for structural reforms in manufacturing, skill development, and logistics to enhance India's global competitiveness.

◆ India is cautiously exploring increased Chinese investment to counterbalance U.S. pressures, with Modi attending the Shanghai Cooperation Organisation summit in 2025.

Conclusion:

➲ Though the US has unilaterally imposed high tariffs on Indian goods which directly hurts Indian economy and trade along with job losses in the short term, yet India's matured reply and calculated response has kept doors open for an on-table solution.

➲ It is also an opportunity for India to work for self-reliance and diversify its export market and stand firm in tough times. The initiatives taken in this regard by the Government of India is positive and welcome.

U.S.-India Trade Tariff Timeline 2025

April 2, 2025

The US announced a 26% tariff on Indian goods, later adjusted to 25%.

April 5, 2025

A 10% baseline tariff on all imports, including India, was implemented.

July 8, 2025

The delay period for nation-specific tariffs extended to August 1.

April 9, 2025

The 16% nation-specific tariff for India was delayed for 90 days until July 9.

July 30, 2025

The US declared a 25% tariff on Indian goods, effective August 7, with an unspecified penalty for Russian oil purchases.

August 1, 2025

25% tariff (10% baseline + 15% reciprocal) applied to Indian goods.

August 27, 2025

An additional 25% tariff was implemented, bringing the total to 50% for most Indian goods (except exempted sectors).

August 7, 2025

The White House issued an executive order confirming a 25% tariff on Indian goods, effective immediately, with exemptions for pharmaceuticals, electronics, and energy.

October 5, 2025

Goods loaded onto ships before August 7 and arriving before October 5 are subject to the earlier 25% tariff rate, not the 50% rate.

AVIATION SECTOR IN INDIA

As per a recent report by IATA (a trade association for the world's airlines), India has emerged as the world's fifth biggest aviation market, handling 211 million passengers in 2024.

Rising tide of Indian Aviation

➲ In 2024, India's air traffic level exceeded their 2019 level by 10.9%, with a fourth consecutive year of double-digit growth.

➲ In 2024, India's passenger traffic, as measured by O-D departures, was around 2.4 times higher than it was in 2011.

Key Facts related to Aviation Sector

➲ India now ranks as the third largest air transport market in the world in terms of departing Origin-Destination (O-D) passenger traffic, behind the United States and China.
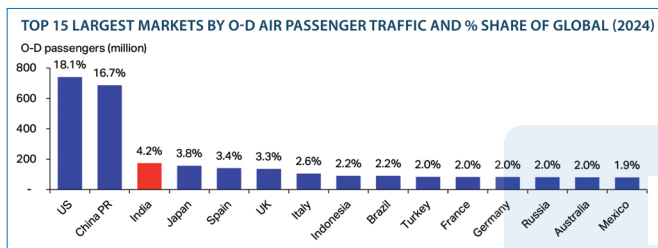
TOP 15 LARGEST MARKETS BY O-D AIR PASSENGER TRAFFIC AND % SHARE OF GLOBAL (2024)
O-D passengers (million)
US 18.1%, China PR 16.7%, India 4.2%, Japan 3.8%, Spain 3.4%, UK 3.3%, Italy 2.6%, Indonesia 2.2%, Brazil 2.2%, Turkey 2.0%, France 2.0%, Germany 2.0%, Russia 2.0%, Australia 2.0%, Mexico 1.9%

➲ In 2024, New Delhi airport was the 7th busiest passenger airport in the world, up from 15th in 2019 and 29th in 2011.

➲ **Seat Capacity:** Scheduled seat capacity increased by 88.2% over the past ten years (2014-24).

  ◆ The average seat capacity per flight is currently 178 seats, up from 168 in 2014.

➲ **Domestic Push:** 78% of the total passengers are domestic.

➲ **Market Share:** IndiGo, the largest domestic low-cost carrier, accounted for around 53% of total departing flights from and within India in 2024.

➲ **Busy Routes: Mumbai-Delhi** is the busiest domestic airport pair in the country, followed by Bengaluru-Delhi and Bengaluru-Mumbai.

Key International Destinations

➲ The Middle East is the largest destination region for international passenger traffic flying from India followed by Asia Pacific and then Europe and North America.

TOP 10 INTERNATIONAL MARKETS BY ARRIVING O-D PASSENGERS FROM INDIA, TOTAL AND % SHARE (2024)
O-D passengers (million)
UAE 19.9% 7.6, US 9.2% 3.5, Saudi Arabia 9.0% 3.4, UK 5.9% 2.2, Thailand 5.4% 2.1, Singapore 4.9% 1.9, Canada 3.3% 1.3, Qatar 3.0% 1.1, Malaysia 2.9% 1.1, Oman 2.7% 1.0
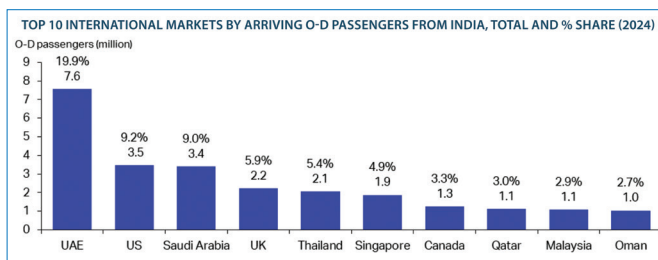
➲ At a country level, the United Arab Emirates (UAE) stands out as the largest international destination.

Contribution to Indian Economy

➲ In 2023, the aviation industry contributed USD 53.6 billion to India's economy which is approximately 1.5% of India's GDP, underpinning 7.7 million jobs in the country.

➲ Tourism supported by aviation adds USD 27.1 billion to GDP and employs 5.0 million people.

Factors Behind the Push

➲ **India's Geographical Extent and Huge Population Base:** Vast distances between major cities coupled with a fair chunk of economically well off urban population. Cities contribute to 60% of Indian GDP and 36.87% of its population.

➲ **Competitive Air Fare:** Domestic low budget air carriers like IndiGo offer air journeys at competitive rates in comparison to Air Conditioned Rail Journey. Also there is a cap on air fare (Rs 2500 per hr) under UDAN Scheme.

➲ **Decline in Real Average Air Fare (i.e. adjusted for inflation):** Domestic and international airfares are around 79% and 62% of their 2011 levels, **in real terms(i.e. adjusted for inflation),** respectively; in other words, airfares are 21% and 38% cheaper than they were in 2011.

➲ **Non availability of confirmed Rail Reservation:** Overloaded Railways along with the problem of confirmed tickets gives a push to Air Travels especially during festive seasons.

➲ **Quality Service:** Air journey in India is synonymous with quality service provided by air staff along with Airport facility and infrastructure. **For example:** Delhi Airport has been adjudged as a **Global 4 Star Airport.**

➲ **Social status:** An air-journey in India is also associated with status and public aspiration to join an elite club, thus the aspiring middle class often prefers air journeys when the costs are competitive.

➲ **Policy Push:** Government Initiatives such as UDAN and regional connectivity of airways in Tier-2 and Tier-3 cities along with **Viability Gap Funding (VGF)** to promote connectivity to underserved and remote regions.

Air Cargo Market

➲ India's air cargo handling capacity reached **8 million MT in FY24.**

➲ The government plans to expand air cargo volumes to **10 million tonnes by 2030** and to position India as a key hub in South Asia.

➲ Air cargo is often preferred over other modes due to the speed and reliability of delivery of products, particularly perishable goods, medicines and high-value and low weight items.

➲ **Concentrated in four key airports:** New Delhi, Mumbai, Bangalore, and Chennai collectively handle 80% of total air cargo carried to and from India.

The Dark Side

➲ Historically, the Indian market has been a challenging one for airlines, with numerous market entries and exits.

➲ More than 15 airlines registered in India have failed over the last two decades like GoAir (2021), Jet Airways (2019), and Kingfisher (2012).

Major Challenges

➲ **Difficult financial environment**: Since 2014, the airline industry in India has recorded a positive net margin only in 2023 and the operating margin has only been positive in four years.

➲ **High cost of Aviation Turbine Fuel**: It is not covered under GST and some states charge as much as 29% VAT, making it difficult for Airlines to sustain operational cost as ATF constitutes approximately 40-50% of an airline's operational expenses in India–well above the global average.

➲ **Coverage:** Most of the operational airports are in Capitals or regional economic hubs, thus making it difficult for a large population living in the periphery and underdeveloped regions to access the facility.

➲ **Skilled Manforce:** India needs approximately 37,000 pilots and 38,000 maintenance technicians during the next two decades.

➲ **Accidents:** Recent crash of **Air India Flight AI-171** highlights the safety concerns related to the aviation sector in India.

➲ **Miscellaneous:** Like huge delays and flight cancellations during foggy weather conditions, long queues and heavy security checkups leading to long waiting times, few flight services at regional airports, costly services at the airport region and so on.

Government Initiatives

➲ **UDAN Scheme:** Enhances regional air connectivity by making air travel affordable for common citizens.

➲ **National Civil Aviation Policy (NCAP) 2016**: Making India a global civil aviation hub.

➲ **Drone Rules:** Providing regulations for drone usage.

➲ **NextGen Airport for Bharat (NABH) Nirman:** Expanding airport capacity to handle a billion trips annually.

➲ **IFSC Aircraft Leasing and Financing:** Promoting aircraft financing and leasing within India.

The Silver Lining

➲ **Rising purchasing power:** Real disposable per capita income in India increased by 65.4% between 2014 and 2022, leading to an additional demand for more premium products and services including air travel.

➲ **Increased Spending:** The share of consumer spending on transport services is expected to rise by 2030, to around 20.4%, as the number of middle- to high-income households increases.

➲ **Additional Passengers:** The number of air passengers will triple by 2044.

➲ **Huge potential:** India has around 17.8% of the global population but only 4.2% of total global air passengers. Thus a clear indication of the growth opportunity.

> " Aviation was once considered the domain of a select few, but …. My dream is to see a person who wears a "hawai chappal" to fly on the "hawai jahaz".
> —**Narendra Modi** "

Department-Related Parliamentary Standing Committee on Transport, Tourism and Culture *Report on Aviation Safety*

Key Concerns Identified

➲ **Lack of Autonomy in DGCA:** Dependence on Ministry curtails independent decision-making.

➲ **Severe Staff Shortages:** Only 553 of 1,063 sanctioned DGCA posts are filled (~50% shortfall). Inability to offer competitive salaries or direct hiring slows manpower growth.

➲ **ATCOs Crisis:** Shortage of controllers and fatigue risks due to non-adherence to duty limits.

➲ **High Safety Risks:** Recurrence of runway incursions, bird strikes, and engine failures persists.

➲ **Helicopter Safety Lapses:** Lack of uniform rules and terrain-specific pilot training in hilly regions.

➲ **Recruitment–Training Mismatch:** Limited training capacity worsens manpower shortages and overload.

➲ **High Accident Rate:** India's 0.8 per million departures exceeds advanced aviation markets.

Major Recommendations

➲ **DGCA Reforms:** Grant financial/administrative autonomy; enable direct hiring with market salaries.

➲ **ATC Safety:** Implement Fatigue Risk Management, conduct staffing audits, upgrade AI-based systems.

➲ **Capacity Planning:** Launch a National Capacity Alignment Plan to match airports with fleet growth.

➲ **MRO Policy:** Incentivise domestic MRO through tax rationalisation and policy support.

➲ **Operational Safety:** Mandate root-cause analysis and stronger remedial programmes.

➲ **Helicopter Operations:** Establish uniform regulations and terrain-specific pilot training.

➲ **Global Standards:** Align with ICAO benchmarks to boost safety audit scores and global confidence.

INCOME TAX (NO. 2) AND TAXATION LAWS (AMENDMENT) ACTs

The president gave his assent to the bills on 21st August, 2025.

About Income Tax:

- **Definition:** Income tax is a levy imposed by the government on the earnings of individuals and businesses within a financial year. The term **"income"**, as broadly defined under **Section 2(24) of the Income Tax Act, 1961**, covers earnings from multiple sources.
- **Sources of Income:**
  - **Salary:** Covers payments received from an employer, such as basic pay, allowances, commissions, bonuses, and retirement-related benefits.
  - **House Property:** Income generated through rent from residential or commercial properties is taxable.
  - **Business or Profession:** Profits earned from business operations or professional services, after deducting expenses, are subject to tax.
  - **Capital Gains:** Earnings from the sale of capital assets like land, property, or jewellery. These may be classified as **short-term** or **long-term gains** depending on the holding period.
    - **Other Sources:** Residual income not included in the above heads, such as savings account interest, dividends, family pension, gifts, lottery winnings, and certain investment returns.

Key Milestones in Indian Income Tax System

Year	Milestone
1860	Introduction of Income Tax by Sir James Wilson
1922	Comprehensive Income-tax Act established
1924	Central Board of Revenue Act constituted
1946	Recruitment of Group A officers
1957	I.R.S. (Direct Taxes) Staff College started, later renamed National Academy of Direct Taxes
1981	Initiation of computerization in the Income-tax Department
2009	Establishment of Centralized Processing Centre (CPC) in Bengaluru
2014	Launch of the new national website of the Income Tax Department
2020	Introduction of the **"Vivad se Vishwas"** scheme to reduce litigations and generate government revenues
2021	Launch of the new e-filing portal

Comparison

Aspect	Income Tax Act, 1961	Income Tax (No. 2) Act, 2025
Language & Structure	Lengthy, complex legal drafting with multiple amendments over decades.	Rewritten in plain, simple, and structured language for easier understanding.
Compliance (TDS & ITR)	TDS refund tied to ITR deadlines; longer correction timelines (6 years).	Refunds claimable without penalty; TDS correction limit reduced to 2 years.
Anonymous Donations	Exemption available only for wholly religious trusts and mixed religious–charitable trusts.	Exemption clarified and retained for wholly religious and mixed-object trusts (restoring 1961 provisions).
NPO Taxation	Shift proposed (in Feb 2025 draft) to tax "receipts".	Reverted to taxing "income" only, as per 1961 framework.
Professionals	No specific threshold for mandatory e-payments.	**Clause 187:** Professionals with receipts above 50 crore must use prescribed electronic modes.
Unified Pension Scheme (UPS)	Not applicable (scheme introduced only in 2025).	Exemption for UPS explicitly added.
International Provisions	Limited benefits extended under bilateral agreements.	Direct tax benefits extended to Saudi Arabia's Public Investment Fund.
Block Assessment in Search Cases	Old procedures with complexity.	Revised for greater clarity and efficiency.
Reforms Approach	Incremental, piecemeal amendments.	Built on SIMPLE principles – Streamlined, Integrated, Minimized litigation, Practical, Learn & adapt, Efficient reforms.

Issues with the Income-Tax (No.2) Act, 2025

- **No Change in Tax Rates/Regimes:** While the Act simplifies language, it leaves **structural issues in tax slabs and corporate taxation** untouched, limiting real relief.
- **Expanded Search Powers:** Access to **virtual digital space** (emails, social media, trading accounts) raises concerns of **privacy violations, data misuse, and overreach** by tax authorities.
- **Dispute Resolution Panel (DRP):** While reasoning is mandated, the DRP remains an **intra-departmental body**; independence and impartiality remain questionable.
- **Ambiguity in Treaty Interpretation:** Assigning meanings from "any other central law" may cause **conflicts across statutes**, leading to more litigation instead of minimising it.
- **Ease of Doing Business vs. Ground Reality:** Litigation minimisation and transparency provisions are aspirational, but without **capacity building in tax administration**, disputes may continue.

Way Forward – Income-Tax (No.2) Act, 2025

- **Balance Powers with Oversight:** General powers for framing schemes should be supplemented with **parliamentary scrutiny** and independent review mechanisms to avoid executive overreach.
- **Protect Digital Privacy:** Expanded search powers in **virtual digital space** must be accompanied by **strict safeguards, audit trails, and data protection protocols** to prevent misuse.
- **Strengthen Dispute Resolution:** The DRP should be made **independent of the tax department**, with judicial members included, to ensure credibility and reduce litigation.

Comparison		
Aspect	**Earlier Provision (Income Tax Act, 1961 / Finance Act, 2025)**	**Taxation Laws (Amendment) Act, 2025**
Unified Pension Scheme (UPS) – Exemptions	Exemption applied to payments under National Pension System (NPS) up to 60% of corpus at retirement/exit.	**Extends exemption to UPS:** (i) Payments up to 60% corpus on retirement/superannuation/voluntary retirement, (ii) Lump-sum amounts under UPS also exempt.
UPS – Transfers	No specific provision for UPS transfers.	Transfers from individual corpus to pool corpus under UPS will not be treated as income, hence not taxable.
Foreign Investment Exemptions	Exemptions given to: (i) Wholly-owned subsidiaries of Abu Dhabi Investment Authority, (ii) Sovereign wealth funds wholly owned & controlled by foreign governments, (iii) Foreign pension funds exempt in home country.	Adds Public Investment Fund (PIF) of Saudi Arabia and its wholly owned Saudi subsidiaries to the exempt list.
Block Assessment in Search Cases	Block assessment covers 6 years prior to search + part of current year till search. Pending assessments for those years stop once search begins.	**Adds:** If a notice for assessment is issued after search begins but before it ends, such assessment will also stop on date of notice. (Exception: not applicable for the year of last search authorisation).

Issues with the Taxation Laws (Amendment) Act, 2025

- **Selective Exemptions (UPS vs. NPS):** While UPS exemptions are added, **parity with NPS beneficiaries may create dual regimes**, causing administrative confusion.
- **Equity Concerns in UPS:** UPS is limited to **central government employees** (from FY 2025–26). Private sector and state employees remain outside, creating **unequal pension benefits**.
- **Foreign Fund Exemptions:** Extending exemptions to **Saudi Arabia's Public Investment Fund (PIF)** may be seen as **favouring specific countries**, raising fairness and reciprocity issues.
- **Block Assessment Provisions:** Although the new clause aims for clarity, search and seizure assessments still suffer from **subjective discretion of authorities**, often criticised for **harassment and excessive litigation**.

- **Revenue Implications:** Broader exemptions (UPS payouts, foreign sovereign funds) could **reduce immediate tax revenues**, pressuring fiscal space.

Way Forward - Taxation Laws (Amendment) Act, 2025

- **Ensure Pension Equity:** Extend **UPS-like exemptions** gradually to state employees and encourage **private sector pension portability**, ensuring uniform retirement benefits.
- **Rationalise Sovereign Fund Exemptions:** Exemptions for foreign investment funds should be **transparent, rule-based, and reciprocal**, avoiding country-specific favoritism.
- **Reform Block Assessment:** Introduce **time-bound, technology-driven, and independent review** of search-based assessments to reduce harassment and enhance taxpayer confidence.

PM ANNOUNCED NEXT-GEN GST REFORMS

Recently, the PM Modi unveiled a new vision for India's GST regime aimed at simplifying tax structures, to be implemented from September 22nd.

About

➲ The reform comes at a time when GST collections have consistently crossed Rs. 1.6 lakh crore per month (FY 2024–25), highlighting buoyant revenue trends.

Proposed Reforms in India's GST Regime

➲ **Simplified Tax Structure & Rate Rationalization:**
   - **Two Main Slabs:** 5% (merit rate) and 18% (standard rate);
   - 99% of items in the 12% slab to move to 5%;
       - 90% of items in the 28% slab to shift to 18%;
   - **Special 40% Slab:** For 'sin goods' like tobacco, pan masala, and online gaming;
   - This rationalization is expected to reduce classification disputes and bring India closer to international best practices in VAT/GST regimes, such as those followed in the EU.

➲ **Structural and Process Reforms:**
   - Correction of inverted duty structures (especially in textiles and MSMEs);
   - Resolution of classification disputes to reduce litigation;
   - Pre-filled returns to ease compliance and reduce manual errors;
   - Automated refunds for exporters and businesses with inverted duty structures;
   - Introduction of blockchain-based invoice verification and AI-driven fraud detection is being explored to strengthen compliance further.

➲ **End of Compensation Cess:** Compensation cess (previously levied on luxury/sin goods) to be phased out by November–December 2025; fiscal space created will allow for smoother rate alignment.

➲ States, however, remain concerned about revenue shortfalls post-compensation, indicating the need for a more predictable revenue-sharing formula.

Economic and Social Impact

➲ **Simplification in GST regime is expected to:**
   - Reduce compliance burdens;
   - Encourage consumption;
   - Improve tax collection through better compliance.

➲ The reforms will be consumer-centric, with reduced taxes on essential goods and services consumed by the poor, middle class, and MSMEs.

➲ The proposed reforms are seen as a step toward fiscal sustainability, aligning with India's long-term growth goals and inclusive development agenda.
   - It is expected any short-term revenue dip to be offset by increased economic buoyancy and improved compliance.

◆ According to RBI, GST buoyancy has improved from 0.72 in FY18 to nearly 1.2 in FY24, showing improved elasticity with GDP.

Suggestions for Future Improvements

➲ There is need to settle classification disputes to reduce litigation;
➲ Correct inverted duty structures, especially in textiles and MSMEs;
➲ Establish GST Appellate Tribunals for faster resolution;
➲ Enhance digital infrastructure for smoother filing;
➲ Ensure anti-profiteering compliance so tax cuts benefit consumers.
➲ There is also a need to bring petroleum, electricity, and real estate under GST ambit to ensure a truly unified indirect tax regime.

7 Pillars of Next-Gen GST Reforms

➲ **Pillar 1:**
   - Building on the success of GST.
   - One Nation, One Tax
   - Expanded the taxpayer base
   - Simpler 2-tier system (5% & 18%)

➲ **Pillar 2:**
   - Rationalising rates for fairer taxation.
   - Smoother duty structures
   - Faster processing of refunds

➲ **Pillar 3:**
   - Simplifying filing through technology.
   - Easy registration for small & low-risk businesses
   - 90% upfront provisional refunds for exporters
   - Digital compliance with e-invoicing
   - AI-driven risk detection

➲ **Pillar 4:**
   - Putting consumers first.
   - Essential goods in the 0-5% bracket
   - High-value items like cars down from 28% > 18%

➲ **Pillar 5:**
   - Empowering MSMEs & manufacturers.
   - Fixed inverted duty structures
   - Simpler rates to support Make in India

➲ **Pillar 6:**
   - Stronger states, stronger Bharat.
   - Sustainable revenue growth for all states
   - Rationalised rates will increase demand

➲ **Pillar 7:**
   - Lower taxes = Higher spending.
   - Families buy more, demand rises, industries grow.
   - Cheaper appliances, electronics will increase demand

RENEWABLE CONSUMPTION OBLIGATION FRAMEWORK

The Union Ministry of Power, under the Energy Conservation Act (2001), has released a revised draft notification introducing the Renewable Consumption Obligation (RCO).

About

- It marks a paradigm shift from the earlier Renewable Purchase Obligation (RPO) that focused on procurement, to binding consumption-based renewable targets.
- This change aligns with India's Nationally Determined Contributions (NDCs) under the Paris Agreement and enhances accountability for actual renewable energy usage.

About Renewable Consumption Obligation (RCO)

- **Binding Targets:** It requires distribution companies (discoms), open access consumers, and captive power users to source 29.91%–43.33% of energy from renewables by 2030.
- This target is designed to gradually increase the share of renewables in India's energy mix, complementing the 500 GW non-fossil capacity goal by 2030.
- **Categories Covered:** Distributed renewable energy (rooftop solar, virtual net metering, behind-the-meter installations).
  - Wind energy.
  - Hydro energy (including projects abroad, with approval).
  - Other renewables (biomass co-firing, municipal solid waste).
- **Differentiated Targets:** For hilly & Northeastern states, distributed renewable energy targets are set at half the national rate, recognising geographical constraints.
- **Compliance Mechanisms:**
  - Direct renewable energy consumption.
  - Purchase of Renewable Energy Certificates (RECs).
  - **Buyout option:** A consumer can pay a buyout price fixed by the Central Electricity Regulatory Commission (CERC). However this acts like a penalty payment, but it does not lead to any actual renewable energy being generated.

Significance of the RCO Framework

- **Shift from Procurement to Consumption:** Ensures actual renewable energy use rather than symbolic compliance.
- **Distributed Energy Emphasis:** Targets for rooftop solar and small-scale projects to rise from 1.5% in 2024-25 to 4.5% by 2029-30, potentially democratising energy production by involving households, local communities, and smaller developers.
- **Investment Certainty:** Creates predictable demand for renewable developers, likely to attract investment.
- **Climate Commitments:** Aligned with India's target of achieving 50% cumulative electric power from non-fossil fuel-based energy resources by 2030.

- **Consumer Coverage:** Over 100 discoms and thousands of captive/open access users included, bringing wide compliance scope.
- **Global Examples:** The EU Renewable Energy Directive mandates a 42.5% renewable share by 2030, while China enforces quota obligations on grid companies.

Legal and Structural Challenges

- **Weak Enforcement in past:** In past RPO audits, only 6 of 24 states imposed penalties despite significant non-compliance.
  - It suggests systemic reluctance by regulators to enforce penalties on powerful discoms/industries.
- **Unclear Legal Authority of CERC in Buyout Clause:**
  - The RCO framework allows consumers to "buy out" their obligation by paying a price set by the Central Electricity Regulatory Commission (CERC).
  - However the Energy Conservation Act, 2001, under which RCO is notified, does not give CERC any role. The CERC's powers come from the Electricity Act, 2003.
- **Overlapping Enforcement Authorities:** The framework allows three different authorities to take action in case of non-compliance, which can create confusion, duplication, or conflict in enforcement.
  - Bureau of Energy Efficiency (BEE) at the central level.
  - State Designated Agencies (SDAs).
  - Other state-appointed officers/persons.
- **Reporting and Timeline Gaps:** While RCO requires submission of energy accounts and compliance reports, there are no strict penalties for late reporting. This creates room for administrative delays and weakens accountability.
- The buyout mechanism essentially creates a permanent "pay-to-pollute" option without sunset clauses, undermining the objective of actual renewable energy consumption.
- Moreover, discom financial stress (₹6 lakh crore debt) remains a major obstacle to compliance.

Way Ahead

- **Legislative Clarity:** Amend the Energy Conservation Act, 2001 or issue joint notification with the Electricity Act, 2003 to explicitly empower CERC.
- **Unified Enforcement Authority:** Establish a single nodal body to avoid fragmented enforcement.
- **Strengthen Penalties:** Mandate strict financial penalties for delayed compliance and non-reporting.
- **Support Mechanisms:** Expand Green Energy Open Access Rules and financing for rooftop solar and small projects.

MARITIME ACTs TO BOOST BLUE ECONOMY

The Parliament has recently passed five important Acts during the Monsoon Session, updating old colonial-era maritime laws to support and expand India's Blue Economy.

About

- These new reforms are designed to match the goals of Maritime India Vision (MIV) 2030 and the Blue Economy policy, with the aim of making India a major centre for global maritime trade and activities.
- The new Acts are the Act of Lading 2025, the Carriage of Goods by Sea Act 2025, the Coastal Shipping Act 2025, the Merchant Shipping Act 2025, and the Indian Ports Act 2025.

About

- The Act of Lading, 2025, focuses on simplifying legal documents to reduce disputes and improve the ease of doing business.
- The Carriage of Goods by Sea Act, 2025, replaced a 1925 Act, adopting Hague-Visby Rules for reduced litigation and stronger international ties.
- The Coastal Shipping Act, 2025, targets reviving India's 6% modal share, saving around Rs 10,000 crore annually in logistics costs, and also reducing pollution and road congestion.
- The Merchant Shipping Act, 2025, overhauled an outdated 1958 act, enabling expeditious wreck removal and salvage operations.
- The Indian Ports Act, 2025, replaced an old 1908 law, created a Maritime State Development Council for better national planning, gave more power to state maritime boards to manage smaller ports, and set up a way to resolve disputes at the state level.
- Together, these legislations represent the biggest maritime legal overhaul in over a century.

India's Maritime Sector

- **Strategic Position:** Located along the world's busiest shipping routes, India is a key trading hub and a rising global power.
- **India's Maritime Sector Overview:** Handles 95% of India's trade by volume and 70% by value, with port infrastructure critical to the economy.
- **Cargo Traffic Growth:** Coastal cargo traffic surged by 119% from 2014-2024, with a target of 230 million tonnes by 2030.
- **Surge in Merchandise Exports:** India's merchandise exports rose to USD 451 billion in FY23, up from USD 417 billion in FY22.
- **Maritime Sector's Importance:** India is the 16th largest maritime nation, occupies a key position in global shipping, with major trade routes passing through its waters.
- **Achievements:** The Ministry of Ports, Shipping, and Waterways has increased cargo handling capacity by 103% in the last decade.

Future Goals:

- India has outlined investments of US$ 82 billion in port infrastructure projects by 2035 to bolster the maritime sector.
- India plans to establish a new shipping company to expand its fleet by at least 1,000 ships within a decade.
- India's Sagarmala Programme alone envisions 802 projects worth ₹5.5 lakh crore, indicating the scale of ambition.

Challenges

- **Infrastructure Gaps:** Inadequate port infrastructure and outdated facilities at some ports, limiting capacity and efficiency.
- **Congestion:** High traffic volumes at major ports leading to delays, increased turnaround times, and reduced productivity.
- **Environmental Concerns:** Pollution and sustainability issues, including emissions from ships and port operations.
- **Logistics Bottlenecks:** Inefficient transport connectivity between ports, roads, and railways, impacting smooth cargo movement.
- **Global Competition:** Rising competition from other global maritime hubs, necessitates continuous investment and modernization. India's average turnaround time for ships (1.8 days) is still higher than many global maritime hub like Singapore, Dubai(less than 1 day).

Initiatives by the Government

- **Sagarmala Programme:** Focuses on leveraging India's coastline and of navigable waterways potential by supporting port infrastructure, coastal development, and connectivity.
- **Maritime India Vision 2030 (MIV 2030):** Aiming for India to become a top 10 shipbuilding nation by 2030 and create a world-class, efficient, and sustainable maritime ecosystem.
- **Inland Waterways Development:** 26 new national waterways identified by the IWAI.
- **Green Tug Transition Program:** Aims to replace fuel-based harbour tugs with eco-friendly, sustainable fuel-powered tugs.
- **Sagarmanthan Dialogue:** An annual maritime strategic dialogue to position India as a global center for maritime conversations.
- **Maritime Development Fund:** ₹25,000 crore fund for long-term financing to modernize ports and shipping infrastructure.
- **Shipbuilding Financial Assistance Policy (SBFAP 2.0):** Modernized to help Indian shipyards compete with global giants.
- India is also exploring Public-Private Partnerships (PPP) in dredging, logistics, and container handling to attract foreign investment.
- **MAHASAGAR:** It marks a strategic evolution from a regional focus on the Indian Ocean to a global maritime vision, with particular emphasis on the global south.

INDIA'S 3RD VOLUNTARY NATIONAL REVIEW ON SDGs

Recently NITI Aayog presented India's Third Voluntary National Review (VNR) Report on the SDGs at the High-Level Political Forum (HLPF) on SDGs convened by the ECOSOC of the United Nations.

Background:

➲ **Building upon previous VNRs:** The Report marks a continuation of earlier two VNR Reports submitted by India in 2017 and 2020 respectively.

➲ **Whole-of-government and Whole-of-society approach:** It captures a decade of decisive policy action and transformative results across multiple dimensions of sustainable development.

India's Key Development Highlights

Area	Highlight
Poverty Alleviation	Around 248 million individuals estimated to have escaped Multidimensional Poverty (MPI).
Food Security	PM Garib Kalyan Anna Yojana has ensured nutritional support for millions.
Health and Nutrition	POSHAN Abhiyaan and Ayushman Bharat have expanded access to quality nutrition and healthcare.
Clean Energy	Programs like the National Green Hydrogen Mission, PM-KUSUM, and PM Surya Ghar Muft Bijli Yojana are strengthening India's transition to clean energy.
Innovation and Growth	India is now the third-largest start-up ecosystem in the world.
Infrastructure	Schemes such as PM Gati Shakti, Make in India, and the National Industrial Corridor Development Programme are building next-generation infrastructure.

SDG Implementation in India

➲ India has made significant strides in localising Sustainable Development Goals (SDGs) through robust, data-driven governance frameworks.

   ◆ Tools such as the SDG India Index, the North-Eastern Region District SDG Index, and the National Multidimensional Poverty Index have enhanced monitoring and evaluation mechanisms at national and sub-national levels.

➲ India secured **99th rank out of 167 nations** with a **score of 66.95** in the 2025 edition of the Sustainable Development Goal Index, by the UN Sustainable Development Solutions Network.

➲ **Flagship initiatives** like the Aspirational Districts Programme (ADP) and the Aspirational Blocks Programme (ABP) further exemplify India's commitment to ensuring last-mile delivery and saturation of essential government services, particularly in underserved and developmentally lagging regions.

United Nations' High-Level Political Forum (HLPF)

➲ The High-Level Political Forum on Sustainable Development (HLPF) is the main United Nations platform for follow-up and review of the 2030 Agenda for Sustainable Development.

➲ The HLPF was established at the United Nations Conference on Sustainable Development (Rio+20) in 2012.

➲ The HLPF provides political leadership, guidance, and recommendations for sustainable development.

➲ It reviews progress in the implementation of the 2030 Agenda and the Sustainable Development Goals (SDGs), with the aim to integrate the economic, social, and environmental dimensions of sustainable development.

➲ The HLPF meets every year under the auspices of the UN Economic and Social Council (ECOSOC), and every four years under the auspices of the UN General Assembly, when Heads of State and/or Government attend the Forum.

Sustainable Development Goals (SDGs)

➲ **Adoption:** The United Nations General Assembly, during its **70th Session in 2015,** adopted the document titled **"Transforming our World: The 2030 Agenda for Sustainable Development."** This document outlines 17 Sustainable Development Goals (SDGs) and 169 associated targets.

➲ The SDGs, also known as the Global Goals, **came into force with effect from 1st January 2016.**

➲ **Function:** The SDGs serve as a **comprehensive blueprint** aimed at **achieving a better and more sustainable future for all.** The goals **call for action on addressing global challenges** such as poverty, inequality, climate change, environmental degradation, peace and justice.

➲ **Applicability:** The SDGs are universal, applying to all nations—developed, developing and least developed countries. Countries are primarily responsible for following up and reviewing the progress made in implementing the goals and targets at the national level until 2030.

➲ **Legality:** The SDGs are **not legally binding,** but they have effectively become international obligations and have the potential to reorient domestic spending priorities in countries. Countries are expected to take ownership and develop a national framework to monitor these goals.

GREEN AMMONIA FOR ENERGY TRANSITION

Solar Energy Corporation of India (SECI) conducts first-ever auction for procurement of Green Ammonia under National Green Hydrogen Mission.

About:

➲ In a landmark development, the auction by SECI under the SIGHT Scheme has achieved a record low price discovery of ₹55.75/kg for Green Ammonia.

Ammonia:

➲ It is an inorganic chemical compound of nitrogen and hydrogen with chemical formula NH_3. It is a colourless gas with a distinctive pungent smell at normal temperature and pressure.

Types of Ammonia

Zero Emissions

Green Ammonia
Zero-carbon ammonia, made using sustainable electricity, water and air.

Blue Ammonia
Low-carbon ammonia where carbon capture and storage technology is applied to the manufacturing processes.

Brown Ammonia
Ammonia made using a fossil fuel as the feedstock thus higher carbon footprint.

Note:
The ammonia produced is the same, it is the carbon emissions from the processes that are different.

High Emissions

Need for Green Ammonia

➲ **To reduce carbon footprint:** Conventionally Ammonia is produced through the Haber Bosch process which is highly Energy Intensive.

◆ Current global ammonia production is about 176 million tonnes per year consuming around 1.8% of global energy output each year and producing about 500 million tonnes of carbon dioxide annually.

◆ Along with cement, steel and ethylene production, it is one of the 'big four' carbon emitters.

Role of Green Hydrogen in Green Ammonia Production

➲ The **Haber-Bosch** process involves catalytic reaction of hydrogen and nitrogen at high temperature and pressure in which most of the energy consumption and around 90% of the carbon emissions are from the production of hydrogen.

➲ Thus Carbon Footprint can be significantly reduced by using either **Blue hydrogen or Green hydrogen.**

EXISTING USES
- Fertilisers
- Refrigeration
- Explosives
- Textiles and pharmaceuticals

EXPANDED USES

Energy store to electricity generation
- (after cracking) in PEM fuel cell
- Using alkaline fuel cell
- Direct combustion engine/turbine

Transport fuel
- Direct combustion engine/turbine
- Directly in solid oxide fuel cell
- (after cracking) in PEM fuel cell

Heat transfer
- Phase change/absorption bulk thermal storage

Role in National Green Hydrogen Mission

➲ The Indian Govt. has recognised the importance of Green Ammonia and has made it an indispensable part of its ambitious **National Green Hydrogen Mission** to achieve **Net-Zero by 2070.**

➲ **Domestic Manufacture of Fertilizers using Green Ammonia:** India aims to reduce its import cost by establishing fertilizer plants based on Green Ammonia.

➲ **Shipping fuel:** Green Ammonia bunkers and refuelling facilities will be set up at least at one port by 2025 and at all major ports by 2035 so that it could be used as fuel by ships.

RAMSAR COP15 CONCLUDED

Recently the 15th Meeting of the Conference of the Contracting Parties (COP15)
to the Ramsar Convention on Wetlands concluded.

About

- It was held in **Zimbabwe**.
- It was the **second time that Africa has played host to a Ramsar Convention** conference after **Uganda hosted COP9 in 2005**.
- Zimbabwe took over the three-year Ramsar Convention on Wetlands presidency from China.
- COP14 was held at **Wuhan, China** in 2022.
- COP16 will be hosted by **Panama** in 2028.

Major Outcomes

- **Victoria Falls Declaration**, which underscores the need for political commitment, increased resource mobilisation, and investment in wetland management.
- Total 13 proposed resolutions were adopted at COP15, signalling a global resolve to protect and restore wetlands.
- Adopted resolutions include accelerating national and regional actions, enhancing monitoring and reporting, capacity building and mobilisation of resources for wetlands conservation, and mainstreaming the wetlands into climate adaptation and disaster risk reduction, among others.
- The 172 contracting parties of the Ramsar Convention also agreed to strengthen flyway conservation efforts to protect migratory birds, endorsed the establishment of the **Waterbird Estimates Partnership**, and recognised the importance of conserving river dolphins and other inland wetland indicator species.
- The parties also adopted a resolution on equitable governance and the effective conservation of wetlands as protected areas and **OECMs (Other Effective Area-Based Conservation Measures)**. This resolution supports more inclusive and rights-based conservation and contributes to broader international targets for area-based protection.

India Specific

- A resolution named **'Promoting Sustainable Lifestyles for the Wise Use of Wetlands'** was introduced by India. It was adopted at the Conference with overwhelming support from the 172 Ramsar Contracting Parties, Six International Organisation Partners.
- It focuses on the **'whole of society'** approach needed for addressing wetlands conservation in the contemporary world.
- It also aligns with Resolution XIV.8 - New CEPA (Communication, Education, Participation, and Awareness activities related to wetlands) Approach and 10 years' framework of programmes on 'Sustainable production and consumption'.
- The Resolution builds upon **Resolution 6/8** on **'Promoting Sustainable Lifestyles'** adopted at the **Sixth UN Environment Assembly** in **March 2024.**

Do You Know?

The **'Mission Sahbhagita'** and **'Save Wetlands' Campaign** have witnessed over 2 million citizens as volunteers, enabling the mapping of more than 170,000 wetlands and clear boundary demarcation of nearly 120,000 wetlands in the last 3 years in India.

Additional Information

- **Victoria Falls** is a waterfall on the **Zambezi River**, located on the border between Zambia and Zimbabwe.
- **Zimbabwe** is a landlocked country in Southeast Africa, **between the Zambezi and Limpopo Rivers**, bordered by South Africa to the south, Botswana to the southwest, Zambia to the north, and Mozambique to the east.

THE MONTREUX RECORD

- The Montreux Record is a register of wetland sites on the List of Wetlands of International Importance (Ramsar List) where changes in ecological character have occurred, are occurring, or are likely to occur due to technological developments, pollution, or other human interference.
- It is a voluntary mechanism under the Ramsar Convention to highlight wetlands facing immediate challenges and prioritize them for national and international conservation efforts.
- Sites can only be added or removed with the approval of the Contracting Party in which they are located.
- As of **26/03/2025**, **46 sites** were listed in the Montreux Record.
- In India, two wetlands are currently included: Keoladeo National Park (Rajasthan) and Loktak Lake (Manipur).
- Chilika Lake (Odisha) was previously listed in 1993 due to siltation but was removed in 2002 after successful restoration efforts, earning the Chilika Development Authority the Ramsar Wetland Conservation Award.

ETHANOL BLENDING

India achieved 20% ethanol blending in petrol (E20) in 2025,

five years earlier than the 2030 target set under the National Policy on Biofuels (2018).

About

➲ The Ethanol Blending Programme (EBP) was launched as a pilot in 2003 and later expanded under the **National Policy on Biofuels (2018)**.

➲ Managed by the Ministry of Petroleum and Natural Gas, its main objectives are:

  ◆ Reduce India's dependence on crude oil imports (~85%).

  ◆ Provide assured markets to farmers, improving rural incomes.

  ◆ Lower greenhouse gas emissions by substituting fossil fuels.

➲ EBP initially aimed for 10% ethanol blending (E10) and later 20% (E20) by 2030, which India achieved in 2025.

➲ Ethanol feedstock includes sugarcane (molasses and juice), maize, rice, and damaged food grains.

➲ Globally, Brazil has ~27% blending, and the USA ~10%, showing India's target is significant on the global stage.

What is E20?

E20 is petrol blended with 20% ethanol, an alcohol mainly produced from sugarcane and grains such as maize and rice.

Key Concerns

➲ **Consumer Issues:**

  ◆ **Drop in Mileage:** Local Circles survey found 67% of petrol vehicle owners opposed E20, citing lower fuel efficiency and increased maintenance costs.

  ◆ **Limited Price Benefit:** Despite a 65% fall in global crude oil prices since 2022-23, petrol prices have been cut by only about 2%, raising doubts about cost savings passed to consumers.

➲ **Agricultural Sustainability:**

  ◆ **Water-Intensive Crop:** Sugarcane consumes 60–70 tonnes of water per tonne, contributing to groundwater depletion, particularly in Maharashtra and Uttar Pradesh.

  ◆ **Land Degradation:** Nearly 30% of India's land area is degraded, partly due to unsustainable agricultural practices.

  ◆ **Food vs Fuel Dilemma:** Diverting rice and corn for ethanol (34% of corn output used for ethanol in 2024–25, along with record rice allocation) has led to increased corn imports, affecting food security.

➲ **Fiscal Pressure:** The government bears costs for procurement, subsidies, and infrastructure. Diverting food grains affects PDS supply and strains the national budget.

Way Forward

➲ **Diversify Feedstock:** Shift away from sugarcane to alternative sources such as maize, bamboo, and agricultural residues.

➲ **Consumer Protection:** Implement tax incentives or compensation as recommended by NITI Aayog.

➲ **Balanced Energy Strategy:** Use ethanol as a transitional or bridge fuel while aggressively scaling up EV adoption backed by renewable energy-supported charging infrastructure.

➲ **Policy Reforms:** Strengthen the **National Bio-Energy Mission**, encourage **public–private partnerships** in bio-refineries, and ensure the **"food security first" principle** is maintained.

Conclusion

➲ The achievement of E20 blending in 2025 is a major step toward India's energy transition, offering energy security, environmental benefits, and rural livelihood support.

➲ However, water-intensive crops, food diversion, and limited consumer gains demand careful planning.

➲ A multi-pronged approach integrating ethanol, EVs, hydrogen, and renewables will ensure sustainable, inclusive, and secure energy growth.

"
The fuel of the future will be 100% bio-ethanol, Pollution has reduced post ethanol use.

Nitin Gadkari
Union Minister of Road Transport and Highways
"

Additional Information

➲ **National Biofuel Policy 2018:** It expanded the scope of biofuel use and aimed to balance India's energy transition with sustainable agriculture.

➲ **Key Highlights:**

  ◆ **First-generation biofuels:** Ethanol from sugarcane and maize.

  ◆ **Second-generation biofuels:** Crop residues and lignocellulosic biomass.

  ◆ **Third-generation biofuels:** Algae-based fuels.

➲ **Other Features:** Provided **incentives for private investment** in biofuel production and infrastructure.

  ◆ Introduced **blending mandates** to accelerate adoption of biofuels and emphasized the **"food security first"** principle to protect staple crop availability.

RADIOACTIVE CONTAMINATION IN PUNJAB's GROUNDWATER

The Parliamentary Standing Committee on Water Resources flagged uranium contamination in Punjab's drinking water and urged urgent action to protect public health.

About Uranium Contamination

- It refers to the presence of excessive levels of uranium in the environment, primarily in water and soil, exceeding safe limits.
- **Safe Limits Prescribed:**
  - **World Health Organization:** Uranium safe limit: 0.03 mg/L.
  - **Bureau of Indian Standards (BIS):** Also follows 0.03 mg/L as permissible limit.

HEALTH IMPACTS

Kidney damage:
Chronic exposure can lead to chronic kidney disease (CKD)

Bone and skeletal disorders:
Uranium accumulates in bones over time

Cancer risk:
Increased risk of kidney and other cancers

Reproductive issues:
Exposure may lead to birth defects and reduced fertility

Other systemic effects:
Liver, cardiovascular, and neurological effects in severe cases

Uranium contamination in India

- **Extent:** According to the CGWB (2019–20), of nearly 16,000 groundwater samples analysed, ~450 samples exceeded World Health Organization (WHO) limits.
- **Geographical Distribution:** More prevalent in northwest India's alluvial aquifers (Punjab, Haryana, Rajasthan) and southern India's hard-rock aquifers (Telangana, Andhra Pradesh, Madhya Pradesh, Gujarat).
- **Underlying Factors:** High uranium concentrations often correlate with geological uranium deposits, intensive groundwater extraction, and industrial or agricultural activities.

- **Vulnerable Populations:** Rural communities reliant on shallow tubewells for drinking water are most at risk.

Sources of contamination

- **Natural Sources:**
  - Uranium is a naturally occurring radioactive element found in the Earth's crust.
  - **Geogenic processes,** such as the **weathering of uranium-bearing rocks** and the **movement of groundwater**, can release uranium into water sources.
- **Anthropogenic Sources:**
  - **Groundwater depletion:** Lowers the water table and alters aquifer chemistry, leading to uranium release.
  - **Industrial Processes:** Some industrial processes, like those involving phosphate fertilizers and nuclear facilities, can also release uranium.
  - **Mining and Milling:** Uranium mining and processing can release uranium into the surrounding environment.
  - **Agricultural Practices:** Excessive use of **phosphate fertilizers** can increase uranium mobilization.

Government Measures

- **The Department of Atomic Energy (DAE)** and **Bhabha Atomic Research Centre (BARC)** have developed hybrid membrane techniques and Reverse Osmosis (RO) plants, which have been installed in affected areas of Punjab and Haryana on a pilot basis.
- Under the **National Aquifer Mapping and Management Programme (NAQUIM)**, CGWB is generating scientific data to understand aquifer behavior and provide site-specific solutions to mitigate contamination risks.
- **The Council of Scientific and Industrial Research (CSIR)** has been engaged in developing low-cost adsorbents and nanomaterials to filter uranium from groundwater.
- India has collaborated with the **International Atomic Energy Agency (IAEA)** for capacity building and technical expertise in monitoring uranium levels in drinking water and strengthening laboratory infrastructure.
- **Regulatory Measures:** BIS and state authorities monitor uranium levels in drinking water and public health advisories are issued in high-risk villages.

Judicial Intervention

- In 2015, the **Punjab and Haryana High Court** took notice of uranium contamination in the region's groundwater and directed the state governments to take remedial steps.

- In **Subhash Kumar v. State of Bihar and Others (1991)**, the Supreme Court of India ruled that the right to life under **Article 21** of the Constitution includes the right to pollution-free water and air.

Way Ahead

- **Official Recognition:** Uranium should be recognized alongside arsenic and fluoride as a major groundwater contaminant, enabling dedicated funding and streamlined interventions.
- **Public Awareness:** Rural communities must be educated about uranium risks, safe water usage, and alternatives such as surface water or treated groundwater.
- **Low-Cost Treatment Solutions:** Deploy community-level RO plants, adsorption filters, and ion-exchange systems. Encourage household-level solutions where feasible.
- **Integrated Groundwater Management:**
  - Limit over-extraction and promote rainwater harvesting.
  - Monitor aquifers systematically and adopt preventive measures before contamination spreads.
  - Link water quality data with health surveillance to identify affected populations early.
- **Research and Innovation:** Invest in advanced monitoring techniques, geospatial mapping, and predictive models to identify contamination hotspots.
  - Promote indigenous and low-cost filtration technologies.

- **Policy and Governance:**
  - Include uranium in national water quality standards.
  - Ensure inter-departmental coordination between DAE, CGWB, Health Ministry, and local bodies.
  - Strengthen legal frameworks to enforce pollution control and industrial compliance.

Additional Information

- **National Water Policy (2012 & 2023 Update):**
  - Emphasizes **sustainable groundwater management** and **pollution control**.
  - Promotes **rainwater harvesting, artificial recharge of aquifers, and regulated groundwater use**.
  - Encourages **inter-agency coordination** for groundwater quality and quantity monitoring.
  - Recognizes the **link between groundwater contamination and public health** as a priority issue.
- **Central Ground Water Board (CGWB):**
  - **Mandate:** Assessment, monitoring, and regulation of groundwater resources.
  - Conducts **hydrogeological surveys**, quality analysis, and aquifer mapping.
  - Implements programs such as **NAQUIM** to generate data for sustainable groundwater management.
  - Advises central and state governments on groundwater policy, contamination, and mitigation strategies.

MAJOR URANIUM PROVINCES OF INDIA

DOMIASIAT Wahkhyn Mawsynram — Mahadek basin in Meghalaya

DELHI

Aravalis in Rajasthan

KOLKATA

Shinghbhum Thrust Belt in Jharkhand

Operating mines	New mines
JADUGUDA	BAGJATA
BHATEN	BANDUHURANG
NARWAPAHAR	MOHULDIH
TURAMDIH	

Chattisgarh basin

MUMBAI

Bhima basin in Karnataka

Kuppunuru LAMBAPUR PEDDAGATTU Chitrial Tummulapale Rachakuntapalle — Cuddapah basin in Andhra Pradesh

CHENNAI

DRAFT FRAMEWORK OF INDIA'S CLIMATE FINANCE TAXONOMY

The Ministry of Finance released a draft Climate Finance Taxonomy
to standardize and ensure transparency in climate-aligned investments.

About

- A climate taxonomy is a classification system that identifies which economic activities contribute to **climate mitigation, adaptation, or transition.**
- **It helps:**
  - Investors assess green credentials of projects;
  - Governments channel subsidies and incentives;
  - Regulators monitor compliance and prevent greenwashing.

Framework of India's Climate Finance Taxonomy

- **Objectives:** India's taxonomy is designed to complement instruments like green bonds, the Carbon Credit Trading Scheme, and SEBI's ESG norms, creating a unified climate finance ecosystem. It aims to:
  - define climate-aligned activities across sectors;
  - to guide public and private investments toward low-carbon and climate-resilient development;
  - prevent greenwashing by establishing clear eligibility criteria;
  - to support India's Nationally Determined Contributions (NDCs) under the Paris Agreement.
- **Sectoral Coverage:** Each sector includes specific criteria for mitigation, adaptation, and transition activities.
  - **Power:** Renewable energy, grid modernization, energy storage;
  - **Mobility:** Electric vehicles, public transport, fuel efficiency;
  - **Buildings:** Green construction, energy-efficient retrofits
  - **Agriculture & Water Security:** Climate-smart agriculture, irrigation efficiency, water conservation;
  - **Hard-to-Abate Sectors:** Low-carbon technologies in steel, cement, chemicals

Classification Approach (Three Categories)

- **Mitigation:** Projects that reduce or avoid greenhouse gas emissions;
- **Adaptation:** Initiatives that enhance resilience to climate impacts;
- **Transition:** Measures that enable high-emission sectors to shift toward sustainability;

Key Concerns in India's Climate Finance Taxonomy Framework

- **Lack of Indigenous Context:** The draft largely mirrors international models like the EU taxonomy, failing to reflect India's unique climatic vulnerabilities, informal sectors, traditional practices, and regional disparities.

- **Misplaced Sectoral Focus:** High-emission sectors such as **energy, transport, chemicals, cement, and real estate** are underrepresented, while low-emission sectors like agriculture and water security are overemphasized, potentially misdirecting climate finance.
- **Absence of Clear Metrics:**
  - The taxonomy lacks **data-backed thresholds** for emissions reduction. Terms such as "climate-friendly technologies" remain undefined, limiting transparency and accountability.
- **Weak Governance Architecture:** No institutional mechanism exists for **implementation, monitoring, or enforcement**, especially challenging given India's **federal structure**. State governments, local bodies, and civil society involvement are not clearly defined.
- **Ignoring Equity and Justice:** Vulnerable groups, including **small farmers, low-income households, and indigenous communities**, are not prioritized. Social safeguards like labor rights and equitable access to finance are missing.
- **Overemphasis on High-Tech Solutions:** The framework favours advanced technologies while sidelining **low-cost, indigenous, and community-based solutions**, risking exclusion of **MSMEs and informal sectors**.
- **No Timeline Alignment:** Sector-specific timelines and transition pathways are absent, despite references to **Net Zero 2070** and NDC targets. The draft does not assign responsibilities based on **state-level emissions contributions**.

Recommendations for Improvement

- **Legal Alignment:** The taxonomy needs to harmonize with domestic laws like the Energy Conservation Act, SEBI regulations, and international frameworks such as the Paris Agreement (Article 6.4).
- **Content Clarity:** Definitions should be technically precise and accessible to MSMEs, informal sectors, and non-experts.
  - Quantitative thresholds (e.g., GHG reduction targets) need to be updated with empirical data.
- **Other recommendations include:**
  - Re-centering the taxonomy on high-emission sectors;
  - Defining measurable, science-based metrics;
  - Establishing a robust governance and review mechanism;
  - Integrating equity, social safeguards, and indigenous knowledge;
  - Creating staggered compliance pathways for MSMEs and vulnerable groups;

SUPREME COURT RULING ON SAND MINING

The Supreme Court has ruled that no clearance for sand mining in riverbeds can be given without a scientific replenishment study, upholding the National Green Tribunal (NGT) order in Jammu & Kashmir.

Key Aspects of SC Verdict

- **Replenishment Study Mandatory:** Mining approvals only after assessing natural replenishment rates.
- **District Survey Reports (DSRs):** Must form the scientific basis for determining extraction limits.
- **Checks Arbitrary Clearances:** Ensures decisions are based on evidence, not administrative discretion.
- **Scientific Basis for Clearances:** Mandates replenishment studies, ensuring approvals rely on natural replenishment rates, preventing arbitrary decisions.
- **NGT's Role Reinforced:** Upholds NGT's earlier order, strengthening its credibility as an environmental watchdog.
- **Sustainable Sand Mining:** Requires consideration of ecological carrying capacity before extraction to prevent river degradation.
- **Legal Precedent:** Establishes that replenishment studies are compulsory for ECs, prioritizing sustainability over short-term gains.

Sand Mining

- **Definition:** Extraction of sand from riverbeds, floodplains, beaches, and coastal ecosystems for construction, industry, and development.
- **Uses:** Key input for construction (concrete, cement, roads, dams), land reclamation, coastal projects, glass-making, foundry moulds, and silicon chips.
- **Global Importance:** Sand is the second most consumed natural resource after water, driven by infrastructure growth.

Impacts of Sand Mining

- **Flooding Risks:** Excessive extraction destabilizes riverbeds and banks, raising flood frequency and severity.
- **Biodiversity Loss:** Increases water turbidity, reducing sunlight and harming corals, aquatic plants, and fish populations.
- **Livelihood Loss:** Disturbs habitats, reduces fish populations, and threatens fishing communities' survival.
- **Groundwater Decline:** Sand loss reduces natural aquifer recharge, lowering water tables and worsening scarcity.
- **Ecosystem Damage:** Disrupts sediment flow, alters habitats, and threatens long-term riverine ecological balance.

Regulation in India

- **Mines and Minerals (Development and Regulation) MMDR Act, 1957:** Sand classified as a minor mineral; central law with state-level rules governing extraction.
- **Role of States/UTs:** Empowered to regulate mining, transport, and storage; governance is highly decentralized.

- **MoEFCC Guidelines:** Issued sustainable mining (2016) and enforcement (2020) guidelines with eco-friendly practices and digital monitoring.
- **Clearance Process:** SEACs scrutinize proposals; District Survey Reports (DSRs), updated every 5 years, form clearance basis.
- **Judicial Interventions:** Courts and NGT regularly act against illegal mining, recognizing sand as both an ecological and economic resource.

Way Forward

- **Adopt a science-based mining approach:** Replenishment studies and periodic DSR updates must be made central to all mining approvals to ensure that extraction remains within sustainable limits.
- **Strengthen institutional mechanisms:** State governments, pollution control boards, and local authorities must coordinate effectively, with clear accountability mechanisms for monitoring and enforcement.
- **Integrate technology for real-time monitoring:** Use of drones, GPS tracking, and satellite-based surveillance should be scaled up to curb illegal mining and enhance transparency.
- **Promote alternatives to river sand:** Manufactured sand (M-sand), recycled construction waste, and other substitutes must be incentivized through policy measures and subsidies to reduce dependence on natural river sand.
- **Community participation and social safeguards:** Local communities dependent on river ecosystems should be made stakeholders in mining governance, ensuring both livelihood protection and ecological balance.
- **Linking to broader commitments:** India must align its sand mining policies with its commitments under the **Paris Agreement** and the **Sustainable Development Goals (SDGs)**, especially Goal 6 (Clean Water), Goal 12 (Responsible Consumption), and Goal 15 (Life on Land).

Conclusion

- The Supreme Court's ruling marks a significant step towards balancing development with ecological sustainability.
- By making replenishment studies and District Survey Reports mandatory, it ensures that sand mining is guided by scientific assessment rather than arbitrary clearance.
- This not only safeguards riverine ecosystems and groundwater resources but also strengthens institutional accountability through the NGT and State authorities.
- The judgment sets a strong precedent for sustainable resource governance in India.

NATIONAL DESIGNATED AUTHORITY FOR CARBON MARKETS

The Ministry of Environment, Forest, and Climate Change has constituted a
National Designated Authority (NDA) to enable a carbon emissions trading regime in India.

Background

⮞ The establishment of the NDA is a **mandatory requirement** under the provisions of the **2015 Paris Agreement**. Article 6 of the Agreement provides the contours under which global emissions trading regimes and markets can take shape.

About NDA

⮞ **Composition:** The NDA is a 21-member committee chaired by the Secretary of the Environment Ministry.

⮞ Its **members** include representatives from the Ministry of External Affairs, the Ministry of Renewable Energy, NITI Aayog, and the Steel Ministry, ensuring cross-sectoral coordination.

⮞ **Functions:**
  ◆ **Recommend Eligible Activities:** Identify projects (e.g., renewable energy, energy efficiency, afforestation, carbon capture) suitable for India's emissions trading framework.
  ◆ **Update Activity List:** Revise eligible projects in line with new technologies, evolving climate priorities, and global best practices (e.g., green hydrogen, CCUS).
  ◆ **Project Evaluation & Approval:** Assess projects for environmental integrity and economic viability before granting eligibility to generate carbon credits.
  ◆ **Authorize Use of Credits:** Decide whether credits can count toward India's NDCs or be traded internationally under Paris Agreement's Article 6 framework.

Nationally Determined Contributions (NDC)

⮞ The NDC refers to commitments by countries to reduce emissions in line with diverting their energy consumption towards renewable energy sources, as well as taking action to reduce carbon concentrations in the atmosphere.

⮞ **India's NDC commits to:** Reducing its GDP's emission intensity by 45% by 2030 from 2005 levels,
  ◆ Achieving 50% cumulative electric power capacity from non-fossil fuel sources by 2030, and
  ◆ Creating an additional carbon sink of 2.5-3 billion tonnes of carbon dioxide equivalent by 2030 through afforestation.

Carbon Markets

⮞ A carbon market is a **trading system where carbon credits are bought and sold** to compensate for greenhouse gas emissions.

⮞ One carbon credit equals one tonne of CO_2 equivalent reduced, avoided, or sequestered.
  ◆ Once a credit is used against emissions, it becomes an **offset** and is no longer tradable.

⮞ There are two broad types of carbon markets:
  ◆ **Compliance markets:** These operate under legally binding regulations such as the EU Emissions Trading System.
  ◆ **Voluntary markets:** Here, entities voluntarily buy and sell credits, often for corporate social responsibility (CSR) or net-zero commitments.

⮞ Carbon markets incentivize industries to invest in **low-carbon technologies** and encourage **climate finance flows** into developing countries like India.

India's Position in the Global Carbon Pricing Landscape

⮞ **Transition to ETS:** India is moving to a rate-based Emissions Trading System (ETS) under the Carbon Credit Trading Scheme (CCTS) approved in 2024.

⮞ **Rate-Based Approach:** Instead of absolute caps, industries get performance benchmarks, ensuring efficiency with flexibility.

⮞ **Balanced Strategy:** This model balances industrial competitiveness with climate action in a developing economy.

⮞ **Sector Coverage:** ETS will first cover nine energy-intensive sectors including steel, cement, and power.

⮞ **Incentives:** Facilities exceeding benchmarks earn tradable credits, driving innovation and efficiency.

⮞ **Pragmatic Design:** By targeting emission intensity, India adopts a growth-aligned yet climate-conscious pathway.

The Carbon Credit Trading Scheme (CCTS)

⮞ **It involves two key elements:** A compliance mechanism for obligated entities (primarily industrial sectors) and an offset mechanism for voluntary participation.

⮞ The CCTS aims to incentivize and support entities in their efforts to decarbonize the Indian economy.

⮞ CCTS laid the foundation for the Indian Carbon Market (ICM) by establishing the **institutional framework.**

Steps to Strengthen Carbon Market

⮞ **Mission LiFE:** Promotes sustainable consumption patterns to support national carbon reduction.

⮞ **Green Credit Programme:** Offers tradable credits for eco-friendly actions like afforestation and waste management.

⮞ **Institutional Mechanisms:** NSCICM and BEE oversee establishment and operation of the carbon market.

⮞ **Private Sector Engagement:** Boosted via tax incentives, regulatory clarity, and global carbon finance alignment.

⮞ **Global Standpoint:** India emphasizes CBDR-RC, linking climate action to historical responsibility and capacities.

HEALTH IMPACTS OF LAND DEGRADATION & DROUGHT

Recently, the United Nations Convention to Combat Desertification (UNCCD) released a policy brief detailing the severe health impacts of land degradation and drought.

About

➲ The policy brief focuses on the intricate connections between health, land and drought, offering evidence on health impacts through various pathways resulting from desertification, land degradation and drought (DLDD).

Key Findings:

➲ Desertification, land degradation, and drought (DLDD) are interconnected hazards overlapping in many parts of the world.

➲ DLDD affects agricultural production, water availability and quality,leading to increasing food insecurity and malnutrition in low- and middle-income countries.

➲ DLDD overlaps geographically and affects health through a range of complex pathways, including biodiversity loss, ecosystems disruption, reduced water availability and quantity, decreased agricultural production, soil degradation, wildfires, and sand and dust storms.

➲ Desertification and land degradation have long-term and chronic impacts on health and well-being, while drought episodes have more acute and short-term impacts.

➲ Climate change is playing a major role on all factors, exacerbating the impacts of DLDD on health and wellbeing.

Major Health Outcomes:

➲ **Communicable diseases** (particularly infectious diseases) including cholera, malaria, soil-transmitted infections, HIV, etc.

➲ **Non-communicable diseases** including cardiovascular and respiratory conditions and malnutrition.

➲ **Mental health disorders** like anxiety and depression due to displacement and resource scarcity.

➲ **Injuries and other stresses** resulting in more morbidity and mortality, e.g. linked to heatwaves during droughts, migration-related health issues, and damages to health care systems.

Additional Information

➲ Between 1970 and 2019, drought caused 650,000 deaths worldwide.

➲ From 2015 to 2019, at least 100 million hectares of productive land was degraded each year.

➲ Drylands cover 41% of global land. The population living in drylands is projected to double to over 5 billion by 2100.

➲ More Affected Regions with land degradation:
  ◆ Sub Saharan Africa, Eastern and Southeastern Asia, Latin America and the Caribbean.

ILLUSTRATION OF PATHWAYS TO HEALTH OUTCOMES FROM DLDD, AND HEALTH INTERCONNECTIONS, INCLUDING ENVIRONMENTAL AND OTHER MEDIATING FACTORS

Drought, Desertification, Land Degradation, Health → Health Impacts and Risks

Impacts major pathways: Food, Water, Soil, Air, Vegetation

Secondary impacts of DLDD:
- Water scarcity and contamination
- Change in vectors habitat and range
- Loss of agricultural and food security
- Soil erosion, salinization and food insecurity
- More frequent and intense wildfires
- More frequent and intense heatwaves
- Increase in dust storms, airborne pollutants and allergens

Mediating Factors:
- Social, economical and environmental conditions
- Health care systems
- Vulnerable places and people (eg, rural populations, women, children, elderly)

Health Outcomes

Morbidity and mortality from:

A - Infectious, parasitic, nutritional diseases
Trachoma, meningitis, waterborne diseases, vector borne diseases, intestinal nematodes, diarrheal diseases, malnutrition, skin and eye diseases, respiratory infections, zoonotic diseases, gastrointestinal illnesses, hepatitis A, Valley fever.

B - Non-communicable diseases
Cardiovascular diseases, chronic respiratory diseases, mental, behavioral and neurological disorders, kidney diseases, allergy-related illnesses, musculoskeletal disorders, cancers (e.g., lung, kidney), liver diseases, dehydration and its complications.

C - Injuries and other stresses
Injuries, migration-related health issues, damages to health care systems and infrastructure, famine, maternal and infant related health issues, disruption of health services delivery, increased demands for care services and supplies

Link between DLDD and Negative Health Outcomes

➲ **Food insecurity** resulting from the loss of agricultural production contributes to malnutrition, mental health challenges, and displacement.

➲ **Water scarcity** due to drought leads to increased risks of water-borne diseases.

➲ **Changes in habitat and range** of disease-carrying vectors contribute to spread of mosquito and tick-borne diseases.

➲ **Reduced air quality** due to increasing sand and dust storms and wildfires affect respiratory issues and infectious diseases.

➲ **Land use changes** resulting from biodiversity loss can lead to zoonotic disease (diseases that can be transmitted from animals to humans) and outbreak of emerging diseases (eg. Ebola, COVID-19).

➲ **Biodiversity loss** can increase vulnerability to extreme heat stresses, cardiovascular diseases, mental health disorders.

➲ **Soil degradation and contamination** can create conditions which increase the risk of soil-transmitted infections, respiratory diseases, and anthrax.

Specific Impacts on Women and Children

➲ Girls found more vulnerable to malnutrition than boys in drought settings.

➲ Water-carrying roles in some societies exposed women and girls to physical loads causing musculoskeletal disorders.

➲ HIV infection rates rise likely because of drought-induced economic impoverishment pushing women into sexual risk behaviors.

➲ Women experienced higher rates of respiratory-related mortality compared to men during drought events.

Way Forward:

➲ **Move towards integrated policies:**
- Ensure that global policy development translates into national programmes and realise into actions at local level.
- Incentivize and maintain cross-sectoral collaboration between the health sector and other sectors, particularly sectors managing major determinants of health (e.g., agriculture, water, and environment).

➲ **Promote gender equity in action:**
- Reinforce policies with a gender perspective, considering the differentiated challenges faced by men and women.
- Increase awareness of local community leaders on how to address socio-cultural barriers to women's participation.

➲ **Strengthen community resilience:** Empower communities with tools and resources for adaptive action.

➲ **Strengthen capacity building and research:** Invest in interdisciplinary, multidisciplinary and transdisciplinary research that focuses on vulnerability assessments and land degradation and drought related health outcomes.

➲ **Strategically target financing:** Reorient funds (from subsidies to innovative finance tools) and broaden the scope of projects to ensure positive health impacts.
- Allocate increased targeted funds for DLDD-specific health strategies and activities.

➲ **Build bridges across global organizations:**
- Strengthen the roles of UNCCD and WHO in coordinating DLDD-health interventions.
- Encourage integrated fast-track assessments as was done during the COVID-19 response.

UNCCD

➲ **United Nations Convention to Combat Desertification (UNCCD)** is the **first and only internationally legally binding framework** set up to address desertification and the effects of drought.

➲ It was formed on the recommendation of the **United Nations Conference on Environment and Development (UNCED),1992,** also called the **Rio Earth Summit.**

➲ It was adopted in Paris on 17 June 1994 and entered into force in December 1996.

➲ There are 197 Parties to the Convention, including 196 country Parties and the European Union.

KEY RECOMMENDATIONS

Specific responses to DLDD:
- Achieve Land Degradation Neutrality (LDN) by 2030 and a nature- positive world by 2050.
- Promote sustainable agriculture and ecologically sound land restoration.
- Improve water management.
- Raise awareness at all levels and strengthen early warning systems.

Specific Responses to Health:
- Promote the One Health approach.
- Build the health sector's capacity to address DLDD and environmental crises.
- Implement the 2025 WHO Global Action Plan on Climate Change and Health.

Integrated responses to health & DLDD:
- Foster cross-sectoral collaboration.
- Invest in adaptive technologies and behavior change initiatives.
- Increase finance for multidisciplinary and transdisciplinary health research and integrated public health programs.
- Promote transitioning and changes in technologies and behaviors.

SC's VERDICT ON EIA

The Supreme Court held that projects with a built-up area above 20,000 square meters, whether industrial, educational, or otherwise, cannot be exempted from the Environment Impact Assessment (EIA) 2006 regime.

About

➲ The SC reaffirmed that the State Environment Impact Assessment Authority **(SEIAA)** and the State Expert Appraisal Committee **(SEAC)** would remain the competent authorities for conducting project-level environmental assessment.

Environmental Impact Assessment

➲ It is an important management tool for ensuring optimal use of natural resources for sustainable development.

Functions:

➲ Evaluates the potential environmental, social, and health impacts of proposed development projects before implementation.

➲ Ensures that large development projects align with sustainable practices while protecting ecosystems and communities.

Genesis in India:

➲ A beginning in this direction was made in our country with the impact assessment of river valley projects in 1978-79 and the scope has subsequently been enhanced to cover other developmental sectors such as industries, thermal power projects, mining schemes etc.

➲ EIA has now been made mandatory under the Environmental Protection Act, 1986 for 29 categories of developmental activities involving investments of Rs. 50 crores and above *(as per MoEFCC official website)*.

➲ With a view to ensure multi-disciplinary input required for environmental appraisal of development projects, Expert Committees have been constituted for the following sectors:
  - Mining Projects
  - Industrial Projects
  - Thermal Power Projects
  - River Valley, Multipurpose, Irrigation and H.E. Projects
  - Infrastructure Development and Miscellaneous Projects
  - Nuclear Power Projects

Key Regulations:

➲ **EIA Notification 2006:** Categorized the projects into Category 'A' and Category 'B' based on their impact potential.

➲ **Draft EIA Notification 2020:** Aims to increase transparency and streamline compliance by incorporating multiple notifications, amendments, circulars, court and tribunal directions, and so on.

Significance of EIA in India

➲ **Environmental Protection**: Ensures that projects minimize harm to ecosystems, water bodies, air quality, and biodiversity.

➲ **Social Safeguards**: Minimise displacement, livelihood loss, and health impacts on local communities.

➲ **Sustainable Development**: Balances economic growth with environmental conservation.

➲ **Public Participation**: Empowers communities to voice concerns, fostering transparency and accountability in project implementation.

Challenges in the EIA Process

➲ **Weak Public Consultation:**
  - Public hearings are often poorly advertised, conducted in inaccessible locations, or ignored in decision-making.
  - Language barriers and lack of awareness limit community participation.

➲ **Quality of EIA Reports:** Many EIA reports are prepared by consultants with conflicts of interest, leading to incomplete or biased assessments. Plagiarism and outdated baseline data are common issues.

➲ **Exemptions and Dilution:** The **Draft EIA Notification, 2020,** proposed exemptions for certain projects and reduced notice time for public hearing to 20 days, raising concerns about environmental degradation which was criticized by environmental experts.

➲ **Implementation Gaps:** Weak monitoring and enforcement often lead to non-compliance with EC conditions.
  - Limited capacity of SPCBs and SEIAAs to oversee projects effectively.

➲ **Political and Industry Pressure:** Fast-tracking clearances for large-scale projects often bypasses rigorous scrutiny.

➲ **Climate Change Integration:** EIA reports often fail to adequately address long-term climate risks.

Way Forward:

➲ **Strengthen Public Participation**: Conduct hearings in local languages, ensure wider outreach, and make public feedback binding in decision-making.

➲ **Enhance EIA Quality**: Regulate EIA consultants, mandate third-party audits, and penalize falsified reports.

➲ **Robust Monitoring**: Use technology (e.g., satellite imagery, IoT) for real-time compliance monitoring.

➲ **Climate Integration**: Mandate climate risk assessments and carbon footprint analysis in EIAs.

➲ **Transparency**: Make all EIA reports, compliance reports, and EC conditions publicly accessible.

➲ **Capacity Building**: Train EAC/SEAC members and SPCBs to handle complex environmental challenges.

EIA PROCESS IN INDIA

The EIA process involves a systematic evaluation of projects to assess their environmental impacts and propose mitigation measures. The steps are:

Screening

- Determines whether a project requires a full EIA based on its type, size, and location.
- **Projects are categorized as:**
  - **Category A:** Large-scale projects requiring clearance from the MoEFCC (e.g., airports, large dams).
  - **Category B:** Smaller projects cleared by State Environment Impact Assessment Authorities (SEIAA), further divided into B1 (requiring EIA) and B2 (exempted from EIA).

Scoping

- Identifies key environmental issues and impacts to be studied.
- Terms of Reference (ToR) are prepared by the Expert Appraisal Committee (EAC) or State Expert Appraisal Committee (SEAC) to guide the EIA study.

Baseline Data Collection

- Involves gathering data on existing environmental conditions (air, water, soil, biodiversity, socio-economic factors) in the project area.

Impact Assessment & Mitigation

- Predicts potential impacts (e.g., pollution, habitat destruction, displacement) and proposes mitigation measures.
- Includes preparing an Environmental Management Plan (EMP) to minimize adverse effects.

Public Consultation

- Mandatory for Category A and B1 projects.
- **Involves:**
  - **Notice Period:** At least 30 days with time and venue.
  - **Public Hearing:** Conducted by the State Pollution Control Board (SPCB) to gather feedback from affected communities.
  - **Oral or Written Submissions:** Stakeholders can submit objections or suggestions orally at the time of Hearing or through Written representation.
  - **Exemptions** apply to certain projects (e.g., strategic or defense-related projects).

Appraisal

- The EAC or SEAC reviews the EIA report, public feedback, and EMP to recommend approval or rejection.

Environmental Clearance

- Granted by MoEFCC (for Category A) or SEIAA (for Category B) with conditions for compliance.

Monitoring & Compliance

- Project proponents must submit half-yearly compliance reports to regulatory authorities.
- Non-compliance can lead to penalties or project suspension by the MoEFCC or NGT.

CLOUDBURSTS

Recent incidents of cloudbursts in the foothills of Himalayas have triggered multiple flash floods taking a toll on life and property.

Cloudbursts

➲ A cloudburst is an extreme amount of precipitation in a very short period of time, sometimes accompanied by hail and thunder, which is capable of creating flood conditions.

Do You Know?

The term "cloudburst" arose from the notion that clouds were akin to water balloons and they burst like balloons, resulting in rapid precipitation. Though this idea has been scientifically disapproved, the term remains in vogue.

How do they Occur?

➲ It occurs when there is sudden condensation of a huge amount of moisture along with strong upward air currents that hold the condensing rainfall together for some time in the air leading to accumulation of a huge volume of water which falls under gravitational pull over a small area within a short span of time.

➲ They occur mostly via orographic lift of moisture laden winds or occasionally when a warm air parcel mixes with cooler air, resulting in sudden condensation.

OROGRAPHIC LIFTING AND CLOUDBURST

3 Violent upward flow of air prevents the condensing raindrops from falling to the ground

4 Lack of upward air prevents dissipation of moisture

5 Whole of the stored **water falls at one time**

6 Steep slope causes flash floods

2 Rising air cools and condenses; clouds develop

1 Moist air encounters a mountain or hill and is forced to rise
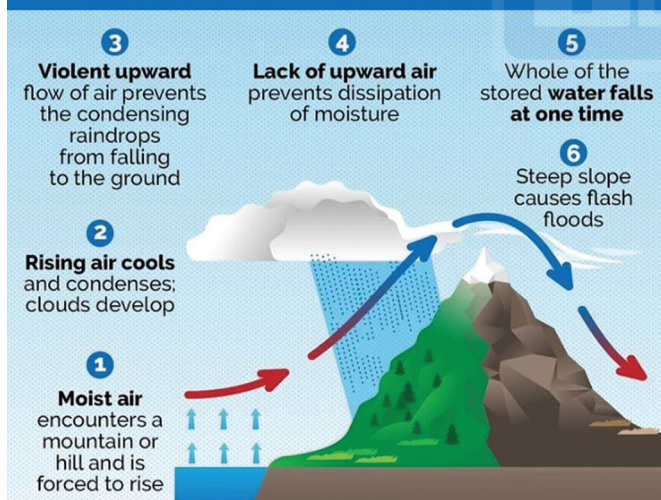
Accelerating Factors

➲ **Upward Air Currents:** Strong vertical currents can suspend raindrops at high altitudes; if these currents suddenly weaken; accumulated water falls in a short burst.

➲ **Climate Change:** Rising global temperatures allow the atmosphere to hold more moisture, increasing both the frequency and intensity of cloudbursts in recent years.

Recent Cloudburst Incidents

Uttarakhand (August 5, 2025) — A cloudburst over the Kheer Ganga River caused flash floods in Dharali village.

A cloudburst in the Sharod Nala area caused a rise in Barogi Nala's water levels. **Kullu (August 9, 2025)**

Kishtwar (August 14, 2025) — A massive cloudburst struck Chashoti village, killing at least 46 people.

A cloudburst and subsequent landslides in Jodh Ghati and Bagra villages killed seven people. **Kathua (August 17, 2025)**

Government Initiatives

➲ **Mausam App by IMD:** To provide instant weather related updates and alerts.

➲ **Disaster Management Act-2005:** Statutory framework to overcome disasters.

➲ **National Disaster Response Force (NDRF):** Specialized force to deal with disasters.

➲ **National Policy on Disaster Management (2009):** To manage disaster in a holistic manner.

➲ **Sendai Framework:** India endorsed it and is committed to Disaster Risk Reduction.

➲ **National Action Plan on Climate Change (NAPCC):** Thirty-four States/UTs have prepared their State Action Plan on Climate Change (SAPCC) in line with NAPCC.

Way Ahead

➲ **Strengthen Forecasting:** Invest in advanced weather radar, satellite, and ground sensor networks for hyperlocal early warning.

➲ **Ecosystem Restoration:** Promote afforestation, watershed management, and stricter regulation of land use to restore the natural ability of slopes and valleys to absorb intense rainfall.

➲ **Disaster-Resilient Infrastructure:** Upgrade existing infrastructure with climate-resilient standards.

➲ **Research and Capacity Building:** Encourage ongoing research on climate change impacts, cloudburst prediction, and local vulnerability mapping.

➲ **Community Awareness and Preparedness:** Expand training in disaster response and evacuation at the community level, including regular drills in schools and public places.

ISRO'S INTEGRATED AIR DROP TEST (IADT-1)

On 24th August 2025, ISRO successfully conducted
the first Integrated Air Drop Test (IADT-1), a critical milestone for crew safety.

About IADT-1

- **Objective**: The main aim was to test the **parachute-based deceleration system** that would safely slow down the crew module during re-entry and before splashdown.
- **Execution**: A **dummy crew capsule weighing 4.8–5 tonnes** was released from **3 km altitude** by an Indian Air Force Chinook helicopter.
- **Parachute Deployment**: An automated sequence deployed drogue parachutes first, followed by three **25-metre main parachutes**, to reduce speed.
- **Outcome**: The capsule decelerated to about **8 m/s**, and touchdown conditions met expectations, demonstrating the system's reliability.

Importance of the Air Drop Test

- **Risk Factor**: In human spaceflight, **descent and recovery** are among the most dangerous phases, demanding rigorous safety validation.
- **Safety Assurance**: Since parachute failure can be catastrophic, this test ensures astronauts can land safely after re-entry.
- **System Validation**: The test confirmed the **redundancy and automation** of the parachute system, ensuring smooth deployment.
- **Human-rating Necessity**: It is a key step in meeting **international safety standards**, critical for certifying Gaganyaan as a human-rated mission.

Institutional Collaboration

- **ISRO**: Designed, executed, and oversaw nearly **90% of the activities** related to IADT-1.
- **Indian Air Force**: Provided critical **aerial support**, lifting and releasing the capsule at the designated altitude.
- **DRDO**: Supplied **safety materials and components**, ensuring system resilience and reliability.
- **Indian Navy & Coast Guard**: Coordinated for **post-splashdown recovery operations** in real mission scenarios.

Roadmap for Gaganyaan

- **Crew Escape System Tests**: TV-D1 (Oct 2023) validated an emergency escape; TV-D2 will test a more **complex abort scenario.**
- **Uncrewed Gaganyaan-1 (G1)**: Planned to send a crew module with humanoid **Vyommitra** to orbit for operational checks.
- **Human Flight (H1)**: Tentatively scheduled for **2027**, depending on the success of prior tests.
- **Long-term Vision:** Includes Bharatiya Antariksh Station (2035), a crewed lunar landing (2040), and use of SpaDeX docking technology (2025).

Significance for India

- **Strategic Achievement**: Positions India among select nations (US, Russia, China) with **independent human spaceflight capability**.
- **Technological Advancement**: Boosts **indigenisation** in escape motors, composites, environmental control, and life-support systems.
- **Scientific Leadership**: Enhances India's standing in **global space research and exploration**, opening doors for collaborations.
- **National Impact**: Promotes **scientific temper, innovation, and STEM learning** while inspiring the youth and boosting national pride.

GAGANYAAN MISSION

The **1st Human Space Flight Programme** of ISRO.

Launch Vehicle :
GSLV-Mk III, also called the LVM-3 (Launch Vehicle Mark-3).

This Mission consists of :

Two Unmanned Missions:
2nd uncrewed mission (G2) will carry "Vyommitra" (female-humanoid robot).

One Manned Missions:
The Orbital Module will carry **3 Indian astronauts**, including a woman, into space for **7 days**, orbiting Earth at **300-400 km altitude**.
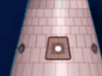
Objectives :
To demonstrate indigenous capability of human space flight to low earth orbit.

Orbital Module:

Crew Module

Human spacecraft, designed to carry astronauts or other beings.

Service Module

It will support the crew module and is powered by **liquid propellant engines**.

Human Rated LVM-3

1. **3 stage vehicle** with a 110 ton core **liquid propellant stage (L-110)** & a strap-on stage with 2 solid propellant motors, each with 200 tons propellant (S-200).

2. Upper stage will be **cryogenic** fueled with a propellant loading of 25 tons (C-25).

3. Consists of **Crew Escape System** to ensure that crew is taken to safe distance in case of emergency.

QUIT INDIA MOVEMENT

Recently Prime Minister Modi paid tribute to all brave people who took part in the Quit India Movement.

About
- It was a very intense and violent nationwide resistance against the British Raj which started on 8th August 1942, on the legendary call of **"Do or Die"** by Mahatma Gandhi from Bombay's Gowalia Tank Maidan.
- Also known as **"August Kranti"**, it proved to be a turning point in the Indian Freedom Struggle.

Reasons
- The British unilaterally dragged India into World War II without taking the Indian Leadership into confidence.
- Economic hardships faced by Indian masses due to the war.
- Reverses faced by the British from the Japanese forces in South East Asia and the war escalating upto the Indian borders at Burma.
- Rising national sentiments and the demand of complete independence by the Indian National Congress.

Immediate Cause:
- **Failure of Cripps Mission(March 1942):** It failed to pacify the Congress Leadership by offering a **post-war dominion status.**
- Gandhi termed it a **"post-dated cheque on a crashing bank."**

Series of Events:
- On July 14, 1942, the Congress Working Committee met at Wardha and decided to launch a mass civil disobedience movement under the leadership of Gandhi.
- An All India Congress Committee meeting was called at Bombay where on 8th August 1942 the Congress passed the "Quit India Resolution".

Government Response:
- On the 8th and 9th of August 1942, the government arrested all the prominent leaders of Congress and it was declared an illegal organisation.
- Mahatma Gandhi was imprisoned in Aga Khan Palace, Poona.
- Nehru, Patel, Abul Kalam Azad, and many other leaders were imprisoned in the Ahmednagar Fort.

Public Response:
- The immediate arrest of all big Congress leaders made it a Leaderless Movement.
- **Aruna Asaf Ali** hoisted the Triclour at **Bombay's Gowalia Tank Maidan** on **9th August, 1942.**
- Usha Mehta ran an underground radio station also called the *Secret Congress Radio*.
- The movement spread across the country, especially in rural areas.

- Protests, strikes, and uprisings took place in various regions and it turned violent at many places.
- Revolutionary activities were widespread along with attacks on government buildings and machinery.
- Jaiprakash Nararayan escaped from Hazaribagh jail and formed **"Azad Dasta"**, a revolutionary organisation at the Bihar-Nepal Border. **Ram Manohar Lohia also ran an underground radio** for this organisation during the movement.

PARALLEL GOVERNMENTS FORMED DURING QUIT INDIA MOVEMENT

Talcher	**Tamluk**	**Satara**	**Ballia**
Chasi Mulia Raj in Orissa	Jatiya Sarkar formed by Satish Chandra Samanta in Bengal	Prati Sarkar under Krantisinha Nana Patel in Maharashtra	Led by Chittu Pandey in Uttar Pradesh

Brutal Suppression:
- The British resorted to all sorts of measures with means available at their end including mass fines, flogging at public events, arrest, detention, martial laws, public firing and thus curbed the movement with a heavy hand, though underground activities continued.

Limitations:
- **Chaotic and sporadic in nature:** Due to the absence of central leadership, a nationwide coordination was missing.
- **Failed to achieve its immediate objective:** Independence ultimately came much later in 1947 under different circumstances along with partition.
- **Absence of a united political front:** Muslim League, Communist Party of India, Hindu Mahasabha along with B. R. Ambedkar and Periyar were against the Movement.
- **Communal divide:** Muslim participation in the movement was even lower than the CDM. Jinnah appealed to Muslims to join the armed forces.

Achievements:
- **Loss of British Morality:** The use of brutal might on the general public at such a large scale lead to the **Loss of British Moral Right** to rule India anymore.
- **Fear in British Aristocracy:** It convinced the British Authority that India cannot be ruled further on colonial norms.

Do You Know?

The term **'Quit India'** was termed by **Yusuf Meherally,** who also coined the term **'Simon Go-Back'**.

SINGLE-WINDOW SYSTEM FOR APPOINTING DGP of STATE

The Union Government has notified a Single Window System for appointing State Director-General of Police/Head of Police Force.

About

➲ The new policy effective April 22, 2025, comes against the backdrop of **several States not following the Supreme Court orders** in the **Prakash Singh case (2006) and the Ministry of Home Affairs guidelines** as regards appointment of DGP/HoPF.

➲ **Objective:** Streamline and **standardize the DGP empanelment** process by States.

➲ **Features:**
  ◆ A **detailed checklist and standardised formats** for State proposals.
  ◆ Aimed at **quick and smooth** empanelment by UPSC.
  ◆ **Responsibility fixed: A Secretary-rank officer** must now certify eligibility and **minimum tenure** of DGP-rank officers sent for empanelment to the UPSC.
  ◆ **The UPSC empanelment committee** is headed by its chairperson and comprises the Union Home Secretary, the Chief Secretary, the DGP of the State concerned, and an officer from among the Heads of Central Police Organisations/Central paramilitary forces.

➲ **Eligibility Conditions (As per SC and MHA):**
  ◆ Officers must have at least **6 months residual service** from the date of vacancy.
  ◆ Proposals must be **sent to UPSC at least 3 months** before the DGP/HoPF post becomes vacant.

About Director General of Police (DGP)

➲ **Position & Role:**
  ◆ The **Director General of Police (DGP)** is the **highest-ranking police officer in a State/UT**, heading the State Police Force.
  ◆ Serves as the **State Police Chief** and is responsible for overall **law and order, crime control, and policing strategy.**
  ◆ Reports to the **State Home Department** and works under the overall **supervision of the Chief Minister/Home Minister.**

➲ **Appointment:**
  ◆ The DGP is appointed from among senior **Indian Police Service (IPS) officers.**
  ◆ As per **Prakash Singh vs Union of India (2006, SC directives)**:
    ◆ The Union Public Service Commission (UPSC) prepares a **panel of 3 eligible IPS officers**.

◆ The State Government appoints the DGP from this panel.
◆ The DGP should have a **minimum tenure of 2 years**, irrespective of retirement age.

➲ **Tenure & Challenges:**
  ◆ Despite SC's directive of **2-year minimum tenure**, frequent **transfers due to political interference** remain a challenge.
  ◆ Debate continues on **police reforms, independence of DGP, and need for State Security Commissions** (recommended by SC & 2nd ARC).

Responsibilities

Leadership & Supervision	Law & Order	Coordination	Policy Role	Administration
Heads the State Police Headquarters and supervises all ranks.	Ensures peace, prevents crime, manages riots, protests, and major challenges.	Works with Central Agencies for security and intelligence gathering.	Advises the State Government on policing reforms and crime prevention.	Oversees police training, modernization, resource allocation, and welfare.

SETUBANDHA SCHOLAR SCHEME

The Ministry of Education, in partnership with the Indian Knowledge Systems (IKS) division of the Central Sanskrit University, has launched the Setubandha Scholar Scheme.

About

➲ **Objective:** Serves as a bridge between **traditional Gurukul learning and modern academic research**, with the aim of integrating **Indian Knowledge Systems (IKS)** into higher education.

Financial Assistance and Eligibility

Characteristic	Postgraduate Scholar	PhD Candidate
Financial Assistance	₹1 lakh	₹2 lakh
Monthly Stipend	₹40,000	₹40,000
Age Limit	Below 32 years	Below 32 years
Gurukul Experience	5 years minimum	5 years minimum
Formal Degree	Not required	Not required

➲ **Target Group:** Students who have undergone **at least 5 years of training under Gurus or in Gurukul systems**.

➲ **Focus:** Promotes **postgraduate and doctoral research** in multiple disciplines rooted in IKS.

➲ **Institutional Support:** Scholars gain access to **mentorship and research infrastructure** at premier institutions such as the **Indian Institutes of Technology (IITs)**.

➲ **Scope of Research:**
  ◆ Covers **18 disciplines** within IKS, such as:
    ◆ Vedic philosophy, Jyotisha, Ayurveda, Rasa Shastra
    ◆ Vastu Shastra, Dandaniti (political science), Indian arts and education
    ◆ Traditional law, linguistics, agriculture, astronomy.

NATIONAL OVERSEAS SCHOLARSHIP SCHEME

The Union Social Justice Ministry is in the process of seeking additional allocation for administering the National Overseas Scholarship scheme for marginalised students.

About

➲ **Aim:** To empower low-income students from marginalized communities, including the **Scheduled Castes, Denotified Nomadic and Semi-Nomadic Tribes, Landless Agricultural Labourers, and Traditional Artisans.**

➲ The scholarship supports their **pursuit of higher education**, such as Master's degree or Ph.D. courses, by providing opportunities to study abroad.

Eligibility Criteria

Academic Performance — Minimum 60% marks or equivalent grade required.

Income Limit — Family income should be less than Rs. 8.00 lakh.

Age Limit — Candidates must be under 35 years of age.

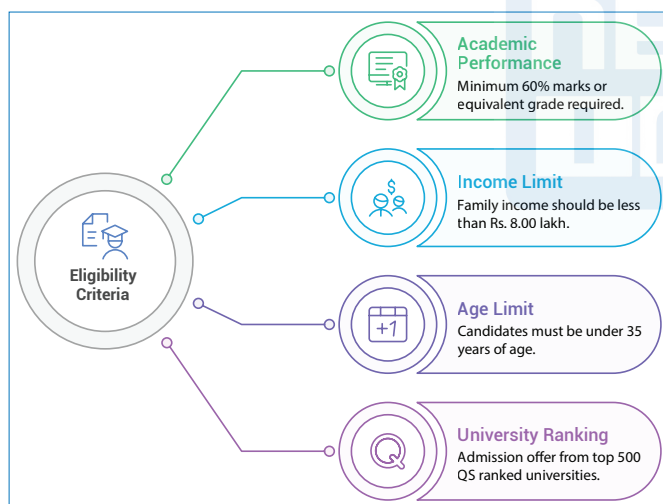**University Ranking** — Admission offer from top 500 QS ranked universities.

SWACHHATA PAKHWADA 2025

Recently, the Ministry of Skill Development and Entrepreneurship (MSDE) observed Swachhata Pakhwada 2025.

About

➲ **Swachhta Pakhwada** is an initiative under **Swachh Bharat Mission (Grameen).**

➲ The **programme was launched** in **2016** with the objective of bringing about an intense **focus on sanitation issues and practices** by involving all Ministries and Departments of Government of India.

➲ **It's an annual observance** aimed at spreading awareness and encouraging activities related to cleanliness and hygiene across various sectors of society.

➲ **The Department of Drinking Water and Sanitation (DDWS)** acts as the nodal department, laying down suggestive activities for observing the Pakhwada each year.

NYAYA BANDHU LEGAL AID PROGRAMME

Till June, 2025, approximately, 14888 women beneficiaries have registered under the Nyaya Bandhu App.

About

➲ Launched in **2017** under the scheme "Designing Innovative Solutions for Holistic Access to Justice (DISHA)".

➲ Implemented by the **Department of Justice, Ministry of Law and Justice**.

➲ **Objective:**
  ◆ To provide **free legal assistance** to eligible beneficiaries.
  ◆ To create a structured framework for **Pro Bono (voluntary) legal services** by advocates.

➲ **Beneficiaries:** Persons entitled to free legal aid under **Section 12 of the Legal Services Authorities Act, 1987**.

➲ **Key Features:**
  ◆ *Registration of Advocates and Beneficiaries*
    ◆ Pro Bono Advocates register on the **Nyaya Bandhu Mobile Application**.
    ◆ Beneficiaries can also register on the app to connect with advocates.
  ◆ *Nyaya Bandhu Mobile Application*
    ◆ Digital platform for **matching Pro Bono lawyers with applicants**.
    ◆ Ensures **transparency, accessibility, and efficiency** in legal aid delivery.
  ◆ *Pro Bono Clubs (PBCs)*
    ◆ Established in **law schools** across India.
    ◆ Engage law students in providing **community legal care, legal assistance, and spreading legal awareness** in rural and remote areas.

AYUSH MINISTRY AND FSSAI RELEASES LIST OF 'AYURVEDA AAHARA' FOOD PREPARATIONS

The Food Safety and Standards Authority of India (FSSAI), in collaboration with the Ministry of Ayush, has introduced a comprehensive list of Ayurvedic food preparations called "Ayurveda Aahara".

About "Ayurveda Aahara"

➲ It was launched under the **Food Safety and Standards (Ayurveda Aahara) Regulations, 2022**.

- It integrates traditional Ayurvedic dietary wisdom into modern regulations, ensuring authenticity based on classical texts and providing clarity for food businesses and consumers.
- The list promotes natural, seasonal, and therapeutic ingredients to support health and wellness.

Letters "ck" and "A" Combined in such a way that they appear to be a singleform

Symbolic 5 Leaves represents 5 Elements viz Ether (Akash), Air (Vayu), Fire (Agni), Water (Jal/Apas) and Earth (Prithvi)

आयुर्वेद आहार
Ayurveda Aahara

Color green or colore tones of the Logo representing Ayurveda Aahara is Natural, Biotic, Wholesome, Herbal & Organic

To Help Consumer to Identify the Product as Ayurveda Aahara

Importance

- Ayurveda Aahara reflects India's rich food culture, rooted in one of the world's oldest holistic health systems. These products emphasize natural ingredients, seasonal suitability, and therapeutic herbs to foster balance and wellness.

SECTION 17A OF THE PREVENTION OF CORRUPTION ACT, 1988

The Supreme Court heard a petition challenging the constitutional validity of Section 17A of the Prevention of Corruption Act, 1988, balancing protection of honest officers and ensuring accountability in corruption probes.

About Section 17A:

- **Section 17A prohibits any police inquiry or investigation** into public servants without prior approval from the competent authority (Central or State Government) if the act was done in the discharge of official duties.
- It aims to **shield honest officials from harassment** and prevent policy paralysis due to fear of prosecution. However, critics argue it creates hurdles in timely action against corruption, as prior approvals are often delayed or denied.

Key Issues Raised in the Supreme Court

- **Challenge to Section 17A:** The petition by **Public Interest Litigation (CPIL),** argued that;
  - The provision cripples anti-corruption investigations.
  - Governments, being the competent authority, are essentially judging their own officers, compromising impartiality.
  - In many cases, especially at the state level, sanctions are not granted, blocking investigation.
- The **deletion of Section 13(1)(d)(ii) (abuse of position)** is criticised as diluting the anti-corruption law's scope.

Supreme Court Observation

- **Constitutionality vs. Implementation:** The Court observed that many concerns raised were more about implementation flaws, not the constitutional validity of the provisions.

- It warned that fear of prosecution would lead to **policy paralysis**, and emphasised the necessity of **shielding honest officers from frivolous proceedings.**
- The Court highlighted a need to **strike a balance** between protecting honest officials and enabling corruption probes.

Various Committee Recommendations

- **Rajya Sabha Select Committee (2016)** highlighted that requiring government sanction for every investigation is difficult at the grassroots, undermining public trust and emboldening corruption.
  - It **suggested limiting the sanction mechanism to senior officials,** not minor ranks, and streamlining approvals
- **The Santhanam Committee (1962)** recommended establishment of the Central Vigilance Commission (CVC) to independently review sanction requests and direct **investigations through agencies like the CBI.**

MERITE SCHEME

The Union Cabinet approved the Multidisciplinary Education and Research improvement in Technical Education (MERITE) Scheme in technical institutions across India.

About

- It is a **central Sector Scheme** which has a budget of 4,200 crore for 2025-30, including a ₹**2,100 crore World Bank loan**.
- It aligns **with NEP-2020** to enhance quality, equity, and governance and will be managed via a Central Nodal Agency.
- It **focuses on improving student employability** through updated curricula, internships, faculty training, research hubs, and innovation centers, aiming to increase placements and reduce unemployment among engineering graduates.
- It will support **275 government technical institutions**, including NITs, state engineering colleges, polytechnics, and technical universities, along with State/UT education departments.
  - Prestigious institutions like IITs, IIMs, and regulatory bodies will aid implementation.

NATIONAL SPORTS GOVERNANCE ACT, 2025

Recently, the Parliament of India has passed the National Sports Governance Bill, aiming to overhaul India's sports administration.

Key Provisions:

- **National Sports Bodies (NSBs):** To be created for each recognized sport.
  - **National Olympic Committee (NOC):** Only governing body for Olympic sports in India.
  - **National Paralympic Committee (NPC):** Only governing body for Paralympic sports.
  - **Other Bodies:** National Sports Federations (NSFs) and Regional Sports Federations (RSFs).

- **National Sports Board (NSB):** Will have the power to **recognize any sports organization** as a National Sports Body. The **Chairperson and Members** of the NSB will be **appointed by the Central Government**.
- **National Sports Tribunal:** Will handle **sports-related disputes quickly**.
- **Civil courts** will not deal with matters that come under this tribunal.
- **Oversight of Elections:** A **national panel of electoral officers** will be set up by the Central Government to **monitor elections** of national sports bodies.
- **Powers of Central Government:** The government may **exempt a national sports body or its affiliates** from certain provisions of the Bill if it is in the **public interest or helps promote that sport**.

STATE HEALTH REGULATORY EXCELLENCE INDEX (SHRESTH)

The Union Health Ministry launched the State Health Regulatory Excellence Index (SHRESTH).

About

- It is an initiative aimed at **benchmarking and strengthening state drug regulatory systems** through a transparent, data-driven framework.
- It will assess states on parameters such as lab testing capacity, digitisation of approvals, inspection rigour, and responsiveness to public grievances.
- It is developed by the **Central Drugs Standard Control Organisation (CDSCO).**
- It will rank manufacturing states (on 27 parameters) and distribution states/UTs (on 23 parameters) across themes like licensing, surveillance, and responsiveness.
  - States will submit monthly data, and best practices will be shared to promote uniform standards.

SabhaSaar

The Union Government will launch 'SabhaSaar' in Tripura on Independence Day (15 August), with plans to extend it to other states.

About

- **Purpose:** AI-powered tool to automatically generate minutes of gram sabha meetings.
- **Functioning:**
  - Generates **transcriptions** from audio or video recordings.
  - Panchayat officials can upload recordings using **e-GramSwaraj login credentials**.
- **Technology Base:** Built on Bhashini, the government's AI-powered **language translation platform.**
- **Language Support:** All major Indian languages — **Hindi, Bengali, Tamil, Telugu, Marathi, Gujarati** and **English.**

> **Additional Information**
> - **Gram Sabha:** Primary body of the Panchayati Raj system, comprising all registered voters in a gram panchayat.
> - **Meetings:** At least four times a year — 26 Jan, 1 May, 15 Aug, and 2 Oct.
> - There are 2,55,397 village panchayats, 6,742 intermediate panchayats, 665 district panchayats, and 16,189 traditional local bodies across the country.

PUBLIC ACCOUNTS COMMITTEE ON TOLL COLLECTION

The Public Accounts Committee (PAC) of Parliament has proposed major changes to toll collection on national highways, including a recommendation to end the practice of perpetual tolling.

Laws linked to Toll Collection

- Under the **National Highways Act, 1956,** the government is empowered to levy **user fees on national highways**, with the policy governed by the **2008 NH Fee Rules.**
- These fees are not tied to construction cost recovery but are based on fixed base rates, increasing annually by 3% and partially indexed to inflation (WPI).
- **Toll collection** can be done by the Union government for publicly funded roads or by concessionaires under BoT, or InvIT models.
- A 2008 amendment allows toll collection to continue indefinitely, even after concession periods end, with revenue then going to the **Consolidated Fund of India.**
  - Toll collections rose significantly—from ₹1,046 crore in 2005–06 to ₹55,000 crore in 2023–24, with ₹25,000 crore going to the government and the rest to concessionaires.

Recent Recommendations

- The Public Accounts Committee (PAC) has recommended ending or reducing tolls on national highways once construction and maintenance costs are recovered.
- The panel criticised the current system of indefinite toll collection, calling it a "regime of perpetual tolling," and proposed that any tolling beyond cost recovery requires approval from an independent regulatory authority.
- It also suggested creating **such an authority to ensure transparency** and fairness in toll pricing and regulation.
- The PAC called for **toll reimbursements during periods of construction when road usage is disrupted.**
- On FASTags, the panel flagged continued **traffic delays due to scanner issues and recommended setting up on-site facilities for users to manage their FASTag**s.

Governments Response

➲ The Ministry of Road Transport and Highways acknowledged the Committee's concerns and informed the PAC that it has initiated a **comprehensive study with NITI Aayog to revise the user fee determination framework.**

Public Accounts Committee

➲ The Public Accounts Committee (PAC), established in 1921 under the **Montague-Chelmsford Reforms** and mandated by the Government of India Act, 1919 to examine government accounts to detect irregularities, deviations, and inefficiencies.
   ◆ It became a **formal Parliamentary Committee on January 26, 1950.**
   ◆ It is regarded as one of the most prestigious committees and is reconstituted annually and comprises **15 Lok Sabha members** elected by proportional representation, along with **7 Rajya Sabha members elected similarly.**
➲ **Functions:** It is a key parliamentary tool for monitoring government financial activities.
   ◆ It examines appropriation and finance accounts, as well as CAG reports, except for those assigned to the Committee on Public Undertakings.

NAVYA INITIATIVE

The Union minister provided the information on the NAVYA initiative in the written reply in Lok Sabha.

About

➲ NAVYA (Nurturing Aspirations through Vocational training for Young Adolescent Girls) is a **joint initiative** of the Ministry of Skill Development & Entrepreneurship and the Ministry of Women & Child Development, launched in June 2025.
➲ It aims to empower **adolescent girls (16–18 years)** in aspirational districts, with a minimum qualification of **Class 10**, by equipping them with relevant skills for socio-economic independence.
➲ Under NAVYA, **3,850 adolescent girls** will be trained under Pradhan Mantri Kaushal Vikas Yojana 4.0 (PMKVY 4.0) in non-traditional and emerging sectors such as digital marketing, cybersecurity, AI-enabled services, and green jobs.
➲ Training will also include life skills, financial literacy, and digital competence to prepare them for current and future workforce demands.

ADI KARMAYOGI ABHIYAN

The Ministry of Tribal Affairs has launched the Adi Karmayogi Abhiyan, envisaged as the world's largest tribal grassroots leadership programme.

About:

➲ It aligns with the **Janjatiya Gaurav Varsh** celebrations and contributes to the vision of **Viksit Bharat @2047.**

Core Philosophy

➲ Guided by Sewa (Service), Sankalp (Resolve), Samarpan (Dedication).
➲ Embodies the principle of "Sabka Saath, Sabka Vikas, Sabka Prayas, Sabka Vishwas."

Key Components & Outcomes

➲ **Adi Sewa Kendra**: Proposed in every tribal-dominated village, where government officials and villagers dedicate a few hours fortnightly as "Adi Sewa Samay."
   ◆ These centres will address local problems, mentor youth, and support last-mile delivery of schemes.
➲ **Governance Lab Workshops:** Multi-departmental labs for collaborative problem-solving, ensuring convergence of welfare schemes.
➲ **Tribal Village Action Plan (Vision 2030)**: Co-created by officers and villagers, aligning with national goals and the Sustainable Development Goals (SDGs).
➲ **Role of Volunteers: Adi Sahyogi:** Teachers, doctors, and professionals who mentor and mobilise communities.
   ◆ **Adi Saathi:** SHGs, tribal elders, NRLM members, and local leaders aiding outreach and implementation.

Significance

➲ **Empowerment:** Moves beyond welfare to leadership creation.
➲ **Trust Building:** Bridges the gap between tribal communities and government institutions.
➲ **Conflict Mitigation:** Reduces alienation and strengthens social harmony.
➲ **Sustainable Development:** Ensures grassroots action is aligned with Agenda 2030 and India's vision for 2047.

SC ON WELFARE OF INJURED ARMED FORCES CADETS

The Supreme Court has sought the Union Government's response on creating a system of medical, financial, and rehabilitation support for cadets injured during training and subsequently discharged.

Background:

➲ Cadets in military academies undergo intensive training, which sometimes results in serious injuries or accidents.
➲ Such cadets are often medically discharged ("boarded out"), receiving only about ₹40,000 as ex-gratia.
➲ At present, there is no structured scheme for their medical care, insurance, or rehabilitation.

Supreme Court's Observation on Injured Cadets

- **Court's Stand:** Accidents during training are not due to cadets' negligence but are part of the risks of rigorous training. Hence, the **State has a responsibility** to protect them.
- **Concern Raised:** The Court noted that cadets injured during training accidents are left *"high and dry"* without proper medical, financial, or rehabilitation support.
- **Three Main Focus Areas Identified:**
  - **Insurance Cover** – possibility of a group insurance scheme to support injured cadets.
  - **Medical Expenses** – consideration of increasing medical expense coverage for cadets injured in training.
  - **Rehabilitation** – exploring alternative training or postings within the Armed Forces after medical recovery.
- **Possible Inclusion in Welfare Schemes**: Suggested bringing injured cadets under the **Ex-Servicemen Contributory Health Scheme (ECHS)** since they had already cleared entrance exams to become cadets.
- **Statutory Benefits**: Asked the government to clarify if benefits under the **Persons with Disabilities (PwD) Act** would extend to such cadets.
- **Ex-Gratia Concerns**: Highlighted that many injured cadets exit quietly with only about ₹40,000 as ex-gratia, and some reportedly do not even receive that.
- **Directions Issued:**
  - Notice sent to the Ministries of **Finance, Defence, Social Justice**, Chiefs of the **Army, Navy, Air Force**, CDS, and the **Ex-Servicemen Welfare Department**.
  - Additional Solicitor General tasked to seek instructions on insurance, medical expenses, and rehabilitation measures.

REGISTRAR GENERAL OF INDIA (RGI)

The Registrar General of India (RGI) asked States to take steps towards achieving universal registration of births and deaths.

About

- Following the directives of the Supreme Court, all government hospitals have been **declared 'registrars' of births and deaths.**
  - If the event has taken place in a hospital, a medical officer in charge is required to report it under **Section 8 (1) (B) of the Registration of Births and Deaths Act, 1969.**
  - Hospitals have to report the event within **21 days.**
- **The RBD Act, 1969,** which was amended in 2023, makes **online registration of births and deaths compulsory on the RGI portal.**

The Registrar General of India (RGI)

- **Established in 1961** by the Government of India.
- Works under the administrative control of the **Ministry of Home Affairs (MHA).**

- **Major Functions:**
  - Census of India.
  - Conducts the decennial Census of India (since 1872; regular since 1881).
  - Responsible for planning, coordinating, and supervising census operations.
- **Civil Registration System (CRS):** Oversees the registration of births and deaths across India.
  - Ensures uniformity and accuracy in vital statistics collection.
- **Vital Statistics:** Collects, compiles, and publishes data on births, deaths, causes of death, and population dynamics.
  - Provides crucial demographic data for policy planning.
- **Sample Registration System (SRS):** Launched in 1969 to provide reliable annual estimates of birth rate, death rate, and infant mortality rate (IMR).
  - Uses a dual record system (continuous enumeration & independent survey).

THE CONSTITUTION (130TH AMENDMENT) BILL, 2025

Recently, the Constitution (130th Amendment) Bill, 2025 was introduced in the Lok Sabha and subsequently referred to a Joint Parliamentary Committee (JPC) following intense opposition protests.

Provisions of the 130th Amendment Bill:

- The Bill seeks to amend **Articles 75, 164, and 239AA** dealing with the Union Council of Ministers, State Councils of Ministers, and special provisions for Delhi.
- **Purpose:** Provides for removal of the **Prime Minister, Chief Ministers, or Ministers** (Centre, States, Delhi, Puducherry, J&K) if arrested in serious criminal cases.
- **Grounds:** Removal if accused of an offence punishable with **5+ years' imprisonment** and in custody for **30 consecutive days**.
- **Procedure:**
  - **Ministers:** Removed by President/Governor on advice of PM/CM (by Day 31). If no advice is given, they automatically cease to hold office.
  - **PM/CMs:** Must resign by Day 31; otherwise, cease to hold office from the next day.
- **Reappointment:** Once released from custody, they may be **re-appointed**.

Concerns	
Presumption of Innocence	Weakens "innocent until proven guilty
Fundamental Rights	May conflict with Article 14 (equality) and Article 21 (life and liberty).
Political Misuse	Risk of misuse by the Union government through agencies like CBI and ED.
Threat to Federalism	Centralizes power, curtails state autonomy.
Judicial Challenges	Could be contested under the Basic Structure Doctrine for affecting executive independence.
Ethical Governance vs Democratic Safeguards	While promoting integrity (as seen in Lily Thomas and Manoj Narula)Case, it erodes democratic norms by enabling removal without judicial verdict.

COMMERCIAL & PROHIBITED SPEECHES NOT PART OF FUNDAMENTAL RIGHTS: SC

The Supreme Court of India recently clarified that commercial and prohibited speeches do not enjoy protection under the Fundamental Right to Freedom of Speech and Expression (Article 19(1)(a)).

About

- The ruling reinforces the idea that Fundamental Rights are **not absolute and are subject to reasonable restrictions.**

Constitutional Background

- **Article 19(1)(a):** Guarantees all citizens the right to freedom of speech and expression.
- Includes political speech, dissent, press freedom, artistic expression, etc.
- **Article 19(2):** The State may impose restrictions on speech in the interests of Sovereignty & integrity of India, Security of the State, Friendly relations with foreign States, Public order, Decency or morality, Contempt of court etc.

Supreme Court's Key Observations

- **Commercial speech:** E.g., advertisements, profit-driven promotions do not automatically get the same fundamental protection as political or social speech.
- **Prohibited/Hate Speech:** Expressions promoting enmity, hatred, or violence against any group based on inherent characteristics are not constitutionally protected.
- **Accountability of Influencers:** Influencers with large audiences must exercise responsibility and caution, as irresponsible speech causes harm or ridicule to specific communities—especially vulnerable ones like the disabled.
- **Social Media Guidelines:** The Supreme Court directed the government to frame comprehensive guidelines for regulating online content to curb harm and ensure accountability.

Evolution of Jurisprudence on Speech

- **Indian Express v. Union of India (1985):** Press freedom recognized as part of Article 19(1)(a).
- **Tata Press Ltd. v. MTNL (1995):** Commercial speech like advertisements promoting consumer welfare were held to be protected, but not all commercial activity qualifies.
- **Aveek Sarkar v. State of West Bengal (2014):** Laid down the "community standards test" for obscenity.
- **Shreya Singhal v. Union of India (2015):** Struck down Section 66A of IT Act as it violated free speech.

Laws Governing Commercial & Prohibited Speech in India

- **Consumer Protection Act, 2019:** Regulates misleading advertisements and unfair trade practices.
  - Establishes **Central Consumer Protection Authority (CCPA)** with power to ban misleading ads.
- **Sec. 67 of Information Technology Act, 2000:** prohibits publishing obscene material in electronic form.
- **Indecent Representation of Women (Prohibition) Act, 1986:** Bans derogatory portrayal of women in ads, publications, media.
- **Indian Penal Code (IPC), 1860 / Bharatiya Nyaya Sanhita, 2023:** Defamation (Sec. 499 IPC / Sec. 354 BNS), Promoting enmity between groups (Sec. 153A IPC / Sec. 194 BNS) & Obscenity (Sec. 292–294 IPC / Sec. 282 BNS).

ARTICLE 311

Jammu and Kashmir Lieutenant Governor sacked two government employees for allegedly engaging in anti-national activities by invoking Article 311 of the Constitution of India.

About

- **Article 311 of the Constitution of India** provides procedural safeguards to civil servants (i.e., persons employed in civil capacities under the Union or a State) against arbitrary dismissal, removal, or reduction in rank by the government.
  - **Article 311** applies only to civil servants, not to members of the defense services or those whose employment is otherwise governed.
- **Article 311(1):**
  - No civil servant can be dismissed or removed by an authority subordinate to the one who appointed them.
  - This means that only the appointing authority or an authority of equivalent or higher rank can order dismissal or removal.

PROJECT AAROHAN

National Highways Authority of India (NHAI) has launched a Project Aarohan to support the educational aspirations of toll plaza employees.

About

- It aims to remove financial barriers and provide equal access to quality education for students from economically weaker sections.
- It will cover **five hundred students** from Class 11 to the final year of graduation.
- Each student will receive an **annual scholarship of 12 thousand rupees** during the **financial year 2025-26.**
- Additionally, **fifty bright students** aspiring for **postgraduate and higher studies** will be supported with scholarships of **50 thousand rupees each.**

RESTRUCTURING AND EXTENSION OF THE PM SVANIDHI

The Union Cabinet approved the restructuring of the PM SVANidhi loan scheme for street vendors, extending it till March 31, 2030, and enhancing the loan amount.

About

- Launched on **June 1, 2020**, during the COVID-19 pandemic.
- Provides **collateral-free working capital loans** to street vendors.
- Aims to **restore livelihoods**, encourage **digital payments**, and integrate vendors into the **formal financial system**.
- As of **July 2025:** Over **96 lakh loans** worth **₹13,797 crore** disbursed to **68 lakh street vendors**.

Revised Framework

- The scheme extended till **March 31, 2030** with a total outlay of **₹7,332 crore**.
- **Enhanced Loan Limits:**
  - **First tranche:** ₹15,000 (earlier ₹10,000).
  - **Second tranche:** ₹25,000 (earlier ₹20,000).
  - **Third tranche:** ₹50,000 (unchanged).
- **Digital Incentives:** Beneficiaries repaying the second loan to receive a UPI-linked RuPay Credit Card. Cashback of up to ₹1,600 for digital transactions.

COMPREHENSIVE MODULAR SURVEY: EDUCATION, 2025

The survey, conducted under the 80th Round of the National Sample Survey (NSS), April–June 2025, has revealed that households spend nearly nine times more per child in private schools compared to government schools.

Key Findings:

- **Govt. schools dominate**: 55.9% enrolment overall; rural 66%, urban 30%.

- **Spending gap**: Govt. schools ₹2,863 per child vs. private schools ₹25,002.
- **Fees**: Only 26.7% govt. school students pay fees vs. 95.7% in private.
- **Funding**: 95% rely on household members.
- **Private coaching**: 27% students overall (urban 30.7%, rural 25.5%).
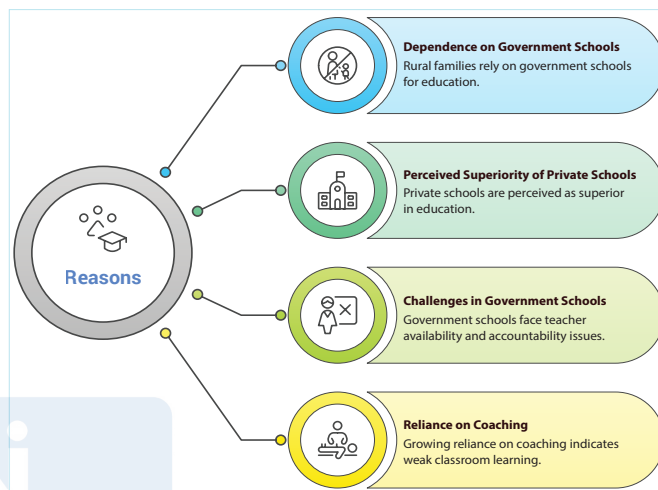
Govt. Initiatives:

- **Samagra Shiksha Abhiyan (SSA):**
  - Umbrella scheme for school education (pre-school to Class XII).
  - Merged Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA), Teacher Education (TE).
  - **Focus:** access, equity, quality, infrastructure, teacher training.
- **PM SHRI Schools:**
  - Plan to develop 14,500 schools as model schools.
  - Modern infrastructure, smart classrooms, green practices.
  - **Aim:** Showcase best pedagogy, NEP implementation.
- **Right to Education (RTE) Act, 2009:**
  - Free & compulsory education for ages 6–14.
  - 25% reservation in private schools for weaker sections/disadvantaged groups.
  - Focus on reducing dropouts & ensuring inclusivity.
- **National Education Policy (NEP) 2020:**
  - Shift from rote learning to **critical thinking & skills**
  - Stress on foundational literacy & numeracy, teacher training.
  - Push for multidisciplinary & digital integration in classrooms.
- **Digital Tools:**
  - **DIKSHA** – digital platform for e-content, teacher resources.
  - **SWAYAM** – free online courses from school to higher education.
  - **PM e-Vidya** – one-nation-one-digital platform; TV, radio, and online content for students without internet.

UN WOMEN

The year 2025 marks the 15th anniversary of UN Women.

About

➲ UN Women is the United Nations entity dedicated to gender equality and the empowerment of women and girls globally.

UN WOMEN'S CORE MANDATES

Advocate & Monitor
Promoting global advocacy and monitoring international commitments.

Promote Gender Equality
Eliminating discrimination against women and girls in all forms.

Coordinate UN System
Leading and coordinating efforts across UN agencies.

Empower Women
Advancing women's participation in political, economic, and social life.

Support Member States
Providing technical and policy support to governments.

➲ Established by the UN General Assembly in July 2010 and operational from January 2011.
➲ UN Women serves as the secretariat to the UN Commission on the Status of Women (CSW).
➲ **UN Women Executive Board:**
   ◆ Comprises representatives from 41 Member States.
   ◆ Members are elected by ECOSOC for three-year terms on a rotational basis, ensuring geographical balance and global representation.

THE INDIA UN GLOBAL SOUTH CAPACITY BUILDING

India launched the first tranche of four projects under the India-UN Global Capacity Building Initiative.

India-UN Global Capacity Building Initiative

➲ It is aimed at supporting the Global South in achieving SDG goals through specialized training.
➲ The initiative, announced in September 2023, is a collaboration between India's Ministry of External Affairs (MEA) and UN agencies.
➲ It builds on India's longstanding Indian Technical and Economic Cooperation (ITEC) programme, which offers over 12,000 training slots annually to nearly 160 countries.
   ◆ Under this initiative, UN agencies help identify projects, while training is conducted via ITEC.

FOUR PROJECTS LAUNCHED

Rice Fortification
Rice fortification project in Nepal, in collaboration with the World Food Programme.

Digital Health Platforms
Development of digital health platforms for Zambia and Lao PDR, with UNDP.

Census Preparedness
Census preparedness project in Caribbean nations, in partnership with UNFPA.

Vocational Training
Vocational training project in South Sudan, in collaboration with UNESCO.

RUSSIA WITHDREW FROM INTERMEDIATE-RANGE NUCLEAR FORCES (INF) TREATY

Russia has officially withdrawn from the Intermediate-Range Nuclear Forces (INF) Treaty.

Background

➲ Russia specifically pointed to the US deployment of a Typhon missile system in the Philippines and missile drills in Australia as destabilizing moves.
➲ The US had already left the treaty in 2019, accusing Russia of violations, which Russia denied, claiming the US was instead developing prohibited missile systems.
➲ This latest step reflects rising tensions between Russia and the US, especially following President Trump's announcement of deploying two nuclear submarines.

The Intermediate-Range Nuclear Forces Treaty (INF)

➲ The INF Treaty was signed in December 1987 by the United States and the former Soviet Union, and entered into force on 1 June 1988.
➲ It required both countries to eliminate their ground-launched ballistic and cruise missiles that could travel between 500 and 5,500 kilometres by an implementation deadline of 1 June 1991.
➲ It was crucial to Euro-Atlantic security for decades and it eliminated a whole category of nuclear weapons that threatened Europe in the 1980s.

80 YEARS OF HIROSHIMA

On August 6, 1945, the United States dropped the first atomic bomb, nicknamed "Little Boy," on Hiroshima, marking the first use of nuclear weapons in warfare.

About

➲ The Hiroshima and Nagasaki bombings remain a stark reminder of the **devastation caused by nuclear weapons.**

➲ They not only ended World War II but also **ushered in the nuclear age,** shaping world politics, military doctrines, and peace efforts for the last eight decades.
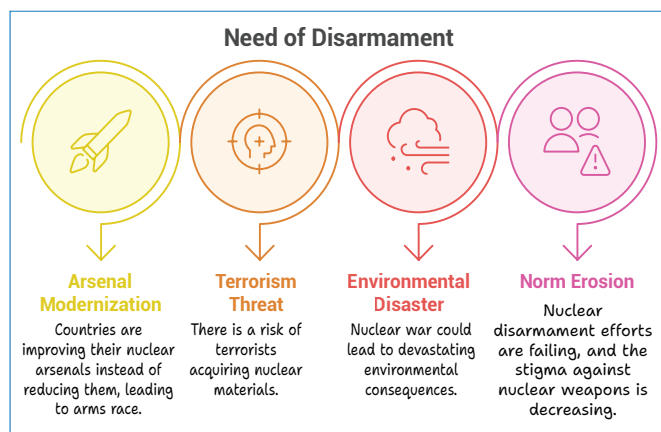
Nuclear Arms Race Post WW2

➲ **Cold War Build-up**: The USSR tested its first nuclear bomb in 1949, sparking an arms race.

◆ Soon came hydrogen bombs, intercontinental ballistic missiles (ICBMs), and the doctrine of **Mutually Assured Destruction (MAD)** — where any nuclear strike would ensure total retaliation.

➲ **IAEA (1957)**: The International Atomic Energy Agency was set up to promote peaceful nuclear use and prevent diversion to weapons.

➲ **Cuban Missile Crisis (1962)**: The closest the world came to nuclear war.

➲ **Proliferation**: More countries developed nukes — UK (1952), France (1960), China (1964), India (1998), Pakistan (1998), and North Korea (2006).

➲ **India's Position**: Follows **No First Use (NFU)** and **credible minimum deterrence**, but refuses to sign the NPT, calling it "nuclear apartheid."

MAJOR TREATIES & DISARMAMENT EFFORTS

NPT (1968) – Treaty on the Non-Proliferation of Nuclear Weapons: Aims to stop the spread of nuclear weapons and promote peaceful use of nuclear energy. Criticized for being discriminatory, as recognized nuclear powers face weaker disarmament obligations.

About

➲ **CTBT (1996) – Comprehensive Nuclear-Test-Ban Treaty**: Prohibits all nuclear test explosions. Not yet in force because key nations like the **U.S., China, India, and Pakistan** have not ratified it.

➲ **TPNW (2017) – Treaty on the Prohibition of Nuclear Weapons**: The first legally binding international agreement to completely ban nuclear weapons. Rejected by all nuclear-armed states.

➲ **START & New START – Strategic Arms Reduction Treaty / New Strategic Arms Reduction Treaty**: Bilateral U.S.–Russia agreements to reduce deployed nuclear warheads.

◆ **New START,** signed in 2010, will expire in **2026**; its future remains uncertain due to geopolitical tensions.

Need of Disarmament

Arsenal Modernization
Countries are improving their nuclear arsenals instead of reducing them, leading to arms race.

Terrorism Threat
There is a risk of terrorists acquiring nuclear materials.

Environmental Disaster
Nuclear war could lead to devastating environmental consequences.

Norm Erosion
Nuclear disarmament efforts are failing, and the stigma against nuclear weapons is decreasing.

FIRST BIMSTEC TRADITIONAL MUSIC FESTIVAL

The first BIMSTEC Traditional Music Festival was organised at New Delhi.

About

➲ It was organised by the **Indian Council for Cultural Relations (ICCR),** the festival called **'SaptaSur: Seven Nations, One Melody'**, witnessed the celebration of the distinct musical traditions of the seven BIMSTEC countries.

➲ The Festival served as a **vibrant platform** to promote and celebrate the rich and diverse cultural heritage of the BIMSTEC region.

➲ **The event brought together musicians** from all the **BIMSTEC countries** - Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka and Thailand.

About BIMSTEC

Founding Members
The original four nations Bangladesh, India, Sri Lanka, and Thailand established BIMSTEC in 1997 through Bangkok Declaration .

Current Seven Members
Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka, and Thailand.

Regional Impact
The BIMSTEC region brings together 1.7 billion people - 22% of world population with a combined GDP of US$ 5 trillion.

BIMSTEC Secretariat
Dhaka, Bangladesh.

Significance of BIMSTEC for India

➲ **Bridges South Asia and Southeast Asia:**

◆ BIMSTEC connects India with Thailand and Myanmar (ASEAN) and the Bay of Bengal.

◆ Supports initiatives like the Kaladan Multi-Modal Transit Project and India–Myanmar–Thailand Trilateral Highway.

- **Counterbalance to China:** Enhances India's regional influence and offers an alternative to China's Belt and Road Initiative (BRI).
- **Maritime Security:** The Bay of Bengal is vital for India's naval strategy and energy trade routes.
- **Support for India's Northeast:** Opens new avenues for development and integration of the Northeast region with regional markets.
- **Bay of Bengal as an Energy Hub:** Scope for collaboration in oil and gas exploration, renewable energy, and the blue economy.
- **Shared Civilizational Links:** Common cultural and religious heritage, particularly Buddhism.
  - Easier regional travel, promotion of Buddhist circuits and cultural exchanges.
- **Alternative to SAARC:** With SAARC stagnating due to Indo-Pak tensions, BIMSTEC serves as a more productive regional forum.

WORLD TRADE ORGANIZATION (WTO)

Brazil has initiated formal consultations at the World Trade Organization (WTO) over US President Donald Trump's decision to impose 50% tariffs on Brazilian imports, escalating diplomatic tensions between the two nations.

About

- **WTO** is an international body that regulates global trade rules among nations.
  - Established under the **Marrakesh Agreement (15 April 1994)** after the **Uruguay Round (1986–94)** of GATT.
  - Came into existence in **1995**, succeeding **GATT (1948)**.

Structure of WTO

Ministerial Conference
Apex body of the WTO that meets biennially, composed of all member states. Takes decisions on trade agreements.

General Council
Highest decision-making body between conferences. Functions as Dispute Settlement Body and Trade Policy Review Body.
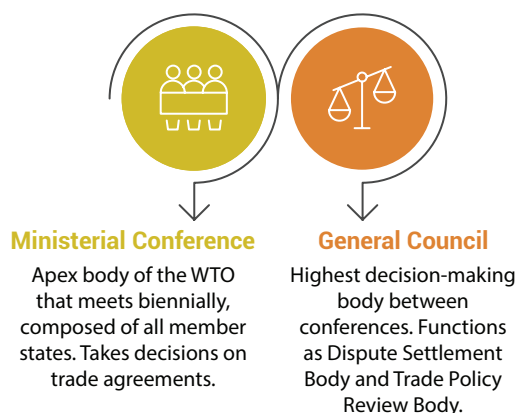
- **Coverage**: Unlike GATT (goods only), WTO covers **trade in goods, services, and intellectual property**.
- **Headquarters**: Geneva, Switzerland
- **Members**: 166 countries (representing ~98% of world trade)
- **Key Bodies:**
  - **Dispute Settlement Body (DSB)** – Resolves trade disputes among members.

- **Major WTO Agreements**
  - **TRIMS (Trade-Related Investment Measures)**: Bans discriminatory practices like **local content requirements**.
  - **TRIPS (Trade-Related Aspects of Intellectual Property Rights)**: Protects and regulates **intellectual property rights (IPR)** such as inventions, designs, and brands.
  - **AoA (Agreement on Agriculture)**: Promotes **agriculture trade liberalization**, addressing **market access, export subsidies, and domestic support**.
  - **SPS (Sanitary and Phytosanitary Measures)** – Ensures food safety and animal/plant health standards.
  - **GATS (General Agreement on Trade in Services)** – Governs trade in services like banking, IT, telecom.
  - **GATT (General Agreement on Tariffs and Trade)** – Original framework regulating trade in goods.

ARMENIA-AZERBAIJAN PEACE TREATY

Armenia and Azerbaijan signed a historic U.S.-brokered peace agreement at the White House, ending decades of conflict over Nagorno-Karabakh.

About Disputes:

- **Nagorno-Karabakh, historically part of the Armenian Kingdom,** was ruled by empires like the Ottomans, Persians, and Russians.
  - Tsarist Russia controlled the South Caucasus during the 19th century, but its influence declined after the 1917 Russian Revolution.
- The Armenia-Azerbaijan conflict dates back nearly a century, originating during **World War I when Ottoman and Azeri** forces targeted ethnic **Armenians in the South Caucasus.**
- Nagorno-Karabakh, a predominantly Armenian region within Azerbaijan, became a key flashpoint, rooted in ethnic, religious, and geopolitical tensions.
- As the Soviet Union collapsed in 1991, **Armenians in Nagorno-Karabakh declared independence**, leading to a war that lasted until 1994 and caused around 30,000 deaths.
  - A Russia-brokered ceasefire followed, but borders remained unsettled despite international peace efforts.
- In **2020**, Azerbaijan launched a successful offensive, regaining surrounding territories with support from Turkey and Pakistan.
  - Another offensive in 2023 allowed **Azerbaijan to claim full control.**

Key Outcomes of Recent Deal

- **Cessation of Hostilities:** The peace deal ends nearly 35 years of tensions and paves the way for regional stability and development.
- **Trump Route for International Peace and Prosperity (TRIPP):** It includes reopening key transport routes and creating the "**Trump Route for International Peace and Prosperity**" to link Azerbaijan with its Nakhchivan exclave via Armenia.

- **U.S. Exclusive Development Rights:** The U.S. won't send soldiers, but it will have the exclusive right to develop and manage the route, likely with American companies involved.

Nagorno-Karabakh

- It is located within the international borders of Azerbaijan.
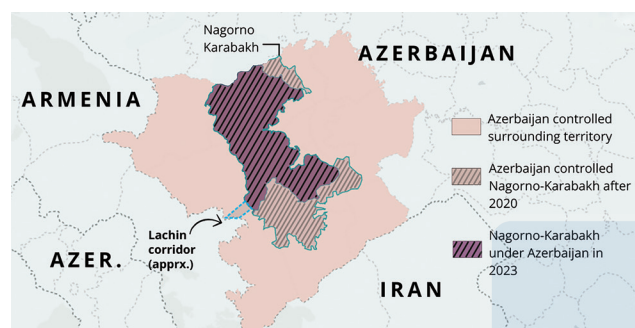- It is in the South Caucasus region between eastern Europe and western Asia, spanning the southern part of the Caucasus mountains that roughly includes modern-day **Armenia, Azerbaijan, and Georgia.**
  - The Armenians are Christians, while Azeris are Muslims.

INDIA–CHINA SPECIAL REPRESENTATIVES' DIALOGUE

Recently India-China held the 24th round of India-China Special Representative talks.

Key Outcomes of the Dialogue

- **Trade and Connectivity:**
  - Resumption of **direct flights** between India and China, facilitation of visas for tourists, businesses, media, and others.
  - **Re-opening** of border trade through **Lipulekh Pass, Shipki La Pass, and Nathu La Pass.**
  - Facilitation of trade and investment flows, with China addressing India's key concerns such as **fertilisers, rare earths, tunnel boring machines**.
- **People-to-People Engagement:**
  - Resumption of **Kailash Mansarovar Yatra** and discussion on **cultural exchanges.**
  - Plan to hold the 3rd High-Level Mechanism on People-to-People Exchanges in India in 2026.
- **Trans-Border Rivers Cooperation:**
  - China agreed to share **hydrological data** during emergency situations.
  - India flagged concerns about China's mega dam construction on the **Yarlung Tsangpo (Brahmaputra).**

Significance of the Visit

- **The year 2025 marks the 75th anniversary of the establishment of diplomatic relations** between India and China and both sides committed to commemorating this milestone with renewed cooperation.
- **India–China Reset:** The rapprochement comes after years of military and diplomatic freeze **post-2020 clashes.**
  - **The Kazan meeting in 2024** between PM Modi and President Xi Jinping is seen as a turning point.
- **Geopolitical Backdrop:** The rapprochement is significant as India faces deteriorating trade ties with the U.S., following recent tariffs imposed by the USA.
- **Multipolarity Push:** Both India and China emphasised the need for a **multipolar world order,** reflecting a shared interest in resisting unilateralism and Western dominance.

INDIA-EAEU RELATIONS

India and the Eurasian Economic Union (EAEU) signed the Terms of Reference (ToR) to launch negotiations on a Free Trade Agreement (FTA) in Moscow.

About

- It is an **international organization** of regional economic integration with international legal personality.
- Its goal is to **enhance cooperation, boost competitiveness, and support the stable development of member economies.**
- It ensures the free movement of goods, services, capital, and labor, and pursues coordinated policies among its members.
- **Members:** It comprises Armenia, Belarus, Kazakhstan, Kyrgyz Republic and the Russia The Union membership is open for any state, which shares the goals and principles of the EAEU, on the terms agreed by Member States.

Benefits

- The proposed FTA is expected to **expand market access for Indian exporters,** support diversification into new sectors and geographies, enhance competitiveness against non-market economies, and deliver significant benefits to Micro, Small and Medium Enterprises (MSMEs).

DRUZHBA PIPELINE

Ukrainian forces struck the Unecha pumping station, a critical hub on the Druzhba oil pipeline located in Russia's Bryansk region.

About

- The Druzhba pipeline historically served as a vital route for Russian and Kazakh oil into Central and Western Europe.
- It is 5500 km long and passes through Belarus and Ukraine, splits into northern branch (towards Poland & Germany) and southern branch (towards Slovakia, Hungary, Czech Republic).

RBI (INVESTMENT IN AIF) DIRECTIONS, 2025

The Reserve Bank of India (RBI) has issued new guidelines capping investments by Regulated Entities (REs) in Alternative Investment Fund (AIF) schemes.

About

- No RE shall individually contribute more than 10 per cent of the corpus of an AIF Scheme.
- Collective contribution by all REs in any AIF Scheme shall not be more than 20 per cent of the corpus of that scheme.
- If a RE contributes more than five per cent of the corpus of an AIF Scheme, then the RE shall be required to make 100 per cent provision to the extent of its proportionate investment in the debtor company through the AIF Scheme.
- Investments in subordinated units require full deduction from the RE's capital funds.
- The idea is to prevent any diversion of funds from the alternative investment fund route for wrongful purposes.
- These Directions shall be applicable to investments by the following REs in units of AIF Schemes:
  - Commercial Banks (including Small Finance Banks, Local Area Banks and Regional Rural Banks)
  - Primary (Urban) Co-operative Banks/ State Co-operative Banks/ Central Co-operative Banks
  - All-India Financial Institutions
  - Non-Banking Financial Companies (including Housing Finance Companies)
- It shall come into force from January 1, 2026, or from any earlier date as decided by a RE as per its internal policy.

SOFI REPORT 2025

The State of Food Security and Nutrition in the World (SOFI 2025) report has been released.

About

- It is an **annual** report jointly prepared by the Food and Agriculture Organization (FAO), the International Fund for Agricultural Development (IFAD), the United Nations Children's Fund (UNICEF), the World Food Programme (WFP) and the World Health Organization (WHO).
- This year's edition examines and shows how coordinated, evidence-based policies are essential to end hunger (SDG Target 2.1) and all forms of malnutrition (SDG Target 2.2), especially among children and youth, women, and vulnerable populations.

Major Findings

- **Signs of a decrease in world hunger in recent years:** An estimated 8.2 percent of the global population faced hunger in 2024, down from 8.5 percent in 2023 and 8.7 percent in 2022.
  - The progress is driven by notable improvement in South-eastern Asia, Southern Asia and South America.
- **Food prices rose throughout 2023 and 2024:** Average cost of a healthy diet rose globally to **4.46 purchasing power parity (PPP) dollars per person per day**, up from 4.30 PPP dollars in 2023 and 4.01 PPP dollars in 2022.
- **Anaemia in women aged 15 to 49 years:** An increase in the global prevalence from 27.6 to 30.7 percent.
- **Adult obesity on rise:** From 12.1 percent in 2012 to 15.8 percent in 2022.
- **Child stunting:** Decrease in the prevalence, from 26.4 percent in 2012 to 23.2 percent in 2024.
- **Food price inflation has emerged as a major concern since 2021:** Since 2020, global food price inflation has outpaced headline inflation, highlighting persistent pressures within agricultural and food markets.

Recommendations

- Protect vulnerable populations with well-designed fiscal responses.
- Align fiscal and monetary policies to stabilize markets.
- Prioritize structural and trade-related measures for lasting impact.
- Strengthen and invest in data and information flows.
- Invest in resilient agrifood systems.

INDIA AMONG WORLD'S MOST EQUAL SOCIETIES

According to the World Bank, India's Gini Index stands at 25.5, making it the fourth most equal country in the world, after the Slovak Republic, Slovenia and Belarus.

About

- Extreme poverty dropped to **2.3% in 2022-23** and **171 million Indians** moved out of extreme poverty between 2011–23.
- India's score is much **lower than China's 35.7** and far lower than the United States, which stands at 41.8.
- India is also more equal than every G7 and G20 country, many of which are considered advanced economies.
- India falls into the **"moderately low" inequality category**, which includes Gini scores between 25 and 30, and is only a fraction away from joining the "low inequality" group, which

includes countries like the Slovak Republic with a score of 24.1, Slovenia at 24.3, and Belarus at 24.4.

Gini Index

➲ It is a simple yet powerful way to understand how equally income, wealth or consumption is distributed across households or individuals in a country.

➲ It **ranges in value from 0 to 1 (100%)**. A score of **0 means perfect equality.** A score of **1 (100%) means** one person has all the income, wealth or consumption and others have none, hence **absolute inequality.**

➲ The higher the Gini Index the more unequal the country.

A TYPICAL **LORENZ CURVE**
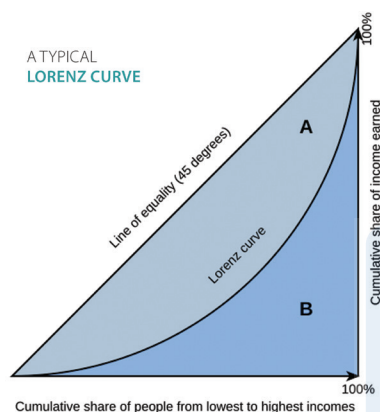
➲ Graphically Gini Index can be explained by the Lorenz curve.

➲ A Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household.

➲ A perfectly equal distribution will be shown by a diagonal line, while the actual distribution will be shown by the Lorenz curve.

➲ The Gini index measures the area between the Lorenz curve and a hypothetical line of absolute equality, or the gap between the two, expressed as a percentage of the maximum area under the line.

➲ The bigger the gap, the more unequal the income. This gives one clear number to show how fairly income is spread.

DIGITAL PAYMENTS INDEX

The Reserve Bank of India (RBI) announced that its Digital Payments Index (RBI-DPI) surged to 493.22 in March 2025, up from 465.33 in September 2024.

About

➲ The increase in RBI-DPI index was driven by significant growth in parameters viz. Payment Infrastructure – Supply-side factors and Payment Performance across the country over the period.

➲ The Reserve Bank of India (RBI) has been publishing a composite Reserve Bank of India – Digital Payments Index (RBI-DPI) since January 1, 2021 with **March 2018 as base (which was assigned a score of 100)** to capture the extent of digitisation of payments across the country.

➲ The index is **published twice a year**, with DPI recorded at the end of **March** and **September** for each year.

➲ The DPI comprises five broad parameters that measure the deepening and penetration of digital payments in the country over time. These parameters include:

Payment Enablers	25%
Payment infrastructure (demand-side factors)	10%
Payment infrastructure (supply-side factors)	15%
Payment performance	45%
Consumer centricity	5%

➲ Each of the parameters includes sub-parameters, which in turn consist of various measurable indicators.

SUPPLY AND USE TABLES (SUTS)

The Ministry of Statistics and Programme Implementation (MoSPI) has released the 'Supply and Use Tables of 2020-21 and 2021-22'.

About

➲ Supply and Use Tables (SUTs) represent a detailed snapshot of all economic activities taking place in the economy.

➲ The SUT of 2020-21 and 2021-22 has 140 products and 66 industries.

➲ The SUTs for the years 2020–21 and 2021–22 have been compiled using the estimates of macroeconomic aggregates published in the National Accounts Statistics (NAS) 2024, which provides the Final Revised Estimates for 2020-21 and for 2021-22.

➲ They are powerful analytical tools that present the structure of an economy as well as interlinkages among the various economic actors.

➲ They offer a comprehensive framework that integrates the three approaches to measuring Gross Domestic Product (GDP)—production, income, and expenditure within a unified structure.

➲ They provide the ideal concept for balancing supply and demand and they are the best framework for compiling Gross Domestic Product (GDP) at current prices.

➲ These tables show
  ◆ The structure of the costs of production and the income generated in the production process.
  ◆ The flow of goods and services produced within the national economy.
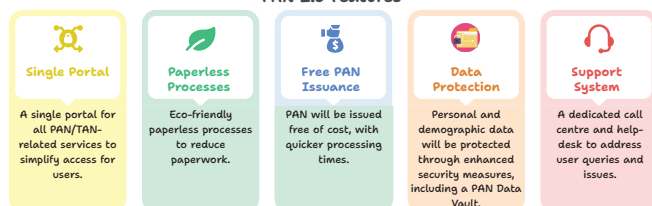 ◆ The flow of goods and services with the rest of the world.

PAN 2.0 PROJECT

The Income Tax Department has awarded the contract for the PAN 2.0 project to LTIMindtree Limited.

About

➲ The PAN 2.0 Project is a transformative initiative to modernise taxpayer registration through advanced e-governance.

➲ It aims to streamline and modernise the process of issuing and managing PAN and TAN, making it more user-friendly and efficient by consolidating multiple platforms/portals thus providing efficient services to PAN/ TAN holders.

PAN 2.0 Features

Single Portal	Paperless Processes	Free PAN Issuance	Data Protection	Support System
A single portal for all PAN/TAN-related services to simplify access for users.	Eco-friendly paperless processes to reduce paperwork.	PAN will be issued free of cost, with quicker processing times.	Personal and demographic data will be protected through enhanced security measures, including a PAN Data Vault.	A dedicated call centre and help-desk to address user queries and issues.

Additional Information

PAN (Permanent Account Number):

➲ It is a vital identification document issued by the Income Tax Department to all taxpayers in India.

➲ It is a unique 10-digit alphanumeric code that records all tax-related information for individuals and entities.

➲ The PAN acts as a primary key for financial transactions, making it a vital document for banking, tax filing, and business registration.

TAN (Tax Deduction and Collection Account Number):

➲ It is a unique ten-digit alpha-numeric number required to be obtained by all persons who are responsible for deducting or collecting tax at source i.e., TDS & TCS.

➲ Under Section 203A of the Income Tax Act, 1961, it is mandatory to quote Tax Deduction Account Number (TAN) allotted by the Income Tax Department (ITD) on all TDS statements.

NATIONAL COOPERATIVE DEVELOPMENT CORPORATION

The Union Cabinet has approved a Central Sector Scheme "Grant in aid to National Cooperative Development Corporation (NCDC)" with an outlay of Rs.2000 crore for a period of four years from 2025-26 to 2028-29 (Rs.500 crore each year from FY 2025-26).

About

➲ On the basis of grant in aid of Rs.2000 crore to NCDC from FY 2025-26 to FY 2028-29, NCDC will be able to raise Rs.20,000 crore from open market over a span of four years.

➲ NCDC will be the executing agency for this scheme, it will provide loans to cooperatives either through state government or directly, as per NCDC guidelines.

National Cooperative Development Corporation

➲ It is a statutory body established by an **Act of Parliament in 1963** and functions under the **Ministry of Cooperation.**

➲ **Functions:**

  ◆ **Planning, promoting and financing programmes** through cooperatives, besides income generating streams of activities such as poultry, dairy, fishery, sericulture, handloom etc.

  ◆ **It also finances projects** in the rural industrial cooperative sectors and for certain notified services in rural areas.

  ◆ **Loans and grants are advanced to State Governments** for financing primary and secondary level cooperative societies.

RS 6,520 CRORE FOR PM KISAN SAMPADA YOJANA

The Union Cabinet has approved a total outlay of Rs.6520 crore including additional outlay of Rs.1920 crore for ongoing Central Sector Scheme "Pradhan Mantri Kisan Sampada Yojana" (PMKSY) during 15th Finance Commission Cycle (FCC) (2021-22 to 2025-26).

About

➲ It is an umbrella Central sector scheme launched in 2017 where "SAMPADA" stands for "Scheme for Agro-marine processing and Development of Agro-processing Clusters".

Seven Component of PMKSY
- Human Resources and Institutions
- Mega Food Parks
- Integrated Cold Chain and Value Addition Infrastructure
- Infrastructure for Agro-Processing Clusters
- Creation of Backward and Forward Linkages
- Creation/Expansion of Food Processing & Preservation Capacities
- Food Safety and Quality Assurance Infrastructure
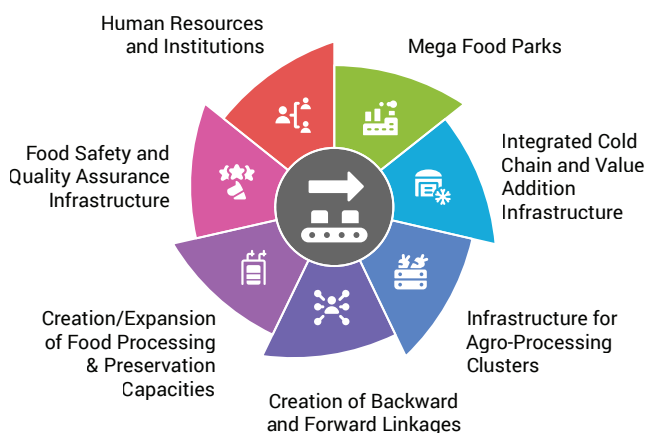
➲ It is envisaged as a comprehensive package which will result in creation of modern infrastructure with efficient supply chain management from farm gate to retail outlet.

KAVACH 4.0

Indian Railways has commissioned indigenous railway safety system Kavach 4.0 on the Mathura-Kota section of high-density Delhi-Mumbai route.

About

- It is an indigenously developed **Automatic Train Protection (ATP)** system by the **Research Designs and Standards Organisation (RDSO)** in collaboration with Indian industry.
- Kavach aids the Loco Pilot in running of trains within specified speed limits by automatic application of brakes in case Loco Pilot fails to do so and also helps the trains to run safely during inclement weather.
- It is designed to the highest safety standard — **Safety Integrity Level 4 (SIL-4)** — where the probability of failure is just **1 in 10,000 years.**
- The advanced version **'Kavach 4.0'** approved in May 2025 for speeds up to 160 kmph.

HOW RAILWAYS KAVACH PROTECTION SYSTEM WORKS

KPS is a set of electronic and radio frequency devices installed in locomotives, in the signalling system as well the tracks, that talk to each other using ultra-high radio frequencies to control the brakes of trains and also alert drivers.

If a red signal is jumped and two trains come face to face on the same line, the technology automatically takes over and applies sudden brakes.

STABLECOINS

Hong Kong implemented stablecoin ordinance from August 1 which positions Hong Kong as one of the first markets globally to regulate fiat-backed stablecoin issuers, giving it an early-mover advantage that helps its bid to become a virtual asset hub.

About

- Stablecoins are **cryptocurrencies designed to maintain price stability** by pegging their value to underlying assets such as:
  - Fiat currencies (e.g., USD, Euro)
  - Commodities (e.g., gold)
  - Other cryptocurrencies
  - Algorithm-based systems
- Stablecoins are **different from CBDCs, or Central Bank Digital Currencies,** which are digital currencies officially issued and controlled by a government's central bank.
  - Meanwhile, stablecoins can be privately issued and can also be pegged to foreign currencies.
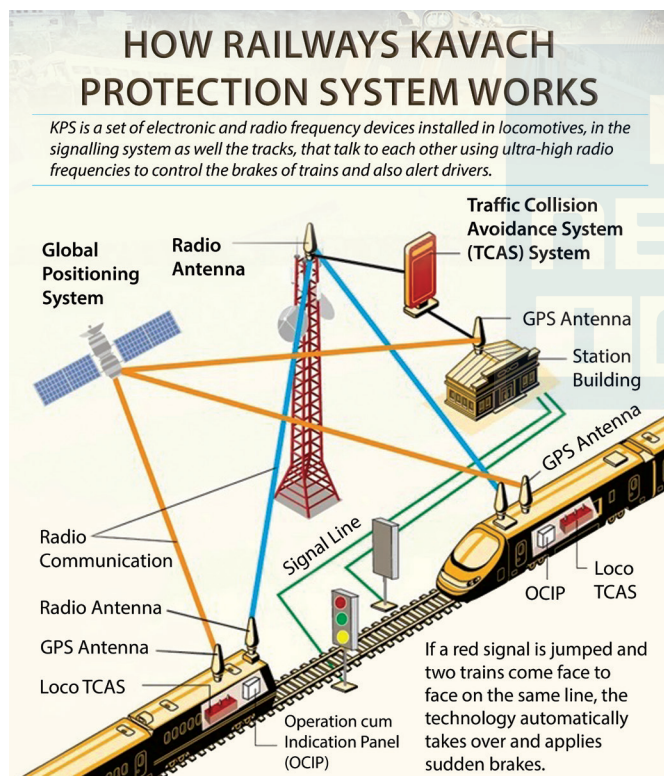
Global Scenario in Stablecoins

- **USA:** The GENIUS Act creates a clear federal framework for US dollar-backed stablecoins and broadens the range of institutions allowed to issue them.
- **Japan & Singapore:** Have introduced targeted regulations for stablecoins.
- **China:** While banning most digital asset activity since 2021, Beijing permits Hong Kong to act as a regulatory sandbox(live testing of new products or services in a controlled regulatory environment).

RBI HOLDS REPO RATE AND LOWERS INFLATION FORECAST

The Monetary Policy Committee (MPC) after assessing the current and evolving macroeconomic situation, voted to maintain the policy repo rate at 5.50%.

About

- It is in consonance with the objective of achieving the medium-term target for consumer price index (CPI) inflation of 4%within a band of +/- 2%, while supporting growth.
- Taking various factors into account, projection for real GDP growth for 2025-26 has been retained at 6.5%, with Q1 at 6.5%, Q2 at 6.7%, Q3 at 6.6%, and Q4 at 6.3%.
- It also observed that the inflation outlook for 2025-26 has become more benign than expected in June.

Reasons Behind the Policy Decisions

- **Sharp Decline in Inflation:** CPI inflation fell to **2.1%** in June 2025, a six-year low. Food prices, especially vegetables and cereals, have shown deflationary trends. This led to the downward revision of FY26 inflation forecast to 3.1%.
- **Global Uncertainties:** Rising trade tensions like US tariffs and volatile oil prices create external risks.

Impact on the Indian Economy

- **Impact on Inflation and Prices:** The RBI's revised inflation forecast shows that price levels in the economy are expected to remain stable. This is good for consumers, as the **purchasing power of money increases** when inflation is low.

- It also helps the government and RBI **maintain macro-economic stability,** which is essential for long-term growth.
- **Impact on Borrowers and Loans:** Since the repo rate remains unchanged, banks are unlikely to change interest rates.
  - This means that loan EMIs will stay stable, which is a relief for existing and new borrowers.
- **Impact on Economic Growth:** By keeping the repo rate steady and supporting low inflation, the RBI is encouraging **balanced and sustainable growth.**
  - Combined with the government's capital expenditure and infrastructure push, this policy setup will **strengthen demand, support job creation, and boost investment.**
- **Preparedness for External Risks:** While the economic outlook is positive, the RBI is being careful due to global uncertainties like **oil price volatility, trade tensions, and US tariffs.**
  - The neutral stance gives RBI flexibility – it can cut rates further if growth slows or raise them if inflation rises unexpectedly.

Additional Information

Repo Rate:

- The repo rate (repurchase rate) is the interest rate at which the central bank lends money to commercial banks when there is a shortage of funds.
- In simpler terms, it is the rate at which banks borrow money from the central bank for short-term needs, usually against government securities.
- This mechanism allows central banks to regulate liquidity and maintain monetary stability.

Monetary Policy Committee (MPC):

- The MPC is a statutory body established under the RBI Act, 1934 (amended in 2016).
- It is responsible for fixing the benchmark interest rate (repo rate) to maintain price stability while keeping growth in mind.
- It consists of 6 members:
  - 3 from the RBI (including the Governor as Chairperson),
  - 3 external members appointed by the Government.
- Decisions are made by majority, and each member has one vote. In case of a tie, the RBI Governor has the casting vote.

RETAIL INFLATION HITS 8-YEAR LOW

Retail inflation in India fell to 1.55% in July 2025, the lowest since June 2017 and below the RBI's 2–6% target band, driven by a sharp decline in food prices.

About

- The Consumer Price Index (CPI), released by the Ministry of Statistics and Programme Implementation, showed inflation in India has been easing for nine consecutive months.

- **Core inflation**, which **excludes the impact of food and fuel prices**, also eased to 4.1% in July 2025 from 4.4% in the previous month, nearly at the RBI's target of 4%.

ALL INDIA INFLATION RATES BASED ON CPI (GENERAL) AND CFPI
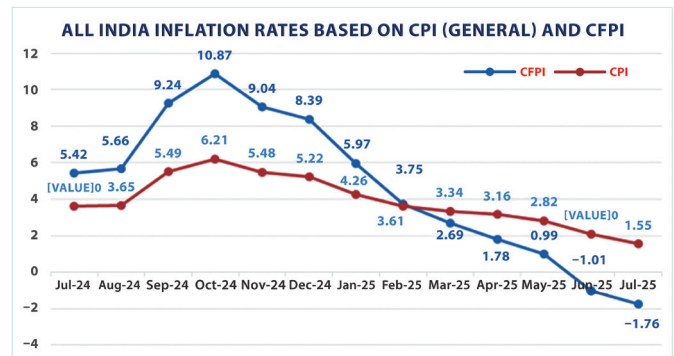
Retail inflation (Consumer Price Index)

- The Consumer Price Index (CPI) is a key economic indicator that measures the average change over time in the prices paid by consumers for a basket of goods and services.
- It serves as the primary gauge of retail inflation, reflecting the cost of living and purchasing power.
- The current base year for India's CPI is 2012 (set to 100), periodically updated to reflect changing consumption patterns.

RBI'S NEW CO-LENDING RULES

The Reserve Bank of India (RBI) has issued revised guidelines to strengthen the co-lending framework between banks and non-bank financial companies (NBFCs).

About:

- The new rules mandate that all regulated entities (REs) involved in co-lending arrangements (CLAs) must retain at least 10% of each individual loan on their own books.
- Additionally, the originating lender may now provide a default loss guarantee (DLG) of up to 5% of the outstanding loan amount under a CLA.
- The RBI also introduced a uniform asset classification system: if one lender classifies a loan as a Special Mention Account (SMA) or Non-Performing Asset (NPA), the same classification must be applied by the co-lending partner for their exposure to that borrower.
- Lenders must incorporate provisions for co-lending in their credit policies.
- Co-lending agreements must detail the criteria for borrower selection, product lines, geographical areas of operation, fee structures, and other relevant terms.
- The loan agreement with the borrower must include an upfront disclosure of the roles and responsibilities of each partner.

- The interest rate charged to borrowers will be a blended rate, calculated based on the weighted average of each RE's internal rate, proportional to their funding contribution.
- All transactions—including disbursements and repayments—between the REs and with the borrower must be routed through an **escrow account.**
- These changes aim to bring greater consistency, accountability, and risk alignment among co-lending partners while safeguarding borrower interests.

Co-Lending

- It refers to the **collaborative loan service** where two lending **institutions jointly fund loans** to borrowers.
- The RBI introduced the co-origination framework in **2018**, allowing banks and NBFCs to co-originate loans. This framework was later updated in **2020** and renamed the **Co-Lending Model (CLM).**
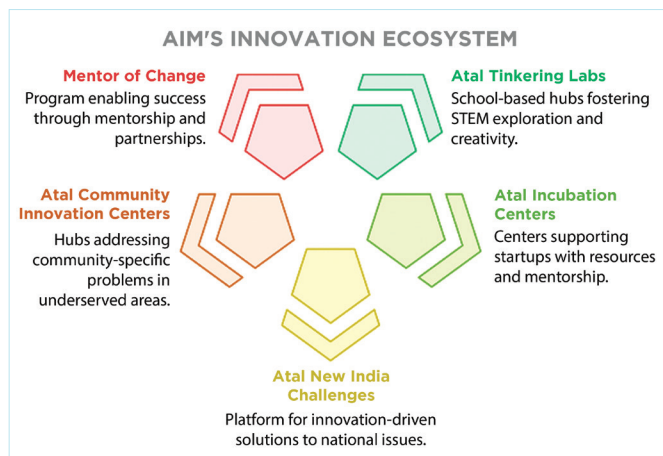
Escrow

- It is a financial arrangement in which a neutral third party holds and manages funds or assets on behalf of two parties involved in a transaction until all contractual obligations are met.

ATAL INNOVATION MISSION (AIM)

NITI Aayog, hosted 'Mega Tinkering Day' on August 12, India's largest-ever school-based tinkering event, bringing together students from over 10,000 Atal Tinkering Labs (ATLs) across all 35 states and union territories.

About

- AIM is a flagship initiative under the aegis of NITI Aayog,**launched in 2016** to promote a culture of innovation and entrepreneurship in the country.
- Cabinet approved the continuation of AIM till 31st March,2028 with an enhanced scope.

AIM'S INNOVATION ECOSYSTEM

Mentor of Change
Program enabling success through mentorship and partnerships.

Atal Tinkering Labs
School-based hubs fostering STEM exploration and creativity.

Atal Community Innovation Centers
Hubs addressing community-specific problems in underserved areas.

Atal Incubation Centers
Centers supporting startups with resources and mentorship.

Atal New India Challenges
Platform for innovation-driven solutions to national issues.

- **AIM 2.0** is a step towards Viksit Bharat that aims to expand, strengthen, and deepen India's already vibrant innovation and entrepreneurship ecosystem.
- AIM 2.0 is designed to strengthen India's innovation and entrepreneurship ecosystem in three ways:
  - Increasing input (i.e., ushering more innovators and entrepreneurs).
  - Improving the success rate or 'throughput' (i.e., helping more startups succeed).
  - Improving the quality of 'output' (i.e., producing better jobs, products and services).

PRODUCT NATION

Over-reliance on services and imported technologies exposes India to global supply chain shocks and trade vulnerabilities.

About

- A "product nation" is a term often used to describe a country that moves beyond being primarily a service provider or outsourcing hub and instead becomes a creator of globally competitive products.
- **Key Features of a Product Nation:**
  - **Focus on Innovation:** Strong emphasis on research, development, and intellectual property creation rather than just providing labour or services.
  - **Globally Scalable Products:** Building products that can be sold worldwide, not just customized for a single client.
  - **Ecosystem Development:** Supportive policies, venture capital, incubators, and strong collaboration between government, industry, and academia.
  - **Talent Utilisation:** Leveraging a skilled workforce for product design, engineering, and entrepreneurship rather than primarily for back-end or outsourced work.
  - **Export Orientation:** Products become a significant contributor to exports, enhancing national competitiveness.

NITI AAYOG REPORT ON ELECTRIC VEHICLES

NITI Aayog launched the Report on 'Unlocking a $200 Billion Opportunity: Electric Vehicles in India.

About

- This report offers a timely and comprehensive review of current challenges, alongside actionable recommendations to fast-track the EV transition in India.
- **Goal:** India seeks to attain a 30% share of electric vehicles, in the total vehicles sold, by 2030.
- **Adoption of EVs:** Sales of EVs in India went up from 50,000 in 2016 to 2.08 million in 2024 as against global EV sales having risen from 918,000 in 2016 to 18.78 million in 2024.

WORLD'S SMALLEST SNAKE REDISCOVERED IN BARBADOS

The Barbados threadsnake has been rediscovered in Barbados, 20 years after its last sighting.

About

- It is the world's smallest-known snake.
- The reptile can reach up to 10cm in length when it is fully grown and is as thin as a strand of spaghetti.
- It had been on a global list of 4,800 plants, animals and fungi species that have been lost to science.
- It is blind, burrows in the ground, eats termites and ants, and lays one single, slender egg.
- It reproduces sexually and the females lay only one egg at a time.
- The first sighting of the Barbados threadsnake was in 1889, and there have only been a handful of confirmed sightings since.

Additional Information

- **Barbados** is an island country in the Caribbean located in the Atlantic Ocean.
- It is part of the Lesser Antilles of the West Indies and the easternmost island of the Caribbean region.
- It lies on the boundary of the South American and Caribbean plates.
- Its capital and largest city is Bridgetown.

WHITE PAPER ON BLUE ECONOMY

The Ministry of Earth Sciences recently released a white paper titled, "Transforming India's Blue Economy: Investment, Innovation and Sustainable Growth," which aims to unlock India's marine resource potential by strategically leveraging sustained investment in blue infrastructure, research and ocean innovation.

About

- The paper outlines a roadmap to 2035, prioritizing feasible projects and building investor confidence to establish the blue economy as a vital engine for national development.
- It emphasizes fostering public-private partnerships and targeted financial mechanisms.
- It confirms collaborative efforts across various ocean-related sectors involving 25 central ministries/departments, coastal states, and union territories.

The white paper identifies specific models demonstrating economic growth and environmental sustainability:

- **Community-led seaweed cultivation in Odisha**: This initiative addresses the socio-economic vulnerability of fishing communities due to dwindling fish stocks by offering seaweed cultivation as a low-investment, high-impact alternative livelihood.
  - It provides supplementary income for over 10,000 coastal households and is estimated to absorb dissolved carbon dioxide, contributing to climate change mitigation and improving water quality.
- **Kochi's smart port transformation**: Integrating digital twin technology, this has led to improved operational efficiency, reduced vessel waiting times, and better resource utilization, enhancing sustainability through precise environmental monitoring.
- **Alang, Gujarat's shipbreaking transformation**: Adhering to **Hong Kong International Convention** standards, Alang now maximizes resource recovery, with steel and non-ferrous metals channeled back into the economy, and hazardous waste managed through dedicated facilities and bioremediation, minimizing environmental impact.
- **Andaman and Nicobar Islands' sustainable tourism**: Initiatives like eco-friendly infrastructure and community-led eco-tours have generated significant revenue and jobs, while bans on single-use plastics and Marine Protected Areas (MPAs) have preserved coral reefs and cut tourist-zone waste.

SUPREME COURT RULING ON ENVIRONMENTAL COMPENSATION

The Supreme Court gave verdict on an appeal filed by the Delhi Pollution Control Committee against a Delhi High Court decision.

About

- The Supreme Court reversed the High Court decision and ruled that under provisions of the Water Act and the Air Act, pollution control boards are empowered to levy compensation for actual or potential environmental harm.
- These powers are incidental and ancillary to the empowerment under Sections **33A of Water Act** and **31A of the Air Act**.

- The powers must be exercised as per procedure laid down by subordinate legislation incorporating necessary principles of natural justice, transparency and certainty
- The bench clarified that such damages differ from criminal penalties, as they are civil in nature and intended to restore or prevent environmental degradation rather than punish violators.
- The verdict reinforced the "polluter pays" and precautionary principles as central tenets of environmental law.
- It also clarified that if directions are issued as restitutionary and compensatory measures then these are not to be considered as punitive in nature.
- Punitive action can only be taken through the procedure prescribed in the statute for example under **chapters VII and VI of the Water and Air Acts respectively.**
- The principle of 'Polluter Pays' can be invoked when an established threshold or prescribed requirement is exceeded or breached, and results in environmental damage.

Additional Information

- **The Water (Prevention and Control of Pollution) Act** was enacted in **1974** to provide for the prevention and control of water pollution, and for the maintaining or restoring of wholesomeness of water in the country. The Act was amended in **1988.**
- **The Air (Prevention and Control of Pollution) Act** was enacted in **1981** and amended in **1987** to provide for the prevention, control and abatement of air pollution in India.

WORLD LION DAY

The Ministry of Environment, Forest and Climate Change in collaboration with the Government of Gujarat celebrated World Lion Day – 2025 at Barda Wildlife Sanctuary.

About

- The Asiatic Lion (Panthera leo persica) is a global symbol of successful wildlife conservation,from just 284 lions in 1990, the population has now risen to 891 in 2025 — a 32% increase since 2020 and over 70% growth in the past decade.
- World Lion Day, celebrated annually on **August 10**, aims to raise awareness about the conservation and protection of lions worldwide.
- In Gujarat, the Asiatic Lion is found only in the Saurashtra region.
- The Barda Wildlife Sanctuary spanning 192.31 sq. km across Porbandar and Devbhumi Dwarka districts is emerging as a second home for Asiatic Lions.
- **Physical Characteristics:** Asiatic lions are slightly **smaller than African lions.**

- Males have **less developed manes**, leaving their ears visible.
- Prominent **longitudinal fold of skin** along the belly (a distinguishing feature from African lions).
- **Conservation Status:**
  - **IUCN Red List status:** Endangered
  - **CITES:** Appendix I
  - **Wildlife Protection Act, 1972:** Schedule I

Additional Information

- Lions were previously described as two subspecies: the **African Lion (*Panthera leo leo*)** and the **Asiatic Lion (*Panthera leo persica*)**.
  - However, this has subsequently changed.
- The **IUCN SSC Cat Specialist Group** currently divides lions into *Panthera leo leo* **(found in Central Africa, West Africa and Asia)** and *Panthera leo melanochaita* **(found in Southern and East Africa).**

RHISOTOPE PROJECT

A South African university supported by the International Atomic Energy Agency (IAEA), launched an anti-poaching campaign with a unique approach – injecting radioactive isotopes into rhino horns.

About

- The radioactive isotopes or radioisotopes are the unstable form of an element that emits radiation to transform into a more stable form.
  - The radiation can be traced, and typically causes changes in the substance it falls upon.
  - Rhino horns are tagged with low-dose radioactive isotopes through a non-invasive method, making them easily detectable by radiation monitors at borders, ports, and airports.
- **Significance:** The method is harmless for the rhinos and allows customs agents to detect trafficked horn as the radiation can be traced.

NAURU

Pacific microstate Nauru, has come up with a novel plan to fund its climate change initiatives by selling "golden passports".
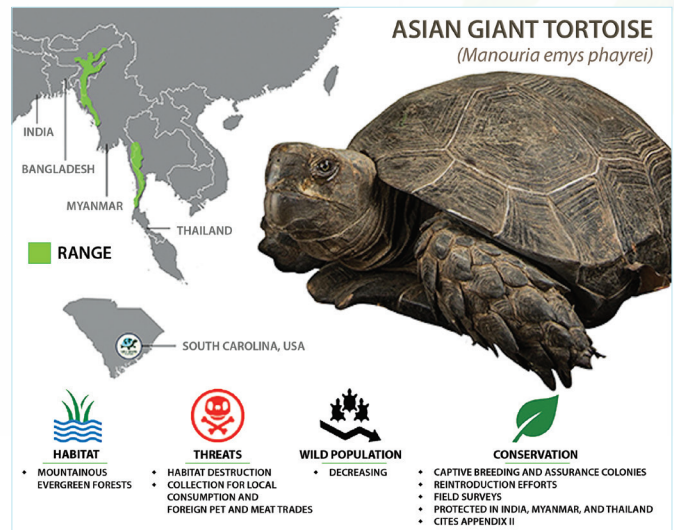
About

- Selling for US$105,000 each, Nauru plans to drum up more than **US$5 million in the first year of the "climate resilience citizenship" programme.**
- Nauru believes the passport programme could eventually generate $43 million which would account for **almost 20% of total government revenue.**

Nauru

- **Republic of Nauru**, formerly known as **Pleasant Island**, is an island country and microstate in the South Pacific Ocean.
- It is the **world's third-smallest country** by area (21 km²) after Vatican City and Monaco.
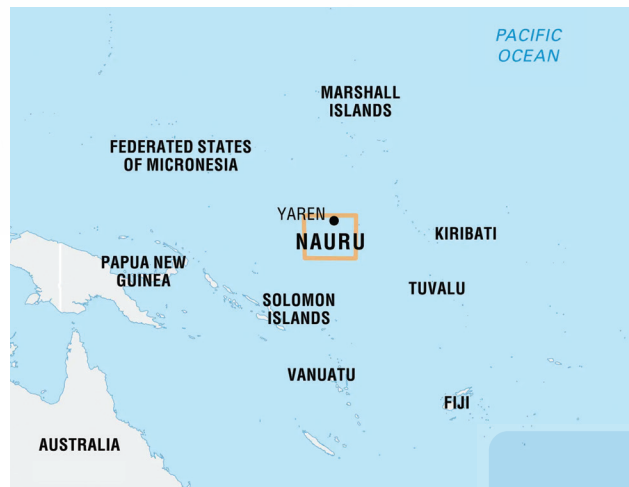
- It is a phosphate-rock island with rich deposits near the surface
  - Unusually **pure phosphate deposits** – a key ingredient in fertiliser – once made Nauru one of the wealthiest places, per capita, on the planet.
  - But these supplies have long since dried up, and researchers today estimate 80% of Nauru has been rendered uninhabitable by mining.
- Nauru is threatened by the rising sea levels and will have **to relocate 90% of its population.**

ASIAN GIANT TORTOISE

The critically endangered Asian giant tortoise-the largest tortoise in mainland Asia, has been reintroduced into the Zeliang Community Reserve in Nagaland's Peren district.

About

- Once found in large numbers, the Asian giant tortoise was almost wiped out from Nagaland more than a decade ago.
- Asian giant tortoises are also known as the **small elephants of the forests.**
- They help in seed dispersal and forest regeneration, apart from scavenging to keep the forest floor clean.
- **Habitat:** Tropical and subtropical mountainous evergreen forests.
- **Distribution:** Found in Northeast India (especially Arunachal Pradesh, Nagaland, Assam).
  - Also present in Myanmar, Thailand, Malaysia, Bangladesh, Indonesia.

- **Threats:**
  - Habitat destruction
  - Collection for local consumption
  - Collection for pet and food trades
- **Conservation Efforts:**
  - Captive breeding and assurance colonies
  - Reintroduction efforts
  - Field surveys
- **Wild Population:**
  - Decreasing
  - Increasing difficult to find
  - Estimated population reduction greater than 80%
- **IUCN Status:** Critically Endangered.

DRAMATIC INCREASE IN WHALE STRANDING

A study conducted by the ICAR-Central Marine Fisheries Research Institute (CMFRI) has found that there has been a tenfold increase in the stranding of whales along India's southwest coast in the last decade.

About

- Covering the data from 2004 to 2023, the study revealed a sharp spike in stranding of whales from just **0.3 per cent per year during 2003-2013** to **3 per cent per year during 2014-2023.**
- **Kerala, Karnataka** and **Goa** emerged as the **key hotspots for stranding** reports, together accounting for most of the reported events.
- High vessel traffic, fishing activity, environmental factors and shallow coastal shelves were identified as contributing factors.
- CMFRI study identified **Bryde's whale** as the **most commonly stranded species** with blue whales also occasionally found.
- The study found that **Chlorophyll-a concentration** during the southwest monsoon had a positive correlation to whale stranding.

- This suggests that whales are drawn closer to coastal feeding grounds during the monsoon when nutrient upwelling increases plankton and fish abundance.
- Sea surface temperature (SST) and rising ocean temperature were causing ecological disruptions that increased the stranding.
- The study emphasized the need for predictive models that incorporate satellite data like chlorophyll, wind pattern and SST to anticipate stranding events, allowing for pre-emptive conservation measures.

Additional Information

- **Chlorophyll a (Chl-a)** concentration is a measure of the amount of **Chl-a pigment**, which is used as an indicator of phytoplankton (algae) biomass and water quality in aquatic environments.
- **Whale stranding (cetacean stranding):** It is a phenomenon where whales, dolphins, or porpoises become stranded (get stuck) on land, often on beaches.

KRILL

The Krill fishery in the Southern Ocean was shut down earlier than scheduled due to the maiden(first ever) breach of the seasonal catch limit quota of 620,000 metric tonnes.

About

- Krill are small, shrimp-like **crustaceans** belonging to the order **Euphausiacea,** found in oceans worldwide.
- **Habitat:** Found across all oceans; Antarctic krill dominate the Southern Ocean ecosystem.
- **Krill are keystone species**. It acts as a **trophic bridge**, as they **feed on phytoplankton** and are in turn consumed by larger marine animals like **whales, seals, penguins, squid, seabirds, and fish.**
- Krill oil is a popular dietary supplement rich in **omega-3 fatty acids** like eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA).

Additional Information

- **The Convention on the Conservation of Antarctic Marine Living Resources** is **an international treaty** that was adopted at the **Conference on the Conservation of Antarctic Marine Living Resources** which met at Canberra, Australia, 7–20 May 1980. *Note: India is a member of this Convention.*
- It is a multilateral response to concerns that unregulated increases in Krill catches in the Southern Ocean could be detrimental for Antarctic marine ecosystems particularly for seabirds, seals, whales and fish that depend on krill for food.
- The CAMLR Convention applies to all Antarctic populations of finfish, molluscs, crustacean and sea birds found south of the Antarctic Convergence
- The marine resources managed by **CCAMLR specifically exclude whales and seals,** which are the subject of other conventions – namely, the **International Convention for the Regulation of Whaling** and the **Convention for the Conservation of Antarctic Seals**

Do You Know?

- The **Antarctic Convergence** or **Antarctic Polar Front** is a marine belt encircling Antarctica, varying in latitude seasonally, where cold, northward-flowing Antarctic waters meet the relatively warmer waters of the sub-Antarctic. It separates the clockwise Antarctic circumpolar current from other oceans.
- Antarctic waters predominantly sink beneath the warmer subantarctic waters, while associated zones of mixing and upwelling create a zone very high in marine productivity, especially for Antarctic krill.

KANCHA GACHIBOWLI FOREST

The Chief Justice of India asked the Telangana government to submit a proposal for restoring the "devastated" Kancha Gachibowli forest.

About

➲ The government had cleared **over 100 acres in the Kancha Gachibowli forest area** for an IT infrastructure project.

➲ Kancha Gachibowli Forest (KGF) is a vital urban forest spanning around 400 acres adjacent to the University of Hyderabad, located in **Telangana.**

   ◆ It belongs to the **Deccan Thorn Scrub Forest Ecosystem—** one of India's most ecologically significant and under-protected landscapes.

The Deccan Thorn Scrub Forests

➲ The Deccan Thorn Scrub Forests are a tropical dry shrubland ecoregion found mainly in the **Deccan Plateau and adjoining areas of India** and **parts of northern Sri Lanka.**

➲ They represent the **driest and most degraded form of tropical dry deciduous forests,** occurring in regions with very low and erratic rainfall.

➲ These areas are often subject to **overgrazing, fuelwood collection, and agricultural expansion,** leading to sparse vegetation.

➲ **Major states:** Andhra Pradesh, Telangana, Maharashtra, Karnataka, Tamil Nadu.

Ecological Importance:

➲ It supports unique flora and fauna, such as the Blackbuck and Great Indian Bustard.

➲ Acts as a buffer against desertification.

➲ Grazing lands for pastoral communities.
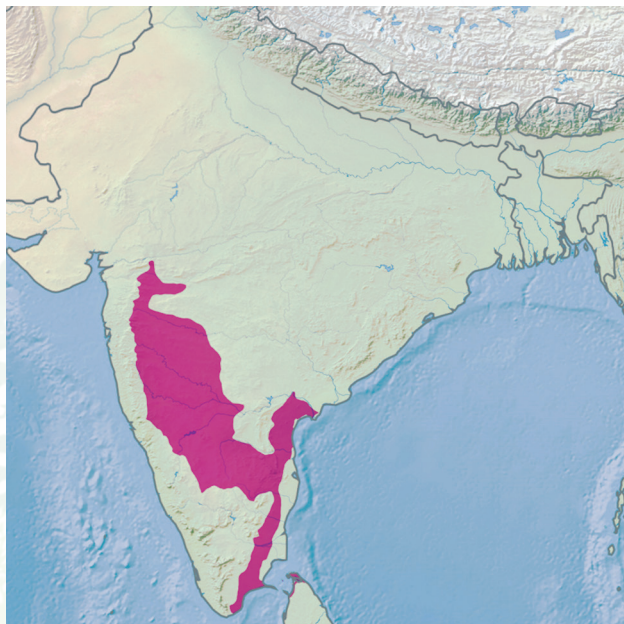
BOMBAX CEIBA AND LAGERSTROEMIA SPECIOSA

A study has found that two native tree species, Bombax ceiba (Simalu) and Lagerstroemia speciosa (Ajar), are rapidly colonising grasslands in Dibru-Saikhowa National Park (DSNP), Assam, altering its ecosystem.

About

➲ **Bombax Ceiba (Simalu):**

   ◆ A deciduous tree native to India and tropical Asia.

   ◆ Features large, red, nectar-rich flowers; produces silky floss from seeds.

   ◆ Traditionally found in Assam's forests, now spreading into grasslands.

➲ **Lagerstroemia Speciosa (Ajar):**

   ◆ Also called Queen Crape Myrtle.

   ◆ Known for showy pink/purple/white flowers.

   ◆ Native to India, now expanding beyond natural range.

➲ **Other Invasive Species in DSNP:**

   ◆ **Shrubs:** Chromolaena odorata, Ageratum conyzoides.

   ◆ **Herb:** Parthenium hysterophorus.

   ◆ **Climber:** Mikania micrantha (mile-a-minute weed).

Dibru-Saikhowa National Park

➲ **Location:** Dibrugarh and Tinsukia districts, Assam

➲ **Geography:** The park is bounded by the Brahmaputra and Lohit Rivers in the north and Dibru River in the south.

➲ **Flora:** The forest consists of semi-evergreen forests, deciduous, littoral and swamp forests and patches of wet evergreen forests.

➲ **Fauna:** Bengal florican, Hog deer, Hoolock gibbon, Swamp grass babbler etc.

   ◆ Only habitat of **feral horses** in India, descendants of WWII military horses.

➲ **Status:** UNESCO Biosphere Reserve (1997), National Park (1999).

Do You Know?

➲ Bombax ceiba is also the state tree of Tripura.

➲ DSNP's grassland-forest mosaic supports both avian and terrestrial biodiversity, making it ecologically sensitive and a conservation hotspot.

STARFISH

Scientists have identified the bacterium Vibrio pectenicida as the root cause of Sea Star Wasting Syndrome (SSWS) which led to the death of over 5 billion sea stars along North America's Pacific coast since 2013.

About

- Starting in 2013, a mysterious disease called sea star wasting disease led to a massive die-off of sea stars (often called starfish), from Mexico to Alaska.
- More than 20 species were affected, with the **sunflower sea star** hit hardest, **losing nearly 90% of its population in just five years**.
- Sunflower sea stars are known for eating sea urchins, which helps keep their numbers in check.
- Due to the decrease in the population of sea stars, sea urchins destroyed about 95% of kelp forests in Northern California within ten years.
- This new breakthrough creates hope to bring sea star numbers back, and help restore the Pacific's kelp forests.

Additional Information

Kelp:

- Kelp are large brown algae that live in cool, relatively shallow waters close to the shore.
- They grow in dense groupings much like a forest on land.
- These underwater towers of kelp provide food and shelter for thousands of fish, invertebrates, and marine mammal species.

Starfish:

- **Starfish, also known as sea stars,** are star-shaped **marine invertebrates** belonging to the class **Asteroidea.**
- **Not True Fish:** Despite the name, starfish are not fish as they **lack backbones, gills, and fins.**
- Sea water, instead of blood, is actually used to pump nutrients through their bodies via a 'water vascular system.'
- **Habitat:** Found in all oceans, from tidepools to deep-sea floors.
- **Regeneration:** They can regenerate lost arms, and in some cases, a severed arm can regenerate into a new starfish.
- **Carnivorous Diet:** Starfish are carnivorous, feeding on a variety of marine invertebrates, including bivalves, coral, and other small animals.
- **Unique Digestive System:** They can extend their stomach outside their body to digest food externally.

PALMYRA PALM (BORASSUS FLABELLIFER) — A NATURAL LIGHTNING SHIELD

Odisha repeatedly ranks among the top Indian states for lightning-induced fatalities (as per IMD & NCRB data).

About

- To mitigate lightning risks, planting of Palmyra palm trees is being promoted as an ecological and traditional safeguard.

Quick Facts	
Parameter	**Details**
Origin & Significance	Native to tropical South & Southeast Asia; declared the state tree of Tamil Nadu.
Habitat Adaptability	It thrives in sandy, red, black, alluvial, arid, and wasteland soils; suited for semi-arid climates (< 750 mm annual rainfall).
Longevity	Capable of living over 100 years, providing long-term ecological benefits.
Human Utility	Edible products include toddy, palm sugar, jaggery, fruit jelly; leaves used for thatch, mats, and ancient writing material.
Ecological Role	Deep roots prevent soil erosion and enhance groundwater recharge; provides fodder and shade in dry regions.
Lightning Mitigation	Tall stature and water-rich structures help diffuse lightning strikes, reducing fatal impacts— a proven natural buffer.

Do You Know?

- Also called the "Tree of Life" for its myriad uses.
- Used as the main material for palm-leaf manuscripts in ancient India.
- A single tree can yield up to 250 liters of toddy annually, making it an important livelihood source.
- Aligns with the government's Mission LiFE, encouraging sustainable living and traditional ecological knowledge.

PALM CIVET

The Asian Palm Civet recently made headlines after a civet problem forced the Kerala High Court to adjourn for the day.

About Palm Civet (Paradoxurus hermaphroditus)

- **Common names:** Asian palm civet, common palm civet, and toddy cat.
- **Appearance:** Often mistaken for a cat; **known for its pungent urine**, making its presence noticeable in enclosed spaces.
- **Ecological role:** Important for forest ecosystems as a **seed disperser**, supporting biodiversity.
- **Diet:** It is an **omnivore** and feeds mostly on fruits and berries and occasionally small mammals and insects.
- **Habitat and Activity:** It is widely found in **south and southeast Asia**, and is known to be most active between night and dawn.
- **Threats:** Deforestation, land conversion for agriculture, and wildlife trafficking.
- **Conservation status: Least Concern** (IUCN).

Do You Know?

- **Kopi luwak (civet coffee)** is made from coffee cherries partially digested and excreted by the Asian palm civet.
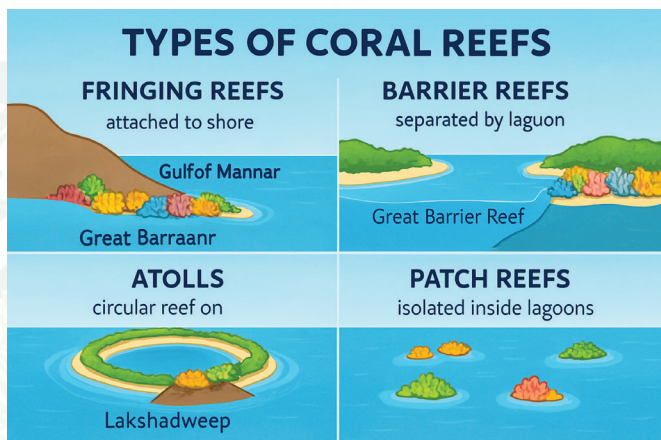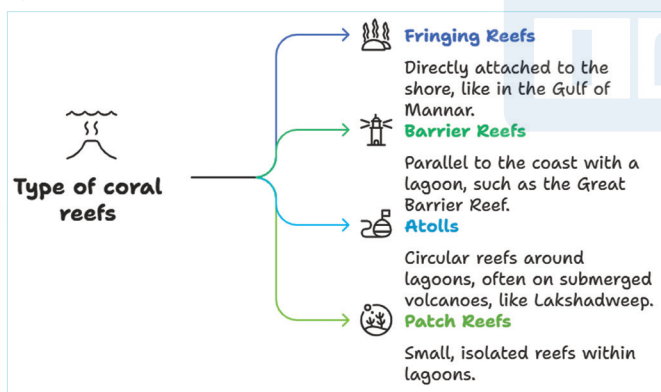- The digestion process **reduces acidity** in the beans, giving the coffee a unique flavor.

REVIVAL OF CORALS IN THE GULF OF MANNAR

Coral reefs in the Gulf of Mannar, located off the coast of Tamil Nadu, have undergone a significant revival due to over two decades of dedicated scientific restoration efforts.

About

- **Biological Nature:** Corals are **marine invertebrates** of the phylum Cnidaria.
- **Formation:** Built by tiny organisms called **polyps**, which secrete **calcium carbonate skeletons** forming reefs.
- **Temperature Range:** Thrive in **warm, shallow waters (20–29°C)** with abundant sunlight. Cannot survive below 18°C.
- **Symbiosis:** Contain **zooxanthellae algae**, which provide nutrition and give corals their color.
- **Appearance:** Range in colours like red, purple, blue, green, and brown.

Types of Coral Reefs

Type of coral reefs

Fringing Reefs
Directly attached to the shore, like in the Gulf of Mannar.

Barrier Reefs
Parallel to the coast with a lagoon, such as the Great Barrier Reef.

Atolls
Circular reefs around lagoons, often on submerged volcanoes, like Lakshadweep.

Patch Reefs
Small, isolated reefs within lagoons.

TYPES OF CORAL REEFS

FRINGING REEFS
attached to shore
Gulf of Mannar
Great Barraanr

BARRIER REEFS
separated by laguon
Great Barrier Reef

ATOLLS
circular reef on
Lakshadweep

PATCH REEFS
isolated inside lagoons

Threats to Corals

- **Climate Stress:** Rising sea surface temperatures → Coral Bleaching (expulsion of zooxanthellae).
- **Ocean Acidification:** Increased CO2 reduces calcification capacity.
- **Pollution & Sedimentation:** Industrial waste, plastics, and coastal runoff smother polyps.
- **Overfishing & Trawling:** Destroy reef structures and food chains.
- **Natural Events:** Cyclones, tsunamis, crown-of-thorns starfish infestations.

Coral Reefs in India

- **Regions:** Gulf of Mannar, Gulf of Kutch, Andaman & Nicobar, Lakshadweep, Malvan.
- **Diversity:** India has ~400 coral species, including massive corals *(Porites)*, branching corals *(Acropora)*, and soft corals.
- **India's Uniqueness:** Hosts all three reef types – fringing, barrier, and atoll.

About the Gulf of Mannar

- It is one of India's coral-rich regions, covering about 100 sq.km, with high species diversity of reef-building corals (117 species reported).
- It is a large shallow bay in the **Laccadive Sea**, lying between the southeastern tip of India and western Sri Lanka.
- It is bounded by Rameswaram (island), Adam's (Rama's) Bridge (a chain of shoals), and Mannar Island; approximately 130–275 km wide and 160 km long.

Prelims-Ready Titbits

- **Optimum Depth:** Corals usually grow up to 50 m depth, needing sunlight for photosynthesis.
- **Distribution:** Found between Tropic of Cancer & Tropic of Capricorn in the Indo-Pacific region (Coral Triangle).
- **Global Share:** Coral reefs cover <1% of ocean floor, but support ~25% of marine species.
- **UN Decade:** 2021–2030 is declared the UN Decade on Ecosystem Restoration (includes coral reef revival).

SALTWATER CROCODILES IN SUNDARBANS

A recent report titled "Population Assessment and Habitat Ecology Study of Saltwater Crocodiles in Sundarbans 2025" highlights an increase in the population of saltwater crocodiles in the Sundarban Biosphere Reserve (SBR).

ABOUT

- Odisha is uniquely positioned by hosting wild populations of all three crocodile species.

Quick Facts	
Attribute	**Details**
Species	Crocodylus porosus (Saltwater / Estuarine Crocodile) – the largest living reptile on Earth.
Distribution in India	Found in the mangroves and swamps of Odisha, West Bengal (Sundarbans), and the Andaman & Nicobar Islands.
Ecological Role	A top predator that helps clean water bodies by feeding on carcasses and controls prey populations.
Conservation Status	**IUCN:** Least Concern; Protected under Schedule I of the Wild Life (Protection) Act, 1972.
Other Indian Crocodiles	India hosts three species: Gharial, Mugger, and Saltwater crocodile; Odisha is unique for having all three.

Sundarban Biosphere Reserve (SBR)

➲ Sunderban is the largest delta (Ganges–Brahmaputra–Meghna delta) and mangrove forest in the world.
➲ **Location:** Indian Sundarbans is situated in West Bengal and covers an area of **9,630 square kilometers.**
  ◆ The region is situated **south of the Tropic of Cancer.**
➲ **River system:** It is bounded on the west by **river Muriganga** and on the east by rivers **Harinbhahga** and **Raimangal.**
  ◆ Other major rivers flowing through this eco-system are Saptamukhi, Thakuran, Matla and Goasaba.
➲ **Ecological Significance:** It is home to 34 mangrove species, including true mangroves like **Heritiera fomes** and **Excoecaria agallocha.**
  ◆ **Fauna:** Royal Bengal Tiger, Fishing Cat, Olive Ridley Turtles, Irrawaddy Dolphins etc.
  ◆ **Ecosystem Services:** Carbon sink, storm surge buffer, nursery for fisheries.

Recognitions of Sundarban Biosphere Reserve (SBR)
➲ The core area (Sunderban National Park) was designated as a **World Heritage site** in **1987.**
➲ It was declared a **UNESCO Biosphere Reserve** in **1989.**
➲ The Sundarban Wetland was designated as a **Ramsar site in 2019.**

NTCA LIMITS TIGER CORRIDORS TO MINIMAL REQUIREMENT

The National Tiger Conservation Authority (NTCA) has narrowed the definition of tiger corridors to just 32 specific "least-cost pathways" identified in 2014, stepping back from its previous support for a broader, science-based understanding of these corridors.

Tiger (Panthera Tigris)

➲ Tigers are highly adaptable and can inhabit a diverse range of natural environments, including forests, grasslands, mangrove swamps, and even cold, snowy regions.
➲ **Distribution:** Bangladesh, Bhutan, China, India, Indonesia, Malaysia, Myanmar, Nepal, Russia, and Thailand.
➲ **Protection Status:** Tigers are classified as **Endangered** on the IUCN Red List of Threatened Species.
➲ **Status In India:** India's tiger population rose to 3,682 in 2022 from 2,967 in 2018, growing at 6.1% annually in consistently monitored areas
  ◆ The country has 58 tiger reserves covering about 2.5% of its land.
  ◆ The Sundarbans Tiger Reserve in West Bengal has become India's second-largest tiger reserve after the National Board for Wildlife approved an expansion of 1,044.68 sq km.
➲ **Highest Tiger Populations (2025):**
  ◆ Madhya Pradesh – 785
  ◆ Karnataka – 563
  ◆ Uttarakhand – 560

Related Initiatives

➲ The NTCA is a statutory body under the Ministry of Environment, Forests and Climate Change, set up under the Wildlife (Protection) Act, 1972 (amended in 2006) to strengthen tiger conservation in India.
➲ It oversees Project Tiger (1973), India's flagship tiger conservation program supporting tiger reserves with central funding.
➲ NTCA uses modern tools like M-STrIPES, a mobile and GIS-based system, for monitoring tigers and their habitats.
➲ The Tiger Task Force (2005) was formed after a major tiger decline in Sariska to recommend action.
➲ Funds for habitat improvement come from CAMPA (Compensatory Afforestation Fund Management and Planning Authority).
➲ The Wildlife Crime Control Bureau (WCCB), established in 2007, tackles poaching and illegal wildlife trade.
➲ Eco-Sensitive Zones (ESZs) are declared around tiger reserves to reduce human pressure.
➲ NTCA promotes international cooperation, such as India's commitment at the 2010 St. Petersburg Tiger Summit to double tiger numbers by 2022 (Tx2).

Additional Prelims Pointers

➲ National Animal of India → Bengal Tiger (Panthera tigris tigris).
➲ First Tiger Reserve → Kanha (Madhya Pradesh).
➲ Largest Tiger Reserve → Nagarjunsagar-Srisailam (Andhra Pradesh & Telangana).
➲ First inter-state tiger reserve → Satpura (Madhya Pradesh–Maharashtra).
➲ Global Tiger Day → 29th July.

KEY MILESTONES IN GLOBAL TIGER CONSERVATION

1 — 1994 — Global Tiger Initiative Launched: World Bank and partners initiate effort to save wild tigers

2 — 2008 — Global Tiger Forum Established: Intergovernmental body formed to promote tiger conservation cooperation

3 — 2010 — Global Tiger Day Inaugurated: Annual celebration to raise awareness about tiger conservation

4 — 2010 — St. Petersburg Tiger Summit: 13 range countries adopt Tx2 goal to double tiger population

INTERNATIONAL BIG CAT ALLIANCE

The government has extended privileges and immunities to the International Big Cat Alliance (IBCA) and its officials under the United Nations (Privileges and Immunities) Act, 1947.

About

- The IBCA was established through the nodal organisation, viz. National Tiger Conservation Authority, Ministry of Environment, Forest and Climate Change, 2023.
- The IBCA became a legal entity after **five countries—** Nicaragua, Eswatini, India, Somalia, and Liberia—had signed the Framework Agreement to formally become members of the IBCA.
  - It is a coalition of 95 range countries.
- The IBCA primarily aims for the conservation of seven big cats, namely the Tiger, Lion, Leopard, Snow Leopard, Cheetah, Jaguar, and Puma.
- **Objectives:** Facilitation of collaboration and synergy amongst the concerned stakeholders,
  - consolidation of successful conservation practices;
  - and expertise to achieve conservation of big cats around the globe.
- The initiative seeks to **foster international collaboration** for the sustainable future of big cats, as well as underscores India's leadership and commitment to global wildlife conservation.

Comparative Table: The 7 Big Cats under IBCA					
Big Cat	**Scientific Name**	**Distribution**	**IUCN Status**	**Key Habitat**	**Major Threats**
Tiger	Panthera tigris	South & Southeast Asia, Russia	Endangered	Tropical forests, mangroves, grasslands	Poaching, habitat loss, prey depletion
Lion	Panthera leo	Africa, India (Gir – Asiatic Lion)	Vulnerable	Grasslands, savannas, dry forests	Habitat fragmentation, human-lion conflict, disease
Leopard	Panthera pardus	Africa, Middle East, Asia (India included)	Vulnerable	Forests, mountains, grasslands	Poaching, habitat encroachment, illegal trade
Snow Leopard	Panthera uncia	Central & South Asia (Himalayas)	Vulnerable	Alpine & subalpine zones (3,000–4,500 m)	Poaching, climate change, retaliation killings (livestock depredation)
Cheetah	Acinonyx jubatus	Africa, reintroduced in India (Kuno)	Vulnerable	Savannas, dry forests, grasslands	Habitat loss, prey depletion, illegal wildlife trade
Jaguar	Panthera onca	Central & South America (Amazon basin stronghold)	Near Threatened	Tropical rainforests, wetlands, grasslands	Deforestation, poaching, human-wildlife conflict
Puma (Cougar/ Mountain Lion)	Puma concolor	North & South America	Least Concern	Mountains, forests, deserts	Habitat fragmentation, hunting, road kills

- **Prelims Nuggets:**
  - **Largest Big Cat:** Tiger (Siberian tiger subspecies).
  - **Smallest Big Cat:** Leopard (among Panthera), Puma is not Panthera but Felidae.
  - **Fastest land animal:** Cheetah (up to 100–120 km/h).
  - **Only Big Cat found in both Asia & Africa:** Leopard.
  - **Only population of Asiatic Lion:** Gir National Park, Gujarat.
  - **Snow Leopard Hotspots in India:** Ladakh, Himachal Pradesh, Uttarakhand, Sikkim, Arunachal Pradesh.

IUCN STATUS	
Lion	Vulnerable
Jaguar	Near Threatened
Leopard	Vulnerable
Cougar	Least Concern
Tiger	Endangered
Cheetah	Vulnerable
Snow Leopard	Vulnerable

AROGYAPACHA

Kuttimathan Kani, a member of Kani tribe in Kerala's Agasthya hills, who first revealed the medicinal plant Arogyapacha to researchers has passed away.
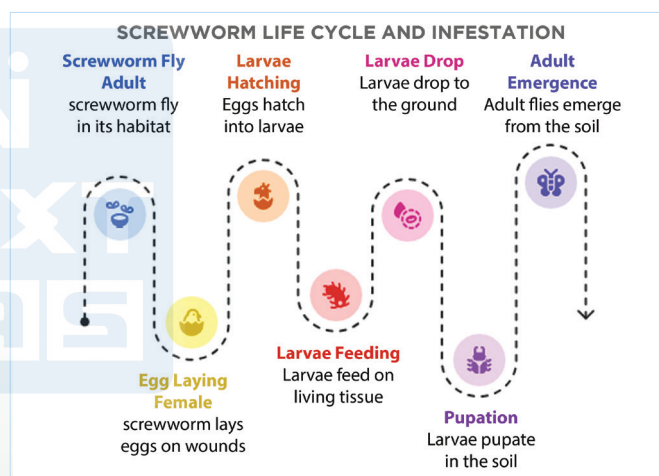
About

- Arogyapacha (Trichopus zeylanicus), often called "Kerala Ginseng," is a rare medicinal herb native to the Western Ghats of India, especially in the Agasthya hills of Kerala.
- Kani tribes historically consumed its fruits for instant energy, especially during strenuous activities, asserting it kept people youthful and resistant to illness.
- Studies highlight pharmacological benefits such as antioxidant, anti-fatigue, aphrodisiac, anti-diabetic, anti-ulcer, antimicrobial, anti-inflammatory, immunomodulatory, cardio protective, and hepatoprotective activities.

NEW WORLD SCREWWORM

The Department of Health and Human Services reported the first human case of the flesh-eating parasite, the New World screwworm, in the United States.

About

- **Screwworms (Cochliomyia hominivorax)** are a type of **blue-grey blowfly**, typically found in **South America and the Caribbean**.
- Screwworms, specifically females, are attracted to and **lay eggs on open wounds** or another entry point like a nasal cavity in **warm-blooded animals** and rarely humans.
  - **These eggs hatch into larvae** (known as maggots), which burrow into the wound to feed on the living flesh, leading to infestation.
  - After feeding, the larvae fall into the ground, burrow into the soil and emerge as adult screwworm flies.
- **Causes myiasis:** When its larvae (maggots) **infest living tissue**, it's known as myiasis.
- New World screwworm infestations are painful, especially in humans, with a **high mortality rate if left untreated.**

SCREWWORM LIFE CYCLE AND INFESTATION

Screwworm Fly Adult screwworm fly in its habitat

Larvae Hatching Eggs hatch into larvae

Larvae Drop Larvae drop to the ground

Adult Emergence Adult flies emerge from the soil

Egg Laying Female screwworm lays eggs on wounds

Larvae Feeding Larvae feed on living tissue

Pupation Larvae pupate in the soil

New World Screwworm vs. Old World Screwworm		
Feature	**New World Screwworm**	**Old World Screwworm**
Scientific Name	Cochliomyia hominivorax	Chrysomya bezziana
Distribution	South America, Central America, Caribbean; eradicated from USA, Mexico	Asia, Africa, Middle East (including India)
Vector Type	Blowfly (blue-grey)	Blowfly (metallic green/blue)
Tissue Preference	Feeds on living tissue	Feeds on living tissue
First Discovery	1850s, French Guiana	1870s, Sri Lanka
Mode of Transmission	Female lays eggs on wounds or body orifices (nose, ears, eyes, genitals)	Same, prefers wounds and natural openings
Disease Caused	Myiasis (infestation by larvae)	Myiasis
Public Health Risk	Rare in humans, mostly livestock; can be fatal if untreated	More common in humans in endemic regions, especially rural areas
Control Strategy	Sterile Insect Technique (SIT) successfully eradicated from North & Central America	No complete eradication yet; management via wound care, insecticides, animal health surveillance

MUSI RIVER

The Hyderabad Disaster Response and Asset Protection Agency (HYDRAA) has initiated action against illegal encroachments into the Musi river bed.

About

- The **Musi River** also known as **Muchukunda** or **Musunuru** river is a left hand tributary of the **Krishna River**.
- It flows through the state of Telangana in India. The city of **Hyderabad** is situated on the banks of the Musi.
- The river originates in the **Ananthagiri Hills** in the Vikarabad region of Rangareddy district, Telangana.
- **Himayat Sagar and Osman Sagar** are artificial lakes on this river, which historically served as water sources for Hyderabad.
- It flows into the Krishna River at Vadapally near Miryalaguda in Nalgonda district.

MOUNT KILIMANJARO

Kabak Yano, a mountaineer from Arunachal Pradesh, has successfully summited Mount Kilimanjaro.

About

- **Location:** Tanzania, East Africa.
- **Height:** Approx. **5,895 meters (19,340 feet)**, Africa's tallest mountain. It is also the **largest free-standing mountain rise** in the world, meaning it is **not part of a mountain range.**
- **Type:** Stratovolcano – composed of layers of ash, lava, and rock.
- **Volcanic Cones:**
  - **Kibo** – the highest and only dormant cone (summit point).
  - **Mawenzi** and **Shira** – extinct cones.

COLORADO RIVER

The Colorado River, a vital water source for millions, faces a crisis as its flow diminishes.

About

- The Colorado River is one of the most important rivers in the **western United States and northern Mexico** — both ecologically and economically.
- It is also **one of the most overused and stressed** water systems in the world.
- **Source:** Rocky Mountains, Colorado (La Poudre Pass).
- **Mouth:** Gulf of California, Mexico (though it rarely reaches the sea now due to heavy water usage).

SOUTH CHINA SEA

Recently, the United States deployed two warships near the disputed Scarborough Shoal in the South China Sea following a collision between Chinese naval vessels attempting to block a Philippine coast guard ship.

SOUTH CHINA SEA
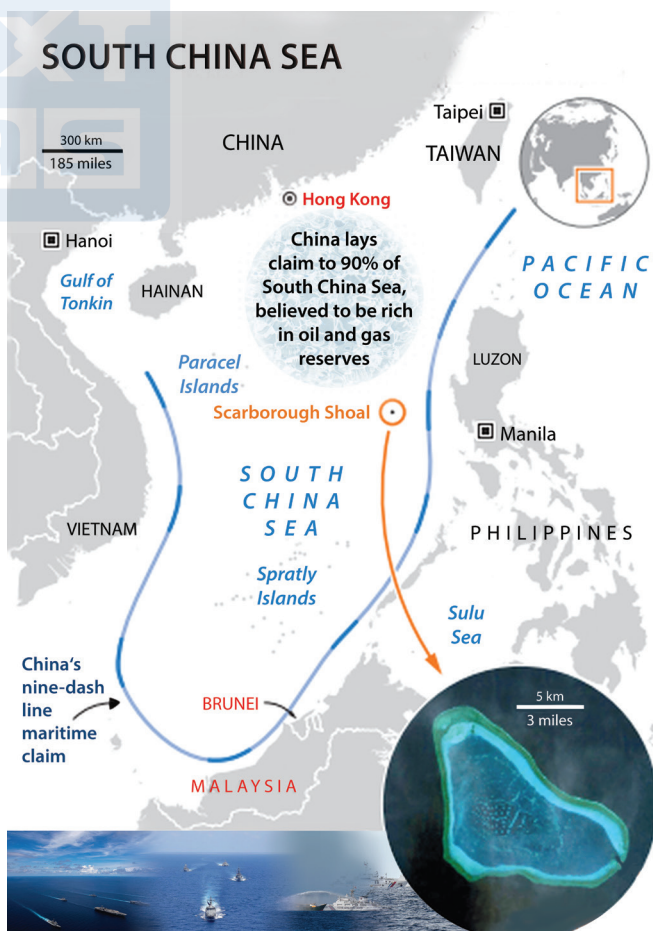
About

- It is a vital **maritime corridor in the Indo-Pacific**, bordering China, Taiwan, Vietnam, the Philippines, Brunei and Malaysia.
  - *Note:* Different definitions put up different littoral states, for example some put Singapore, Thailand and Indonesia too.
- It links with the **East China Sea via the Taiwan Strait**, the **Philippine Sea via the Luzon Strait**, the Sulu Sea via the straits around Palawan, the **Java Sea via the Karimata and Bangka Straits** and directly with the Gulf of Thailand.
  - The Gulf of Tonkin is part of the South China Sea.
- It has become a flashpoint of geopolitical tension, territorial disputes, and strategic maneuvering, including **Spratly Islands, Paracel Islands, and Scarborough Shoal.**
- China asserts control over nearly the entire region via its **'nine-dash line'.**
  - China has built artificial islands and military outposts, defying a 2016 international tribunal ruling that invalidated its expansive claims.
- China, Philippines, Vietnam, Malaysia, Brunei, and Taiwan have overlapping claims.
  - **Scarborough Shoal** is claimed by China, Philippines and Taiwan.
  - **Spratly Islands** are claimed by China, Philippines, Vietnam, Malaysia, Brunei, and Taiwan.
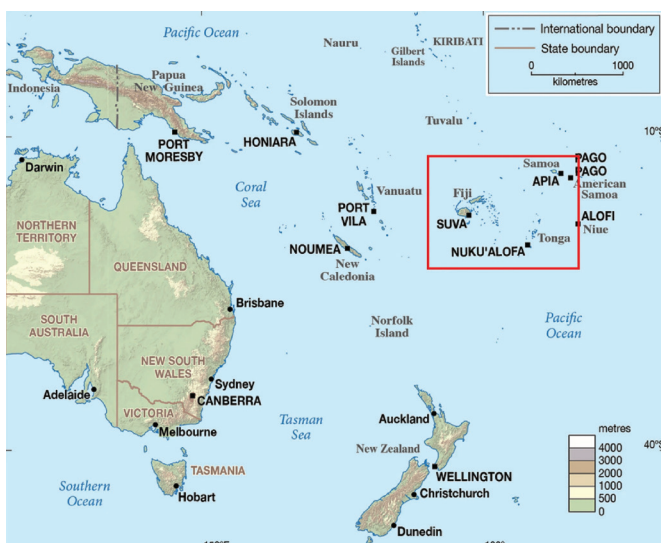 - **Paracel Islands** are claimed by China, Vietnam and Taiwan.

INDIA SENDS 5 TONNES OF COWPEA SEEDS TO FIJI

India sent 5 metric tonnes of black-eyed cowpea seeds to Fiji as humanitarian aid to support agriculture, under its Act East Policy.

About

- **Fiji** (officially the **Republic of Fiji**) is an island country in Melanesia, part of Oceania in the South Pacific Ocean. It lies north-northeast of New Zealand.
- It consists of about 330 islands and 500 smaller islets and reefs.

Additional Information

- **Melanesia** is a subregion of Oceania in the southwestern Pacific Ocean. It extends from New Guinea in the west to the Fiji Islands in the east, and includes the Arafura Sea.
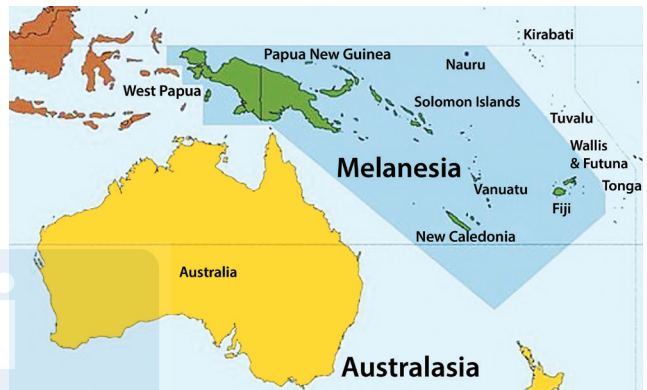
- The region includes the **four independent countries of Fiji, Vanuatu, Solomon Islands, and Papua New Guinea**.
- It also includes the Indonesian part of New Guinea, the French overseas collectivity of New Caledonia, and the Torres Strait Islands.
- Almost all of the region is in the Southern Hemisphere; only a few small islands that are not politically considered part of Oceania—specifically the northwestern islands of Western New Guinea—lie in the Northern Hemisphere.
- **Oceania** in broad terms encompasses the islands between mainland Asia and the Americas.
  - *Note:* The Definition varies.

ALASKA

The Presidents of the United States and Russia met at Joint Base Elmendorf–Richardson in Anchorage, Alaska, to discuss the ongoing Russia-Ukraine war.

About

- Alaska holds the unique distinction of being the **largest, northernmost, westernmost** as well as the **easternmost** (the Aleutian Islands cross the 180th meridian into the eastern hemisphere) state of the United States.
- 141° W longitude serves the standard boundary of (Alaska) US and Canada for a long distance. It is separated from Russia through the Bering Strait in the west.

➲ It is part of the **Pacific Ring of Fire** and is seismically active, with frequent earthquakes and volcanoes.

Additional Information

➲ **Joint Base Elmendorf-Richardson:** It is a US military installation on the northern edge of **Anchorage,** Alaska's most populated city.

➲ The US purchased Alaska from Russia in 1867,for 7.2 million dollars as per Alaska Treaty (Alaska Purchase)1867. It became the 49th US state in 1959.

➲ For a long time, it used to be known as **"Seward's Folly,"** named after Secretary of State William H. Seward, who negotiated the purchase of Alaska from Russia.

TAWI RIVER

India recently warned Pakistan of a potential flood in the Tawi River as a humanitarian gesture. The communication was made through diplomatic channels, not via the Indus Waters Commission as required under the Indus Waters Treaty (IWT), 1960.

About

➲ **Origin:** Kailash Kund glacier (Kali Kund) near Bhaderwah in Doda district, Jammu and Kashmir.

➲ **Tributary:** Left bank tributary of the Chenab River.

➲ **Importance:** Known as the "Lifeline of Jammu city", flows through Jammu before joining Chenab.

   ◆ Provides water for drinking, irrigation, and is culturally revered.

DNIPROPETROVSK REGION

Russian forces have captured villages in the region of Dnipropetrovsk.

About

➲ It is situated in southeastern Ukraine and borders conflict-prone regions like Zaporizhzhia and Donetsk.

➲ It is not among the five Ukrainian territories Russia officially claims to have annexed (Donetsk, Luhansk, Kherson, Zaporizhzhia, Crimea).

➲ It is an important mining and **industrial hub for Ukraine** and deeper Russian advances into the region could have a serious knock-on effect for Kyiv's struggling military and economy.

Ukraine's Dnipropetrovsk Oblast

MOUNT FUJI

Japan recently released an AI-generated video of Mount Fuji erupting, to give people an idea of what to expect if the disaster strikes and how to prepare themselves.

About

➲ Mount Fuji is an **active stratovolcano** located on the **Japanese island of Honshu,** with a summit elevation of **3,776.24 m.**

➲ **Geographical Significance:** It is the highest mountain in Japan, the second-highest volcano on any Asian island, and seventh-highest peak of an island on Earth.

➲ **Cultural Significance:** It is revered as one of Japan's "Three Holy Mountains", along with **Mount Tate and Mount Haku.**

   ◆ Mount Fuji was inscribed as a **UNESCO World Cultural Heritage Site in 2013** as **Fujisan,** sacred place and source of artistic inspiration.

➲ The volcano has not erupted since **1707.**

Additional Information

➲ The Japanese archipelago is made up of 14,125 islands, with the four main islands being Honshu, Hokkaido, Kyushu, and Shikoku.

➲ Japan is part of the **Pacific Ring of Fire** and is seismically active, with frequent earthquakes and volcanoes.

INTERNAL SECURITY

MAHARASHTRA SPECIAL PUBLIC SECURITY BILL

The Maharashtra Legislature passed the Maharashtra Special Public Security Bill to provide for effective prevention of certain unlawful activities of Left Wing Extremist organisations or similar organisations'.

Key Provisions of the Bill

➲ **Declaration of Organisations as 'Unlawful':** The State Government can ban organisations it deems unlawful without public notification or due process safeguards.

➲ **Criminalisation of Expression:** Section 2(f) criminalises speech, gestures, or signs that "tend to interfere with public order or cause concern.

➲ **Extension of Ban Without Limit:** Once banned, an organisation can be permanently banned as there is no time limit for review.

➲ **No Lower Court Jurisdiction:** Lower courts cannot hear cases under this Act, making legal challenges more difficult.

➲ **Immunity to Officials:** Government officials acting in **'good faith**' are provided full legal protection.

Concerns and Criticism

➲ **Vague Definitions:** The use of terms like 'unlawful activity' and 'public order' are ambiguous, and violate principles laid down in **Shreya Singhal v. Union of India (2015),** undermining **Article 14** and **Article 19** of constitution.

➲ **Due Process Gaps:** Arrest and seizure powers can be exercised on suspicion alone, with limited procedural safeguards and delayed avenues of appeal through the **High Court.**

➲ **Property Rights Violation:** Sections 9–10 allow coercive seizure of property without prior judicial oversight or compensation, undermining **Article 300A.**

➲ **Suppression of Dissent:** Peaceful protests, farmers' groups, students' unions, and civil rights organisations may be targeted.

NAXALITE MOVEMENT

➲ **Origin:** The Naxalite movement began in **1967 in Naxalbari, West Bengal,** as a radical leftist uprising championing the rights of tribal and landless communities.

➲ **Geographic Spread:** The insurgency spread across the so-called **Red Corridor,** covering parts of Chhattisgarh, Jharkhand, Odisha, Maharashtra, West Bengal, Andhra Pradesh, Telangana, Madhya Pradesh, and Kerala.

➲ **Approach adopted:** Naxalites employ **guerrilla warfare**, target state institutions, extort local populations, and often recruit children. They claim to fight for marginalized communities but resort to violent methods.

Government Initiatives:

➲ **Security Related Expenditure (SRE) Scheme:** This Scheme is being implemented as a sub-scheme of the umbrella scheme '**Modernization of Police Forces'.** The Central Government reimburses security related expenditure for LWE affected districts and districts earmarked for monitoring.

➲ **SAMADHAN Strategy:** A comprehensive approach involving Smart Leadership, Aggressive Strategy, Motivation and Training, Actionable Intelligence, Dashboard-Based KPIs and KRAs, Harnessing Technology, Action Plans for each Theatre, and No Access to Financing.

The Red Corridor
Naxalite Affected Area

➲ **Scheme of Fortified Police stations:** 612 Fortified Police Stations have been constructed in LWE affected areas in the last 10 years.

➲ **Aspirational District:** The Ministry of Home Affairs has been tasked with the monitoring of Aspirational districts programme in 35 LWE affected districts.

➲ **Focused Developmental Assistance**: Special Central Assistance (SCA) of ₹**30 crore** for most affected districts and ₹**10 crore** for Districts of Concern is bridging infrastructure gaps.
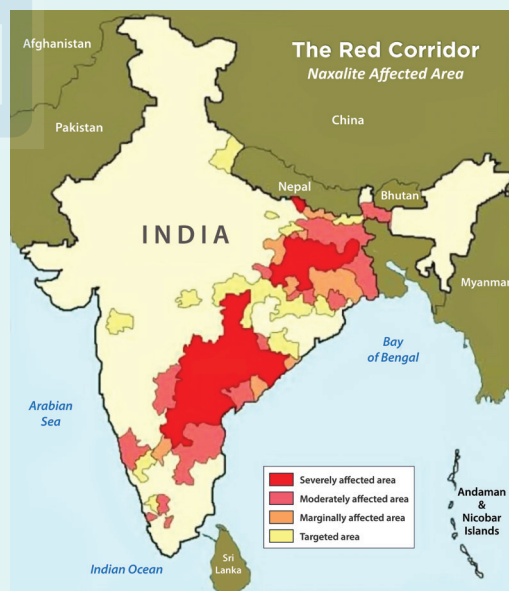
PRALAY MISSILE

DRMO successfully conducted consecutive test flights of the Pralay missile from the Dr. A.P.J. Abdul Kalam island off the coast of Odisha.

Pralay Missile Features

Missile Type
It is a surface-to-surface short-range quasi-ballistic missile.

Range and Payload
Operational range is approximately 150 to 500 km, payload 500–1,000 kg.

Propulsion System
It is powered by a solid-propellant rocket motor.

Navigation System
Equipped with advanced navigation and avionics for precision targeting.
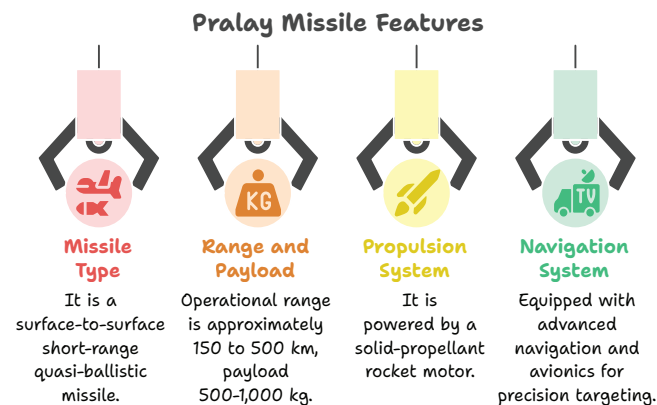
HIMGIRI

The Indian Navy received the advanced guided-missile frigate Himgiri built by Garden Reach Shipbuilders and Engineers (GRSE) in Kolkata.

INS Himgiri Frigate Features

Warfare Capabilities
Capable of anti-air, surface, and submarine warfare.

Class and Builder
Third Nilgiri-class frigate, first built by GRSE.

Featured Systems
Features BrahMos, Barak 8 missiles, AESA radar, combat systems.

Project 17A Frigates
Versatile multi-mission platforms for maritime challenges.

Warship Design
Modern, multi-mission warship designed by Warship Design Bureau.

Reincarnation
Reincarnation of the former INS Himgiri frigate.

CENTRAL NOD TO INCREASE CISF STRENGTH

The Union Ministry of Home Affairs (MHA) has approved the recruitment of 58,000 additional personnel for the Central Industrial Security Force (CISF), anticipating future industrial hubs in areas now affected by Left Wing Extremism (LWE).
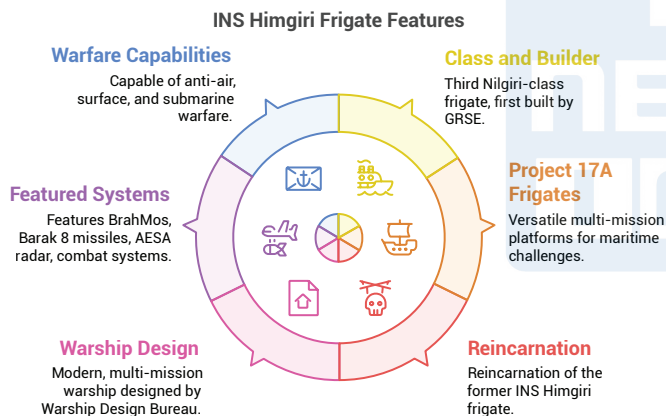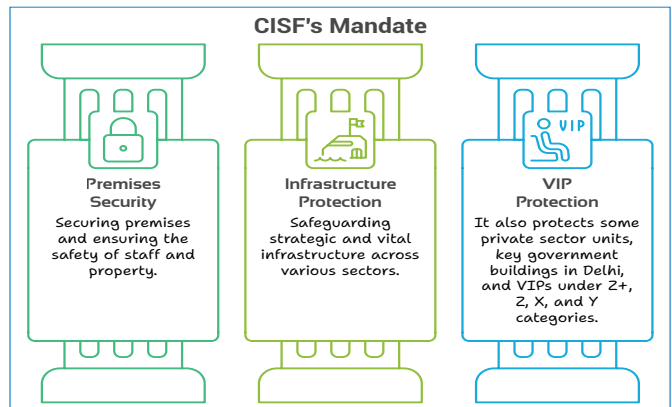
About

- The **Central Industrial Security Force (CISF)** is an **armed force of the Union,** established under the **CISF Act, 1968.**
- Raised in **1969 with 3,129 personnel,** its strength has grown to **1.88 lakh (as of April 1, 2025).**
- The CISF has **74 other formations**, including **12 reserve battalions** and **8 training institutes**.
- It is the **only CAPF** with a **dedicated fire wing** for industrial security.

- The CISF is one of the **seven Central Armed Police Forces (CAPFs)**, alongside **CRPF, BSF, ITBP, SSB, NSG, and Assam Rifles**.
- **Headquarters of CISF:** New Delhi

CISF's Mandate

Premises Security
Securing premises and ensuring the safety of staff and property.

Infrastructure Protection
Safeguarding strategic and vital infrastructure across various sectors.

VIP Protection
It also protects some private sector units, key government buildings in Delhi, and VIPs under Z+, Z, X, and Y categories.

AGNISHODH

The Indian Army has collaborated with the IIT Madras to establish 'Agnishodh', the Indian Army Research Cell (IARC) on the IIT Madras campus.

About

- The initiative is part of the Indian Army's broader transformation framework, guided by the **Five Pillars of Transformation** articulated by the **Chief of the Army Staff (COAS).**
  - **The Five Pillars of Transformation encompasses** technology absorption, structural changes, human resource development and increasing cohesion between the three services.
  - **Agnishodh** specifically advances one of the pillars, Modernisation and Technology Infusion.
- The new research centre will collaborate with IIT Madras Research Park and entities like the Advanced Manufacturing Technology Development Centre (AMTDC) focusing on **converting lab-scale innovations into deployable technologies.**
- It will also help **upskill military personnel** in emerging domains, including additive manufacturing, cybersecurity, quantum computing, wireless communication, and unmanned aerial systems.

"JOINT SEA-2025" DRILLS

China and Russia began "Joint Sea-2025" naval drills in the Sea of Japan.

About

- The three-day exercises near Vladivostok involve operations like submarine rescue, anti-submarine warfare, air defence, and maritime combat, with four Chinese warships participating.

- These annual drills, started in 2012, reflect growing military cooperation between the two nations, especially after Russia's invasion of Ukraine in 2022. Following the drills, joint patrols will be conducted in the Pacific.
- It aims to strengthen their strategic partnership and counter the U.S.-led global order.

ULCHI FREEDOM SHIELD

South Korea and the United States will conduct major joint military drills under Ulchi Freedom Shield.
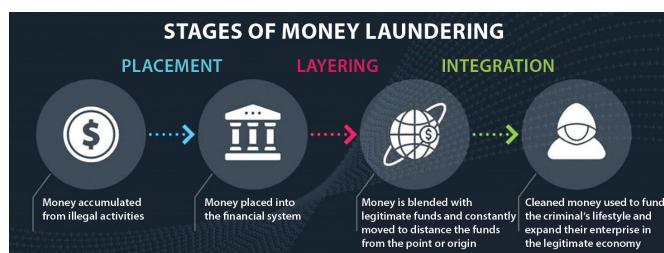
About

- It is an **annual exercise** designed to reinforce readiness and cooperation across all domains to **defend the Korean Peninsula and the broader region.**
- **These exercises trace back to the 1960s** (Taeguk Exercise) and have evolved through various iterations including Ulchi-Focus Lens and, in 2008, were renamed Ulchi-Freedom Guardian.
- This year's drill will test upgraded responses to heightened North Korean nuclear threats as well as cutting-edge technologies used in modern wars.

MONEY LAUNDERING

As per a report submitted in the Rajya Sabha, the Enforcement Directorate (ED) has taken up 5,892 cases under the Prevention of Money Laundering Act (PMLA) since 2015 but only 15 have resulted in convictions.
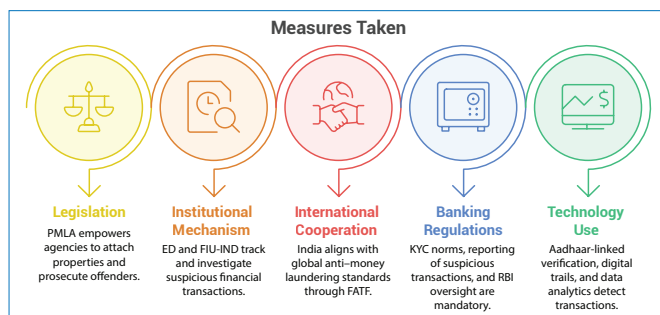
About

- Money laundering is the process of making **illegally obtained money appear legitimate** by channeling it through complex financial transactions.
- Under **Section 3 of the Prevention of Money Laundering Act (PMLA), 2002**, it involves concealing, possessing, acquiring, or using proceeds of crime and projecting them as untainted property.
- It occurs in **three stages: placement** (introducing illicit money into the system), **layering** (moving it through transactions), and **integration** (reintroducing it through assets or businesses).

STAGES OF MONEY LAUNDERING

PLACEMENT — LAYERING — INTEGRATION

Money accumulated from illegal activities | Money placed into the financial system | Money is blended with legitimate funds and constantly moved to distance the funds from the point or origin | Cleaned money used to fund the criminal's lifestyle and expand their enterprise in the legitimate economy

Consequences Money Laundering

- **Economic Impact**: Distorts asset prices, creates unfair competition, and destabilizes financial systems (e.g., PMC Bank crisis, 2019).

- **Political Influence**: Illicit funds can sway elections, policy-making, and weaken democratic institutions.
- **Security Threats**: Strongly linked to terror financing, drug trafficking, and cross-border criminal syndicates.
- **Reputation Loss**: Erodes investor confidence and damages a country's global financial credibility.

Measures Taken

Legislation — PMLA empowers agencies to attach properties and prosecute offenders.

Institutional Mechanism — ED and FIU-IND track and investigate suspicious financial transactions.

International Cooperation — India aligns with global anti–money laundering standards through FATF.

Banking Regulations — KYC norms, reporting of suspicious transactions, and RBI oversight are mandatory.

Technology Use — Aadhaar-linked verification, digital trails, and data analytics detect transactions.

AGNI-5 INTERMEDIATE-RANGE BALLISTIC MISSILE

India recently carried out a successful launch of the Agni-5 ballistic missile under the command of the Strategic Forces Command (SFC).
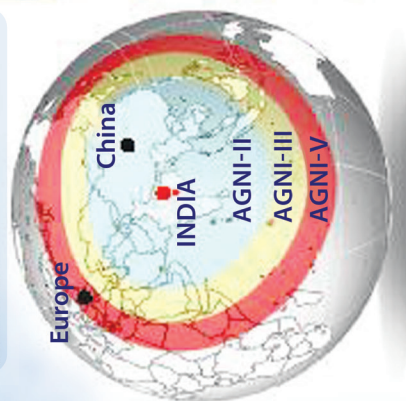
About

- **Type:** Nuclear-capable Surface-to-Surface Ballistic Missile (SSBM).
  - SSBM Powered by rockets initially, but follow an unpowered ballistic trajectory after burnout, arching upwards before descending onto the target.
- **Range:** Over 5,000 km, placing it in the category of Intermediate Range Ballistic Missiles (IRBM).
- **Propulsion:** Three-stage solid-fuel engine.
- **Developer:** Defence Research and Development Organisation (DRDO).
- **Programme Link:** Part of the Integrated Guided Missile Development Programme (IGMDP), under which other missiles like Prithvi, Trishul, Nag, and Akash were also developed.
- **MIRV Capability:** Can be equipped with Multiple Independently Targetable Re-entry Vehicles (MIRVs), enabling a single missile to carry and deliver multiple warheads at different targets.
- **Strategic Status:** Puts India in the elite club of nations like the US, Russia, China, and France, which possess similar missile technology.

About Strategic Forces Command (SFC)

- Part of India's **Nuclear Command Authority (NCA)**, created on **4 January 2003.**
- Manages and administers **India's tactical and strategic nuclear weapons** stockpile.
- **Responsibilities:**
  - Executes NCA's orders under a **Commander-in-Chief (3-star General)**.

BALLISTIC BOOST FOR INDIA

The first test of AGNI-V opens the doors for India to enter the super-exclusive ICBM (inter-continental ballistic missile) club that counts only US, Russia, China, France and UK as its members

Weight:
50 TONNES

Length:
17.5 METRES

Range:
5,000 KM

Warheads:
1,360 KG

➤ A three-stage solid-fuelled missile capable of carrying a 1.5 tonne nuclear warhead.

➤ Four to five more tests before it becomes fully operational by 2014-2015

MIRV-2
MIRV-3
MIRV-10

PAYLOAD

➤ Agni-V will eventually be capable of carrying MIRV (multiple independently targetable re-entry vehicles) warheads. An MIRV payload on a missile carries several nuclear warheads, which can be programmed to hit different targets

➤ Additional solid fuel third stage

DRDO

REACH

China
Europe
INDIA
AGNI-II
AGNI-III
AGNI-V

ROCKET RIVALS

INDIA
Agni-IV — 3,500 km
Agni-V — Over 5,000 km

CHINA
DF-31 — 7,250 km
DF-31A — 11,270 km

PAKISTAN
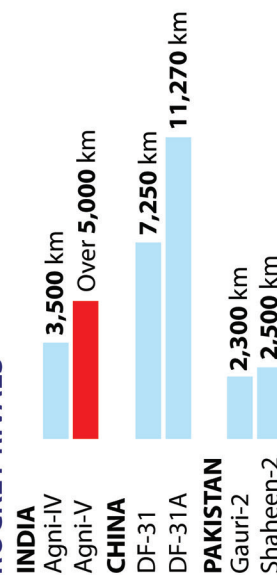Gauri-2 — 2,300 km
Shaheen-2 — 2,500 km

TRANSPORTABILITY

➤ With a canister-launch system to impart higher road mobility, Agni-V will give the armed forces much greater operational flexibility than the earlier-generation of Agni missiles

CHINA
Bay of Bengal
INDIA
PAK

Wheeler Island

ORISSA
Cuttack

INDIA

- Sole authority to initiate **delivery of nuclear weapons** after NCA approval.
- Handles **target selection, contingency planning, command & control** of nuclear assets.
- Maintains **high operational readiness** with systems for command, control, and communication.
- Composed of officers from the **Army, Navy, and Air Force** on rotation.

OPERATION RAINBOW

The Directorate of Revenue Intelligence (DRI) has recently seized nearly 9 kilograms of narcotic substances in Delhi, under Operation Rainbow.

About

- **Established:** December 1957.
- **Objective:**
  - Primary objective of gathering intelligence and combating smuggling activities at an all-India level.
  - While initially focused on addressing gold smuggling, its mandate has expanded significantly to counter a wide range of economic and narcotics-related crimes.
- **Operates under:** Central Board of Indirect Taxes and Customs (CBIC) within the Ministry of Finance.
- **Headquarters** New Delhi and led by a Director General.
- **International liaison:** The agency maintains contact with foreign countries, and international bodies like INTERPOL to combat transnational smuggling.

THREE JOINT DOCTRINES FOR ARMED FORCES

The Chief of Defence Staff (CDS) has recently released three new Joint Doctrines at the Army War College in Mhow, Madhya Pradesh.
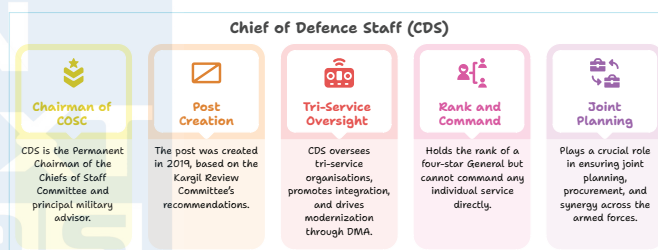
Joint Military Doctrines Released

- **Joint Doctrine for Special Forces Operations:** Brings together Army's Para (SF), Navy's MARCOS, and IAF's Garuds under a unified framework.
  - Seeks common understanding, shared terminology, and standard operating procedures.
  - Focus areas are joint training to reduce duplication, future weapon profiles for interoperability & unified Command & Control structures across land, maritime, and air.
- **Joint Doctrine for Airborne and Heliborne Operations:** Aims for seamless coordination in para-drop and heli-lift missions.
  - Standardises planning and execution procedures across Army, Navy, and Air Force.
  - Emphasis on integrating advanced air mobility assets (heavy-lift helicopters, transport aircraft), unmanned aerial systems (UAS) for real-time intelligence.

- **Joint Doctrine for Multi-Domain Operations (MDO):** Stresses integration across land, sea, air, space, and cyber to counter adversaries operating below conflict thresholds; calls for advanced technologies, innovative structures, and fully networked joint operations.

Significance:

- **Enhances Jointness & Interoperability:** Brings Army, Navy, and Air Force under common frameworks to ensure seamless coordination and reduce duplication of efforts.
- **Strengthens Operational Effectiveness:** Standardises procedures for Special Forces, heliborne, and airborne missions, enabling faster, more precise execution in combat.
- **Addresses Emerging Threats:** Multi-Domain Operations doctrine integrates space and cyber with traditional domains, preparing India for hybrid and below-threshold conflicts.
- **Boosts Modernisation & Self-Reliance:** Encourages use of advanced air mobility assets, UAVs, and networked technologies, aligning with India's drive for indigenous, future-ready defence systems.
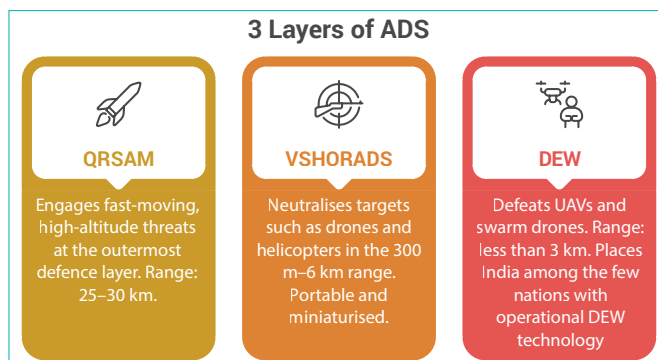
Chief of Defence Staff (CDS)

Chairman of COSC	Post Creation	Tri-Service Oversight	Rank and Command	Joint Planning
CDS is the Permanent Chairman of the Chiefs of Staff Committee and principal military advisor.	The post was created in 2019, based on the Kargil Review Committee's recommendations.	CDS oversees tri-service organisations, promotes integration, and drives modernization through DMA.	Holds the rank of a four-star General but cannot command any individual service directly.	Plays a crucial role in ensuring joint planning, procurement, and synergy across the armed forces.

INDIGENOUS INTEGRATED AIR DEFENCE WEAPON SYSTEM

India has successfully conducted the maiden flight-tests of the Integrated Air Defence Weapon System (IADWS) off the coast of Odisha.

About

- It is a **multi-layered air defence system** developed indigenously.

3 Layers of ADS

QRSAM	VSHORADS	DEW
Engages fast-moving, high-altitude threats at the outermost defence layer. Range: 25–30 km.	Neutralises targets such as drones and helicopters in the 300 m–6 km range. Portable and miniaturised.	Defeats UAVs and swarm drones. Range: less than 3 km. Places India among the few nations with operational DEW technology

- It integrates three advanced components:
  - Quick Reaction Surface to Air Missile (QRSAM)

Mission Sudarshan Chakra

DRDO has successfully tested a new integrated air defence system expected to be a part of a bigger national security shield

THE SYSTEM'S 3 LAYERS

1 Quick reaction surface-to-air missiles

2 Very short-range air defence system

3 Laser-based directed energy weapon

HOW TEST WAS CONDUCTED

During the test, 3 different targets, including two high-speed fixed wing unmanned aerial vehicle targets and a multi-copter drone were simultaneously engaged and destroyed completely by the three defence layers at different ranges and altitudes

MODI'S 10-YEAR DEADLINE

In his Independence Day address, Prime Minister Modi set a 10-year deadline for developing an indigenous air defence shield integrated with offensive weapons under Mission Sudarshan Chakra to thwart aerial attacks

"This unique flight test has established the multi-layered air-defence capability of our country and is going to strengthen area defence for important facilities against enemy aerial threats."

— **RAJNATH SINGH**, defence minister
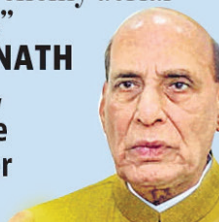
- ◆ Very Short Range Air Defence System (VSHORADS)
- ◆ Laser-based Directed Energy Weapon (DEW)
- ➲ It is operated and coordinated through a **Centralised Command and Control Centre**, developed by the **Defence Research and Development Laboratory (DRDL), Hyderabad.**

Sudarshan Chakra Mission

- ➲ A national security initiative to develop an indigenous Iron Dome–like, multi-layered air defence system by 2035, aimed at protecting critical civil and defence infrastructure.
- ➲ It is inspired by Lord Krishna's mythological act of shielding the sun.
- ➲ **Mission goal:** Neutralize enemy attacks and enable swift counterstrikes, ensuring rapid, precise defence while bolstering India's strategic autonomy.

Strategic Significance

- ➲ **Indigenous technology:** All components, including command and control, are fully homegrown.
- ➲ **Seamless integration:** Missiles and directed energy weapons operate in coordination.

- ➲ **Reduced foreign dependence:** Enhances self-reliance in advanced defence systems.
- ➲ **Future scope:** The successful test is seen as a step towards **Mission Sudarshan Chakra**, announced by Prime Minister Narendra Modi, aimed at developing a comprehensive national air defence shield.

DECOYS IN CONTEMPORARY WARFARE

During Operation Sindoor (2025), the Indian Air Force reportedly used AI-enabled X-Guard Fibre-Optic Towed Decoys on Rafale jets to mislead Pakistan's J-10C fighters.

About the Decoys:

- ➲ Decoys are systems designed to **mislead enemy sensors, radars, and missiles** by imitating real combat assets.
- ➲ They create **false targets**, forcing the enemy to waste ammunition while giving actual platforms time to escape or strike back.

India's use in Air Warfare:

- ➲ The **X-Guard Fibre-Optic Towed Decoy (FOTD)**, developed by Israel's Rafael, is a **30-kg retractable and reusable system.**

- It replicates a Rafale's radar cross-section, spectral signature, and Doppler velocity.
- Works with the Rafale's **SPECTRA electronic warfare suite**, forming a layered defense shield.
- Believed to have diverted Pakistan's **PL-15E BVRAAMs** during **Operation Sindoor (2025).**

Land-Based Decoys:

- Include **inflatable and 3D-printed dummy tanks, artillery, and missile launchers**, confusing enemy ISR systems and precision weapons.
- Widely used in the **1991 Gulf War** and the ongoing **Russia– Ukraine conflict.**
- In April 2025, the **Indian Army** issued an RFI for T-90S/SK tank decoys that replicate **thermal and acoustic signatures** to deceive drones and guided missiles.

Naval Decoys

- Warships deploy chaff, acoustic devices, and off-board active deception systems.
- *Example:* Nulka active missile decoy (Australia–US collaboration), which mimics a larger vessel to divert radar-guided missiles.

Significance

- Provide **low-cost, high-effectiveness protection** in modern warfare.
- Enhance the **survivability** of costly platforms like fighter jets, tanks, and warships.
- Act as a force multiplier by complementing **electronic warfare and stealth technologies.**

INS UDAYGIRI AND INS HIMGIRI

The Indian Navy is set to commission two state-of-the-art stealth frigates, INS Udaygiri and INS Himgiri, under Project 17A at Visakhapatnam. This marks the first-ever simultaneous commissioning of frontline warships built at two different Indian shipyards.

About Project 17A Frigates:

- **Background:** Project 17A is the follow-on of the Project 17 (Shivalik-class) frigates.
- **Total Ships:** A total of seven frigates are being constructed – four at Mazagon Dock Shipbuilders Limited (MDL), Mumbai, and three at Garden Reach Shipbuilders and Engineers (GRSE), Kolkata.
- **Design and Technology:**
  - Designed by the Warship Design Bureau (WDB) of the Indian Navy.
  - Built using modular construction technology, which shortens the overall build period.

- Incorporates stealth features with reduced radar, acoustic, and infrared signatures.
- **Significance:** Demonstrates India's growing **indigenous shipbuilding capability**, strong **inter-yard collaboration**, and the contribution of **Micro, Small, and Medium Enterprises (MSMEs)** to advanced naval platforms.

INS Udaygiri:

- **Shipbuilder:** Constructed by **Mazagon Dock Shipbuilders Limited (MDL), Mumbai.**
- **Milestone:** It is the **100th vessel** designed by the **Warship Design Bureau (WDB).**
- **Construction:** Built and delivered in record time, the fastest in its class, due to the use of modular techniques.
- **Key Features:**
  - Upgraded variant of the **Shivalik-class frigates.**
  - Incorporates enhanced **stealth technologies.**
  - Equipped with advanced **indigenously developed sensors and weapons.**
  - Powered by a **Combined Diesel or Gas (CODOG) propulsion system** for greater efficiency.

INS Himgiri:

- **Shipbuilder:** Constructed by Garden Reach Shipbuilders and Engineers (GRSE), Kolkata.
- **Design:** Part of Project 17A, featuring a stealth-oriented design.
- **Key Features:**
  - Low radar cross-section through stealth shaping.
  - Integrated with advanced weapons, sensors, and platform management systems.
  - Uses a Combined Diesel or Gas (CODOG) propulsion system for operational flexibility.

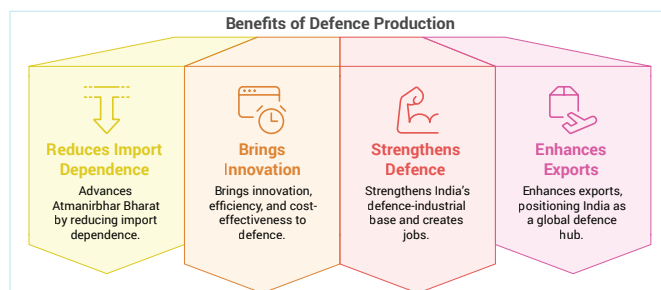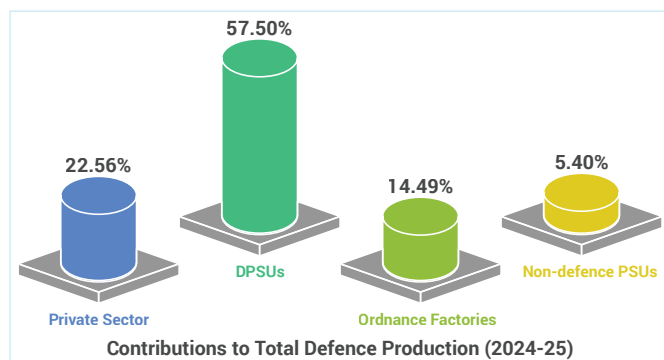## PRIVATE SECTOR SHARE IN DEFENCE PRODUCTION AT RECORD HIGH

The private sector's contribution to India's defence production touched a record high in 2024–25, marking the third consecutive year of consistent growth

Key Findings (2024–25):

- **Total Defence Production:** ₹1,50,590 crore.
- **Private Sector Contribution:** ₹33,979 crore (22.56%) – highest since 2016–17.
- **Trend:** Private sector share has steadily risen – 19.39% (2022–23) ₹ 20.93% (2023–24) ₹ 22.56% (2024–25).

Defence Budget

- The defence budget grew from ₹2.53 lakh crore (2013–14) to ₹6.81 lakh crore (2025–26).
- Defence production hit a record ₹1.5 lakh crore in 2024– 25, over three times the ₹46,429 crore in 2014–15.

Contributions to Total Defence Production (2024-25)

- Private Sector: 22.56%
- DPSUs: 57.50%
- Ordnance Factories: 14.49%
- Non-defence PSUs: 5.40%

Steps Taken to Promote Private Sector Participation

- **FDI liberalisation:** Up to **74% under automatic route** in defence manufacturing.
- **Defence Acquisition Procedure (DAP) 2020:** Preference to Buy (Indian-IDDM) and indigenously designed equipment.
- **Negative Import Lists:** Ban on import of over 500 defence items, creating assured demand for domestic industry.

Benefits of Defence Production

- **Reduces Import Dependence:** Advances Atmanirbhar Bharat by reducing import dependence.
- **Brings Innovation:** Brings innovation, efficiency, and cost-effectiveness to defence.
- **Strengthens Defence:** Strengthens India's defence-industrial base and creates jobs.
- **Enhances Exports:** Enhances exports, positioning India as a global defence hub.

- **Corporatisation of Ordnance Factories:** Opened space for private competition.
- **Innovations for Defence Excellence (iDEX):** Promotes startups and MSMEs in defence innovation.
- **Defence Corridors:** Two dedicated corridors in **Uttar Pradesh and Tamil Nadu** to attract private investment.
- **Export Promotion:** Simplified licensing and fast-track clearances for private players.
- **Offset Policy:** Encourages foreign OEMs to collaborate with Indian private firms.

EXTENDED RANGE ATTACK MUNITIONS MISSILES

The United States has approved the sale of 3,350 Extended Range Attack Munitions (ERAM) missiles to Ukraine.

About

- **Type:** Next-generation, air-launched, precision-guided missile.
- **Range and Warhead:** Range of 240 to 450 kilometers and a 500-pound warhead.
- **Guidance:** GPS, inertial navigation, and terminal seeker, with accuracy within 10 meters.
- **Launch Platforms:** Modular design allows deployment on Western fighter jets or retrofitting on Soviet-era aircraft.

Important Military Exercises (2025)				
Exercise	**Participants**	**Year/Edition**	**Location/Structure**	**Significance**
SLINEX-25	India & Sri Lanka	12th Edition (2005 onwards)	Harbour Phase – Colombo; Sea Phase – Joint ops at sea	Strengthens India–Sri Lanka maritime cooperation; aligns with India's MAHASAGAR vision.
Samanvay Shakti 2025	Indian Army, IAF, Assam & Manipur State Govts, Police, NDRF, SDRF, BRO, GREF, PSUs, Media	2025	Tinsukia, Assam; 10-day exercise	Enhances military-civil cooperation to tackle regional challenges through unified response.
Sustainable Power 1404	Iran (IRIN & IRGCN)	2025 (post-Israel war)	Northern Indian Ocean & Sea of Oman	Demonstrates Iran's naval & missile strength; deployed Nasir & Qadir cruise missiles; regional deterrence.
Super Garuda Shield	US, Indonesia + 12 countries (Japan, Australia, Singapore, UK, France, Canada, S. Korea, Thailand, Brunei, Brazil, India, NZ)	Largest edition since 2007 (expanded 2022)	Jakarta, Sumatra, Riau Archipelago	Major multinational Indo-Pacific drill, enhancing regional cooperation; India participated as observer.

SCIENCE & TECHNOLOGY

MALARIA ELIMINATION

India reduced its malaria burden by over 80% since 2015, but tribal areas still face high rates.

About

- A life-threatening parasitic disease transmitted mainly through the bites of infected female Anopheles mosquitoes.
- It can also spread through blood transfusion and contaminated needles.
- It is preventable and curable, but does not spread directly from person to person.
- **Cause:**
  - Caused by **Plasmodium parasites** (not a virus or bacteria).
  - **Major species infecting humans:** Plasmodium falciparum, P. vivax, P. malariae, P. ovale, and P. knowlesi.
- **Prevention & Treatment:**
  - Prevented by **avoiding mosquito bites** (nets, repellents, insecticide spraying).
  - **Prophylactic medicines** available for high-risk groups and travellers.
  - Treatments can **stop mild cases from worsening** into severe malaria.
- **Vaccines:** R21/Matrix-M Vaccine is developed by Oxford University and Serum Institute of India.

HUMAN OUTER PLANET EXPLORATION

Bengaluru-based space science organisation Protoplanet has launched the Human Outer Planet Exploration (HOPE) initiative at Tso Kar, Ladakh.

About

- It is a high-altitude research station designed to simulate **deep space environments on Earth.**
- Selected crew members will undertake **10-day isolation missions** to test human **adaptability and resilience**.
- The mission includes **physiological, psychological, and epigenetic studies** to aid long-duration space travel.
- **Tso Kar's** cold desert and high-altitude conditions closely mimic the environment of the **Moon and Mars**. The location was researched for nearly **nine years** before setup.
- Similar to HOPE, there are research stations such as the **Mars Desert Station** (United States), **Flashline Mars Arctic Research Station** in Canada and **BIOS-3** in Russia which look to simulate the challenges that astronauts might face in adapting to alien worlds.

BLUEBIRD COMMUNICATIONS SATELLITE

The Indian Space Research Organisation (ISRO) will launch Block 2 BlueBird communication satellite in next three to four months.

About

- The BlueBird communications satellite is developed by the U.S.-based AST SpaceMobile.
- It weighs 6,500 kg and is expected to arrive in India by September.
- It will be launched from the Satish Dhawan Space Centre in Sriharikota using ISRO's most powerful launcher, the LVM3, previously known as the GSLV-Mk III.

Indian National Satellite System (INSAT)

- The Indian National Satellite System (INSAT) is a series of multipurpose **Geo-stationary satellites** launched by ISRO to satisfy the telecommunications, broadcasting, meteorology, and search and rescue needs of India.
- Commissioned in 1983, **INSAT is the largest domestic communication system in the Asia Pacific Region.**
- The satellites also incorporate transponder(s) for receiving distress alert signals for search and rescue missions in the South Asian and Indian Ocean Region, as ISRO is a member of the COSPAR-Sarsat programme.
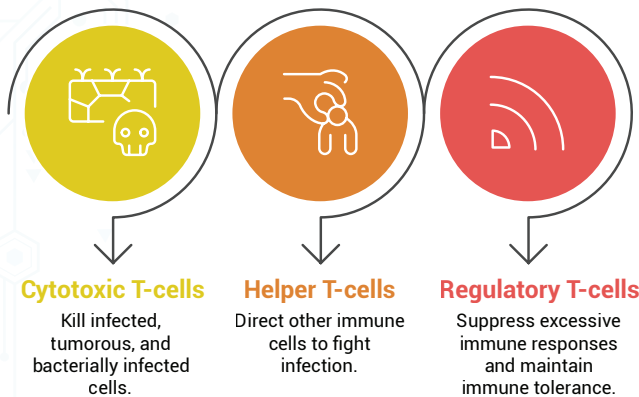
T CELL

A team of Harvard scientists has used artificial intelligence (AI), in the form of AI-designed proteins, to generate large numbers of immune cells and enhance immunity against diseases ranging from cancer to viral infections.

About B and T-Cells

- **B-cells and T-cells** are a specific type of white blood cell called **lymphocytes.**
- They **help the immune system** to fight germs and protect from disease.
- **B-cells** make antibodies in response to antigens (antibody generators).
  - **There are two main types of B-cells:** plasma cells and memory cells. Both types help to protect from infection and disease.
- T-cells start in **bone marrow, mature in thymus and eventually relocate to lymph tissue or bloodstream.**
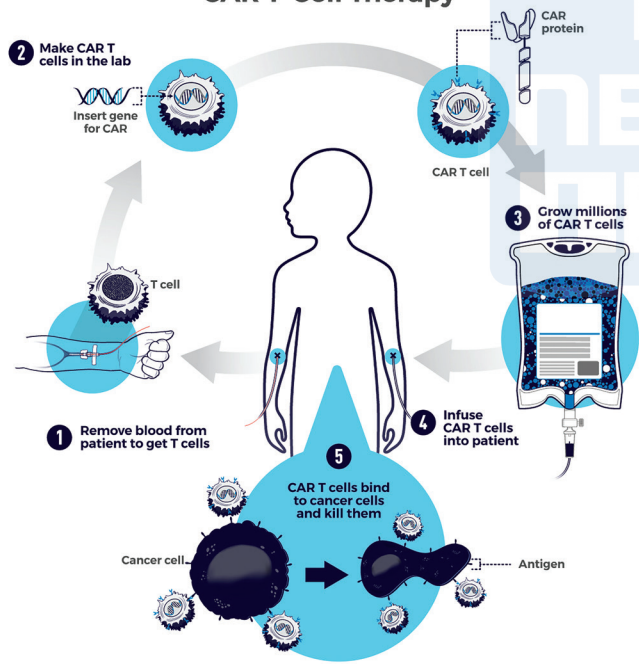
Types of T cells

Cytotoxic T-cells
Kill infected, tumorous, and bacterially infected cells.

Helper T-cells
Direct other immune cells to fight infection.

Regulatory T-cells
Suppress excessive immune responses and maintain immune tolerance.

➲ **Significance of the Discovery:**

◆ Enabled large-scale T cell production in lab bioreactors, important for **CAR T-cell immunotherapies.**

◆ In mice, injections of these agonists enhanced immune responses and boosted memory T cell production, improving the effectiveness of vaccines.
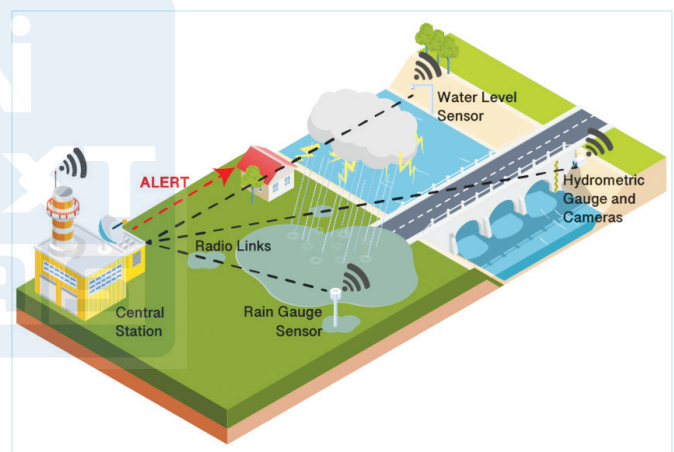

CAR T-Cell Therapy

BHARAT FORECAST SYSTEM (BharatFS)

India has developed Bharat Forecast System (BharatFS), an advanced weather prediction model that improves extreme rainfall forecasting accuracy by 30% compared to earlier models.

About

➲ **What it is:** India's most advanced **real-time global weather prediction model**.

➲ **Developed by:** IITM Pune, NCMRWF Noida, and the IMD.

➲ **Key Features**

◆ Uses a new **Triangular Cubic Octahedral (TCo) grid system**.

◆ Gives **very detailed weather forecasts at 6 km resolution** (world's highest for real-time models).

◆ The older model (GFS T1534) had a **12 km resolution**; global models usually work at **9–14 km**.

Triangular Cubic Octahedral (TCO) Grid

➲ In weather forecasting, the Earth is divided into grids for calculations.

◆ Older latitude–longitude grids became distorted near the poles, reducing accuracy.

➲ The **TCo grid** solves this by dividing the globe into **uniform triangular tiles**, ensuring equal spacing everywhere.

➲ This makes computations **faster and more stable**, while giving **sharper local forecasts** for events like heavy rainfall, thunderstorms, and cyclones.

Significance:

➲ **More accurate local forecasts** – down to small areas like **panchayats or village clusters**.

➲ Helps in **disaster management** (floods, cyclones, heatwaves).

➲ Supports **farmers and agriculture** by improving crop and irrigation planning.

FIRST ANIMAL STEM CELL BIOBANK

India's first-of-its-kind state-of-the-art Animal Stem Cell Biobank and Animal Stem Cell Laboratory opened at the National Institute of Animal Biotechnology (NIAB), Hyderabad.

About Stem Cell

➲ They are special cells capable of developing into various cell types in the body and play a key role in repair and regeneration.

Stem Cells Classification		
Class	Cell Types	Mature Cell Lineages
Totipotent	Embryonic stem cells (e.g., zygotes)	Can differentiate into any cell type
Pluripotent	Embryonic stem cells, iPSCs	Can differentiate into cells from any of the three germ layers
Multipotent	Adult stem cells (e.g., mesenchymal, hematopoietic)	Can differentiate into a limited range of cell types
Oligopotent	Adult stem cells (e.g., lymphoid, myeloid)	Can differentiate into a limited number of cell types
Unipotent	Adult stem cells (e.g., satellite, epidermal)	Can differentiate into a single cell type

India's first Animal Stem Cell Biobank and Laboratory

- The cutting-edge facility of Animal BioBank , spread over 9,300 sq ft and constructed at a cost of ₹1.85 crore.
- It will focus on **regenerative medicine** and **cellular therapies for livestock.**
- **It is equipped** with a stem cell culture unit, 3D bioprinter, bacterial culture lab, cryostorage, autoclave rooms, advanced air handling systems, and uninterrupted power backup.
- It is supported by the **National Biopharma Mission (NBM)** of DBT–BIRAC.

ORBITING CARBON OBSERVATORIES (OCO) PROGRAM

The Trump administration reportedly asked NASA to shut down Orbiting Carbon Observatories.

About

- The **OCO series** are Earth remote sensing satellites designed to measure **atmospheric carbon dioxide (CO_2) from space**, improving our understanding of **climate change**.
- **Timeline:**
  - **OCO (2009):** First mission, failed due to launch malfunction.
  - **OCO-2 (2014):** Successfully launched; measures global CO_2 levels and monitors **photosynthesis in crops**.
  - **OCO-3 (2019):** Installed on the **International Space Station (ISS)**; offers flexible observation times, unlike OCO-2's fixed daily schedule, providing richer data on **CO_2 sources, sinks, and crop health.**

Relevance:

- Provides **global CO_2 monitoring**, essential for understanding climate change.

- **Key findings:** Showed the important role of **boreal forests** in absorbing CO_2. Revealed that under stress, forests can **turn into carbon emitters.**
- Supports agriculture by aiding in **crop monitoring, drought tracking, and yield forecasting**.
- Helps **farmers, scientists, and policymakers** plan better for climate and food security challenges.

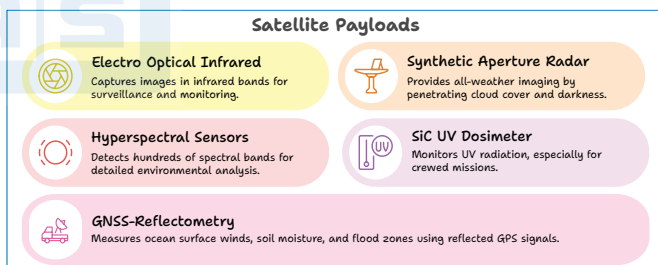## INDIA'S FIRST COMMERCIAL EARTH OBSERVATION SATELLITE CONSTELLATION

India has launched its first fully indigenous commercial Earth Observation (EO) satellite constellation, led by PixxelSpace.

About

- **Meaning:** EO satellites are satellites that collect information about the Earth's **surface, atmosphere, and oceans** using remote sensing technologies.
- **Functions:** They capture images and data in visible, infrared, and microwave ranges to monitor **land, water, vegetation, weather, and climate**.

Working of Earth Observation (EO) Satellites

- EO satellites work by **capturing electromagnetic radiation** reflected or emitted from Earth's surface. They use specialized sensors to detect and record data across various spectral bands—visible, infrared, microwave, and more.

Satellite Payloads

Electro Optical Infrared Captures images in infrared bands for surveillance and monitoring.

Synthetic Aperture Radar Provides all-weather imaging by penetrating cloud cover and darkness.

Hyperspectral Sensors Detects hundreds of spectral bands for detailed environmental analysis.

SiC UV Dosimeter Monitors UV radiation, especially for crewed missions.

GNSS-Reflectometry Measures ocean surface winds, soil moisture, and flood zones using reflected GPS signals.

- These satellites **orbit the Earth in Low Earth Orbit (LEO) or Sun-Synchronous Polar Orbit (SSPO)**, allowing them to **revisit the same location at regular intervals** and capture high-resolution imagery.
- EO satellites transmit raw data to ground stations where it is processed into Analysis Ready Data (ARD) and Value-Added Services (VAS), and processed data disseminated.

Applications:

- **Agriculture:** Crop health, yield prediction.
- **Disaster Management:** Floods, cyclones, earthquakes, forest fires.
- **Climate Studies:** Tracking greenhouse gases, glaciers, sea level rise.
- **Urban Planning & Mapping:** Land use, infrastructure development.

- **Defence & Security:** Border monitoring, surveillance.
- **Strategic Significance:** Reduce India's reliance on foreign satellite data, ensure national data sovereignty, and position India as a global leader in geospatial intelligence.

Indian National Space Promotion and Authorisation Centre (IN-SPACe)

- It is an autonomous, single-window agency under the **Department of Space, Government of India**.
- It is designed to promote, enable, authorize, and **supervise space activities by non-governmental entities (NGEs).**
- It **acts as a bridge between ISRO and private players**, facilitating the growth of a vibrant commercial space ecosystem.
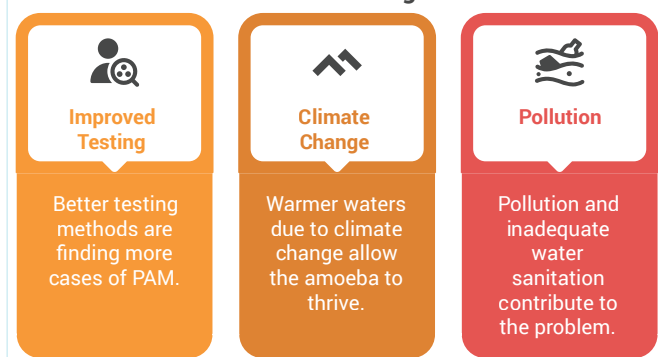
PRIMARY AMOEBIC MENINGOENCEPHALITIS (PAM) OUTBREAK IN KOZHIKODE

Recently, three PAM cases were reported in Kozhikode, Kerala: one death (a 9-year-old girl) and two critically ill patients, including a 3-month-old baby.

About:

- PAM is a rare but deadly infection caused by *Naegleria fowleri*, known as the "brain-eating amoeba."
- It lives in warm freshwater, soil, and dust. Infection happens when contaminated water or dust enters through the nose.
- Other amoebae, like *Acanthamoeba*, can also cause similar illness but with a longer incubation period.
- **Symptoms & Fatality**
  - Resembles **Acute Encephalitis Syndrome (AES)** with fever, headache, nausea, seizures, and confusion.
  - Has an **extremely high death rate**, often fatal within days.

Reasons for Rising PAM

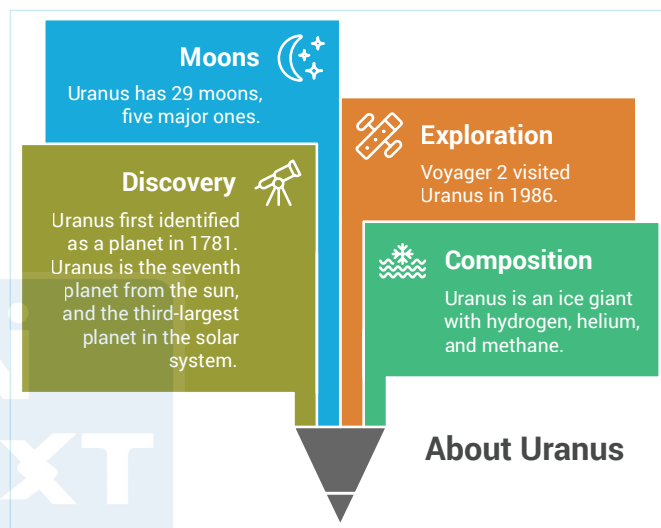| Improved Testing	Climate Change	Pollution
Better testing methods are finding more cases of PAM.	Warmer waters due to climate change allow the amoeba to thrive.	Pollution and inadequate water sanitation contribute to the problem.

Kerala's Response

- Kerala introduced a **special treatment protocol and SOP in 2024**, becoming the first Indian state to do so.
- Strengthened surveillance and testing for suspected AES cases.
- Public awareness campaigns on safe water use and avoiding nasal water entry.

'S/2025 U1': 29TH MOON OF URANUS

NASA announced that the James Webb Space Telescope has discovered a new, 29th satellite of Uranus, which was named S/2025 U1.

About

- The diameter of the Moon is estimated to be only some 10 kilometres. And orbits the planet at a distance of about 56,000 kilometres.
- S/2025 UI will get an official name from the International Astronomical Union (IAU) sometime in the future.
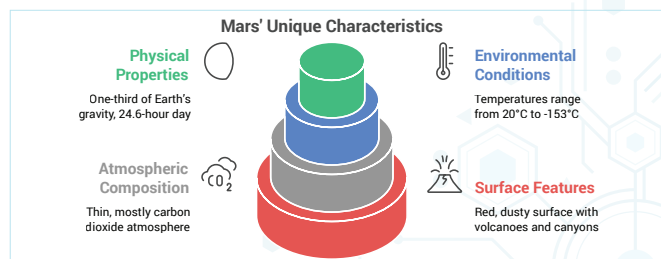
About Uranus

Moons — Uranus has 29 moons, five major ones.

Discovery — Uranus first identified as a planet in 1781. Uranus is the seventh planet from the sun, and the third-largest planet in the solar system.

Exploration — Voyager 2 visited Uranus in 1986.

Composition — Uranus is an ice giant with hydrogen, helium, and methane.

NASA'S CHAPEA PROJECT

NASA has unveiled the second Crew Health and Performance Exploration Analog (CHAPEA) habitat, designed for a series of analogue missions simulating year-long stays on the surface of Mars.

About

- The mission consists of **four crew members living in the CHAPEA habitat,** an isolated 1,700 square foot, 3D-printed structure.
  - The **CHAPEA mission** is part of NASA's ongoing efforts to prepare for **future manned missions to Mars.**
- **Objective:** Study physical and psychological effects of long-duration space missions.
- **Activities:** Scientific tasks, growing vegetables, maintaining habitat, simulated "Marswalks."

Mars' Unique Characteristics

Physical Properties — One-third of Earth's gravity, 24.6-hour day

Environmental Conditions — Temperatures range from 20°C to -153°C

Atmospheric Composition — Thin, mostly carbon dioxide atmosphere

Surface Features — Red, dusty surface with volcanoes and canyons

Challenges in Mars Mission

- The biggest challenge is the **long duration of a Mars mission** because even a one-way trip would take **six to nine months.**
- **Other challenges include** logistics for life support, and maintaining supplies and crew health.
- **Mars's thin atmosphere** also makes it difficult to slow down a spacecraft for a safe and precise landing.
- **Given the distance**, communications from and to Earth could have as much as a 20-minute lag, which would be **too long in case of real-time help during emergencies.**

UNGA LAUNCHES TWO NEW INITIATIVES TO STRENGTHEN AI GOVERNANCE

The United Nations Secretary-General has praised a decision by the UN General Assembly to create two new institutional mechanisms to enhance global cooperation on AI governance.

About

- These are the **United Nations Independent International Scientific Panel on AI and the Global Dialogue on AI Governance.**
- The panels aim to address AI's benefits and risks, fostering international collaboration and informed policymaking.

The Two Mechanisms

- **Global Dialogue on AI Governance:**
  - **Purpose:** An inclusive UN platform for states and stakeholders.
  - **Function:** Forum to discuss critical AI issues humanity is facing today.
- **United Nations Independent International Scientific Panel on AI:**
  - **Purpose:** Designed as an inclusive multi-stakeholder forum within the United Nations where member states, civil society, academia, and the private sector can engage in discussions on key AI challenges and governance issues.
  - Annual sessions are scheduled for **July 2026 in Geneva and July 2027** in New York.

Significance

- Called a "pathbreaking milestone" by the United Nations Secretary-General.
- Aims to balance AI benefits and risks, while fostering international collaboration.
- Ensures AI development aligns with humanity's collective good.

Artificial Intelligence

- Artificial intelligence (AI) is a **wide-ranging branch of computer science** concerned with **building smart machines** capable of performing tasks that typically require human intelligence.
- Artificial intelligence allows machines to model, or even improve upon, the **capabilities of the human mind.**

- From the development of self-driving cars to the proliferation of generative AI tools like ChatGPT, AI is increasingly becoming part of everyday life — and an area every industry is investing in.

IISC STUDY ON GLUCOSE TRANSPORTERS AND DIABETES

A recent IISc study has shown how GLUT malfunction contributes to Type-2 diabetes, offering insights for innovative treatments.

About Diabetes:

- Diabetes Mellitus is a **metabolic disorder** in which the body either produces too little insulin or cannot use it effectively.
- This leads to **high blood sugar (hyperglycemia)**, damaging organs such as the eyes, kidneys, heart, and nerves over time.

Types of Diabetes:

- **Type 1 Diabetes**: Caused by autoimmune destruction of pancreatic beta cells. Leads to almost no insulin production. Usually begins in childhood or adolescence, requiring lifelong insulin therapy.
- **Type 2 Diabetes**: The body becomes **insulin resistant** or beta cells produce inadequate insulin. Strongly linked to obesity, sedentary lifestyle, and genetics. Accounts for over 90% of cases.
- **Gestational Diabetes**: Develops during pregnancy due to hormonal changes. Usually resolves after delivery but increases the risk of later Type-2 diabetes.

Key Findings of the IISc Study:

- Pancreatic **beta cells** regulate blood sugar by taking in glucose and releasing insulin.
- **Glucose Transporters (GLUTs)** act as "molecular gateways," moving to the cell surface when blood sugar rises, allowing glucose entry.
  - In humans, **GLUT1** is dominant; in mice, it is **GLUT2.**
- In healthy cells, GLUTs are quickly sent to the membrane and recycled through **clathrin-mediated endocytosis**.
- In **Type-2 diabetes**, this movement is disrupted, reducing glucose entry and insulin release.

Significance of the Study

- Shifts research focus to the **glucose entry stage** before insulin secretion.
- Opens pathways for **new therapies** aimed at restoring GLUT function.
- Helps explain differences between **human and animal models** of diabetes.

SOAPS AND DETERGENTS

Soaps and detergents are daily-use essentials with significant scientific, industrial, health, and environmental relevance, making them important for discussions on sustainability.

Soap:

- Soap is the **sodium (Na) or potassium (K) salt of fatty acids**, made from vegetable oils or animal fats.
- **Formula: RCOONa** (solid soap) or **RCOOK** (liquid soap).
- **Example:** Coconut oil → Lauric acid ($C_{12}H_{24}O_2$) → Soap ($C_{11}H_{22}COONa$).
- **Total Fatty Matter (TFM):** A measure of soap quality. Higher TFM means better cleaning and is gentler on skin.

How Soap Cleans:

- **Soap molecules are amphiphilic:**
  - Hydrophilic end → attracts water.
  - Hydrophobic end → attracts oil/grease.
- When scrubbing, soap loosens grease, which is then rinsed away.
- As surfactants, soaps also **reduce water's surface tension**, helping it spread and clean effectively.

Detergents:

- Synthetic cleaning agents developed during **World War I**, when oils and fats were scarce.
- Chemically, they are **sodium salts of alkyl benzene sulphonic acids or alkyl sulphates** (not fatty acids).
- **Examples:** Sodium lauryl sulphate (SLS), Linear Alkyl Benzene Sulphonates (LABS).

Types of Detergents:

- **Anionic detergents:** Used in washing powders, produce good foam.
- **Cationic detergents:** Found in fabric softeners, conditioners, antiseptics.
- **Non-ionic detergents:** Mild; used in dishwashing liquids, baby products.

Advantages Over Soap:

- Effective in **hard water and acidic conditions** (soap loses lather due to Ca/Mg salts).
- Provide **stronger cleaning action**, suitable for clothes, utensils, and industrial purposes.

DISCOVERY OF A RARE QUADRUPLE STAR SYSTEM IN THE MILKY WAY

Scientists recently reported the first-ever quadruple star system where two T-type brown dwarfs orbit around a pair of red dwarfs, creating a unique stellar arrangement.

Key Discovery

- An international team of scientists has identified a **rare quadruple star system** named *UPM J1040-3551 AabBab* in the Milky Way.
- The system consists of **two young red dwarf stars** orbited by a pair of **cold brown dwarfs** — the first time such a configuration has ever been observed.
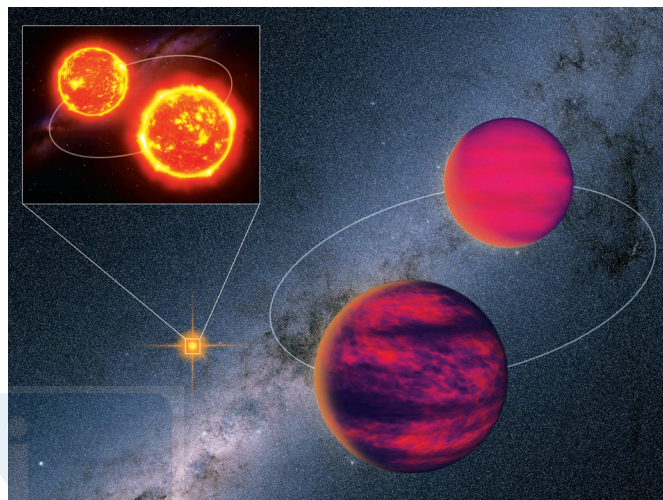
About Brown Dwarfs

- Brown dwarfs are often called **"failed stars"** because they form like stars but lack the mass required for hydrogen fusion.
- They are comparable in size to **gas giants** like Jupiter and Saturn but may weigh up to **70 times more.**
- Being faint and cool, they are **extremely difficult to detect.**

Red Dwarfs vs. Brown Dwarfs

- **Red Dwarfs:** True stars with enough mass to sustain hydrogen fusion. They are the most common stars in the Milky Way, shining dimly but steadily for trillions of years.
- **Brown Dwarfs (Cold Dwarfs):** Sub-stellar objects without sufficient mass for fusion. They remain faint, cooler, and emit very little visible light.

Significance of the Discovery

- Provides valuable clues about **star and planet formation processes.**
- Multiple-star systems act as natural laboratories to determine the **age, temperature, and composition** of faint brown dwarfs.
- A rare find, since fewer than **5% of low-mass brown dwarfs** are known to have companions.

STARTUP PIXXEL'S HYPERSPECTRAL IMAGING CONSTELLATION

Three Pixxel-built hyperspectral imaging satellites were launched aboard SpaceX Falcon 9, completing the first phase of the Firefly constellation.

About

- Pixxel now has six Firefly satellites in orbit , providing global revisit every 24 hours.
- Offers 5-metre resolution with imaging in 135 spectral bands.

Hyperspectral Imaging Constellation

- A **constellation** is a network of satellites working together for continuous global coverage.
- **Hyperspectral imaging** collects data across dozens to hundreds of spectral bands, from visible to short-wave infrared.
- Combined, such a constellation enables **high-resolution daily imaging** of Earth for monitoring ecosystems, agriculture, minerals, and emissions.

Applications

- **Agriculture:** Detect soil nutrient gaps, identify crop species, predict yields.
- **Oil & Gas:** Spot methane leaks and underground seepages.
- **Mining:** Map minerals remotely.
- **Ecosystems:** Monitor deforestation, biodiversity loss, and water quality.

DEEP OCEAN MISSION

Recently, two Indian aquanauts successfully conducted deep-sea dives in the Atlantic Ocean, part of Samudrayaan Project, under the Deep Ocean Mission.

About

- It was launched by the **Ministry of Earth Sciences (MoES)** with an investment of ₹4,077 crore over five years on September 7, 2021.
- It aims to develop technologies for exploring and sustainably utilizing deep ocean resources, and to support **India's Blue Economy** and scientific leadership.
  - Blue Economy is a **core growth dimension**, with potential to push India's maritime economy beyond **₹100 billion.**
- It is being implemented in phases and aligns with the **UN Decade of Ocean Science for Sustainable Development (2021–2030).**

Key Components of the Mission

- **Matsya-6000:**
  - *India's Deep-Sea Submersible:* Development of a manned submersible to carry three people up to 6,000 metres depth.
  - Creation of an **Integrated Mining System** for extracting polymetallic nodules in the **Central Indian Ocean.**
- **Ocean Climate Change Advisory Services:** Building observations and model suites to forecast climate variables from seasonal to decadal scales. Supports better planning for coastal communities and tourism.
- **Biodiversity Exploration & Conservation:** Bio-prospecting of deep-sea flora, fauna, and microbes.
  - Promotes sustainable use of **marine biological resources** for fisheries and allied sectors.
- **Deep Ocean Survey & Exploration:** Identification of **multi-metal hydrothermal sulphide sites** along the mid-ocean ridges.
  - Expands India's access to deep-sea mineral reserves.
- **Energy and Freshwater from the Ocean:** Proof-of-concept for **Ocean Thermal Energy Conversion (OTEC)** powered desalination plants.
  - Advances offshore renewable energy and water security.
- **Advanced Marine Station for Ocean Biology:** Establishment of a research hub for **ocean biology and engineering.** Facilitates innovation, incubation, and industrial applications of marine science.

Strategic Importance

- India's unique maritime geography — with **11,098.81 km** of coastline, nine coastal states, and 1,382 islands — makes it a natural leader in ocean science. The mission supports:
  - Fisheries and aquaculture;
  - Marine biotechnology;
  - Coastal tourism;
  - Energy security
- Prime Minister, in his recent Independence Day address, emphasized India's push toward a 'Samudra Manthan' — a mission-mode effort to explore oil and gas reserves beneath the ocean floor.
- The **Deep Ocean Mission** is now being expanded into a **National Deep Water Exploration Mission.**

Features of the Matsya 6000	
Crew capacity	3 persons
Crew module	2.1-meter diameter titanium alloy sphere
Navigation	Sonar, cameras, sensors for mapping and data collection
Mission	Part of India's Samudrayaan Mission under Deep Ocean Mission
Purpose	Deep-sea exploration, resource mapping, biodiversity studies
Depth capability	6,000 meters (6 km)
Pressure resistance	600 times atmospheric pressure
Developed by	National Institute of Ocean Technology (NIOT), Chennai

ARYA SAMAJ MARRIAGES

The Allahabad High Court has directed the Uttar Pradesh government to launch an investigation into "fake" Arya Samaj societies engaging in registering marriages in the state.

About

- ➲ Arya Samaj was founded by Swami Dayanand Saraswati in 1875 as a Hindu revivalist movement.
- ➲ It promoted conversions through a *"shuddhi"* (purification) ritual and encouraged inter-caste and interfaith marriages.
- ➲ Arya Samaj weddings are quick, simple, and legally recognised under the Hindu Marriage Act, 1955 (for Hindus, Buddhists, Jains, and Sikhs).
  - ◆ People from other religions can marry by first converting through a quick shuddhi ritual.
- ➲ **The Arya Marriage Validation Act, 1937** legally recognises **inter-caste and interfaith marriages,**if both parties are Arya Samajist at the time of marriage.
- ➲ Unlike the **Special Marriage Act (SMA),1954**, Arya Samaj weddings do not require a **30-day public notice**, helping couples avoid harassment.
- ➲ **Controversy:** Many states (like Uttar Pradesh and Madhya Pradesh) have passed anti-conversion laws requiring: Pre- and post-conversion declarations, a 60-day notice, Official inquiries etc.
  - ◆ These rules clash with Arya Samaj's informal conversion process, making such marriages potentially illegal.
  - ◆ Courts have found that some Arya Samaj organisations solemnised child marriages, used fake documents, or ignored conversion laws.
- ➲ The Supreme Court and several High Courts have questioned the legality of these marriages, with investigations ordered.

SCHOOL ENROLMENT TRENDS – UDISE+ 2024–25 (MINISTRY OF EDUCATION)

The UDISE+ 2024–25 data shows that school enrolment has fallen for the third year in a row, mainly due to declining numbers in government schools, while private schools have reached their highest-ever share of enrolments.

Key Findings:

- ➲ **Overall Enrolment:**
  - ◆ 24.69 crore students in 2024–25, down from 24.80 crore in 2023–24.
  - ◆ Net fall of **11.13 lakh students (0.5%),** third straight yearly decline.
- ➲ **Government vs Private Schools:**
  - ◆ Govt. school enrolment fell from **13.62 crore (2022–23) → 12.16 crore (2024–25).**
  - ◆ Private school enrolment rose from **8.42 crore → 9.59 crore** in the same period.
  - ◆ Private schools now account for **39% of enrolment,** the highest since 2018–19 (earlier 33–37%).
- ➲ **Number of Schools:**
  - ◆ Govt. schools reduced to **10.13 lakh (2024–25)** from 10.18 lakh (2023–24).
  - ◆ Private schools increased to **3.79 lakh** from 3.31 lakh in the same period.
- ➲ **Level-wise Trends:**
  - ◆ **Decline:** Primary classes (1–5).
  - ◆ **Increase:** Pre-primary, upper primary (6–8), secondary (9–10), higher secondary (11–12).
- ➲ **Gender-wise:**
  - ◆ Boys fell slightly to **12.76 crore (2024–25)** from 12.87 crore.
  - ◆ Girls steady at **11.93 crore,** showing marginal rise.
- ➲ **Dropout Rate:** *Secondary level improved sharply:* 13.8% (2022–23) → 8.2% (2024–25)
- ➲ **Gross Enrolment Ratio (GER):**
  - ◆ **Foundational stage (Pre-primary–Class 2):** Stable at ~41%.
  - ◆ **Preparatory stage (Classes 3–5):** Slight decline to **95.4%** (from 96.5%).
  - ◆ **Middle & Secondary (Classes 6–12):** Improved compared to 2023–24.
- ➲ **Reasons for Decline:**
  - ◆ New methodology (since 2022–23) with individual student records, removing duplicates.
  - ◆ Falling birth rates and demographic changes.

NATIONAL ANNUAL REPORT AND INDEX ON WOMEN'S SAFETY (NARI) 2025

The National Annual Report and Index on Women's Safety (NARI) 2025 was recently released by the National Commission for Women (NCW).

About

- ➲ It is a nationwide safety index that surveyed 12,770 women across 31 cities, assessing safety based on infrastructure, harassment incidence and reporting, workplace security, trust in authorities, and day versus night safety perceptions.

- The Northeast performed strongly in this year's rankings, with Kohima, clinching first place, whereas Aizawl, secured the 4th place, and Gangtok, ranked 5th.
- The second and third places have been clinched by Visakhapatnam and Bhubaneswar, respectively.
- **National Safety Score:** It placed the national safety score at **65%,** categorising cities as "much above", "above", "below" or "much below" this benchmark.
- **Least Safe Cities:** Patna, Jaipur, Faridabad, Delhi, Kolkata, Srinagar, Ranchi.
- **Harassment in 2024:** 7 per cent overall, 14 per cent among women under 24
- **Harassment hotspots:** Neighbourhoods (38 per cent), public transport (29 per cent).
- **Trust in authorities:** Only 25% confident of effective action.
- **Reporting rate:** Only 1 in 3 women report harassment.

WOMEN DEVELOPMENT TO WOMEN – LED DEVELOPMENT

The Ministry of Labour and Employment has highlighted that Women's employment rate in India has nearly doubled between 2017-18 to 2023-24.

Recent Trend

- **Increased workforce participation:** PLFS data shows that the women's employment rate (WPR) grew from 22% in 2017-18 to 40.3% in 2023-24.
- **Decreasing Unemployment:** Unemployment rate (UR) dropped from 5.6% in 2017-18 to 3.2% in 2023-24.
- **Rural Areas take the lead:** Female employment has grown by 96% in rural areas, as compared to 43% urban areas.
- **Rise in self-employment:** Female self-employment grew by 30% - from 51.9% in 2017-18 to 67.4% in 2023-24.
- **Economic Leadership:** Women-led MSMEs have nearly doubled, growing from 1 crore in 2010-11 to 1.92 crore in 2023-24.

Policy Push:

- Around 70 central schemes across 15 Ministries and more than 400 State-level schemes focus on supporting female entrepreneurship.
- Gender budgets have increased by 429% in the last decade, rising from ₹ 0.85 lakh crore in FY 2013-14 (RE) to ₹ 4.49 lakh crore in FY 2025-26.
- Flagship programs such as Namo Drone Didi, and Deendayal Antyodaya Yojana – NRLM are also playing a crucial role in this transformation, equipping them with resources and opportunities needed to drive sustainable progress.
- PM Mudra Yojana, which is playing a crucial role in financial inclusion, with women receiving 68% of the total MUDRA loans - (over 35.38 crore loans worth ₹14.72 lakh crore).

- PM SVANidhi has empowered street vendors, around 44% beneficiaries are women under the scheme.

Importance of Women Participation

- **All round Development:** Achieving 70% women workforce participation is central to India's Viksit Bharat 2047 vision.
- **Reducing Disparities:** Employment empowers women economically, increases her stake in family and society thus reducing gender disparity.
- **Optimum utilisation of human resources:** Women constitute almost half of the population,thus their participation in the workforce is critical for reaping the Demographic Dividend.
- **Diverse Perspectives:** Women bring unique viewpoints, enhancing innovation, decision-making, and problem-solving.
- **Talent Pool Expansion:** Including women taps into a broader talent pool, addressing skill shortages and fostering competitive workplaces.
- **Consumer Market Insights:** Women often influence household spending, and their workforce presence helps companies better understand and cater to consumer needs.
- **Achieving Sustainable Development:** It aligns with SDG 5 (Gender Equality) and SDG 8 (Decent Work and Economic Growth).

Grey Areas:

- **Informal Nature of work:** Over the past seven years only 1.56 crore women have joined the formal workforce in comparison to 16.69 crore women in the unorganized workforce.
- **Low Employability:** Employability rate of 47.53% for female graduates and 40% for postgraduate women.

Government Initiatives:

- **Mahila Kisan Sashaktikaran Pariyojana (MKSP):** Empowers rural women in agriculture with skills for sustainable livelihoods.
- **Stand-Up India Scheme:** Provides loans (Rs. 10 lakh to Rs. 1 crore) for women to start enterprises in manufacturing, trading, or services.
- **Working Women Hostel Scheme:** Offers safe accommodation and daycare for working women.
- **Mahila E-Haat:** Online platform for women entrepreneurs to sell products like clothing and home decor.
- **Mahila Police Volunteers:** Links police with communities to create a safe environment and encourages women in law enforcement.
- **Mahila Samridhi Yojana (MSY):** Provides micro-finance for women entrepreneurs from backward communities.
- **PoSH Act, 2013:** To provide protection against sexual harassment of women at workplace.

> I measure the progress of a community by the degree of progress which women have achieved.
> —Bhim Rao Ambedkar

9 CULTURE & HISTORY

PIPRAHWA RELICS OF THE BUDDHA

Sacred Piprahwa Buddha relics that recently surfaced at an auction by Sotheby's in Hong Kong were repatriated to India after 127 years.

About

➲ The Piprahwa Relics are a collection of sacred artefacts discovered in 1898 at the Piprahwa Stupa in Uttar Pradesh, India.

➲ The site is believed to be associated with ancient Kapilavastu, the homeland of Gautama Buddha.

➲ These relics, unearthed by British colonial engineer **William Claxton Peppé** in 1898, include bone fragments believed to be those of Lord Buddha, along with crystal caskets, gold ornaments, gemstones, and a sandstone coffer.

➲ An inscription in Brahmi script on one of the caskets links the relics directly to the Sakya clan, to which Buddha belonged, indicating that these remains were enshrined by his followers around the third century BC.

➲ Further excavations by the **Archaeological Survey of India** between 1971 and 1977 uncovered additional steatite caskets containing 22 sacred bone relics, which are now preserved at the National Museum in New Delhi.

➲ **The Ministry of Culture**, in collaboration with **Godrej Industries Group**, orchestrated their return through a decisive intervention by halting their sale and bringing them back to their rightful home.

SARNATH NOMINATED FOR WORLD HERITAGE STATUS

India has submitted a dossier titled "Ancient Buddhist Site, Sarnath" to the UNESCO World Heritage Centre for the 2025–26 nomination cycle.

About

➲ **Location:** It is situated near Varanasi, Uttar Pradesh.

➲ **Historical Significance:** In Sarnath Gautama Buddha delivered his **first sermon,** known as the **Dhammachakkappavattana Sutta** (Setting the Wheel of Dhamma in Motion), after attaining enlightenment.

   ◆ This event marks the beginning of the Buddhist Sangha (monastic community).

➲ **Cultural Importance:** Sarnath is one of the four most sacred Buddhist pilgrimage sites, alongside **Bodh Gaya, Lumbini, and Kushinagar**, and served as a **major centre for Buddhist learning and dissemination**, closely linked to ancient transnational pilgrimage routes and cultural exchanges.

◆ It reflects the interplay of **Mauryan, Kushan, and Gupta** architectural styles.

Key Monuments and Structures at Sarnath

➲ **Dhamek Stupa:** Built in **500 CE** to commemorate Buddha's first sermon. It is 42 metres tall and purported to house one of Buddha's relics.

➲ **Ashokan Pillar:** Erected by Emperor Ashoka with an edict; originally topped with the Lion Capital, now India's national emblem.

➲ **Chaukhandi Stupa:** Commemorates the spot where Buddha met his first five disciples.

➲ **Mulagandha Kuti Vihar:** Modern temple built by the Mahabodhi Society, housing frescoes depicting Buddha's life.

➲ **Sarnath Archaeological Museum:** Houses important artefacts, including the original Lion Capital of Ashoka.

Additional Information

➲ As per the Operational Guidelines, 2024, only one property can be submitted for the inscription process in any given cycle.

➲ The nomination process takes approximately 1.5 years from the date of submission of the dossier, after following the process of inscription as laid down in Operational Guidelines, 2024.

RATADIYA RI DHERI

A Harappan site has surfaced at Ratadiya Ri Dheri in Jaisalmer district, marking the first known Indus Valley settlement in Rajasthan's arid region.

About

➲ It is located 17 km **northwest of Pakistan's Sadewala** where **Harappan traces were earlier found.**

➲ This finds **bridges a vital archaeological gap** between northern Rajasthan and Gujarat.

   ◆ Until now, **Pilibanga** in northern Rajasthan was the state's most prominent Harappan site — discovered by Italian Indologist Luigi Pio Tessitori in the early 20th century and excavated in the 1960s.

EVOLUTION OF THE INDIAN NATIONAL FLAG

The Prime Minister paid tribute to Pingali Venkayya on his birth anniversary.

About

➲ He was born on 2 August 1876, in Krishna district, Andhra Pradesh

➲ He was a freedom fighter and the designer of the Indian national flag, which later evolved into the present-day Tricolour.

➲ In 1921, he presented a flag design to Mahatma Gandhi at a Congress session in Vijayawada.

◆ The flag initially consisted of red and green stripes representing Hindus and Muslims respectively and on Gandhi's suggestion, a white stripe was added to represent other communities in India.

➲ This flag design was used informally at Congress meetings from 1921 and served as the foundation for the Indian national flag, which was officially adopted in its final form by the Constituent Assembly on 22 July 1947.

Evolution of the Indian National Flag

➲ In 1906, during the Swadeshi and Boycott struggle, a flag of India was hoisted for the first time in the Parsee Bagan Square in Calcutta (present-day Kolkata).

➲ In 1907, a similar flag with slight modifications was raised by Madam Bhikaji Cama in Paris. This flag was also exhibited in Berlin at a socialist conference and thus came to be called the Berlin Committee Flag.

➲ In 1917, as a part of the Home Rule Movement, Annie Besant and Bal Gangadhar Tilak hoisted another flag. The flag signified autonomous rule for Indians within the Colonial Empire.

➲ In 1921, at the Bezwada (now Vijayawada) session of Congress, a young freedom fighter Pingali Venkaiah, presented a design of a flag to Mahatma Gandhi. The flag consisted of three stripes representing multiple communities living in harmony in India.

◆ A spinning wheel was superimposed in the center, signifying the country's progress.

➲ In 1931, a formal resolution was passed adopting Pingali Vekaiah's flag with a little modification. While the white and green remained, the red was replaced by saffron. The saffron was for courage, white for peace and green for fertility and growth.

➲ Finally, in July 1947, the Constituent Assembly formally adopted the flag of free India. The spinning wheel was replaced by the Dharma Chakra of Emperor Ashoka, symbolizing truth and life *(This came to be called the Tiranga)*.

PATALPANI-KALAKUND LINE

Western Railway has resumed operations of the 9.5 km metre-gauge heritage train on the 155-year-old Patalpani–Kalakund line in Madhya Pradesh, after a brief suspension due to reduced tourist footfall.

About

➲ Located on the **Dr. Ambedkar Nagar (Mhow)–Khandwa section**, the Patalpani–Kalakund line lies in the heart of Madhya Pradesh's hilly terrain.

➲ Maharaja **Tukoji Rao Holkar II,** who reigned from 1844 to 1886, proposed the construction of a railway line from Indore to Khandwa, which would include the Patalpani-Kalakund section.

➲ The project was completed in **1878,** and called the **Holkar State Railways** which, in **1881-82**, was merged with the **Rajputana-Malwa Railway.**

SYLHETI LANGUAGE

Sylheti was recently in the news, after a remark linking it to Bangladeshi dialects, sparking debate over its distinct identity and Indian roots.

About

➲ **Sylheti is a language** (or dialect) spoken in South **Assam's Barak Valley**, as well as in the **Sylhet Division** of present-day Bangladesh.

◆ It also has a presence in neighbouring regions of **Meghalaya and Tripura.**

➲ Despite being closely related to standard Bengali, **Sylheti has distinct phonetics, vocabulary, and syntax**.

➲ **Linguistically, the status of Sylheti is contested**. Some argue it is a dialect of Bengali due to mutual intelligibility, while others, including many scholars and native speakers, regard it as a separate language.

➲ Areas where Sylheti is spoken are often characterised by **diglossia-a situation in which two languages (or two varieties of the same language) are used under different conditions within a community, often by the same speakers** , with standard **Bengali used in formal domains** like education and literature, and **Sylheti in informal, everyday speech.**

➲ Some seven million people in the North East speak Sylheti, many of whom have been living in present-day India well before East Pakistan(later Bangladesh).

SYLHETI-SPEAKING AREAS

100ᵗʰ ANNIVERSARY OF KAKORI TRAIN ACTION

The Kakori Train Action (Kakori Conspiracy) was carried out by the members of Hindustan Republican Association (HRA) on 9 August 1925 at Kakori, a village near Lucknow in present-day Uttar Pradesh.

About

- The robbery was conceived by the members of Hindustan Republican Association under the leadership of Ram Prasad Bismil and Ashfaqullah Khan primarily to fund their organisation's revolutionary activities.
- The robbery plan was executed by Ram Prasad Bismil, Ashfaqullah Khan, Rajendra Lahiri, Chandra Shekhar Azad, Sachindra Bakshi, Keshab Chakravarty, Manmathnath Gupta, Mukundi Lal, Murari Lal Khanna and Banwari Lal.
- One passenger was killed.
- In 1927, *Ram Prasad 'Bismil', Ashfaqulla Khan, Rajendra Nath Lahiri and Thakur Roshan Singh* (not a part of Kakori Action) were hanged to death by the British government on the charge of their involvement in the incident.

KODALI KARUPPUR SILK SARI

The Kodali Karuppur silk sari, a luxurious garment once favoured by the Maratha kings of Thanjavur is now witnessing a steep decline.

About

- It derives its name from **Karuppur, a village near Kumbakonam** in the **Thanjavur (Tanjore) region of Tamil Nadu.**
- Once woven only for the queens and nobilities of the Tanjore court, Kodali Karuppur textile is an extraordinary combination of Jamdani and dye painting, found by the Maratha rulers of Thanjavur during the 18th-19th century. The was an essential part of the bride's trousseau in Baroda, Kolhapur, and Satara.
- Because of the highly skilled labour involved, the craft started declining with the downfall of royalty in the country.
- Today's Kodali Karuppur sarees have lost their original allure and can only be recreated with block printing and natural colours.
- The dye painting process is extremely complicated and time-consuming, which led to adopting block printing techniques to replicate them.
- The Kodali Karuppur saree does not currently have a GI (Geographical Indication) tag.

DHIRIO

Legislators in Goa across party lines have called for a legalisation on bull fighting, known locally as Dhirio or Dhiri, arguing it is a vital part of the state's cultural heritage.

About

- It is also spelled **Dhiri** and refers to traditional bullfighting events in Goa, where two bulls are pitted against each other.
  - The bulls fight head-to-head until one retreats or is injured.
- It is historically tied to post-harvest festivities and church feasts.
  - Bulls were named and had fan followings.
- It was banned in 1996 by the Bombay High Court at Goa under the **Prevention of Cruelty to Animals Act, 1960** due to concerns over animal welfare.
- In 2014, the Supreme Court passed an order prohibiting all animal races and fights
  - Despite the ban, clandestine fights continue, especially in South Goa's coastal villages.

SHAHEED UDHAM SINGH

Recently the Prime Minister paid tribute to Udham Singh on his martyrdom day.

About

- **Birth:** 26 December 1899, at Sunam in Sangrur district of Punjab.
- **Legacy:**
  - Assassinated **Michael O'Dwyer,** the **former Lieutenant Governor of Punjab,** on 13 March 1940 at Caxton Hall in London — to avenge the 1919 Jallianwala Bagh massacre.
  - The Jallianwala Bagh massacre deeply disturbed him, prompting him to travel to England to avenge the killings.
  - During trials, he called himself **Ram Mohammad Singh Azad** emphasising his secular credentials along with his commitment to freedom of India.
  - He was hanged on July 31, 1940.
- **Political Affiliation:** Ghadar party

Additional Information

- The **Jallianwala Bagh massacre** took place on **April 13, 1919,** when British Indian Army troops on the order of **General Dyer** opened fire on a peaceful gathering of unarmed protesters and pilgrims in Amritsar, Punjab, on the occasion of Baisakhi.
- The crowd had assembled to protest the arrest of nationalist leaders **Satya Pal and Saifuddin Kitchlew.**
- The indiscriminate firing led to massive casualties. According to official British records, 379 people were killed and around 1,200 injured.
  - However, other estimates put the death toll at over 1,000.
- **Michael O'Dwyer** was the **Lieutenant Governor of Punjab** at that time and he endorsed General Dyre's action.

71ST NATIONAL FILM AWARDS

The 71st National Film Awards were announced on August 1st, 2025, recognizing films certified between January 1 and December 31, 2023.

About

➲ **Established** in 1954.

➲ Administered by the **Directorate of Film Festivals (DoFF)** under the **Ministry of Information and Broadcasting,** Government of India.

➲ **Purpose:** To encourage production of films with **artistic and technical excellence.**

  ◆ To promote cinema that reflects **India's cultural and social diversity.**

  ◆ To recognize and honour achievements across **languages, regions, and formats.**

➲ **Award Components:**

  ◆ **Swarna Kamal (Golden Lotus):** Includes a medallion, certificate, and cash prize; given in top categories.

  ◆ **Rajat Kamal (Silver Lotus):** Awarded in several other categories.

➲ **Main Categories:**

  ◆ **Feature Films** – Honours excellence in storytelling, performance, and technical quality across Indian languages.

  ◆ **Non-Feature Films** – Includes documentaries, short films, and socially relevant cinema.

  ◆ **Best Writing on Cinema** – Recognizes books, critics, and scholarly contributions that enhance understanding of cinema.

➲ **Eligibility Criteria:**

  ◆ Films must be **produced in India.**

  ◆ Producers/directors must be **Indian nationals.**

  ◆ Films must be **certified by the CBFC** between **January 1 – December 31** of the award year.

  ◆ Foreign co-productions may qualify if they meet specific conditions.

The credits roll...

The jury for the 71st National Film Awards picked the winners from 332 feature film entries for 2023

■ **Best film on national values**
Sam Bahadur (Hindi)

■ *Best direction*
The Kerala Story (Hindi) | Sudipto Sen

■ **Best documentary**
God Vulture and Human

■ **Best Editing**
Pookkaalam (Malayalam)

■ **Best short film**
Giddh The Scavenger (Hindi)

■ **Best screenplay**
Baby (Telugu), Parking (Tamil), Sirf Ek Bandaa Kaafi Hai (Hindi)

■ **Best Film:** *12th Fail (Hindi)*

Best male actor Shah Rukh Khan *(Jawan)* **and Vikrant Massey** *(12th Fail)*

■ **Best children's film:** *Naal 2 (Marathi)*

■ **Best production design: 2018** – *Everyone Is A Hero (Malayalam)*

Best female actor Rani Mukerji *(Mrs. Chatterjee vs Norway)*
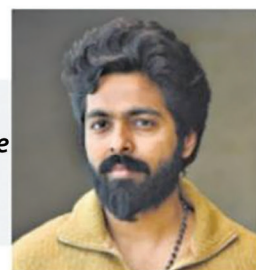
■ **Best music direction:** G.V. Prakash Kumar *(Vaathi) and* Harshavardhan Rameshwar *(Animal)*

■ **Best choreography** *Rocky Aur Rani Kii Prem Kahaani (Hindi)*

➲ **Jury and Selection:**
  ◆ Separate **independent juries** for each category.
  ◆ The selection process is **free from governmental or commercial influence.**

UNDP EQUATOR INITIATIVE AWARD

The Bibi Fatima Women's Self-Help Group (SHG) from Teertha village in Dharwad district, Karnataka, has won the Equator Prize 2025, awarded by the United Nations Development Programme (UNDP).

About

➲ **Launched:** In 2002
➲ The award is **presented annually** to honor nature-based solutions led by **Indigenous Peoples and local communities** that promote sustainable development and ecological resilience.
➲ The award is also referred to as the **Nobel Prize for Biodiversity Conservation.**

Bibi Fathima Swa Sahaya Sangha (Bibi Fatima SHG)

➲ **Founded in Karnataka,** this women-led initiative supports over **5,000 farmers** across **30 villages** through **millet-based multi-cropping, seed banks, and solar-powered processing.**
➲ Combining traditional knowledge with regenerative agriculture and renewable energy, it **restores biodiversity, boosts food security, and empowers marginalized women** and youth as agripreneurs, advancing climate resilience and equity.

NATIONAL SPORTS DAY

On National Sports Day, India honors Major Dhyan Chand, celebrated as one of the greatest hockey players in history.

About

➲ The Indian Government declared August 29 as National Sports Day in **2012.**
➲ It is celebrated annually to emphasise the importance of sports and physical activities and serves to honour Major Dhyan Chand's legacy in Indian hockey.
➲ This year's celebrations include a **three-day Sports Movement** under the theme **"Ek Ghanta, Khel ke Maidan Main".**
➲ India has several campaigns to promote **health, sports, and fitness,** including **'Khelo India' and 'Fit India Movement'.**
  ◆ **The International Sports Day,** on the other hand, is celebrated on **April 6** to mark the **first Olympic Games held in Athens.**

About Major Dhyan Chand

➲ He is Known as the **"Wizard of Hockey"** for his exemplary display of sportsmanship.

➲ **Achievements:** Won Olympic Gold medals in **1928 (Amsterdam), 1932 (Los Angeles), and 1936 (Berlin).**
➲ He was honoured with the country's prestigious civilian honour, Padma Bhushan, in 1956.

NATIONAL ANUBHAV AWARDS

The National Anubhav Awards 2025 is going to be held at Vigyan Bhawan, New Delhi, marking the 10th anniversary of the awards.

About

➲ **Launch Year:** 2015
➲ **Purpose:** To **incentivise and encourage retired government employees** to share their work experiences and administrative insights.
➲ **Eligibility:** Employees who are retiring within the next **8 months,** or who have retired within the past **3 years,** can submit their write-ups on the **Anubhav Portal,** which are then evaluated by the Department of Pension & Pensioners' Welfare (DoPPW).
➲ **Evolution:**
  ◆ **2015:** Started with 5 National Anubhav Awards.
  ◆ **2023:** Introduced **10 Anubhav Jury Awards,** increasing total awards to **15 annually** for wider participation.

INTERNATIONAL OLYMPIAD ON ASTRONOMY AND ASTROPHYSICS

The 18th International Olympiad on Astronomy and Astrophysics (IOAA) was hosted by India from 11 to 21 August 2025 in Mumbai.

About

➲ **Establishment:**
  ◆ **Founded in 2006** to provide a **global platform** for high school students with an interest in astronomy.
  ◆ The **first IOAA** was held in **2007 in Thailand** with **21 countries** participating.
  ◆ The event also marked the **adoption of statutes and governance structure** of the Olympiad.
➲ **Objectives:**
  ◆ To **promote scientific education** in astronomy and astrophysics among youth.
  ◆ To foster **international collaboration** and exchange of ideas among young astronomers.
➲ **Host Countries:**
  ◆ The Olympiad is hosted **annually** by different nations.
  ◆ Past hosts include **Brazil, China, Colombia, Georgia, Greece, Hungary, India, Indonesia, Iran, Poland, and Romania.**
➲ **IOAA in India:** India has hosted the IOAA **twice**:
  ◆ 2016 in Bhubaneswar.
  ◆ 2025 edition in Mumbai (current year).

- **2025 Highlights:**
  - Participation of over 300 high school students from 64 countries.
  - The event spans **10 days.**
  - **Theme:** *"Vasudhaiva Kutumbakam"* – the ancient Indian concept of **"the world as one family under one sky".**

RUGBY-CENTRIC BRONCO TEST

The BCCI has reportedly introduced a rugby-centric Bronco fitness test for Indian players in an effort to ensure consistently high fitness standards.

About

- **Bronco Test** – Shuttle runs of 20 m, 40 m, 60 m repeated; target is under **6 minutes**; measures stamina, speed, and aerobic endurance.
- **Yo-Yo Test** – 20 m runs with increasing pace; **10-sec recovery after 40 m**; passing score **17.1**; focuses on interval recovery and agility.
- **2 KM Time Trial** – Role-specific benchmarks; e.g., **fast bowlers must finish within 8 min 15 sec**; measures sustained speed and endurance.
- **Combined Use** – Together, these tests give a **comprehensive assessment** of players' fitness for international competition.

CCPA SLAPS PENALTY ON RAPIDO FOR MISLEADING ADS

The Central Consumer Protection Authority (CCPA) has fined Rapido ₹10 lakh for misleading ads and unfair trade practices. Its campaigns "Guaranteed Auto" and "AUTO IN 5 MIN OR GET ₹50" were found to be false and deceptive.
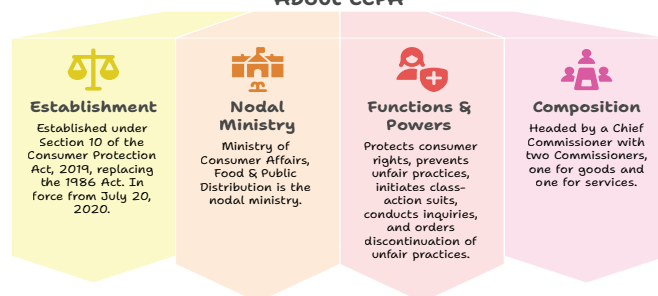
Meaning of Misleading Advertising

- Misleading advertising is the use of false, deceptive, or unsubstantiated claims to promote a product or service. The deception can be intentional, or it can be a result of negligence or omission.

Legal Aspects

- **Consumer Protection Act, 2019** empowers CCPA to take action against misleading advertisements and unfair trade practices.
  - **Section 20:** Allows the authority to pass directions, including stopping unfair practices and refunding money.
  - **Section 21:** Specifically deals with misleading advertisements, allowing penalties against endorsers, manufacturers, and service providers.
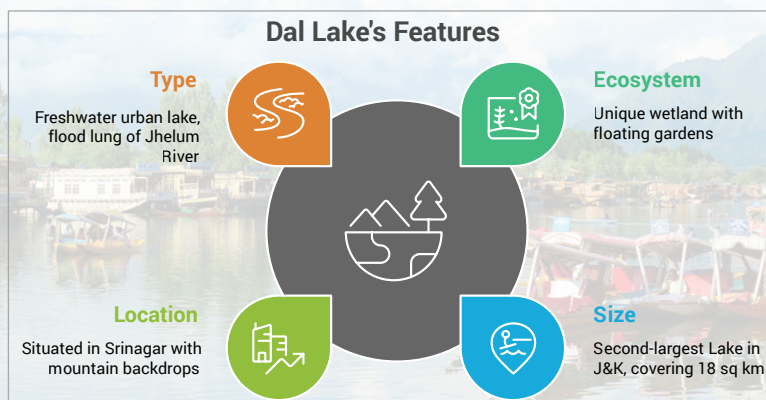
About CCPA

Establishment	Nodal Ministry	Functions & Powers	Composition
Established under Section 10 of the Consumer Protection Act, 2019, replacing the 1986 Act. In force from July 20, 2020.	Ministry of Consumer Affairs, Food & Public Distribution is the nodal ministry.	Protects consumer rights, prevents unfair practices, initiates class-action suits, conducts inquiries, and orders discontinuation of unfair practices.	Headed by a Chief Commissioner with two Commissioners, one for goods and one for services.

KHELO INDIA WATER SPORTS FESTIVAL AT DAL LAKE

Dal Lake, the jewel of Kashmir, is hosted the first-ever Khelo India Water Sports Festival.

About

- **Organisers:** Sports Authority of India (SAI) & J&K Sports Council.
- **Events:** More than **500 athletes** from **36 states and union territories** participated in competitive sports events of **rowing, canoeing and kayaking.**
  - The Festival also featured demonstration events like **water skiing, dragon boat and Shikara race.**
- **Mascot:** Inspired by the **Himalayan Kingfisher,** symbolising adventure, energy, and connection with nature.
- **Significance:** This festival is a direct result of the Central Government's **Khelo Bharat policy**, aimed at boosting grassroots sports, generating livelihoods and rejuvenating local infrastructure.

Dal Lake's Features

- **Type** – Freshwater urban lake, flood lung of Jhelum River
- **Ecosystem** – Unique wetland with floating gardens
- **Location** – Situated in Srinagar with mountain backdrops
- **Size** – Second-largest Lake in J&K, covering 18 sq km

11 DATA RECAP

INDIA-JAPAN

- Bilateral trade stood at $21.96 billion in 2022–23, though imbalanced (India's exports $5.46 bn; imports $16.49 bn), reflecting the need for diversification.
- **Investment Target doubled** — new goal of 10 trillion Yen private investment in India, with focus on Japan Industrial Townships and MSMEs.
- Human Resource Exchange Plan launched with a target of 500,000 exchanges in 5 years, including 50,000 skilled Indian professionals to Japan.

SC RULING ON STRAY DOGS

- India is home to over 60 million stray dogs, accounting for 37% of the global stray dog population.
- Dog bites occur every 10 seconds in India, totaling over 3 million annually.
- Rabies claims two lives every three hours.
- Nearly 20,000 rabies deaths annually are linked to stray dog bites.

US IMPOSES 50% TARIFFS ON INDIA

- The U.S. goods trade deficit with India was $45.8 billion in 2024.
- Could affect nearly 55% of India's $87 billion in merchandise exports to the U.S.
- Up to 2 million jobs are at risk in the near term.
- Overall GDP growth could decline by 0.2–0.5%.
- Gems and Jewelry with U.S. market share of about $10 billion is at risk of losing competitiveness.
- The US accounts for 27% of India's auto component exports, 15-20% of India's exports to the US could be lost in the short term.
- India has saved at least $17 billion by purchasing Russian crude since the commencement of the Russia-Ukraine war in February 2022.
- India is targeting 40 countries, including the UK, Japan, South Korea, and the UAE, to boost textile exports.

AVIATION SECTOR IN INDIA

- India has emerged as the world's fifth biggest aviation market, handling 211 million passengers in 2024.
- In 2024, New Delhi airport was the 7th busiest passenger airport in the world, up from 15th in 2019 and 29th in 2011.
- 78 percent of the total passengers are domestic.
- In 2023, the aviation industry contributed USD 53.6 billion to India's economy which is approximately 1.5% of India's GDP, underpinning 7.7 million jobs in the country.

- India's air cargo handling capacity reached 8 million MT in FY24.

IMPACT OF ETHANOL BLENDING

- EBP initially aimed for 10% ethanol blending (E10) and later 20% (E20) by 2030, which India achieved in 2025.
- Globally, Brazil has ~27% blending, and the USA ~10%.

INDIA'S NATIONALLY DETERMINED CONTRIBUTIONS (NDC)

- Reducing its GDP's emission intensity by 45% by 2030 from 2005 levels.
- Achieving 50% cumulative electric power capacity from non-fossil fuel sources by 2030.
- Creating an additional carbon sink of 2.5-3 billion tonnes of carbon dioxide equivalent by 2030 through afforestation.

HEALTH IMPACTS OF LAND DEGRADATION & DROUGHT

- Between 1970 and 2019, drought caused 650,000 deaths worldwide.
- From 2015 to 2019, at least 100 million hectares of productive land was degraded each year.
- Drylands cover 41% of global land. The population living in drylands is projected to double to over 5 billion by 2100.

INDIA AMONG WORLD'S MOST EQUAL SOCIETIES

- Extreme poverty dropped to 2.3% in 2022-23 and 171 million Indians moved out of extreme poverty between 2011–23.
- India's score is much lower than China's 35.7 and far lower than the United States, which stands at 41.8.

WOMEN DEVELOPMENT TO WOMEN – LED DEVELOPMENT

- **Increased workforce participation:** PLFS data shows that the women's employment rate (WPR) grew from 22% in 2017-18 to 40.3% in 2023-24.
- **Decreasing Unemployment:** Unemployment rate (UR) dropped from 5.6% in 2017-18 to 3.2% in 2023-24.
- **Rural Areas take the lead:** Female employment has grown by 96% in rural areas, as compared to 43% urban areas.
- **Rise in self-employment:** Female self-employment grew by 30% - from 51.9% in 2017-18 to 67.4% in 2023-24.
- **Economic Leadership:** Women-led MSMEs have nearly doubled, growing from 1 crore in 2010-11 to 1.92 crore in 2023-24.

TEST YOURSELF

SUBJECTIVE QUESTIONS

GS PAPER-I

1. The Quit India Movement is often termed the "August Revolution." How did it transform India's freedom struggle despite its immediate failures?

   (15 Marks, 250 Words)

2. Examine the role of women like Aruna Asaf Ali and Usha Mehta in the Quit India Movement, and assess how such participation reshaped the gender dimension of India's national struggle.

   (10 Marks, 150 Words)

GS PAPER-II

3. India's civilizational links with Japan, such as Bodhisena's consecration of the Great Buddha at Todaiji Temple, highlight cultural diplomacy. Analyse their contemporary significance.

   (10 Marks, 150 Words)

5. Evaluate the constitutional and federal challenges arising from the Supreme Court's rulings on stray dog management vis-à-vis public health and animal rights.

   (10 Marks, 150 Words)

6. The Ravi–Beas Tribunal exemplifies the delays in adjudicating inter-state water disputes. Critically examine institutional shortcomings in India's water governance.

   (15 Marks, 250 Words)

7. The India–Philippines Strategic Partnership (2025) comes amid tensions in the South China Sea. Analyse its geopolitical importance for India's Indo-Pacific outreach.

   (15 Marks, 250 Words)

8. The Jan Vishwas (Amendment of Provisions) Bill, 2025 furthers decriminalisation of economic laws. Assess its role in promoting trust-based governance.

   (15 Marks, 250 Words)

9. Examine the significance of Parliamentary Committees in ensuring accountability in sectors like aviation and digital regulation. *(15 Marks, 250 Words)*

10. Discuss the contribution of diaspora communities, with reference to Indians in Japan and the Philippines, in strengthening India's soft power and bilateral relations.

    (15 Marks, 250 Words)

GS PAPER-III

11. India's aviation industry has emerged as the third-largest market in the world. Discuss the factors driving its growth.

    (15 Marks, 250 Words)

12. The DGCA's dependence on the Ministry of Civil Aviation has raised safety concerns. Should India grant full autonomy to its aviation regulator? Analyse. *(10 Marks, 150 Words)*

13. The Indian Ports Act, 2025 gives statutory recognition to State Maritime Boards. How does this reflect the principle of cooperative federalism in port governance?

    (15 Marks, 250 Words)

14. Assess the significance of India's first Green Ammonia auction by SECI in advancing the goals of the National Green Hydrogen Mission. *(15 Marks, 250 Words)*

15. Illegal and unregulated sand mining has emerged as a major ecological and governance challenge in India. Examine its impact on river ecosystems, livelihoods, and law & order, while suggesting sustainable alternatives. *(15 Marks, 250 Words)*

16. The Income Tax (No. 2) Act, 2025 simplifies language and procedures but leaves tax slabs unchanged. Critically evaluate its effectiveness in improving compliance.

    (15 Marks, 250 Words)

17. The Taxation Laws (Amendment) Act, 2025 extends pension exemptions under the Unified Pension Scheme (UPS). Analyse its implications for social security equity.

    (10 Marks, 150 Words)

18. India's dependence on foreign MRO (Maintenance, Repair, and Overhaul) facilities weakens its aviation autonomy. Suggest measures to build domestic capacity. *(10 Marks, 150 Words)*

19. "Wetlands are the kidneys of the Earth, yet they remain among the most threatened ecosystems." In light of India's commitments at Ramsar COP15, discuss the significance of wetlands for ecological security. *(15 Marks, 250 Words)*

20. India has achieved 20% ethanol blending in petrol (E20) five years ahead of its 2030 target. Analyse the environmental, economic, and energy security implications of this achievement, along with challenges in scaling up biofuel adoption.

    (15 Marks, 250 Words)