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IAS ORIGIN

YOUR PATHWAY TO UPSC SUCCESS

WEEKLY CURRENT AFFAIRS

30TH SEPT TO 5TH OCTOBER

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01 100 YEARS OF UPSC

Union Public Service Commission (UPSC) marked its centenary on 1 October 2025, completing 100 years since its establishment in 1926.

CONSTITUTIONAL PROVISION

The Indian Constitution provides for Public Service Commission at the Union and State levels in **Part XIV** (Articles 308 to 323). Below are the key articles relevant to the UPSC and Public Service Commission's:

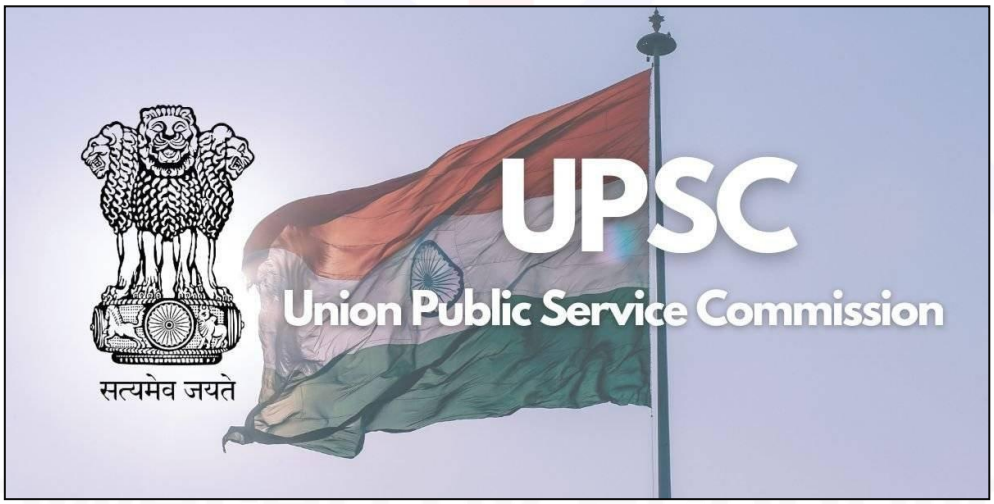
Article	Subject / Key Provisions
Article 315	Establishment of Public Service Commissions for Union and States; possibility of joint State PSCs between states; possibility of the UPSC serving a State on request.
Article 316	Appointment and term of office of Chairman and members of PSCs.
Article 317	Removal and suspension of members of Public Service Commissions.
Article 318	Power of legislature (Parliament or State Legislature) to regulate conditions of service of members and staff of PSCs.
Article 319	Prohibition on reappointment / future employment for PSC members under certain circumstances.
Article 320	Functions of Public Service Commission's (both Union and State).
Article 321	Power for Parliament (by law) to extend functions of UPSC or State PSCs.
Article 322	Expenses of PSCs charged on Consolidated Fund of India (or State).
Article 323	Reports of PSCs: the Union PSC must present annually a report to the President, who lays it before Parliament along with explanations if advice not accepted.

EXPLANATION: ARTICLE 315

- **Clause (1):** There shall be a Public Service Commission for the Union (i.e. UPSC) and a Public Service Commission for each State.

- **Clause (2):** Two or more States can agree (by state legislature resolution) to have a **Joint State Public Service Commission** for those states. If that resolution is passed, Parliament may enact laws to create such a joint commission.
- **Clause (3):** Such law (for a Joint PSC) may include incidental or consequential provisions to give effect to it.
- **Clause (4):** The UPSC (i.e. the Public Service Commission for the Union) may, if requested by the Governor of a State and with the approval of the President, serve any of the needs of that State (i.e. carry out recruitment or other duties for the State PSC)
- **Clause (5):** References in the Constitution to "Union PSC" or "State PSC" shall be construed (unless context demands otherwise) as referring to whichever Commission serves that case (for example, a Joint PSC)

Thus, Article 315 provides the constitutional foundation for creating and recognizing Public Service Commissions at the Union and State levels, and allows flexibility in states forming joint commissions or invoking the Union PSC's assistance under special circumstances.



THE UNION PUBLIC SERVICE COMMISSION (UPSC)

HISTORY & EVOLUTION

- The roots of a civil service commission in India can be traced to reforms under British rule (e.g., under the Government of India Act, 1919).
- The **Public Service Commission** was formally established on **1 October 1926** under British India.
- Later, under the Government of India Act, 1935, it became the **Federal Public Service Commission**.

- After independence and the adoption of the Constitution (26 January 1950), it was re-designated as the **Union Public Service Commission (UPSC)**.

UPSC IN 2025: CENTENARY

- On **1 October 2025**, UPSC will mark **100 years** since its establishment (i.e. from 1926) and will begin a **year-long centenary celebration** until 1 October 2026.
- In August 2025, the UPSC issued a press release announcing the centenary year celebrations with various events and initiatives.
- The Chairman, Dr. Ajay Kumar, said the centenary year is both a time to reflect on legacy and to launch reforms and outreach with aspirants.
- Key initiatives include the launch of a new **logo and tagline** for the centenary, and a **portal "My UPSC Interview: From Dream to Reality"** to allow civil servants (current and retired) to share their experiences and insights.
- The Commission also plans to strengthen its engagement with youth, digital transformation, collaboration with state PSCs, and feedback mechanisms to make selection more inclusive and responsive.

So, 2025–26 is being used as a milestone year to celebrate UPSC's past and plan for future improvements.

CONSTITUTIONAL AND LEGAL BASIS

- UPSC is an **independent constitutional body** created under Articles 315–323 of the Constitution of India.
- Its expenses (salaries, allowances, pensions, staff cost) are charged on the **Consolidated Fund of India**, meaning they do not require annual appropriation by Parliament. (This ensures financial independence.)
- Parliament may, by law, confer additional functions on UPSC beyond what the Constitution provides. **(Under Article 321).**

COMPOSITION, APPOINTMENT & TERMS

- The **Chairman and other members** of the UPSC are **appointed by the President of India**.
- As nearly as may be, **one-half of the members** must be persons who have held office for at least ten years under the Government of India or a State Government.
- A member holds office for a term of **six years**, or until attaining the age of **65 years**, whichever is earlier (for Union PSC).

- After their term, a person is **ineligible for reappointment** as a member of that same commission.
- If the Chairman's post becomes vacant (or the Chairman is unable to perform duties temporarily), one of the other members is appointed by the President to perform those duties until a new Chairman is appointed.
- **Members may resign (by writing to the President) or be removed under certain conditions.**

REMOVAL, SUSPENSION & RESTRICTIONS

- A Chairman or member can be removed by **order of the President** on the ground of "misbehavior" **only after** the Supreme Court, on a reference made by the President, holds an inquiry and reports that removal is justified.
- The President may **suspend** a chairman or member pending the report of the Supreme Court.
- A member is removable if adjudged insolvent, engages in paid employment outside duties, or is, in President's opinion, unfit due to infirmity of mind or body.
- **Reappointment and future employment restrictions**:
    - The Chairman cannot hold any other office under the Government of India or under any State Government after demitting office.
    - A member (other than the Chairman) may be appointed as the Chairman of the PSC (Union or State) or a member of PSC, but cannot hold other employment under the Government of India or State Government.

These provisions help protect the independence and impartiality of UPSC.

FUNCTIONS AND POWERS (ARTICLE 320 & BEYOND)

Article 320 outlines the functions of Public Service Commissions (Union and State).

- **Examinations for recruitment**
    - Conduct examinations for appointments to services of the Union (All India Services, Central Services) and related posts.
    - If requested by two or more States, assist in framing and operating **joint recruitment schemes**.
- **Consultation and advisory role**: The UPSC is to be consulted by the Government on:
    - Methods of recruitment to civil services and civil posts
    - Principles to be followed in appointments, promotions, transfers

- Suitability of candidates for appointment, promotion, or transfer
- Disciplinary matters related to civil servants
- Claims relating to legal costs incurred by civil servants in defending civil proceedings
- Pension-related claims, especially for injuries in service
- Other matters as may be referred by the government (except where the president has made regulations excluding certain matters)

- **Report to President / Parliament**
  - The UPSC must prepare an annual **report** on its performance and the work done.
  - The President lays this report before both Houses of Parliament, along with explanations for non-acceptance of its advice (if any).
- **Other functions**
  - Framing and amending **recruitment and service rules** for various central services and posts.
  - Handling disciplinary cases referred by central ministries or departments.
  - Coordinating with State PSCs, sharing best practices, etc. (especially in the centenary initiatives)

STRUCTURE & SECRETARIAT

- The Commission is staffed by a **Secretariat**, headed by a **secretary**. Beneath the Secretary are Additional Secretaries, Joint Secretaries, Deputy Secretaries, and other supporting staff.
- The Secretariat is organized into **divisions** or branches, each having a specific mandate, such as:
  - Examinations branch
  - Recruitment branch
  - Appointments / promotions / transfers branch
  - Services / disciplinary cases branch
  - General / administrative branch
  - All-India Services branch
  - Recruitment rules branch
  - Research, policy, coordination, etc.

- The number of members in the UPSC varies, but typically it consists of a **chairman** plus around **9 to 11** members.

LIMITATIONS & CRITICISMS / CHALLENGES

- **Advisory (not binding) nature of recommendations**: The Government is not bound to accept UPSC's advice in all matters.
- **Workload and administrative delays**: Due to high volumes of candidates and multiple examinations, scheduling, logistics and result delays can occur.
- **Need for modernization / reform**: Upgrading exam formats, use of technology (AI, e-assessment), better feedback systems, increasing fairness, reducing attrition.
- **Coordination with state PSCs**: Ensuring uniform standards, sharing capacity, joint recruitment schemes.
- **Transparency and accountability**: Maintaining public trust in fairness, minimizing litigation or allegations of bias.

RECENT REFORMS:

- **Technological Integration:** Introduced online portals and biometric/face-recognition tools to reduce impersonation and fraud.
- **PRATIBHA Setu:** Connects interview-qualified candidates with alternate career opportunities, reducing wasted human capital.
- **AI-enabled Recruitment:** Plans to use Artificial Intelligence for efficient screening, evaluation, and fraud detection.
- **Digital Inclusivity:** Special arrangements for differently-abled candidates make exams more accessible and fairer.

WAY FORWARD:

- **Curricular Updates:** Civil service training must include **digital governance, climate change, and global affairs** for relevance.
- **Inclusive Support:** Expand rural outreach, financial scholarships, and digital learning to ensure equal opportunity.
- **Continuous Training:** Strengthen **Mid-Career Training Programmes (MCTPs)** to reskill officers in emerging challenges.
- **Strengthening Ethics:** Deepen integration of **values** like empathy, integrity, and accountability into training and service culture.

02 INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO)

India has been re-elected to Part II of the ICAO Council (2025–2028) during the 42nd ICAO Assembly in Montreal.

ABOUT ICAO (INTERNATIONAL CIVIL AVIATION ORGANIZATION)

Feature	Description
Full Name	International Civil Aviation Organization
Founded	7 December 1944 (by the Chicago Convention)
Headquarters	Montreal, Canada
Parent Organization	United Nations (UN) – Specialized Agency
Membership	193 countries
Primary Objective	To promote the safe, orderly, and sustainable development of international civil aviation
Legal Basis	Chicago Convention on International Civil Aviation (1944)
India's Membership	India is an original signatory of the Chicago Convention (since 1944)

KEY FUNCTIONS OF ICAO

- **Standard-Setting:** Develops global Standards and Recommended Practices (SARPs) for aviation safety, security, efficiency, and environmental protection.

- **Air Navigation:** Coordinates international air traffic management and navigation systems.
- **Safety Oversight:** Conducts audits under the Universal Safety Oversight Audit Programme (USOAP).
- **Environmental Policies:** Leads initiatives like CORSIA (Carbon Offsetting and Reduction Scheme for International Aviation).
- **Capacity Building:** Provides technical assistance and training to member states.

STRUCTURE OF ICAO COUNCIL

The **ICAO Council** is the **governing body** of ICAO, elected by the **ICAO Assembly** (which meets every 3 years).

It has **36 Member States**, divided into **three parts** under Article 50 of the Chicago Convention:

Part	Criteria	Example Countries
Part I	States of chief importance in air transport	USA, UK, France, China, Russia
Part II	States which make the largest contribution to facilities for international civil air navigation	**India, Germany, Brazil, Australia**
Part III	States ensuring representation of all major geographical areas	Kenya, UAE, South Korea, etc.

Thus, India's membership under **Part II** acknowledges its **key contribution to international air navigation infrastructure**, technical expertise, and global connectivity.

INDIA'S ROLE AND ACHIEVEMENTS IN ICAO

- **Founding Member (1944):**
  - India was among the **original signatories** of the Chicago Convention.
- **Continuous Representation:**

- India has been **continuously elected to the ICAO Council** since 1947 — a testimony to its credibility and contribution to global aviation governance.

- **Infrastructure & Air Navigation:**
  - India manages one of the **largest Air Traffic Management (ATM)** networks in the world, handling over **3 million aircraft movements annually**.
  - **Airports Authority of India (AAI)** provides air navigation services across a large portion of the Indian Ocean region.
- **Leadership Roles:**
  - India has served on several ICAO **panels and committees**, including those on Air Navigation Services, Aviation Security, Environment, and Safety Oversight.
  - Indian experts contribute to global aviation safety and airspace management policies.
- **Sustainability Efforts:**
  - India is implementing the **CORSIA** framework to reduce carbon emissions.
  - Working on **Green Airports Initiative** and sustainable aviation fuel (SAF) development.
- **Capacity Building:**
  - Through institutions like **Indira Gandhi Rashtriya Uran Akademi (IGRUA)** and **AAI training centres**, India trains professionals for domestic and international aviation.

INDIA'S GROWING CIVIL AVIATION SECTOR

- India is now the **3rd largest domestic aviation market** globally, after the US and China.
- More than **150 operational airports**, with a target of **220 by 2030**.
- Rapid expansion under **UDAN (Ude Desh ka Aam Nagrik)** scheme — enhancing regional connectivity.
- Adoption of new **technologies**: Digital air traffic control, drone policy, AI-based safety monitoring.
- Growing presence of **Indian carriers** in international routes and cargo operations.

SIGNIFICANCE OF INDIA'S RE-ELECTION

Dimension	Significance
Global Recognition	Reinforces India's position as a leading voice in international aviation policymaking.
Strategic Influence	Allows India to shape discussions on safety, navigation, climate impact, and equitable growth of global aviation.
Economic Advantage	Enhances India's attractiveness for aviation investment, infrastructure partnerships, and technology transfer.
Geopolitical Importance	Positions India as a bridge between developed and developing nations in civil aviation standards.
Environmental Role	Strengthens India's hand in advocating for sustainable aviation and fair carbon frameworks.

WAY FORWARD FOR INDIA IN ICAO (2025–2028)

- **Advocate for Equitable Airspace Use:** Promote balanced global air traffic management and fair slot allocation.
- **Lead on Green Aviation:** Push global adoption of **Sustainable Aviation Fuel (SAF)** and carbon-neutral airports.
- **Enhance South-South Cooperation:** Share India's low-cost model and UDAN success with developing countries.
- **Promote Drone & UAV Regulations:** Champion responsible use of new aviation technologies through ICAO frameworks.
- **Strengthen Safety Oversight:** Support uniform global standards and assist developing states in capacity building.

SUMMARY TABLE

Parameter	Details
Organization	International Civil Aviation Organization (ICAO)
India's Category	Part II (States contributing most to air navigation facilities)

Election Year	2025
Tenure	2025–2028
Assembly	42nd ICAO Assembly, Montreal
Importance	Ensures India's continued role in shaping global aviation policy
Founded (ICAO)	7 December 1944, Chicago Convention
HQ	Montreal, Canada
Members	193 States

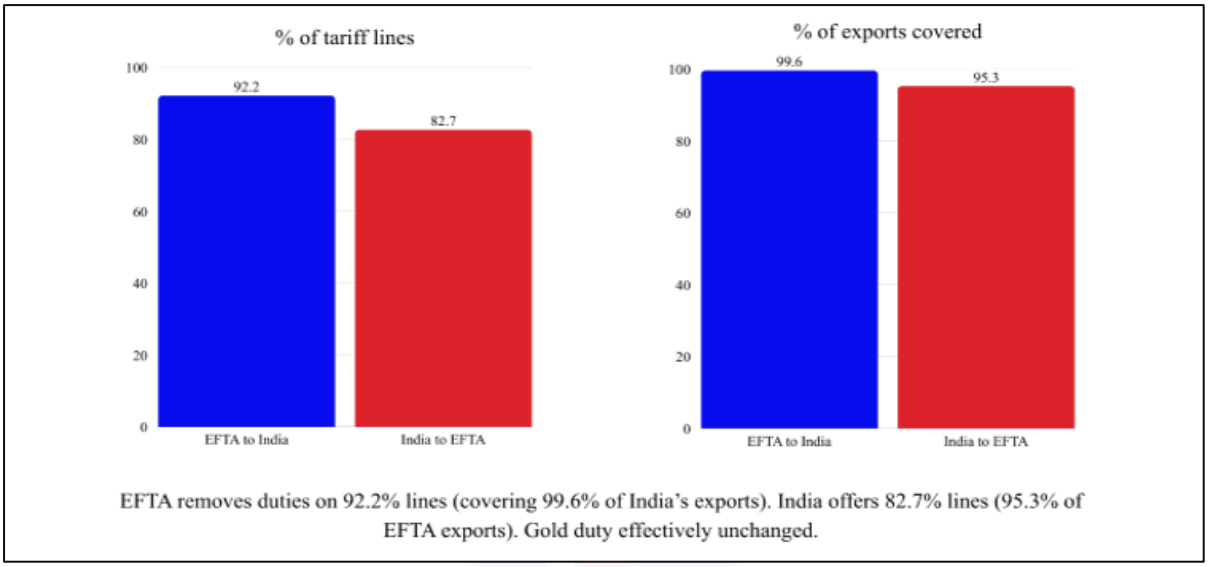
CONCLUSION

India's re-election to the **ICAO Council (Part II, 2025–2028)** reflects international acknowledgment of its **robust civil aviation growth, global connectivity, and contributions to air navigation infrastructure**.

It also aligns with India's vision of becoming a **global aviation hub**, promoting **sustainable air transport**, and leading the **Global South's voice** in international aviation governance.

03 INDIA–EFTA TRADE PACT

India–European Free Trade Association (EFTA) Trade and Economic Partnership Agreement (TEPA) will come into effect on 1st October 2025. It is India's first FTA with four developed European nations, promising $100 bn investments and 1 million jobs in 15 years.



EFTA removes duties on 92.2% lines (covering 99.6% of India's exports). India offers 82.7% lines (95.3% of EFTA exports). Gold duty effectively unchanged.

WHAT IS INDIA–EFTA TEPA

- A comprehensive Free Trade Agreement (FTA) between India and the **European Free Trade Association (EFTA)**.
- First Indian FTA linking **trade, investment, and job creation commitments**.

SIGNED IN:

- Signed on **10th March 2024** at New Delhi.
- To be operational from **1st October 2025.**
- **Nations Involved (EFTA members):** Switzerland, Norway, Iceland, Liechtenstein.
- Switzerland is India's largest EFTA trade partner.

AIM:

- Attract **$100 bn FDI in 15 years** and generate **1 million direct jobs**.
- Expand market access for Indian goods and services.
- Promote sustainable development, skills, and technology transfer.

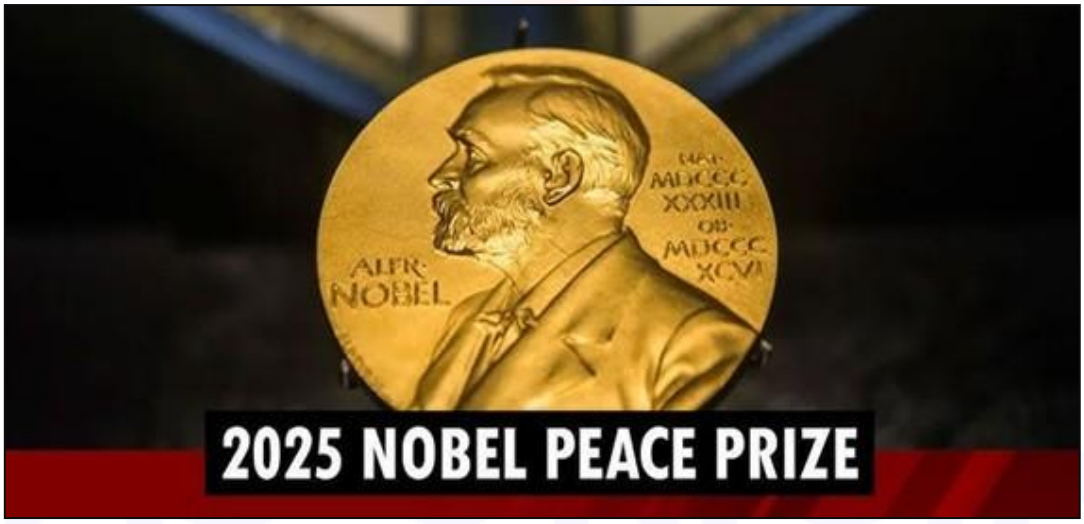
KEY FEATURES OF TEPA:

- **Investment & Employment:**
  - $100 bn FDI commitment from EFTA in 15 years.
  - Creation of 1 million direct jobs in India's manufacturing & services.
- **Market Access for Goods:** EFTA offers **zero-duty access on 92.2% tariff lines** (99.6% of India's exports).
  - **Services & Mobility:**
  - Commitments in **100+ sub-sectors** (IT, education, audio-visual, business services).
  - **Mutual Recognition Agreements (MRAs)** in nursing, architecture, chartered accountancy.
  - Facilitates **Mode 1 (digital delivery), Mode 3 (commercial presence), Mode 4 (personnel mobility)**.
- **Intellectual Property Rights:**
  - TRIPS+ standard with safeguards for **generic medicines**.
  - Prevents **patent evergreening** while protecting innovation.
- **Sustainable Development:**
  - Emphasis on **green growth, social inclusion, environmental protection**.
  - Encourages **technology collaboration** in renewable energy, precision engineering, and health sciences.

04 2025 NOBEL PEACE PRIZE

CONTEXT

- The **2025 Nobel Peace Prize** will be **announced on 10 October 2025** in **Oslo, Norway**, by the **Norwegian Nobel Committee**.
- Thousands of nominations have been received this year, representing individuals and organizations across the world who have made remarkable contributions to **peacebuilding, humanitarian work, conflict resolution, climate action, and human rights**.
- The announcement will be followed by the **award ceremony on 10 December 2025** (the death anniversary of Alfred Nobel).



ABOUT THE NOBEL PEACE PRIZE

Aspect	Details
Instituted by	Alfred Nobel's will (1895)
First Awarded	1901
Presented by	Norwegian Nobel Committee, appointed by the Parliament of Norway (Storting)
Award Ceremony Venue	Oslo, Norway (unlike other Nobel Prizes awarded in Stockholm, Sweden)
Prize Components	Medal, Diploma, and 11 million Swedish kronor (approx. ₹8 crore)
Date of Award	10 December (Nobel Day – Alfred Nobel's death anniversary)

SELECTION PROCESS

- **Nominations (September–January):**
  - Thousands of nominators including professors, parliamentarians, previous laureates, judges, and international leaders submit candidates.
- **Screening (February–March):**
  - The **Norwegian Nobel Committee** shortlists key candidates after review by research staff and external experts.
- **Deliberations (April–September):**
  - Committee members evaluate nominees through reports, global consultations, and field studies.
- **Announcement (October):**
  - Final decision taken through majority vote and announced at a press conference in Oslo.
- **Award Ceremony (December):**
  - Laureate(s) deliver Nobel Lecture and receive the prize on 10 December.

THEMES OF NOMINATIONS IN 2025

While the Nobel Committee keeps the official list **confidential for 50 years**, global media and institutions report recurring themes. For 2025, major focus areas are:

- **Peace and Conflict Resolution:**
  - Mediators in conflicts like **Ukraine–Russia, Israel–Palestine, Sudan, and Myanmar**.

- **Climate and Environmental Peacebuilding:**
    - Individuals linking **climate action with global peace and security**, as resource conflicts rise.
- **Humanitarian Work and Refugee Protection:**
    - NGOs and leaders supporting displaced populations in conflict zones.
- **Women and Youth in Peacebuilding:**
    - Recognition of female mediators and grassroots activists promoting education and equality.
- **Global Disarmament and Human Rights:**
    - Activists working for **nuclear disarmament**, **digital rights**, and **freedom of expression**.

INDIA AND THE NOBEL PEACE PRIZE

Laureate	Year	Contribution
Mother Teresa	1979	Humanitarian work for the poor in Kolkata
Kailash Satyarthi	2014	Campaign against child labour and promotion of child education

Other Indian-origin nominees and organizations have been periodically proposed for peace-related work such as **climate activism, gender equality, and social reform**.

India's diplomatic initiatives like the **"Vasudhaiva Kutumbakam" (One Earth, One Family, One Future)** philosophy under G20 2023 also reflect the nation's peace ethos, though not linked to formal nominations.

SIGNIFICANCE OF THE NOBEL PEACE PRIZE

- **Moral Authority:** Recognizes global leadership beyond political or economic power.
- **Humanitarian Influence:** Brings visibility and funding to peace and development initiatives.
- **Policy Impact:** Encourages governments and multilateral bodies (like the UN) to support peace missions and reforms.
- **Soft Power Projection:** For countries like India, association with peace laureates enhances global image and moral diplomacy.

CRITICISMS AND CHALLENGES

- **Political Bias Allegations:** Some awards (e.g., Barack Obama 2009) were criticized as premature or politically motivated.
- **Limited Global Representation:** Western-centric perception persists in selections.
- **Symbolic over Practical Impact:** Awards often honor moral achievements but may not change realities in conflict zones.

WAY FORWARD

- Strengthen **international peacebuilding institutions** and **grassroots conflict resolution mechanisms**.
- Encourage **South–South cooperation** for humanitarian and climate-driven peace initiatives.
- Recognize **young peacebuilders and women leaders** in global forums.
- Foster **education, climate action, and digital peace** as new frontiers for sustainable harmony.

05 RASHTRIYA SWAYAMSEVAK SANGH (RSS)

CONTEXT

- The **Rashtriya Swayamsevak Sangh (RSS)** — one of India's most influential socio-cultural organizations — is celebrating its **centenary year in 2025**.
- Founded in **1925**, the RSS has completed **100 years of existence**, shaping India's **socio-political, cultural, and ideological landscape** over the past century.
- The organization has announced a year-long series of events, outreach programs, and community initiatives to mark this milestone.

HISTORICAL BACKGROUND

Aspect	Details
Founded on	**27 September 1925** (Vijaya Dashami Day)
Founder	**Dr. Keshav Baliram Hedgewar**, a physician and nationalist from Nagpur, Maharashtra
Headquarters	Nagpur, Maharashtra
Ideological Inspiration	Indian cultural nationalism and revivalism, influenced by thinkers like Swami Vivekananda, Bal Gangadhar Tilak, and Aurobindo Ghose
Motto	"Vasudhaiva Kutumbakam" (The world is one family) and "Swayamsevaks for Nation-building"
Organization Type	Cultural and volunteer-based organization promoting nationalism, discipline, and social service

EVOLUTION OVER THE CENTURY

EARLY PHASE (1925–1947): NATION-BUILDING AND CHARACTER FORMATION

- Focused on **instilling discipline, unity, and patriotism** among Indian youth.
- Conducted **daily shakhas (physical and ideological training camps)** to promote self-reliance.
- Stayed **away from direct political activity** but supported nationalist causes during the freedom movement indirectly.

POST-INDEPENDENCE ERA (1947–1977): CHALLENGES AND REORGANIZATION

- **Banned temporarily** after the **assassination of Mahatma Gandhi (1948)**; later exonerated by government inquiry (1949).
- Re-emerged as a **mass movement focusing on social service, relief work, and cultural unity**.
- Played a key role in **nation-building during wars (1962, 1965, 1971)** by mobilizing volunteers for relief and defense support.

EXPANSION AND POLITICAL INTERFACE (1977–2000):

- During the **Emergency (1975–77)**, many RSS volunteers participated in the underground resistance.
- Post-Emergency, many members helped form the **Janata Party (1977)** and later the **Bharatiya Janata Party (BJP) in 1980**, giving the RSS political visibility.
- Growth of **affiliated organizations (Sangh Parivar)** in education, labor, agriculture, and culture.

MODERN ERA (2000–2025): SOCIAL OUTREACH AND GLOBAL INFLUENCE

- Focus on **nation-building, environmental conservation, rural development, and cultural awareness**.
- Active role in **social harmony, disaster relief (e.g., COVID-19 pandemic, natural calamities)**.
- Expanded international presence through **Hindu Swayamsevak Sangh (HSS)** branches in over 40 countries.

IDEOLOGY AND OBJECTIVES

Core Principle	Explanation
Cultural Nationalism (Hindutva)	Promotes India's unity through shared cultural and civilizational values.
Nation First	Belief that individual and community development should serve national interest.
Discipline and service	Focus on personal character-building, self-discipline, and volunteerism (seva).
Social Harmony	Aims to bridge caste, regional, and religious divides under a common Indian identity.
Self-Reliance	Encourages indigenous entrepreneurship, education, and social reforms.

ORGANIZATIONAL STRUCTURE

Position	Role
Sarsanghchalak (Chief)	Supreme head of the RSS; responsible for guiding ideology and long-term vision. (Current: Dr. Mohan Bhagwat)
Sarkaryavah (General Secretary)	Looks after day-to-day functioning and coordination.
Swayamsevaks (Volunteers)	Grassroots-level members engaged in shakhas, service, and awareness programs.
Prant & Zila Units	Hierarchical network covering states, districts, and villages for organizational outreach.

The **RSS does not maintain formal membership lists** — one becomes part of it through participation in shakhas and voluntary service.

MAJOR ASSOCIATED ORGANIZATIONS (SANGH PARIVAR)

Wing / Organization	Area of Work
Bharatiya Janata Party (BJP)	Political front inspired by RSS ideology

Akhil Bharatiya Vidyarthi Parishad (ABVP)	Student organization
Vishwa Hindu Parishad (VHP)	Cultural and religious mobilization
Bharatiya Mazdoor Sangh (BMS)	Trade union and labor welfare
Bharatiya Kisan Sangh (BKS)	Farmers' rights and agricultural issues
Seva Bharati	Social service and humanitarian work
Rashtra Sevika Samiti	Women's wing inspired by RSS philosophy

CONTRIBUTIONS TO INDIAN SOCIETY

- **National Integration:** Promotes unity beyond linguistic, regional, and caste divisions.
- **Disaster Relief:** Active in rehabilitation efforts during earthquakes, floods, and pandemics.
- **Education and Character Building:** Runs numerous schools (Ekal Vidyalayas, Saraswati Shishu Mandirs) to promote moral and civic education.
- **Rural and Tribal Development:** Focus on self-reliant village models, cow protection, and agricultural reforms.
- **Cultural Preservation:** Revives awareness about India's history, festivals, and indigenous knowledge systems.
- **Environmental Efforts:** Tree-plantation drives, organic farming awareness, and river-cleaning campaigns.

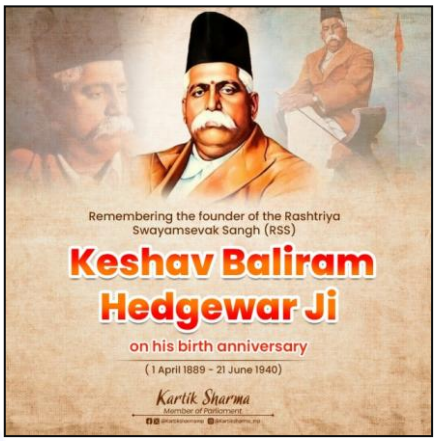
CRITICISMS AND CONTROVERSIES

Issue	Nature of Criticism
Perceived Communal Bias	Critics argue RSS promotes a majoritarian narrative; the organization counters that it stands for "cultural nationalism," not religious nationalism.
Political Influence	Close links with the ruling BJP raise questions about the RSS's non-political claim.
Ideological Rigidity	Some view its emphasis on uniform cultural identity as restrictive to India's diversity.

Ban and Investigations	Temporarily banned three times (1948, 1975, 1992); later reinstated after inquiries found no unlawful activities.

FOUNDERS AND EARLY VISIONARIES (1925–1940S)

DR. KESHAV BALIRAM HEDGEWAR (1889–1940)



Role: Founder and First Sarsanghchalak (Chief)

- Founded RSS on **Vijaya Dashami, 27 September 1925**, in **Nagpur, Maharashtra**.
- Objective: To create a **disciplined, united, and service-oriented national cadre** rooted in Indian culture.
- Emphasized **physical training, moral discipline, and patriotism**.
- Former member of the **Indian National Congress** and participant in the **Non-Cooperation Movement (1920)** before forming RSS.

Vision: "Nation-building through character-building."

DR. B.S. MOONJE (1872–1948)

Role: Mentor and Ideological Influence

- A close associate of **Lokmanya Tilak** and a strong nationalist leader.
- Inspired Hedgewar to model the RSS's training system on the **Boy Scout and military cadet concepts** observed during his Europe visit.
- Advocated **military and moral education for youth** to strengthen India's self-defense and national pride.

POST-INDEPENDENCE LEADERS AND SHAPERS

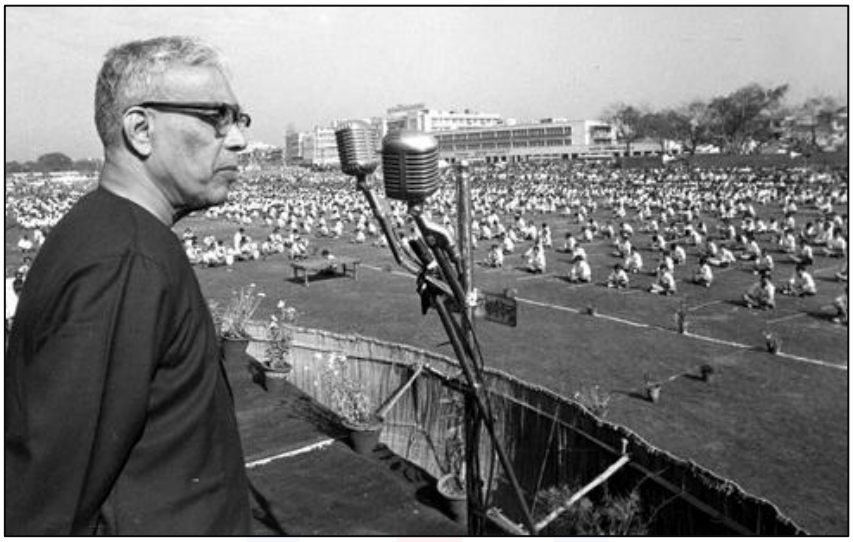
M.S. GOLWALKAR ("GURUJI") (1906–1973)

Role: Second Sarsanghchalak (1940–1973)

- Succeeded Hedgewar and **expanded the RSS into a national movement**.
- Ideological work: "Bunch of Thoughts" and "We, or Our Nationhood Defined" — key texts outlining **cultural nationalism (Hindutva)**.
- Focused on **organizational discipline**, establishing a **nationwide network of shakhas (branches)**.

- Strengthened the RSS during bans (1948 and 1975) through moral and spiritual consolidation.

Legacy: Built the **intellectual and organizational foundation** of the Sangh Parivar.



MADHUKAR DATTATRAYA DEORAS (BALASAHEB DEORAS) (1915–1996)

Role: Third Sarsanghchalak (1973–1994)

- Guided the RSS during the **Emergency (1975–77)** when it was banned.
- Encouraged political participation of swayamsevaks, leading to the **formation of the Janata Party** and later the **BJP (1980)**.
- Launched major **social reform campaigns** like:
    - Samajik Samrasta Abhiyan (social harmony)
    - Anti-untouchability movements
- Promoted **integration of backward classes and Dalits** into mainstream society.

Quote: "We need not be uniform, but we must be united."

PROF. RAJENDRA SINGH (RAJJU BHAIYA) (1922–2003)

Role: Fourth Sarsanghchalak (1994–2000)

- A physics professor at Allahabad University before joining RSS full-time.
- Emphasized **modern education, youth engagement, and intellectual outreach**.
- Advocated harmony between **traditional values and scientific progress**.
- Strengthened ties between RSS and civil society organizations.

KUPPAHALLI SITARAMAYYA SUDARSHAN (1931–2012)

Role: Fifth Sarsanghchalak (2000–2009)

- Promoted **Swadeshi economic model**, self-reliance, and indigenous industries.
- Advocated reform within Hindu society and interfaith dialogue.
- Encouraged technological adaptation within organizational training.
- Expanded RSS's **international outreach** through **Hindu Swayamsevak Sangh (HSS)**.

CONTEMPORARY LEADERSHIP (2009–2025)

DR. MOHAN BHAGWAT (1950–PRESENT)

Role: Sixth and Current Sarsanghchalak (since 2009)

- A veterinary doctor by training and lifelong RSS pracharak (full-time worker).
- Has led the RSS through a **period of rapid expansion and modernization**.
- Focus areas:
    - Promoting **"Samrasta" (social equality)**
    - **Environmental awareness and women's empowerment**
    - Emphasizing "Bharatiya values with global outlook"
- Advocates harmony and inclusive nationalism; emphasizes that "Hindutva is not exclusionary."
- Under his leadership, the RSS supports initiatives aligned with **Atmanirbhar Bharat** and **Viksit Bharat @ 2047**.

DATTATREYA HOSABALE (1955–PRESENT)

Role: Sarkaryavah (General Secretary of RSS)

- Second-in-command to the Sarsanghchalak.
- Coordinates all activities of RSS and its affiliated organizations (Sangh Parivar).
- Advocates for **social inclusion, youth development, and technology-based nation-building**.
- Publicly speaks about the need for **democratic reforms and dialogue** in India.

06 NEW DEFINITION OF PANDEMIC EMERGENCY

The amended International Health Regulations (IHR) entered into force, bringing in a new legal category pandemic emergency.

WHAT IT IS NEW DEFINITION OF PANDEMIC EMERGENCY?

A **pandemic emergency** is a newly defined sub-category under IHR that applies to **public health emergencies of international concern (PHEIC)** but with a heightened threshold — when a communicable disease has broad geographic spread, strains health systems, causes major social and economic disruption, and requires rapid, coordinated global action.

2024 AMENDMENTS & CHANGES MADE:

- Adopted by **consensus** at the **77th World Health Assembly** through Resolution WHA77.17 in June 2024.
- Entry into force was set for **19 September 2025** for States Parties that accept the amendments.
- The amendments introduced new legal obligations:
    - The **Director-General (DG)** of WHO may decide if a PHEIC amounts to a **pandemic emergency** (via Article 12).

- National IHR Authorities must be designated in each country to coordinate implementation across ministries.
- Introduction of a **Coordinating Financial Mechanism** to assist developing nations in pandemic preparedness.
- Establishment of a **States Parties Committee** to facilitate implementation (non-punitive oversight).

KEY FEATURES:

- **Tiered Alert System:** Pandemic emergency is a higher tier beyond PHEIC, but built on top of it the event must already meet PHEIC criteria.
- **Broader Triggers:** Requires wide geographic spread, health system overload, socioeconomic disruption, and need for whole-of-society/whole-of-government response.
- **Equity & Solidarity:** Emphasis on fairness in access to medical products, financing support, and collaborative global response.
- **No New Authority Over Sovereignty:** The amendments clarify that WHO cannot mandate domestic policies (lockdowns, etc.) — countries retain legislative control.
- **Seamless Integration:** It does not replace PHEIC but enriches it; avoids duplicative procedures by integrating decision-making.

SIGNIFICANCE:

- **Legal Certainty:** Provides a clearer legal framework for when and how a global pandemic can be declared.
- **Faster Response:** Enables earlier mobilization of global resources and coordinated interventions.
- **Support for Developing Nations:** The financial mechanism and obligations facilitate equity in capacity building.

07 DIGILOCKER

The Union Public Service Commission (UPSC) announced that it will verify candidates' caste, income, and disability certificates through DigiLocker to prevent forged submissions.

CONTEXT

- **DigiLocker** is a flagship initiative under the **Digital India programme** of the Government of India.
- It provides **citizens a secure, cloud-based platform** for storing, accessing, and sharing digital documents and certificates anytime, anywhere.
- As of **2025**, over **250 million registered users** and **6 billion documents** have been issued through DigiLocker, making it one of the largest digital document repositories in the world.

BACKGROUND

Aspect	Details
Launched	**July 2015**
Nodal Agency	**Ministry of Electronics and Information Technology (MeitY)**
Implemented by	**National e-Governance Division (NeGD)**
Part of	**Digital India Programme**
Objective	To minimize physical document usage, enhance paperless governance, and ensure easy access to verified digital documents.

CONCEPT

DigiLocker acts as a **"digital wallet" for documents**, just like a physical folder that securely holds your Aadhaar, driving licence, PAN card, mark sheets, etc., but in **electronic format**.

It provides:

- **Digital Storage Space** linked to **Aadhaar number**.
- **Secure access and authentication** through **OTP** and **digital signatures**.
- **Interoperability** with various government departments, educational institutions, and private entities.

HOW DIGILOCKER WORKS

- **Sign-up:**
  - User logs in using **Aadhaar number** or **mobile number**.
- **Issuance of Documents:**
  - Issuing authorities (e.g., CBSE, UIDAI, RTO, universities) push digital versions of documents directly into the citizen's DigiLocker account.
- **Access and Sharing:**
  - Users can **download, view, or share** digitally signed e-documents via **QR code or link**.
- **Verification:**
  - Organizations can **verify authenticity** of documents instantly using the **DigiLocker verification system**.

KEY FEATURES

Feature	Description
Cloud-based storage	Each user gets **1 GB** free space (expandable).
Legally valid documents	Documents issued in DigiLocker are **valid under the IT Act, 2000**.
Integration with Aadhaar	Ensures unique identification and secure access.

eSign facility	Allows users to **digitally sign** documents electronically.
QR code & URI system	Enables instant verification and sharing.
Offline access	Downloaded documents remain valid even without internet connectivity.
Multiple issuers and requesters	Over **2,000 institutions** (CBSE, MoRTH, NPCI, universities, banks, etc.) are integrated.

LEGAL BACKING

- **Section 6 of the Information Technology (IT) Act, 2000** and the **Rule 9A of IT (Preservation and Retention of Information by Intermediaries Providing Digital Locker Facilities) Rules, 2016** provide **legal validity** to documents stored in DigiLocker.
- These rules also outline **security, privacy, and operational responsibilities** of the DigiLocker service providers.

RECENT DEVELOPMENTS (2024–2025)

- **Integration with ONDC & NPCI:**
  - Enables digital verification of identity for e-commerce and digital payments.
- **DigiLocker for Government Employees:**
  - Central government plans to integrate **service records and pension details** into DigiLocker.
- **Linkage with Passport Seva & EPFO:**
  - Citizens can submit documents like Aadhaar, PAN, and educational certificates directly via DigiLocker during application.
- **Integration with UMANG App:**
  - Citizens can access DigiLocker services through the **Unified Mobile Application for New-Age Governance (UMANG)**.
- **DigiLocker 2.0 (2025):**
  - Includes **AI-based document categorization**, **voice commands**, and **facial authentication** for enhanced security and accessibility.

OBJECTIVES

- Promote **paperless governance** and reduce administrative burden.
- Provide **citizens ownership of their data** in digital form.
- Improve **efficiency, transparency, and convenience** in document verification.
- Enable **seamless interoperability** between government departments and private entities.

MAJOR STAKEHOLDERS (2025)

Stakeholder	Role
MeitY	Policy formulation and oversight
NeGD	Implementation and technical management
UIDAI	Aadhaar-based authentication
CBSE, AICTE, Universities	Issuance of mark sheets and certificates
RTO / MoRTH	Issuance of driving licences and RCs
Banks / NPCI	KYC and account verification
Passport Seva / MEA	Online document submission and verification

BENEFITS

- **Paperless and Contactless Governance:** Reduces physical document handling.
- **Instant Verification:** No need for attestation or photocopies.
- **Transparency:** Minimizes fraud and forgery.
- **Ease of Access:** 24×7 availability on web and mobile apps.
- **Environmental Sustainability:** Reduces paper usage and storage costs.
- **Supports Digital Public Infrastructure (DPI):** Complements Aadhaar, UPI, and eSign ecosystem.

CHALLENGES

Issue	Explanation
Digital divide	Limited access in rural and low-income areas.
Cybersecurity risks	Data breaches or misuse of digital identity.

Awareness gap	Many citizens and small institutions are unaware of DigiLocker's legal status.
Inter-departmental coordination	Some state departments are yet to integrate fully.
Privacy concerns	Need for stronger data protection and consent mechanisms.

WAY FORWARD

- **Strengthen cybersecurity** with end-to-end encryption and zero-trust architecture.
- **Expand integration** with state governments, banks, and private universities.
- **Enhance digital literacy** through awareness campaigns.
- **Adopt multilingual interfaces** for wider accessibility.
- **Align with Digital Personal Data Protection Act, 2023** for secure data management.

08 NATIONAL PULSES MISSION

The Union Cabinet approved the National Pulses Mission (2025–31) with an outlay of ₹11,440 crore to boost pulse production and reduce import dependency.

WHAT IS THE NATIONAL PULSES MISSION (2025–31)?

- The **Union Cabinet**, chaired by the Prime Minister, has approved a new scheme titled **"Mission for Aatmanirbharta in Pulses"** (aka National Pulses Mission) for **six years** (2025-26 to 2030-31) with a total outlay of **₹11,440 crore**.
- Its primary goal is to **boost domestic pulse production**, reduce import dependency, improve farmers' incomes, and ensure nutritional and food security.
- The mission targets increasing pulse production from **~242 lakh tonnes** (2023-24 baseline) to **350 lakh tonnes** by 2030-31.

KEY TARGETS & COMPONENTS

Parameter	Target / Plan
Area expansion	Increase area under pulses to **310 lakh hectares** (from ~242 lakh ha)
Yield improvement	Raise average productivity to **1,130 kg/ha** (from ~881 kg/ha)
Seed & input support	Distribute **126 lakh quintals** of certified seeds; supply **88 lakh seed kits** free to farmers

Procurement assurance	**100% procurement** of three key pulses (Tur, Urad, Masoor) at MSP in participating states for **4 years** via **NAFED / NCCF**
Post-harvest & value chain	Set up **1,000 processing / packaging units**, with subsidies (up to ₹25 lakh per unit)
Research & climate resilience	Multi-location trials, promote pest / climate resilient varieties; track via seed traceability (SATHI portal)
Focus geography	Implement via **cluster-based approach** in **416 focused districts**

Other complementary measures include convergence with soil health programs, mechanization, balanced fertilization, farmer training, extension support, and differential interventions tailored to agro-ecological zones.

RATIONALE & NEED

- **Growing Demand vs Supply Gap**: India is both one of the largest producers and consumers of pulses, but domestic production has lagged behind rising demand. As incomes grow, per capita consumption and demand for protein-rich diets have increased.
- **Import Dependency & Forex Burden**: To meet demand shortfall, India imports pulses, costing foreign exchange and subjecting farmers to global price volatility. The mission aims to reduce import dependence.
- **Farmer Income & Livelihoods**: Pulses are important crops for small and marginal farmers. Improving productivity, assured procurement, and value-addition can boost rural incomes.
- **Nutritional Security**: Pulses are a staple source of plant-based protein in Indian diets. Ensuring sufficient domestic supply is crucial for health and food security.
- **Sustainability & Soil Health**: Pulse crops fix nitrogen, improve soil fertility, and allow better cropping systems (intercropping, diversifying rice-fallow areas).

INSTITUTIONAL & IMPLEMENTATION ASPECTS

- **Nodal Ministry:** Ministry of Agriculture & Farmers' Welfare will lead and coordinate the mission.
- **Cooperation:** Central agencies like **ICAR**, state agriculture departments, KVKs, seed agencies, NAFED, NCCF, and farmer groups will partner.
- **Traceability & Monitoring:** The **SATHI (Seed Authentication, Traceability & Holistic Inventory) portal** will be used to track seed distribution and quality.

- **Cluster Approach:** Interventions will be localized to clusters to reflect agro-ecological diversity, optimize resource use, and improve accountability.

CHALLENGES & RISKS

Challenge	Possible Mitigation
State-level adoption & coordination	Align incentives, capacity building, ensure political commitment
Seed quality & certification bottlenecks	Strengthen seed infrastructure, quality control, encourage private sector
Market distortions and procurement limits	Ensure budget / logistics backing, limit leakages, maintain transparency
Climate adversities & pests	Promote resilient varieties, weather-based advisories, insurance coverage
Implementation capacity in remote / smallholder zones	Strengthen extension, farmer training, mobile / digital support
Dependence on subsidies	Ensure subsidy sustainability, phase shift toward market-led models

IMPLICATIONS & SIGNIFICANCE

- **Food & Nutrition:** Secures protein access for low-income populations.
- **Imports & Economy:** Saves foreign exchange by reducing import bills.
- **Farmer Welfare:** Ensures income stability for pulse growers via assured MSP procurement.
- **Rural Employment:** Value-chain expansion (processing, packaging) will generate jobs.
- **Sustainability:** Promotes sustainable agricultural practices and efficient land use (e.g., utilizing rice-fallow lands).
- **Agricultural Reform Momentum:** Complements other missions (e.g. for oilseeds, fertilizers) and strengthens the goal of Atmanirbharta in food crops.

09 COST OF CONVENIENCE: HEALTH HAZARDS OF DIGITAL TOOLS

CONTEXT

- In **2025**, India generated **2.2 million tonnes of electronic waste (e-waste)**, becoming the **third-largest generator globally**, after **China** and the **United States**.
- Despite having significant **formal recycling capacity**, over **55% of the e-waste is still handled by the informal sector**, often using unsafe and unregulated methods.
- This poses **serious environmental and health risks**, while also leading to **loss of valuable metals** like gold, copper, and palladium.

DEFINITION OF E-WASTE

- **E-waste (Electronic Waste)** refers to discarded electrical and electronic equipment (EEE) and its parts that are no longer functional or useful.
- **Examples include:** Computers, mobile phones, televisions, refrigerators, washing machines, batteries, lighting devices, and cables.

GLOBAL AND INDIAN SCENARIO (2025)

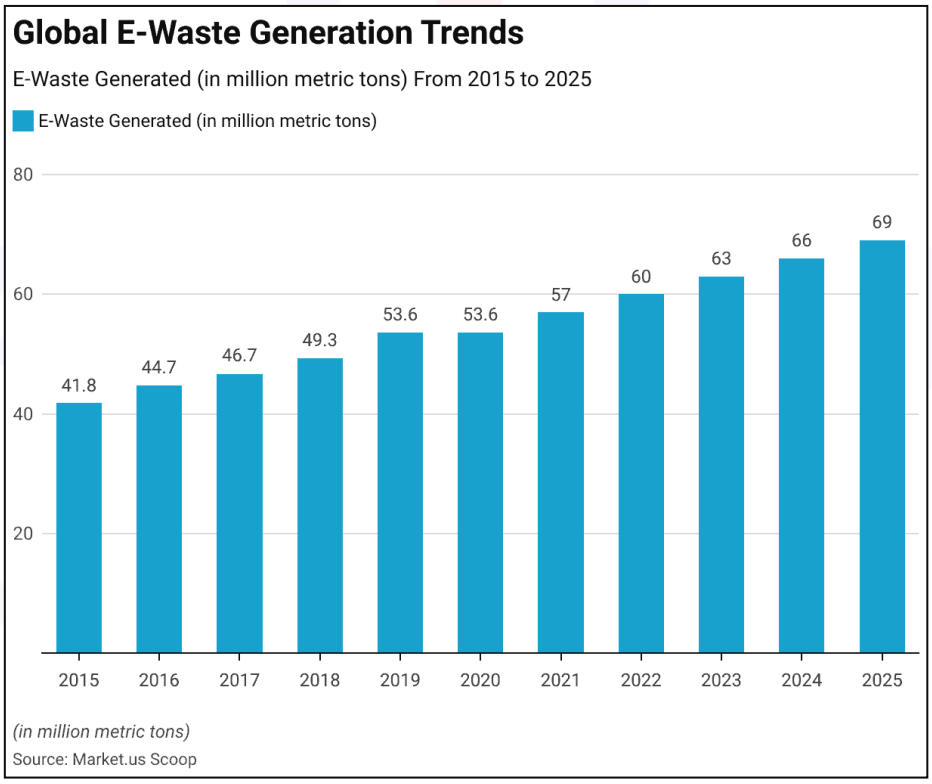
Country	E-Waste Generated (2025)	Share of Global Total
China	~10 million tonnes	25%
USA	~6.8 million tonnes	17%
India	**~2.2 million tonnes**	**6%**
EU (combined)	~4.5 million tonnes	11%

India's e-waste generation has grown **threefold since 2017** due to rapid digitization, rising income, and shorter product lifecycles.

The **per capita e-waste generation** in India is **~1.6 kg**, much lower than the global average (~7.5 kg), but rising steadily.

MAJOR SOURCES OF E-WASTE IN INDIA

Category	Examples
Consumer electronics	TVs, laptops, phones, tablets
Household appliances	Refrigerators, air conditioners, washing machines
IT & telecom	Servers, routers, printers, modems
Industrial equipment	Medical devices, automation tools, machinery
Automotive electronics	Batteries, sensors, navigation systems



REASONS FOR INCREASING E-WASTE

- **Rapid Urbanization & Digitalization** – Growth of smartphones, smart TVs, and online gadgets.
- **Planned Obsolescence** – Shorter lifespan of devices due to fast-changing technology.

- **Consumerism** – Frequent upgrading of electronics.
- **Lack of Repair Culture** – Decline in repair and reuse industries.
- **Poor Disposal Awareness** – Consumers discard gadgets without recycling or safe disposal.

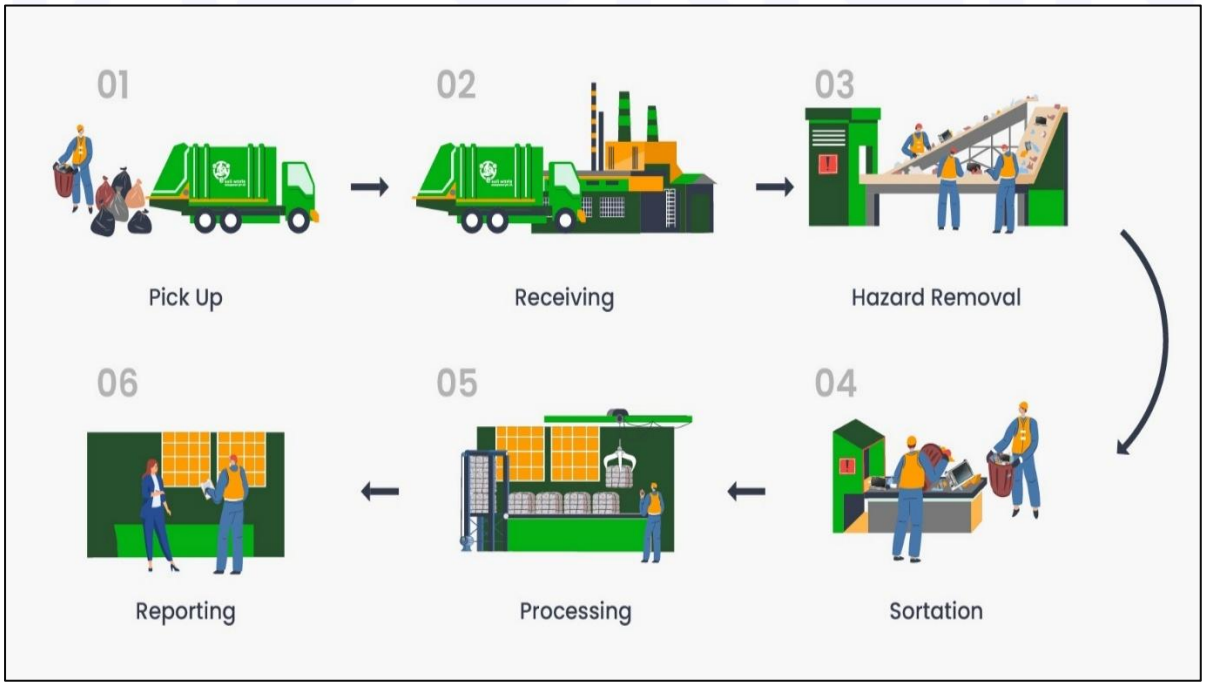
POLICY FRAMEWORK IN INDIA

E-WASTE (MANAGEMENT) RULES, 2022 (REPLACED 2016 RULES)

Implemented by **Ministry of Environment, Forest and Climate Change (MoEFCC)**.

KEY FEATURES:

- **Extended Producer Responsibility (EPR):** Producers are legally bound to collect and recycle a specific percentage of e-waste generated by their products.
- **Online EPR Portal:** Tracks collection, recycling, and environmental compliance digitally.
- **E-Waste Credits / Certificates:** Producers can obtain credits from registered recyclers.
- **Mandatory Registration:** All producers, dismantlers, and recyclers must register with the CPCB.
- **Ban on Unregistered Entities:** Informal recyclers not allowed to operate without compliance.



OTHER SUPPORTING INITIATIVES

Initiative	Objective
Swachh Digital Bharat	Awareness campaign for e-waste management.
National Resource Efficiency Policy (Draft 2019)	Promotes circular economy and recycling.
GEM Portal E-Waste Clause	Government e-marketplace mandates safe disposal of electronic items.
Startup initiatives	Over 400 startups now operate in e-waste recycling & recovery.

FORMAL E-WASTE RECYCLING IN INDIA (2025)

- **Formal capacity:** Over **1.6 million tonnes per annum**, through **468 registered recyclers** (as per CPCB).
- **Actual utilization:** Around **50–55%**, due to inadequate collection channels and dominance of informal sector.
- **Main recycling hubs:**
  - **Delhi-NCR, Bengaluru, Pune, Hyderabad, Chennai, and Mumbai.**

INFORMAL SECTOR DOMINANCE

Nearly **10 lakh workers** are engaged in informal e-waste collection and dismantling, especially in cities like **Seelampur (Delhi)**, **Moradabad (UP)**, and **Kolkata**.

METHODS USED:

- Manual dismantling
- Acid leaching
- Open burning for metal recovery

CONSEQUENCES:

- Soil, air, and water contamination (lead, mercury, cadmium).
- Severe health hazards — respiratory issues, skin disorders, neurological damage.
- Loss of valuable recoverable metals due to unscientific methods.

ECONOMIC & ENVIRONMENTAL SIGNIFICANCE

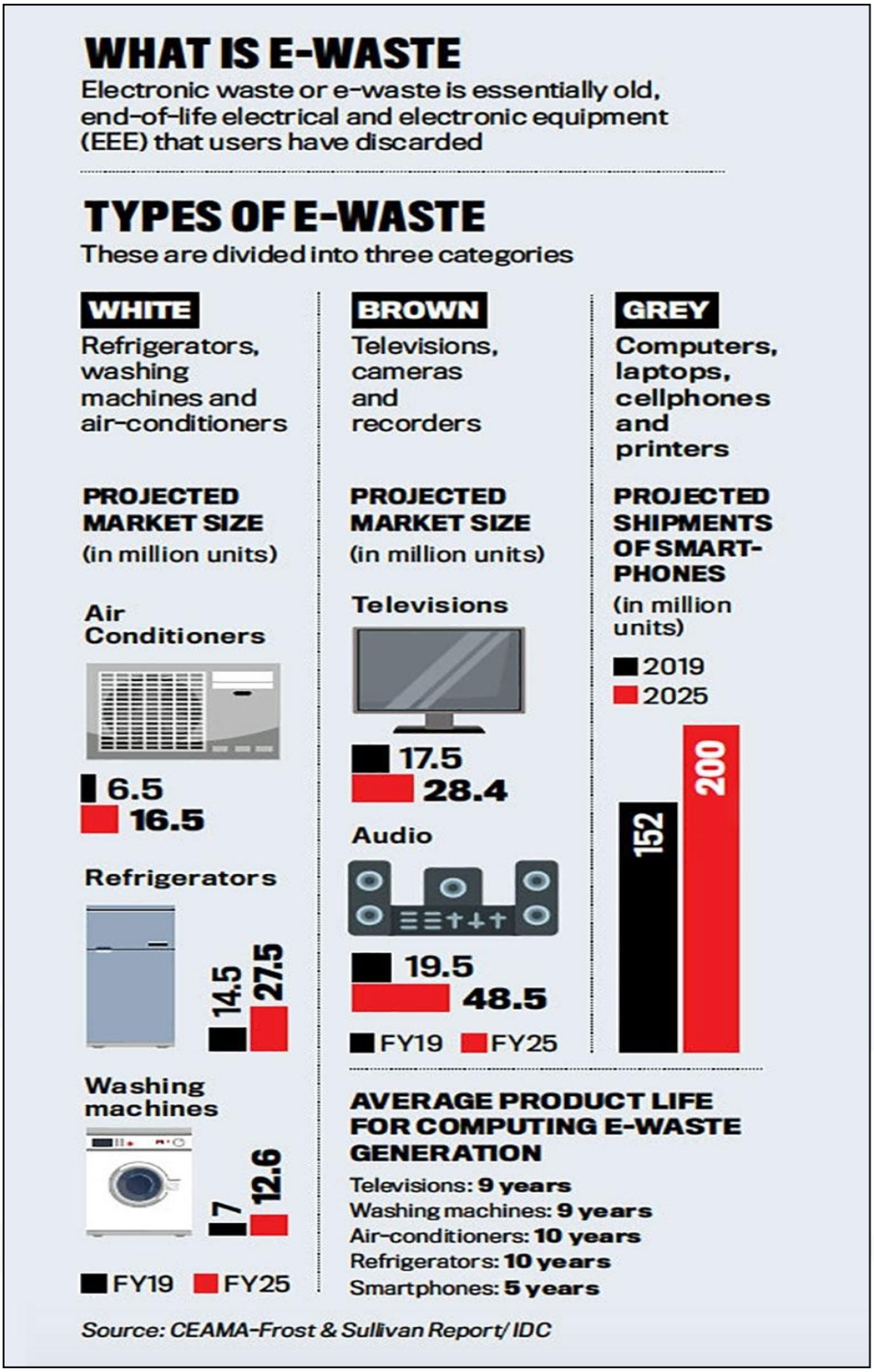
Aspect	Potential Impact
Economic	Recoverable materials worth ₹40,000 crore annually.
Environmental	Reduced landfill waste and pollution.
Energy saving	Recycling uses 70% less energy than mining virgin materials.
Employment	Formalization can generate 1.5–2 million green jobs.

CHALLENGES

Issue	Explanation
Low collection efficiency	Only ~35–40% collected under EPR.
Informal sector resistance	Fear of job loss and regulation.
Lack of consumer awareness	Only 25% aware of e-waste drop-off centers.
Regulatory loopholes	Weak enforcement at state level.
Technological constraints	Limited R&D in recycling rare earths.
Data inconsistency	No unified real-time e-waste inventory.

WAY FORWARD

- **Integrate Informal Sector:** Train and certify workers; link them to formal recyclers under PPP models.
- **Enhance EPR Enforcement:** Strict monitoring through blockchain or digital tracking for transparency.
- **Public Awareness Campaigns:** Include e-waste literacy in schools and community programs.
- **Urban Mining Policy:** Promote recovery of precious metals through advanced recycling technologies.
- **Incentives for Collection Centers:** Encourage take-back schemes, cashbacks, or green credits.
- **Support Startups & MSMEs:** Foster innovation in sustainable recycling and repair.

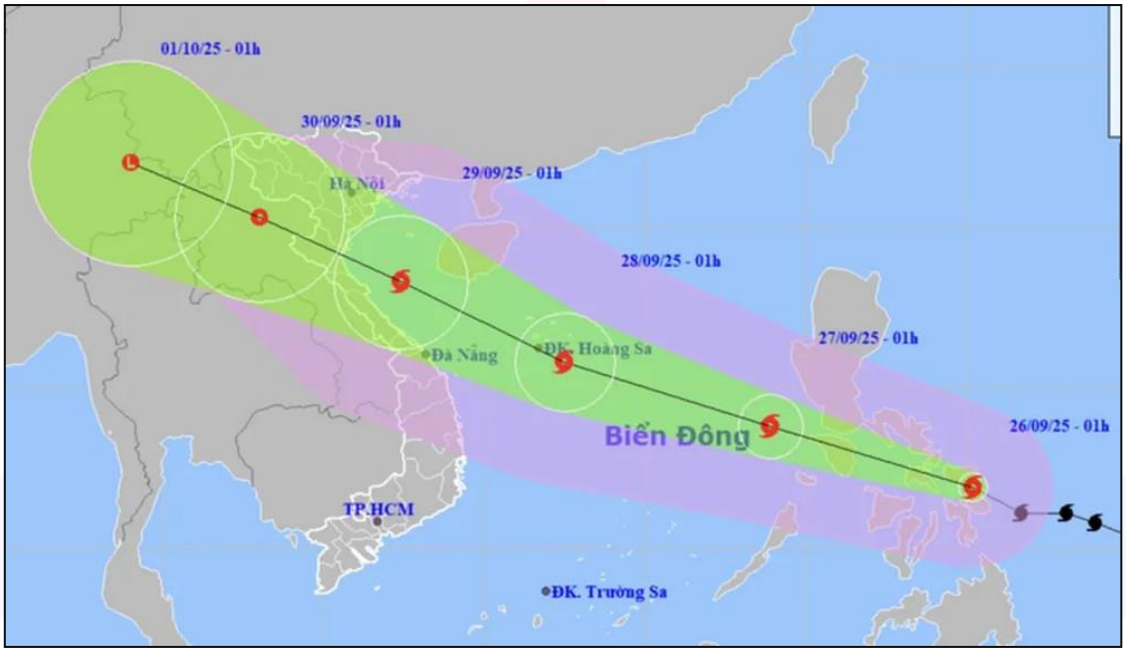

WHAT IS E-WASTE
Electronic waste or e-waste is essentially old, end-of-life electrical and electronic equipment (EEE) that users have discarded
TYPES OF E-WASTE
These are divided into three categories
WHITE
Refrigerators, washing machines and air-conditioners
PROJECTED MARKET SIZE
(in million units)
Air Conditioners
6.5
16.5
Refrigerators
14.5
27.5
Washing machines
7
12.6
FY19 FY25
BROWN
Televisions, cameras and recorders
PROJECTED MARKET SIZE
(in million units)
Televisions
17.5
28.4
Audio
19.5
48.5
FY19 FY25
GREY
Computers, laptops, cellphones and printers
PROJECTED SHIPMENTS OF SMART-PHONES
(in million units)
2019
2025
152
200
AVERAGE PRODUCT LIFE FOR COMPUTING E-WASTE GENERATION
Televisions: 9 years
Washing machines: 9 years
Air-conditioners: 10 years
Refrigerators: 10 years
Smartphones: 5 years
Source: CEAMA-Frost & Sullivan Report/ IDC

10 TYPHOON BUALOI

The death toll in Vietnam from Typhoon Bualoi and subsequent floods has risen to 36, with over 210,000 houses damaged and agricultural losses worth $435 million.

WHAT IT IS TYPHOON BUALOI?

- A tropical cyclone (Category 2-equivalent at peak) in the Northwest Pacific Ocean, locally called Typhoon Opong in the Philippines.
- It was the 20th named storm and the 9th typhoon of the 2025 Pacific typhoon season.



ORIGIN:

- Formed from a disturbance north of **Yap.**
- Named Opong by PAGASA (Philippines) and Bualoi by JMA (Japan Meteorological Agency).
- Made multiple **landfalls in the Philippines** before intensifying into a typhoon and hitting **Hà Tĩnh, Vietnam**.

FEATURES:

- Brought strong winds, storm surges, and heavy rainfall, leading to widespread flooding.
- Destroyed infrastructure like roads, schools, and power grids, leaving tens of thousands without electricity.

- Caused devastation to crops (51,000 hectares lost) and impacted fishing communities.

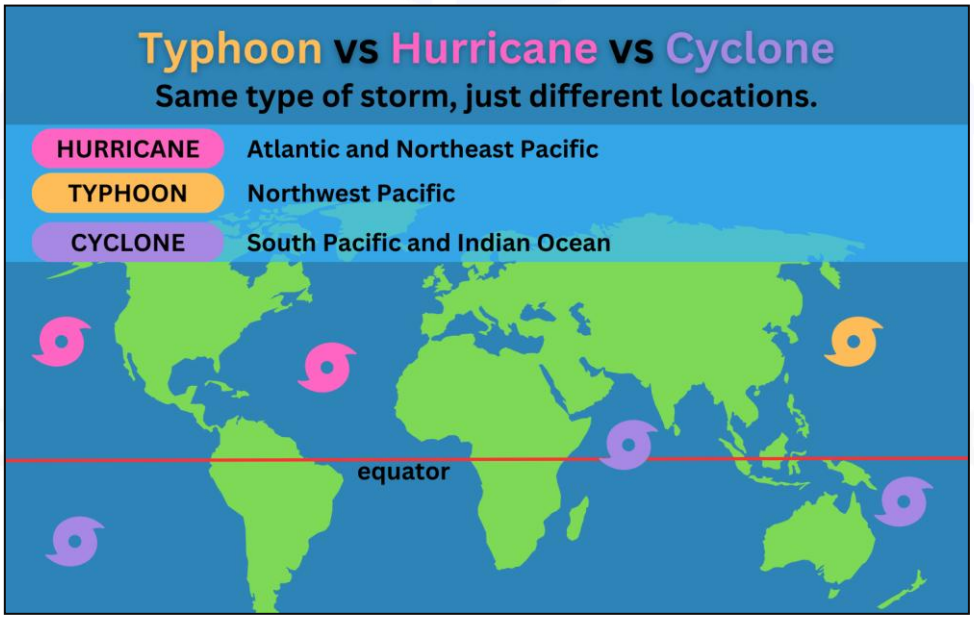
DIFFERENCE BETWEEN CYCLONE, TYPHOON, AND HURRICANE

DEFINITIONS

- **Cyclone** — A generic term for a large-scale system of winds rotating around a low-pressure area.
  In meteorology, "cyclone" refers to **all such systems** irrespective of location.
- **Hurricane** — A specific name for a **tropical cyclone** that develops in the **North Atlantic Ocean or the Northeast Pacific Ocean** (east of the International Date Line).
- **Typhoon** — A specific name for a **tropical cyclone** that develops in the **Northwest Pacific Ocean** (west of the International Date Line, near Asia).

IN SHORT:

- Cyclone = Generic term
- Hurricane = Tropical cyclone in Atlantic/Northeast Pacific
- Typhoon = Tropical cyclone in Northwest Pacific



REGIONAL NAMES FOR TROPICAL CYCLONES

Region	Local Name
North Atlantic Ocean	Hurricane

Northeast Pacific Ocean	Hurricane
Northwest Pacific Ocean	Typhoon
South Pacific & Indian Ocean	Cyclone
Southwest Indian Ocean	Severe Tropical Cyclone

COMMON FEATURES OF HURRICANES, TYPHOONS, AND CYCLONES

All three are **tropical cyclones** and share similar characteristics:

- Form over warm ocean waters (**≥26°C**)
- Low-pressure core with spiraling winds
- Diameter: 100–2,000 km
- Eye at the center (calm zone surrounded by intense winds)
- Strong winds, heavy rainfall, storm surges

KEY DIFFERENCES

Feature	Cyclone	Hurricane	Typhoon
Region	Indian Ocean, South Pacific	North Atlantic, Northeast Pacific	Northwest Pacific
Name origin	From Greek 'kyklon' meaning "moving in a circle"	Named by US meteorological agencies	From Chinese/Taiwanese word "tai fung" meaning "great wind"
Formation area	Bay of Bengal, Arabian Sea, South Indian Ocean, South Pacific	Atlantic Ocean, Gulf of Mexico, Caribbean Sea, Northeast Pacific	Northwest Pacific Ocean
Season	Apr–Dec (Indian Ocean)	Jun–Nov (Atlantic)	May–Nov (Northwest Pacific)

Maximum wind speed classification	Uses IMD scale in India (Cyclonic Storm, Severe Cyclonic Storm, etc.)	Saffir–Simpson scale (Category 1–5)	Same as Hurricane scale, but regional classification may vary
Monitoring agencies	India Meteorological Department (IMD), BOM (Australia), Météo-France	National Hurricane Center (US), NOAA	Japan Meteorological Agency (JMA), PAGASA (Philippines)

EXAMPLE OF EACH

- **Cyclone:** Cyclone Amphan (2020), Cyclone Tauktae (2021)
- **Hurricane:** Hurricane Katrina (2005), Hurricane Ida (2021)
- **Typhoon:** Typhoon Haiyan (2013), Typhoon Bualoi (2025)

11 EXTERNAL COMMERCIAL BORROWINGS (ECB)

Reserve Bank of India (RBI) will soon release a draft framework to simplify External Commercial Borrowings (ECB) rules, expanding eligibility for borrowers and lenders.

WHAT ARE EXTERNAL COMMERCIAL BORROWINGS (ECBS)?

- **These** are **commercial loans in foreign currency** availed by eligible Indian entities from **non-resident lenders** mainly for financing development and expansion projects.
- They are a source of **external finance** that supplements domestic capital flows.
- **Examples:** Bank loans, buyers' credit, suppliers' credit, floating-rate notes, commercial paper, and securitized instruments raised from abroad.

LEGAL AND REGULATORY FRAMEWORK

- Governed by **RBI's ECB framework** under the **Foreign Exchange Management Act (FEMA), 1999**.
- Detailed regulations are issued by the **Reserve Bank of India (RBI)** and the **Government of India**.
- Borrowers must comply with RBI's **ECB guidelines** and FEMA rules, including reporting, end-use, maturity period, and cost ceilings.

KEY FEATURES

- **Lenders:**
  ECBs can be availed from:
  - International banks
  - Export credit agencies

- International capital markets
- Multilateral financial institutions (e.g., ADB, World Bank)

- **Borrowers:**
  Eligible borrowers include:
  - Companies incorporated in India
  - Public sector undertakings
  - Infrastructure companies
  - NBFCs and banks (under certain conditions)
- **Currency:**
  Borrowings are generally denominated in **USD, Euro, JPY**, etc.
- **Purpose:**
  ECBs are mainly used for:
  - Infrastructure development
  - Capital expenditure
  - Import of capital goods
  - Refinancing existing loans
  - Other permitted end-uses

TYPES OF ECBS

Type	Description
Bank Loans	Loans from overseas banks with agreed terms
Buyers' Credit	Credit extended by foreign banks for import of goods
Suppliers' Credit	Payment deferred to suppliers abroad
Floating Rate Notes (FRNs)	Bonds with interest rates linked to a benchmark
Commercial Papers	Short-term unsecured notes issued abroad
Securitized Instruments	Debt instruments backed by assets

ADVANTAGES OF ECBS

ACCESS TO CHEAPER FOREIGN CAPITAL

- ECBs often carry **lower interest rates** compared to domestic borrowing, especially when sourced from international markets where interest rates are lower.

- **Example:** A company may borrow at **LIBOR + margin** which is cheaper than high-cost domestic loans.
- **Significance:** Reduces the overall cost of capital for projects.

LONGER MATURITY PERIODS

- ECBs generally have **longer repayment tenures** compared to domestic loans.
- Typical maturities:
    - Infrastructure projects: up to **10–15 years**
    - Other sectors: **3–7 years** or more, depending on RBI rules.
- **Significance:** Helps in matching repayment schedules with project revenue cycles, especially for capital-intensive infrastructure projects.

DIVERSIFICATION OF FUNDING SOURCES

- ECBs enable companies to **access multiple international lenders** (banks, financial institutions, capital markets).
- Reduces dependence on domestic financial markets.
- **Significance:** Enhances resilience and flexibility in financing strategy.

SUPPORT FOR LARGE INFRASTRUCTURE PROJECTS

- Infrastructure and capital goods projects require large funding volumes and longer timelines.
- **Example:** Power plants, airports, highways, port infrastructure.
- ECBs are suited for such projects because they can provide large loans with suitable maturities.
- **Significance:** Accelerates economic growth and infrastructure development.

AUGMENTS FOREIGN EXCHANGE RESERVES

- ECB inflows add to India's **capital account receipts**, improving the balance of payments.
- Strengthens forex reserves if managed prudently.
- **Significance:** Improves macroeconomic stability and supports the value of INR.

ACCESS TO ADVANCED FINANCING STRUCTURES

- International capital markets offer instruments such as **Floating Rate Notes, Buyers' Credit, and Commercial Papers**.
- These instruments may be more flexible and customized for the borrower's needs.
- **Significance:** Allows corporates to optimize funding structure.

PROMOTES FOREIGN INVESTMENT AND TECHNOLOGY TRANSFER

- ECBs can be tied to import of capital goods, machinery, or technology.
- Encourages inflow of **global expertise and high-tech equipment**.
- **Example:** Power projects importing turbines under ECB terms.
- **Significance:** Supports modernization and competitiveness.

BOOST TO CREDIT AVAILABILITY

- By providing an alternative funding source, ECBs ease pressure on domestic credit markets.
- This can free up domestic funds for other sectors.
- **Significance:** Helps improve overall financial sector efficiency.

DISADVANTAGES OF ECBS

EXCHANGE RATE RISK

- ECBs are denominated in foreign currency (USD, Euro, JPY, etc.).
- If the **Indian Rupee depreciates** against the foreign currency, repayment costs increase significantly.
- **Example:** If a company borrows $100 million when INR is ₹75/$ and repayment happens when INR is ₹80/$, the cost increases substantially.
- **Significance:** Can lead to higher debt servicing costs and affect profitability.

REFINANCING RISK

- Some ECBs are short-term or medium-term in nature.
- Difficulty in refinancing loans abroad in adverse market conditions may create liquidity stress.
- **Example:** A company facing tight global credit conditions may struggle to roll over an ECB loan.
- **Significance:** Increases financial vulnerability.

INTEREST RATE RISK

- Many ECBs have floating interest rates linked to international benchmarks (e.g., LIBOR, SOFR).
- Interest rates in global markets can rise unexpectedly, increasing debt servicing costs.
- **Example:** A rise in US interest rates would increase ECB costs.
- **Significance:** Impacts long-term project viability and profitability.

OVER-DEPENDENCE ON FOREIGN CAPITAL

- Heavy reliance on ECBs can increase India's external debt burden.
- Excessive borrowing may affect **external debt sustainability** and macroeconomic stability.
- **Example:** A sudden stop of capital inflows can trigger a balance-of-payments crisis.
- **Significance:** Heightens vulnerability to global financial volatility.

COMPLIANCE AND REGULATORY RISKS

- ECB borrowers must comply with RBI regulations (minimum average maturity period, end-use restrictions, cost ceilings, etc.).
- Complex compliance requirements can add administrative costs.
- Non-compliance attracts penalties.
- **Example:** Borrowers not reporting ECB utilisation properly face fines and restrictions.
- **Significance:** Regulatory complexity increases operational risk.

CROWDING OUT DOMESTIC BORROWING

- Large ECB inflows for certain sectors may reduce domestic credit availability.
- This could lead to higher interest rates for domestic borrowers in stressed sectors.
- **Example:** Heavy ECB usage in infrastructure can tighten credit for MSMEs.
- **Significance:** Potential imbalance in domestic financial markets.

IMPACT ON SOVEREIGN RATINGS

- Large ECB inflows may increase **external debt-to-GDP ratio**.
- If debt servicing rises significantly, it can impact India's sovereign credit rating.
- **Example:** Moody's or S&P could downgrade if external debt levels become unsustainable.
- **Significance:** Raises cost of all foreign borrowings for the country.

12 SARAL TOOL

Anusandhan National Research Foundation (ANRF) launched the SARAL tool to simplify scientific research papers.

WHAT IT IS SARAL?

SARAL (Simplified and Automated Research Amplification and Learning) is an AI-based tool that converts complex research papers into easy-to-understand summaries.

Launched by: Developed by the Anusandhan National Research Foundation (ANRF).

AIM:

To make **scientific knowledge more inclusive and accessible**, enabling citizens, policymakers, and industry to understand and apply research outputs.

FEATURES:

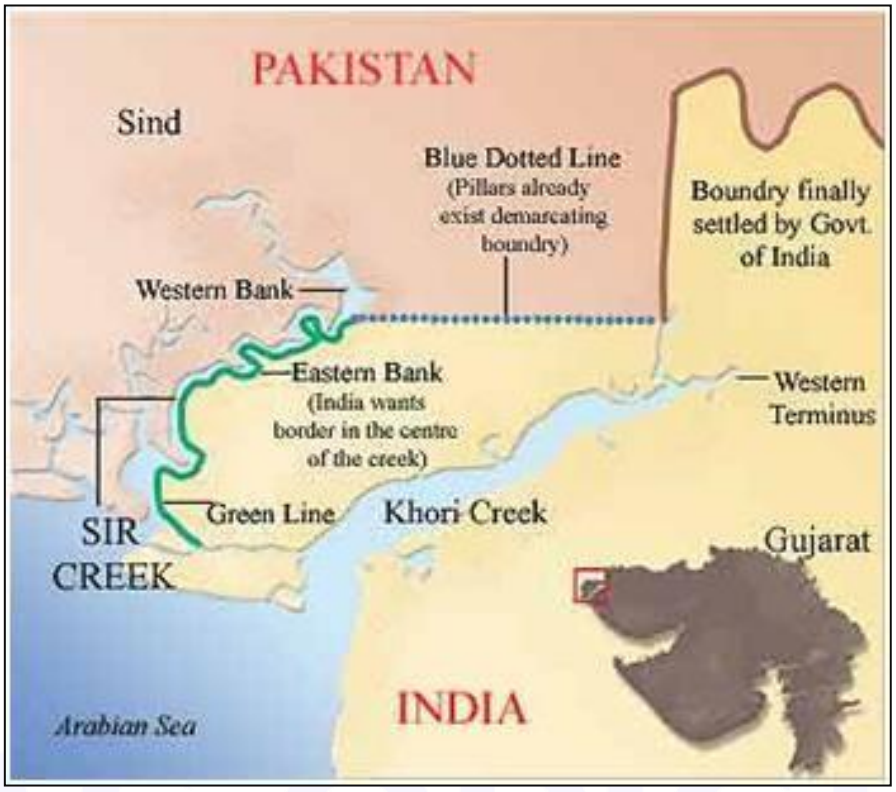
- Uses **AI to extract key insights** from research publications.
- Generates **videos, podcasts, posters, and presentations** for wider outreach.
- Linked to the creation of an **AI Science and Engineering Open India Stack** for applications in drug discovery, aerospace, climate science, and advanced materials.

SIGNIFICANCE:

- Bridges the science-society gap by making research understandable for non-specialists.
- Boosts research dissemination and innovation adoption in industry and academia.
- Supports the ₹1 lakh crore Research Development and Innovation Scheme, aligning with India's vision of deep-tech start-ups and global R&D leadership.

13 SIR CREEK

Defence Minister of India warned Pakistan of a decisive response to any misadventure in the Sir Creek sector, citing its growing military build-up in the disputed region.



SIR CREEK DISPUTE

GEOGRAPHIC CONTEXT

- **Sir Creek** is a 96-km long tidal estuary located in the **Rann of Kutch**, along the boundary between India's **Gujarat state** and Pakistan's **Sindh province**.
- It flows into the **Arabian Sea** and changes width and course with tides.
- The terrain is marshy, prone to flooding, and has shifting channels, making boundary demarcation technically challenging.
- **Coordinates:** Roughly lies between 23°N to 24°N latitude and 68°E longitude.

IMPORTANCE OF LOCATION:

- Sir Creek lies at the interface of **land and maritime boundaries**.
- Its alignment determines maritime boundaries under the **United Nations Convention on the Law of the Sea (UNCLOS)**, affecting Exclusive Economic Zones (EEZ) and continental shelf rights.

HISTORICAL BACKGROUND

- **Pre-Partition Era:** The boundary was governed by the **1914 Karachi Agreement** between the Government of India and the then Government of Sindh. The agreement stated that the boundary in the creek would follow the "mid-creek" line, but its definition was not precise.
- **Post-Partition (1947):** Both India and Pakistan inherited the dispute. India claims the mid-creek line as per the Karachi Agreement; Pakistan claims the entire creek falls within Sindh's territory.
- **1968:** Bilateral talks initiated to resolve the dispute, but no resolution was reached.
- **1996:** India and Pakistan agreed to resolve the dispute through **Joint Technical Group (JTG)** discussions. Technical talks continue intermittently but without settlement.

NATURE OF THE DISPUTE

The dispute has **two dimensions**:

LAND BOUNDARY DISPUTE

- Concerned with where exactly the boundary line should lie inside Sir Creek.
- India asserts the boundary should follow the **mid-creek line** (an internationally recognised principle), while Pakistan claims the entire creek as its territory.

MARITIME BOUNDARY DISPUTE

- Determination of the land boundary impacts **maritime boundary delimitation** under UNCLOS.
- The location of the mouth of Sir Creek affects:
    - **India's and Pakistan's EEZ claims**
    - **Continental shelf rights**
    - Access to resources in the Arabian Sea
- Dispute over Sir Creek delays finalisation of maritime boundaries between the two countries.

LEGAL AND DIPLOMATIC FRAMEWORK

- **International Law:** UNCLOS provides mechanisms for EEZ and continental shelf claims but requires land boundaries to be settled first.

- **Bilateral Talks:** Since 1968, India–Pakistan technical talks have been held. The **1996 Agreement** under JTG aimed to finalise coordinates of the boundary, but differences over technical interpretation persist.
- **Indian Position:** Relies on the **mid-creek principle** based on the Karachi Agreement of 1914.
- **Pakistani Position:** Claims entire creek lies within Sindh territory, relying on different interpretations of historical agreements.

STRATEGIC SIGNIFICANCE

SECURITY SIGNIFICANCE

- Sir Creek lies near Pakistan's port city of **Karachi** — a major naval base for Pakistan.
- Control over the creek affects:
  - Surveillance and monitoring of naval and shipping routes
  - Border infiltration and smuggling control
  - Maritime security for both countries

ECONOMIC SIGNIFICANCE

- Determining Sir Creek's boundary influences control over **EEZ** in the Arabian Sea.
- **Natural resources:** Potential oil, gas, and fishery resources in adjacent areas.
- **Fisheries:** Fishing rights for local communities are impacted by control over the creek.
- **Trade:** Access to maritime routes and control over the creek influences trade and port activities.

POSITIONS OF INDIA AND PAKISTAN

INDIA'S POSITION

- Boundary should follow the **mid-creek line** principle.
- Dispute is a matter of interpretation of the Karachi Agreement.
- Control of the creek is essential for border security and surveillance.
- Final settlement of Sir Creek will unlock maritime boundary delimitation under UNCLOS.

PAKISTAN'S POSITION

- Entire creek lies within Sindh territory, so the whole creek should be under Pakistan's control.
- Disputes arise from differences in interpreting historical agreements and definitions of "mid-creek".
- Pakistan emphasizes its right to fishing grounds and maritime territory.

RECENT DEVELOPMENTS (2020–2025)

- **Military build-up:** Pakistan has increased military presence in the Sir Creek sector.
- **India's response:** Defence Minister Rajnath Singh in October 2025 warned Pakistan of a **"decisive response"** to any misadventure in the Sir Creek sector, highlighting its strategic importance.
- **Technical talks:** JTG continues to discuss coordinates, but tensions remain high due to wider India–Pakistan conflicts.
- **UNCLOS implications:** Sir Creek's unresolved status delays maritime boundary delimitation, impacting EEZ claims.

CHALLENGES IN RESOLVING THE DISPUTE

- **Technical challenges:** Creek's shifting nature due to tides and sedimentation.
- **Political challenges:** India–Pakistan relations are strained due to other disputes (e.g., Jammu & Kashmir), reducing scope for resolution.
- **Security concerns:** High military presence and mistrust hinder talks.
- **Legal challenges:** Different interpretations of the Karachi Agreement and UNCLOS.

IMPLICATIONS FOR INDIA

- Resolving Sir Creek is crucial for:
    - Securing India's western maritime boundaries
    - Expanding India's EEZ and rights over continental shelf
    - Protecting India's maritime security interests
    - Ensuring sustainable fishery resources and offshore exploration
- India's stance reflects its broader policy of **resolving disputes through dialogue but maintaining strong defence readiness**.

14 ETHICS AT THE HEART OF GLOBAL CLIMATE ACTION

The upcoming COP30 negotiations in Brazil have revived the role of ethics in climate governance through the launch of a Global Ethical Stocktake, aiming to place justice, equity, and responsibility at the core of global climate action.

ETHICAL DIMENSIONS OF CLIMATE CHANGE

- **Justice and Equity** – The principle of **"common but differentiated responsibilities"** under the UNFCCC reflects fairness: developed nations bear historical responsibility, while developing nations need space for sustainable growth.
    - **Eg:** Paris Agreement's leave no one behind principle aligns with distributive justice.
- **Intergenerational Responsibility** – Current decisions directly impact the survival prospects of future generations. Ethics demands stewardship, not exploitation.
    - **Eg:** International Court of Justice (2025) reaffirmed intergenerational equity as central to climate treaties.

- **Human Rights Linkage** – Access to food, water, housing, and a healthy environment are inseparable from the right to life (Article 21, Indian Constitution).
    - **Eg:** Inter-American Court (2024) declared right to climate as a fundamental human right.
- **Integrity and Credibility** – Climate negotiations often suffer from promise–delivery gaps. Ethical governance demands **accountability, transparency, and honesty** in Nationally Determined Contributions (NDCs).
    - **Eg:** Cases of corporate greenwashing erode public trust in climate commitments.
- **Solidarity with the Vulnerable** – Marginalized groups, Indigenous peoples, and the Global South face disproportionate risks. Climate ethics insists on inclusion and empathy in designing adaptation strategies.
    - **Eg:** Community-based conservation in Himachal Pradesh (snow leopard survey) shows ethics of inclusion in practice.

ROLE OF ETHICS IN CLIMATE GOVERNANCE:

- **Guiding Negotiators** – Beyond political bargaining, negotiators must uphold moral responsibility for lives at stake. Delay equals suffering.
- **Embedding Ethical Frameworks** – Initiatives like Brazil's **Global Ethical Stocktake** before COP30 demonstrate attempts to institutionalize ethics in climate negotiations.
- **Courts as Ethical Guardians** – Judicial interventions link law and morality, compelling states to act with due diligence.
- **Corporate Social Responsibility (CSR) in Climate** – Businesses must align with **ethics of responsibility** (Jonas) to avoid tokenistic pledges.

ETHICS AND INDIAN CONTEXT:

- **Constitutional Mandates**:
    - **Article 48A** – Duty of State to protect environment.
    - **Article 51A(g)** – Duty of citizens to protect natural resources.
- **Judicial Precedents**: Vellore Citizens' Forum vs Union of India (1996) upheld the precautionary principle and polluter pays principle.
- **Gandhian Perspective**: Mahatma Gandhi's idea of trusteeship resonates with sustainable consumption and ethical responsibility towards nature.

CHALLENGES IN ETHICAL CLIMATE ACTION:

- **National interest vs. global good** – Developed countries often prioritize economic competitiveness, delaying commitments on climate finance and technology transfer, widening trust deficits.
- **Political polarization and denialism** – Divisive politics and climate denial slow down consensus, making multilateral negotiations ineffective despite rising urgency.
- **Greenwashing and weak enforcement** – Corporations and states exaggerate climate achievements, while absence of strict monitoring erodes accountability and credibility.
- **Adaptation finance underfunded** – Vulnerable communities lack resources for resilience, showing an ethical gap between rhetoric and real support for the Global South.

WAY FORWARD:

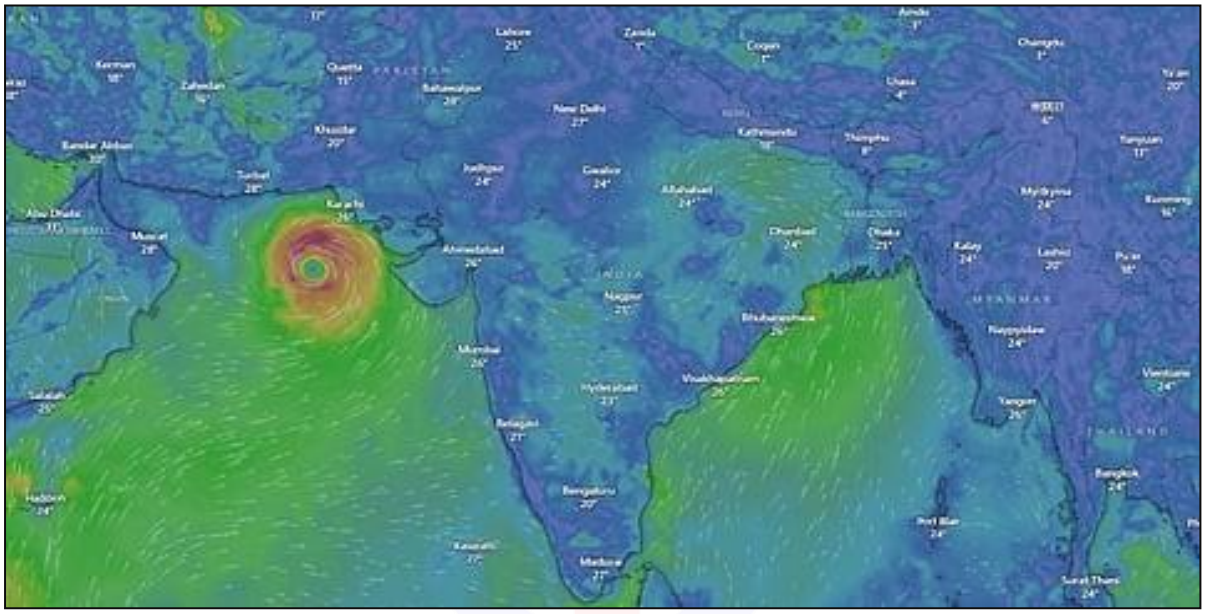
- **Institutionalize Global Ethical Stocktake** – Regularly assess climate action through justice, equity, and responsibility frameworks to strengthen UNFCCC processes.
- **Just Transition Policies** – Ensure livelihoods of workers, farmers, and local communities are safeguarded while shifting away from fossil fuels.
- **Strengthen Ethical Climate Jurisprudence** – Courts must hold governments accountable for rights-based climate action, linking law with moral duty.
- **Promote Ethical Leadership** – Policymakers should adopt stewardship and fairness over short-term political or electoral gains.
- **Integrate Ethical Education** – Mainstream climate ethics in schools and training programs to nurture long-term values of responsibility and sustainability.

CONCLUSION:

Ethics must be the **compass of climate action**. Without justice, responsibility, and solidarity, science alone cannot drive real change. By embedding ethics into global governance—through courts, communities, and negotiations—we can rebuild trust and ensure a liveable planet.

15 CYCLONE SHAKHTI

The India Meteorological Department (IMD) confirmed the formation of Cyclone Shakhti over the northeast Arabian Sea.



WHAT IT IS CYCLE SHAKHTI?

- A **tropical cyclonic storm** that developed in the northeast Arabian Sea, ~340 km west of Dwarka (Gujarat).
- Named **"Shakhti"** under the World Meteorological Organisation's regional naming system.

ORIGIN:

- Formed due to **low-pressure development over warm Arabian Sea waters** in early October 2025.
- The system strengthened into a **cyclonic storm (CS)** on October 3 and is forecast to become a **severe cyclonic storm (SCS)** as it tracks west-southwestwards.

FEATURES:

- Brings **strong winds, high sea waves, and heavy rainfall potential** along coastal belts.
- Part of a **trend of increasing Arabian Sea cyclones** due to rising sea surface temperatures.

WHY THE BAY OF BENGAL GETS MORE CYCLONES THAN THE ARABIAN SEA?

STATISTICAL REALITY

- **Bay of Bengal**: ~80% of all cyclones in the North Indian Ocean originate here.
- **Arabian Sea**: ~20% of cyclones originate here, and they are generally less intense and less frequent.

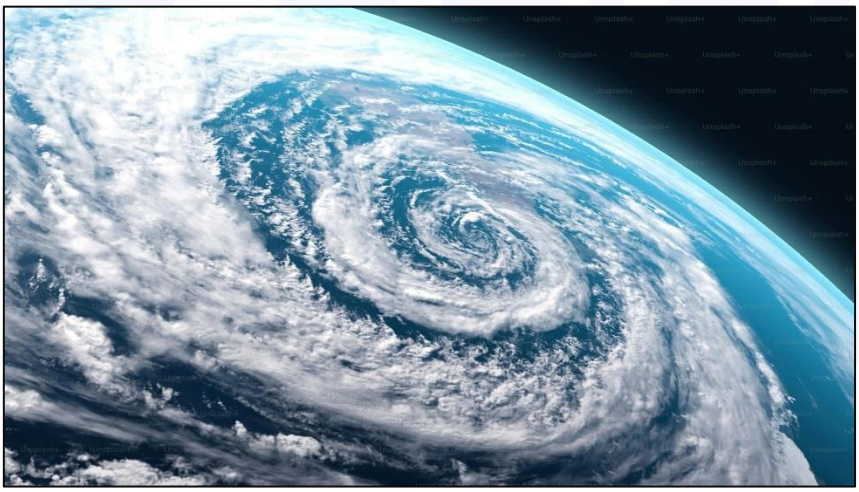
This pattern is due to a combination of **geographical, meteorological, and oceanographic factors**.

REASONS

SEA SURFACE TEMPERATURE (SST)

- Cyclones require **sea surface temperatures above 26°C** for formation and intensification.
- **Bay of Bengal** has consistently **higher SST** (28–29°C) than the Arabian Sea, especially during the pre-monsoon (April–June) and post-monsoon (October–December) seasons.
- Arabian Sea SST is generally lower due to stronger evaporation and currents.

Effect: Warmer SSTs in the Bay of Bengal provide more energy for cyclone formation.



MOISTURE CONTENT

- Bay of Bengal receives **more humidity** from surrounding landmasses and rivers (notably the Ganga-Brahmaputra system).
- Higher moisture content strengthens cyclones because it fuels the latent heat release that drives them.

- Arabian Sea has relatively lower moisture content, limiting cyclone intensity and frequency.

Effect: Bay of Bengal cyclones have more moisture, making them stronger and more frequent.

GEOGRAPHICAL SHAPE AND SIZE

- Bay of Bengal is a **large, concave basin** that allows cyclonic systems to gather strength over a longer distance.
- Its shape funnels winds and supports prolonged cyclogenesis.
- Arabian Sea is smaller and has irregular coastlines that disrupt cyclone formation and track.

Effect: Bay of Bengal offers a more favourable geometry for cyclones to develop.

MONSOON AND WIND PATTERNS

- Bay of Bengal lies in the path of the **southwest monsoon winds** and post-monsoon retreating winds, which create **low-pressure zones**.
- Arabian Sea cyclones often face strong vertical wind shear due to westerlies from the west, which disrupt cyclone formation.
- During the post-monsoon season, Bay of Bengal wind shear is weaker compared to Arabian Sea.

Effect: Wind patterns favour cyclone formation over the Bay of Bengal.

FRESHWATER INFLUX

- Large rivers like the Ganga, Brahmaputra, Irrawaddy, and Mahanadi discharge huge freshwater volumes into the Bay of Bengal.
- Freshwater reduces salinity and stabilises the surface layer, which **helps cyclone intensification** by creating a stratified layer conducive to heat storage.
- Arabian Sea has lower freshwater inflow and thus less of this effect.

Effect: Freshwater influx makes Bay of Bengal more cyclone-friendly.

OCEAN CURRENTS

- The Bay of Bengal has a relatively **slower ocean current regime**, allowing heat to accumulate near the surface.
- Arabian Sea has stronger currents that mix surface water, reducing the warm layer thickness.

Effect: Bay of Bengal retains heat better, enhancing cyclone formation.

CLIMATOLOGICAL SEASONS

- Cyclone seasons in the Bay of Bengal are **twice a year**:
    - **Pre-monsoon:** April–June
    - **Post-monsoon:** October–December
- Arabian Sea has a **single weak season** with fewer events.

Effect: Longer and more frequent cyclone seasons for the Bay of Bengal.

IMPACT OF BAY OF BENGAL CYCLONES

- Heavier rainfall and storm surges cause **flooding, coastal erosion, and damage to life and property**.
- Cyclones often hit eastern coastal states of India **Odisha, Andhra Pradesh, West Bengal, Tamil Nadu** and also Bangladesh and Myanmar.
- They have a large human cost because of dense population and low-lying coastal geography.

16 COMPRESSIVE ASPHYXIA

A stampede at actor-politician Vijay's rally in Karur, Tamil Nadu, killed 41 people including nine children. Most deaths occurred due to compressive asphyxia, a dangerous form of oxygen deprivation in overcrowded situations.

Compressive asphyxia (also called crush asphyxia) is a type of **mechanical asphyxia** that occurs when the chest and/or abdomen is **compressed by an external force**, preventing normal breathing.
This leads to **inadequate oxygen supply (hypoxia)** and **accumulation of carbon dioxide (hypercapnia)** in the body, which can result in death if prolonged.

MECHANISM

- Normal breathing requires **expansion of the thoracic cavity** to allow air into the lungs.
- In compressive asphyxia, an external force compresses the chest or abdomen, **restricting lung expansion** and impeding air intake.
- Severe compression can also restrict venous return to the heart, lowering cardiac output and worsening hypoxia.
- This leads to:
    - **Hypoxia** — reduced oxygen supply to tissues
    - **Hypercapnia** — excessive carbon dioxide in the bloodstream
    - **Cyanosis** — bluish discolouration of skin due to lack of oxygen
    - Ultimately **cardiac arrest and death** if the compression is sustained.

CAUSES

Compressive asphyxia usually occurs in situations involving **trauma or crushing forces**:

- Building or structural collapse (e.g., earthquakes, stampedes, landslides).
- Heavy objects falling on the chest or abdomen.
- Crowd stampedes where people are pressed together.
- Industrial or vehicular accidents involving crushing.
- Prolonged restraint in a prone or compressed position (e.g., positional asphyxia).
- Unsafe restraint techniques (e.g., prone restraint during police custody).

SYMPTOMS AND SIGNS

- **External Signs:**
  - Bruising or contusions on the chest/abdomen
  - Marks from compression (e.g., rope or clothing indentations)
- **Physiological Signs:**
  - Bluish discolouration of lips, face, and extremities (cyanosis)
  - Swollen face or eyes
  - Distended veins in the head and neck
  - Petechial haemorrhages (tiny red/purple spots) on skin, conjunctiva, or mucous membranes
- **Internal Signs:**
  - Pulmonary oedema (fluid in lungs)
  - Congested internal organs
  - Haemorrhage in lungs and heart
- In fatal cases: death within minutes if pressure is severe and sustained.

EXAMPLES IN REAL LIFE

- **Stampedes**: Compressive asphyxia is a common cause of death in stampedes (e.g., Kumbh Mela, football stadium disasters).
- **Building Collapses**: Earthquakes and structural failures can crush victims under debris.
- **Crowd Disasters**: Human crush incidents at religious gatherings or festivals.

- **Vehicular/Industrial Accidents**: Heavy machinery falling on a worker.
- **Positional Asphyxia**: People restrained in a prone position for too long, leading to airway restriction.

FORENSIC RELEVANCE

Compressive asphyxia is an important topic in **forensic medicine** because:

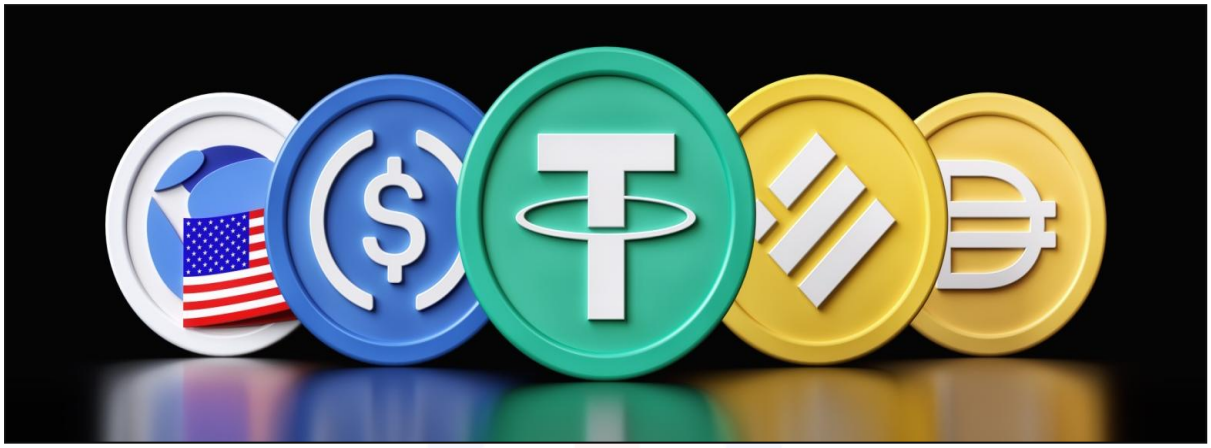
- It can be a cause of death in accidents, disasters, or criminal acts.
- Differentiating compressive asphyxia from other causes (like drowning or hanging) is essential in post-mortem examination.
- Forensic investigation focuses on **external compression marks, petechial haemorrhages, internal organ changes**, and witness accounts.

PREVENTION

- **Structural Safety**: Building codes and crowd-control measures in public gatherings.
- **Emergency Preparedness**: Disaster management planning for mass gatherings.
- **Workplace Safety**: Use of protective equipment and adherence to safety protocols.
- **Law Enforcement Training**: Avoid prolonged restraint in prone positions.

17 STABLE COIN

Union Finance Minister stated that nations must "prepare to engage with stablecoins," as innovations in cryptocurrency are reshaping global monetary systems and could force countries to adapt or risk exclusion.



STABLECOIN

A **stablecoin** is a type of cryptocurrency designed to **minimise price volatility** by pegging its value to a **stable asset**, such as:

- A fiat currency (e.g., USD, INR, EUR)
- A commodity (e.g., gold, oil)
- A basket of assets

Unlike Bitcoin or Ethereum, which have large price fluctuations, stablecoins aim to maintain a **stable value**, making them suitable for transactions, remittances, and as a store of value.

TYPES OF STABLECOINS

Stablecoins are classified based on their **backing mechanism**:

FIAT-COLLATERALISED STABLECOINS

- Backed by fiat currency reserves (USD, EUR, INR) held in banks or custodians.
- Pegged 1:1 to a currency.
- **Example: Tether (USDT), USD Coin (USDC)**
- **Advantage:** Simplicity, trust.
- **Risk:** Requires trust in the issuer, centralisation.

CRYPTO-COLLATERALISED STABLECOINS

- Backed by other cryptocurrencies.
- Over-collateralisation is used to absorb price volatility.
- **Example: Dai (DAI)** backed by Ethereum.
- **Advantage:** Decentralized.
- **Risk:** Complexity, potential instability in extreme market conditions.

ALGORITHMIC STABLECOINS

- Not backed by any collateral.
- Use algorithms and smart contracts to control supply and demand.
- **Example: Ampleforth, TerraUSD (UST)**.
- **Advantage:** No need for reserves.
- **Risk:** High instability risk if algorithms fail.

COMMODITY-BACKED STABLECOINS

- Backed by commodities like gold or oil.
- **Example: Paxos Gold (PAXG)** backed by physical gold.
- **Advantage:** Tangible asset backing.
- **Risk:** Commodity price fluctuation.

WORKING MECHANISM

- Stablecoins maintain their peg through:
  - **Collateral reserves** (fiat or crypto)
  - **Algorithmic control of supply**
  - **Arbitrage mechanisms** that incentivise traders to maintain the peg
- Peg maintenance involves buying or selling tokens or collateral to adjust supply.

ADVANTAGES OF STABLECOINS

- **Price Stability:** Suitable for daily transactions and remittances.
- **Lower Transaction Costs:** Especially across borders compared to banks.
- **Faster Transactions:** Instantaneous settlements compared to traditional banking.
- **Financial Inclusion:** Accessible to unbanked populations.
- **Smart Contract Integration:** Useful for decentralized finance (DeFi) applications.
- **Hedge Against Volatility:** Protects investors from crypto price fluctuations.

DISADVANTAGES / RISKS

- **Centralization Risk:** Fiat-backed stablecoins depend on central issuers.
- **Regulatory Risk:** Unclear or evolving regulations in many countries.
- **Collateral Risks:** If reserves are insufficient, stability fails.
- **Algorithmic Risks:** Algorithms can fail during extreme volatility.
- **Cybersecurity Risks:** Vulnerable to hacking and fraud.

EXAMPLES OF POPULAR STABLECOINS

Stablecoin	Backing	Issuer
Tether (USDT)	USD	Tether Ltd
USD Coin (USDC)	USD	Circle
Binance USD (BUSD)	USD	Binance

Dai (DAI)	Crypto (ETH)	MakerDAO
Paxos Gold (PAXG)	Gold	Paxos Trust

GLOBAL AND INDIAN CONTEXT

GLOBAL

- Stablecoins are widely used in cryptocurrency trading and cross-border transactions.
- Facebook's Diem project (previously Libra) was a stablecoin initiative that drew global attention.
- Central banks (e.g., ECB, Bank of Japan) are exploring **Central Bank Digital Currencies (CBDCs)** as regulated stablecoins.

INDIA

- RBI has expressed concerns over stablecoins due to **financial stability and regulatory risks**.
- India is working on a **Digital Rupee (CBDC)** to avoid dependency on private stablecoins.
- Reserve Bank of India's framework on crypto assets emphasizes that **stablecoins must be regulated and backed by appropriate assets**.

18 PRESUMPTIVE TAXATION

NITI Aayog, in its first **Tax Policy Working Paper** (2025), proposed an optional presumptive taxation regime for foreign firms to reduce litigation, simplify compliance, and bring certainty on Permanent Establishment (PE) disputes.

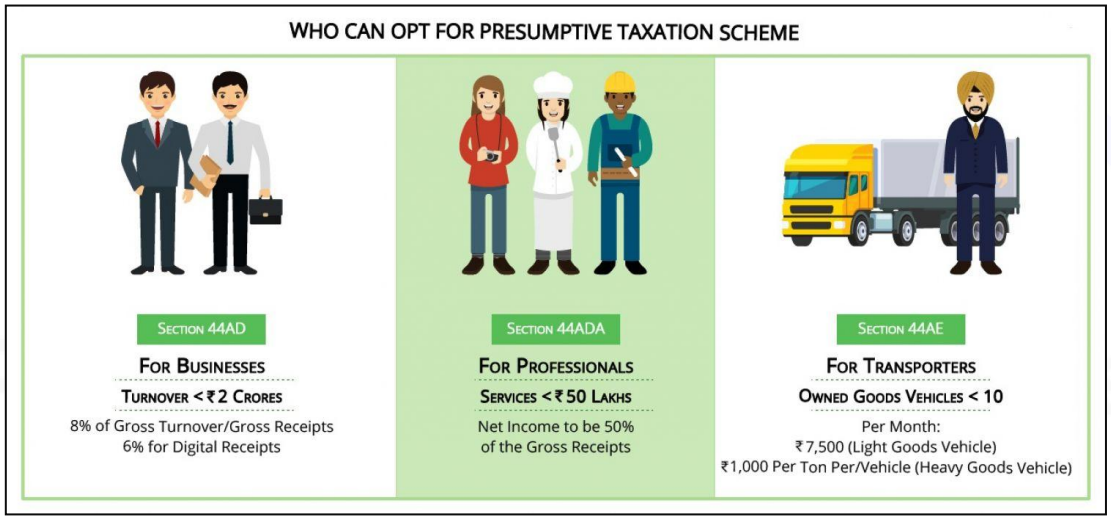
WHAT IS PRESUMPTIVE TAXATION?

It is a method of **tax computation in which the income of a taxpayer is estimated (presumed) as a fixed percentage of gross receipts, turnover, or other measurable bases**, rather than by detailed computation of actual income and expenses.

It is intended to **simplify tax compliance** for small taxpayers and reduce administrative burden.

PURPOSE

- Reduce **compliance costs** for small businesses and professionals.
- Simplify the **assessment process** for tax authorities.
- Improve **tax compliance** and reduce under-reporting of income.
- Encourage **small businesses to formalise** operations.



LEGAL BASIS IN INDIA

- Provided under **Income-tax Act, 1961** — specifically in:
  - **Section 44AD** — for small businesses
  - **Section 44ADA** — for professionals
  - **Section 44AE** — for transporters

These sections allow eligible taxpayers to pay tax on a **presumptive basis** without maintaining detailed books of accounts.

FEATURES

- Income is **estimated as a fixed percentage** of turnover or gross receipts.
- No requirement for detailed bookkeeping (subject to conditions).
- Applicable only to **small businesses, professionals, and certain sectors**.
- Taxpayer is deemed to have earned a certain percentage of turnover as income.
- Conditions and limits are defined in the Income-tax Act.

WHY NEEDED IN INDIA?

- **Litigation-heavy regime** – PE disputes take over a decade to resolve (e.g., Hyatt International 2025).
- **Ambiguity in rules** – Broad interpretation of "business connection" and Significant Economic Presence (SEP) deters investment.
- **Retrospective taxation legacy** – Vodafone-type cases damaged India's image.

HOW THE PROPOSED SCHEME WORKS?

- **Industry-specific deemed profit rates** (e.g., 10% for EPC, 15% for marketing, 20% for services, 30% for digital/e-commerce).
- **Optional & rebuttable** – Firms can opt in, or opt out and file regular returns if actual profits are lower.
- **Safe harbour** – If presumptive scheme is chosen, tax authorities will not separately litigate PE existence.
- **Administrative simplicity** – Reduced need for audits and complex books; compliance burden minimized.
- **Treaty compatibility** – Optional nature ensures alignment with DTAAs.

TYPES OF PRESUMPTIVE TAXATION IN INDIA

Section	Who it applies to	Basis of Presumption
44AD	Small businesses	8% of turnover (6% for digital transactions)
44ADA	Professionals	50% of gross receipts

44AE	Transporters	Fixed amount per vehicle per month

KEY DETAILS:

- **Section 44AD**: Turnover limit is ₹2 crore per financial year (₹5 crore for certain notified taxpayers).
- **Section 44ADA**: Professionals with gross receipts up to ₹50 lakh can opt for presumptive taxation.
- **Section 44AE**: Applicable to owners of goods carriages (tax based on number and type of vehicles).

ADVANTAGES OF PRESUMPTIVE TAXATION

SIMPLIFIED COMPLIANCE

- Small taxpayers and professionals are **relieved from maintaining detailed books of accounts**, reducing paperwork and time spent on compliance.
- Makes it easier for **small businesses, traders, and professionals** to file income tax returns.
- **Example:** Under Section 44AD, a small trader with turnover below ₹2 crore doesn't have to maintain detailed books, unlike under normal taxation.

REDUCED COST OF COMPLIANCE

- Avoids costs of professional accountancy services and audits.
- Reduces indirect costs related to compliance, such as record-keeping and filing.
- **Policy Benefit:** Lower compliance cost encourages voluntary filing and increases participation in the tax system.

EASE OF ASSESSMENT FOR TAX AUTHORITIES

- Presumptive taxation allows tax authorities to **quickly assess tax liabilities** without in-depth verification of accounts.
- Saves time for both taxpayers and the tax department.

ENCOURAGES TAX COMPLIANCE AND FORMALISATION

- Simplified process encourages **small businesses to register and declare income** instead of operating in the informal economy.
- Contributes to the government's aim of **formalizing the economy** and improving the tax base.
- **Example:** Small shops or service providers who may avoid registration for tax reasons may opt in due to lower compliance burden.

IMPROVES EASE OF DOING BUSINESS

- Reduces regulatory burden for micro, small, and medium enterprises (MSMEs).
- Encourages entrepreneurship by lowering procedural barriers.
- **Global Example:** Many countries use presumptive or simplified tax regimes to encourage small-scale enterprise.

MINIMISES TAX EVASION

- Since income is fixed as a percentage of turnover, there is **less scope for under-reporting** and manipulation of accounts.
- Promotes transparency in taxation for small taxpayers.

PREDICTABILITY

- Taxpayers can estimate tax liability in advance because of fixed presumptive rates.
- Reduces disputes over assessments and lowers litigation.

DISADVANTAGES OF PRESUMPTIVE TAXATION

LOSS OF ACCURACY IN TAX CALCULATION

- Presumptive taxation assumes a **standard profit rate** regardless of actual profitability.
- Businesses with low margins may end up paying **tax higher than their actual income**, while high-margin businesses pay less.

- **Example:** A business with thin profit margins could pay disproportionately higher taxes under a presumptive scheme compared to actual income.

LIMITED APPLICABILITY

- Applicable only to certain categories of taxpayers (small businesses, professionals, transporters).
- Turnover or receipts must be below prescribed limits (₹2 crore under Section 44AD, ₹50 lakh under Section 44ADA).
- Larger businesses cannot avail the scheme and must comply with full accounting.

LOSS OF CERTAIN DEDUCTIONS AND BENEFITS

- Under presumptive taxation, taxpayers **cannot claim deductions** for actual business expenses.
- No depreciation claim, no carry forward of losses.
- This may not be beneficial for businesses with high operating costs.
- **Example:** A transport company under Section 44AE pays a fixed amount per vehicle regardless of actual expenses incurred.

RISK OF UNFAIRNESS

- A flat percentage rate may not fairly reflect profitability across different sectors.
- Two businesses with the same turnover may have very different costs, but presumptive taxation ignores this.

POSSIBLE LOSS OF GOVERNMENT REVENUE

- If many businesses opt for presumptive taxation and the fixed rate is lower than actual effective tax, the government may lose potential revenue.
- However, this is balanced against improved compliance.

DISCOURAGES DETAILED ACCOUNTING

- Businesses under presumptive schemes may not maintain proper accounts, which can impact creditworthiness and financial planning.
- May also discourage transparency in larger business transactions.

LIMITATIONS IN TAX PLANNING

- Presumptive taxation offers no flexibility for taxpayers to plan taxes based on actual business expenses and income variations.
- This rigidity may not suit all businesses.

POTENTIAL FOR ABUSE

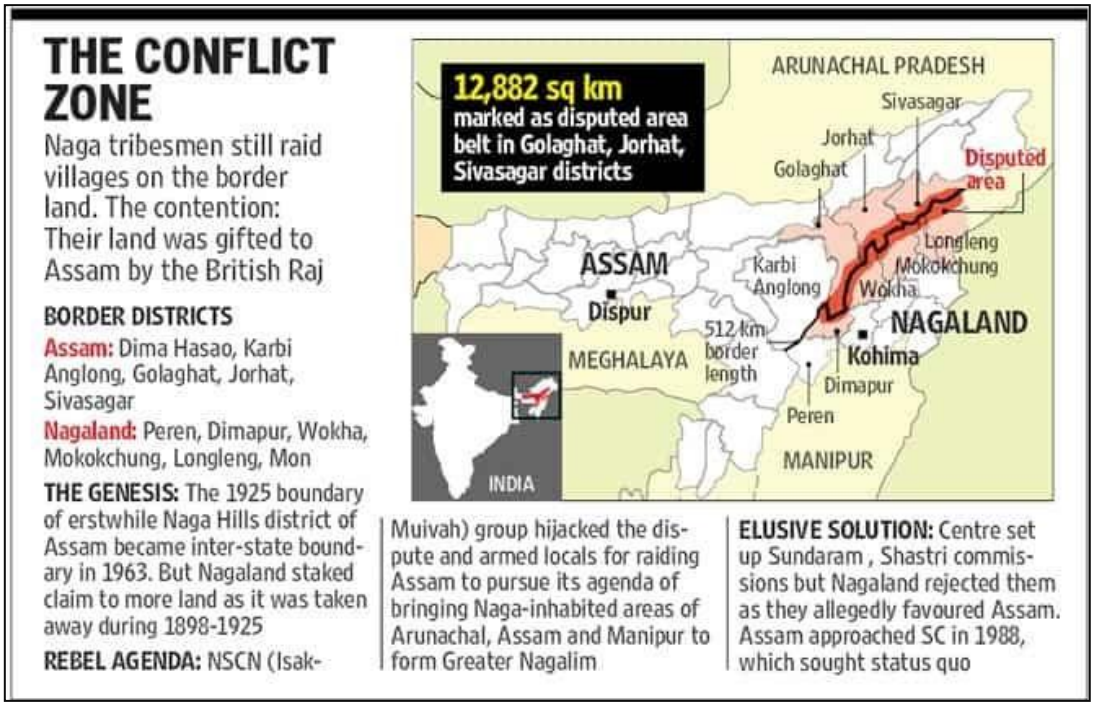
- There is a risk that some businesses may **understate turnover** to remain within the eligibility limit for presumptive taxation and avoid detailed audits.

SUMMARY TABLE — ADVANTAGES VS DISADVANTAGES

Advantages	Disadvantages
Simplifies compliance and filing	Loss of accuracy in tax calculation
Reduces compliance costs	Limited applicability (turnover limits)
Encourages formalisation of economy	Loss of deductions and expense claims
Ease of assessment for authorities	Unfairness for businesses with low margins
Improves ease of doing business	Potential government revenue loss
Minimises tax evasion	Discourages detailed accounting
Predictability of tax liability	Limitations in tax planning
Encourages voluntary compliance	Possible misuse to understate turnover

19 ASSAM–NAGALAND BORDER DISPUTE

The Assam–Nagaland border flared up after armed miscreants allegedly from Nagaland torched nearly 100 houses in a minority-dominated village in the disputed B Sector of Golaghat district, Assam.



ASSAM–NAGALAND BORDER DISPUTE

BACKGROUND

The Assam–Nagaland border dispute is one of the oldest **inter-state boundary conflicts** in India. It involves disagreement over territorial boundaries between **Assam** and **Nagaland**, which has resulted in repeated clashes, loss of lives, and long-standing political tensions.

The dispute stems from:

- Ambiguity in the **borders defined during British colonial rule**.
- Differing interpretations of historical administrative boundaries.
- Ethnic, cultural, and political factors.

ORIGIN OF THE DISPUTE

Colonial demarcations (1826–1925): Post-Treaty of Yandabo (1826), British created Naga Hills District (1866). Subsequent notifications redefined boundaries without consulting Nagas.

Post-Independence tensions (1947–1963): Nagas declared independence in **1947**; later, the **Naga Hills–Tuensang Area Act (1957)** and **Nagaland State Act (1962)** formalized Nagaland's statehood but **without a clear boundary settlement**.

COMMISSIONS & AGREEMENTS:

- **Sundaram Commission (1972):** led to **four Interim Agreements** to maintain status quo.
- **Shastri Commission (1985)**, **J.K. Pillai Commission (1997)**, **Variava & Chatterjee Commissions (2006)** attempted boundary resolution but failed.

GEOGRAPHICAL SCOPE

- Total disputed area: around **1,200 km^2**.
- Key disputed areas: **Kohima, Dimapur, Mon, Wokha, Peren districts** and parts of Karbi Anglong and Naga areas in Assam.
- The dispute primarily involves rural areas but also impacts strategic infrastructure.

DISPUTED AREA BELT

The border dispute centers on the **territorial claims** of Nagaland over significant tracts of land that legally fall within the administrative boundaries of Assam.

- **Disputed Area Belt (DAB):** The conflict is concentrated in the **Disputed Area Belt (DAB)**—forest land (Reserved Forests) that runs along the 512.1

km inter-state boundary, primarily spanning Assam's **Golaghat, Jorhat, Sivasagar, and Karbi Anglong districts.**

- **The Claim:**
    - Assam maintains the constitutional boundary as defined at the time of Nagaland's statehood in 1963.
    - Nagaland, however, insists on a boundary based on historical pre-colonial or colonial agreements (like the 16-Point Agreement of 1960), which would involve the **"restoration" of Naga ancestral territories** transferred out of the Naga Hills district by the British for administrative convenience.
    - Assam alleges that Nagaland has encroached upon over 60,000 hectares of its territory in the DAB.

CHRONOLOGY OF MAJOR EVENTS

- **1963**: Nagaland state created from Assam; boundary left undefined.
- **1972–73**: Several rounds of talks initiated but no resolution.
- **1980s–1990s**: Sporadic violent clashes reported.
- **2000s**: Formation of boundary coordination committees by both states.
- **2014**: Armed clashes in Mon district; several deaths reported.
- **2021**: Deadly clashes in Nagaland–Assam border area, including in Mon district.
- **2023–2024**: Renewed tensions with troop deployment and skirmishes.

- **2025**: Government forms special boundary commission to demarcate the border.

RECENT DEVELOPMENTS (2025)

- The **Central Government** set up a **Boundary Coordination Committee** and a **Special Commission** to resolve the dispute.
- Local leaders from both states have held peace talks.
- Security forces remain deployed in flashpoint areas to prevent escalation.
- Government is considering technological methods like **satellite mapping and GPS-based demarcation** for clarity.

CAUSES OF THE DISPUTE

HISTORICAL AND ADMINISTRATIVE REASONS

- Pre-statehood administrative boundaries were not formalised.
- Use of **old British-era maps** and inconsistent survey records.
- Nagaland claims territories based on historical Naga habitation; Assam relies on colonial administrative boundaries.

ETHNIC AND POLITICAL FACTORS

- Both states have distinct ethnic identities and political aspirations.
- Territory is seen as part of the cultural and historical homeland of respective ethnic groups.

NATURAL RESOURCES

- The disputed area has **forests, rivers, and mineral resources** which add to its importance.
- Control over these resources is a motivating factor.

STRATEGIC AND CONNECTIVITY CONCERNS

- The border region is important for connectivity between Nagaland and other northeastern states.
- Strategic control affects transport routes and security.

IMPACTS OF THE DISPUTE

HUMAN COST

- Frequent clashes have resulted in deaths, injuries, and displacement of villagers.
- Loss of life on both sides increases mistrust.

ECONOMIC IMPACT

- Agricultural disruption due to insecurity.
- Delay in development projects.
- Impact on trade and connectivity.

SOCIAL IMPACT

- Heightened ethnic tension and polarisation.
- Disruption of normal life in border villages.

ADMINISTRATIVE CHALLENGES

- Difficulty in governance and delivery of public services in disputed areas.

GOVERNMENT AND LEGAL RESPONSE

- Under Article 131 of the Constitution, **inter-state disputes can be adjudicated by the Supreme Court**.
- States can refer the matter to the **Union Government** for settlement.
- The Centre often facilitates **Boundary Coordination Committees** and technical surveys to demarcate boundaries.

- In this dispute, the Union Government has sought to use **modern GIS mapping and satellite imagery** to resolve the issue.

POSSIBLE SOLUTIONS

PEACEFUL NEGOTIATION

- Continuous dialogue between Assam and Nagaland governments.
- Involvement of central mediators.
- Use of traditional dispute-resolution mechanisms involving local communities.

TECHNOLOGICAL DEMARCATION

- Use of **GIS technology, satellite imagery, and historical maps** to settle boundary claims.

JOINT ADMINISTRATION

- Temporary arrangement for **joint administration of disputed areas** until a permanent solution is reached.

LEGAL SETTLEMENT

- Reference of the matter to the **Supreme Court** if mutual agreement fails.

DEVELOPMENT-CENTRIC APPROACH

- Focus on development and welfare projects in border areas to reduce tensions.

20 GOVERNMENT RAISES MSP FOR SIX RABI CROPS

The Union Cabinet has approved significant hikes in the Minimum Support Prices (MSPs) for six rabi crops for the 2026–27 marketing season, aimed at ensuring remunerative prices to farmers and promoting crop diversification.

WHAT IS MSP?

- **MSP** is the minimum guaranteed price at which the government procures crops from farmers, protecting them from distress sales.
- It currently covers **23 crops**: 7 cereals, 5 pulses, 7 oilseeds, and 4 commercial crops.
- The policy serves as a tool for ensuring **food security, farmer welfare, and market stability**.

KEY HIGHLIGHTS

- **Crops Covered:** Wheat, barley, jowar, gram, lentil, and safflower.
- **Wheat:** MSP increased by **₹160 per quintal** to **₹2,585/quintal** (6.6% rise), offering the highest gain over cost of production (109%).
- **Safflower:** Witnessed the **highest absolute and percentage increase** (₹600 per quintal), reflecting government emphasis on **oilseed cultivation** and **crop diversification**.
- The hikes align with the government's aim to **double farmers' income** and reduce dependence on imported edible oils.

HOW MSP IS DETERMINED?

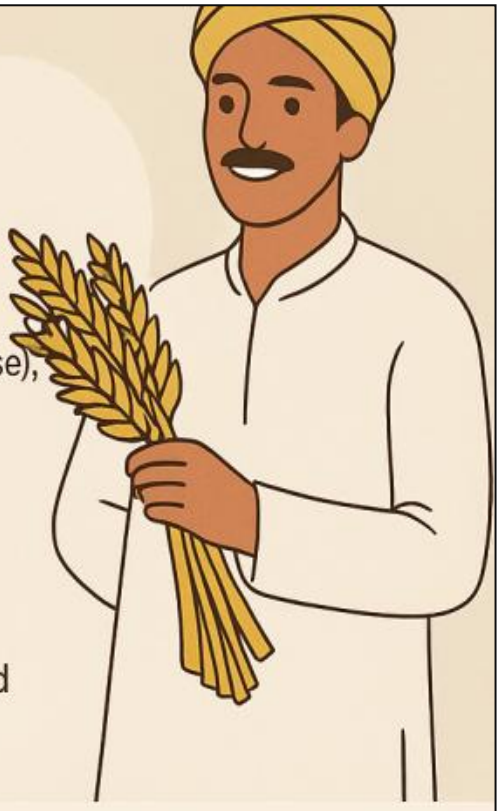
- **Commission for Agricultural Costs and Prices (CACP):**
- A statutory body set up in 1965 under the Ministry of Agriculture.
- Recommends MSPs twice a year (for kharif and rabi crops).
- Recommendations are **not binding**; final approval rests with the **Cabinet Committee on Economic Affairs (CCEA)**.

FACTORS CONSIDERED:

- Cost of cultivation (A2, A2+FL, C2).
- Demand-supply situation.

- Price trends and inter-crop parity.
- Terms of trade for farmers.
- Global prices and food security concerns.

Key Highlights



- **Coverage: Includes** Wheat, jowar, barley, gram, and lentil
- **Wheat Hike:** MSP raised by ₹160 per quintal to ₹2,585/quintal (6.6% increase), giving farmers the highest gain over cost of production (109%)
- **Safflower:** Recorded the highest absolute and percentage increase (Rs 600 per quintal), reflecting government efforts to promote oilseed cultivation and crop diversification

Process to Determine Minimum Support Price (MSP)

- Commission for Agricultural Costs and Prices (CACP) recommends MSPs twice a year (kharif & rabi)
- **CACP**, a statutory body formed in 1965, is attached to the Ministry of Agriculture and Farmers Welfare. Its suggestions are not binding on the Government
- **Factors Considered:** Cost of cultivation (A2+FL, C2), demand-supply, market trends, price parity, inter-crop parity, terms of trade for farmers, and global prices
- **Cost Concept:** A2 = Paid-out costs
  A2+FL = Paid-out costs + imputed family labour
  C2 = Comprehensive cost (A2+FL + rental value of land + interest on capital)

COST CONCEPTS:

- **A2:** Actual paid-out costs (seeds, fertilizers, etc.).
- **A2+FL:** A2 + imputed family labour.
- **C2:** Comprehensive cost (A2+FL + rental value of land + interest on capital).
- MSPs are generally fixed at A2+FL + 50% margin, ensuring fair returns.

SIGNIFICANCE

- Enhances **farmers' income security** and incentivizes crop production.
- Encourages **oilseed production**, reducing edible oil import bills.
- Balances **inflation control** with farmer welfare.
- Strengthens **food security** by ensuring procurement at fair prices.

CHALLENGES AHEAD

- Procurement is still concentrated in wheat and rice, limiting benefits for other crops.
- Rising MSPs can strain the **fiscal burden**.
- Market reforms and diversification efforts need to complement MSP to achieve sustainable outcomes.

CONCLUSION

The recent MSP hike reflects the government's continued focus on **farmer welfare, crop diversification, and self-reliance** in agriculture. However, structural reforms in procurement, storage, and marketing remain crucial to ensure that the benefits of MSP reach all farmers equitably.

21 HEALTH MINISTRY ADVISORY ON COUGH SYRUPS FOR CHILDREN

The Directorate General of Health Services (DGHS) under the Ministry of Health and Family Welfare has issued a fresh advisory to all States and Union Territories on the rational use of cough syrups in children. The move comes after reports of child deaths in Rajasthan and Madhya Pradesh, allegedly linked to syrups containing Dextromethorphan.

ABOUT DEXTROMETHORPHAN

- **Dextromethorphan (DXM)** is a **cough suppressant** used in many over-the-counter syrups.
- It acts on the brain's cough centre to reduce coughing but can cause **serious side effects** in children — such as drowsiness, breathing difficulty, and accidental overdose.
- Long-term effects on the **developing brain** remain unclear, making it unsafe for paediatric use.

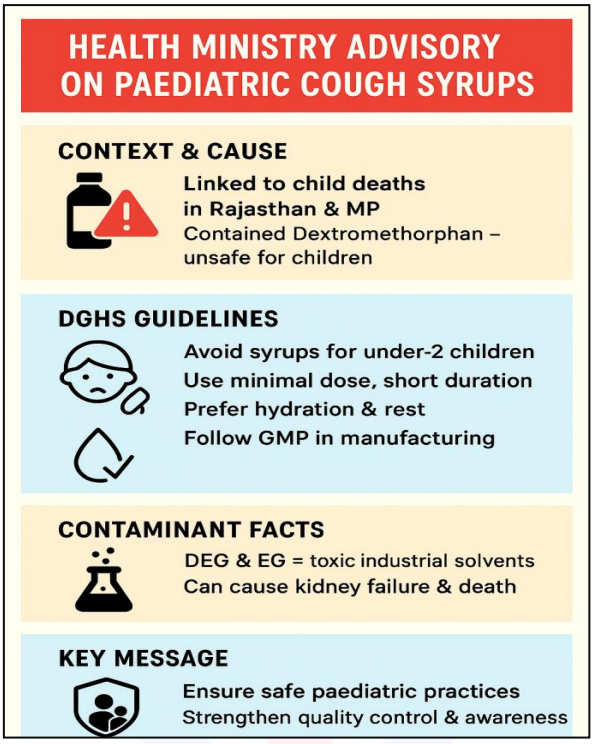
KEY GUIDELINES ISSUED BY DGHS

- **Avoid Routine Use:** Most coughs in children are **self-limiting** and do not require medication.
- **Age Restriction:** Cough syrups must **not be prescribed for children below two years**.
- **Clinical Evaluation:** For older children, use only after proper medical evaluation — with **accurate dosage** and for the **shortest possible duration**.
- **Avoid Polypharmacy:** Syrups containing **multiple drug combinations** should be avoided.
- **Non-Drug Remedies:** Encourage **hydration, steam inhalation, and rest** as safer alternatives.
- **Pharma Compliance:** Manufacturers must strictly follow **Good Manufacturing Practices (GMP)** and use **pharmaceutical-grade excipients**.

CONTAMINATION AND SAFETY INVESTIGATIONS

- The Health Ministry clarified that syrups linked to the incidents were **free from diethylene glycol (DEG)** and **ethylene glycol (EG)** — two highly toxic industrial chemicals responsible for several global poisoning incidents.

- **In Rajasthan**, the formulation in question contained **Dextromethorphan**, which is **not recommended for children** under national and WHO safety standards.



CHEMICAL TOXICITY EXPLAINED

- **Diethylene Glycol (DEG):** Used in antifreeze; causes **kidney failure, neurological damage, and death**.
- **Ethylene Glycol (EG):** Another toxic antifreeze component that leads to **acute kidney injury** if ingested.

SIGNIFICANCE

- Reinforces **paediatric drug safety** and the need for **rational prescription practices**.
- Aims to prevent **avoidable child fatalities** from inappropriate or contaminated medicines.
- Strengthens **pharmaceutical quality control** and **public health accountability**.

CONCLUSION:

The DGHS advisory highlights India's growing vigilance in **paediatric pharmacovigilance**. Rational use of medicines, strict enforcement of safety standards, and public awareness are key to protecting children from preventable drug-related tragedies.

22 150 YEARS OF THE NATIONAL SONG – VANDE MATARAM

The Union Cabinet has announced a year-long celebration marking 150 years of India's national song, Vande Mataram, to honour its historical and cultural significance in the nation's freedom struggle.

BACKGROUND

- **"Vande Mataram"** (Sanskrit: "I bow to thee, Mother") is a poem written by **Bankim Chandra Chatterjee** in the 1870s.
- It was first published in his novel **Anandamath** (1882), set against the backdrop of the Sannyasi Rebellion.
- The song became a **symbol of Indian nationalism** during the freedom struggle against British rule.
- **2025 marks 150 years** since "Vande Mataram" was composed — a landmark commemoration recognising its cultural and historical importance.

HISTORICAL CONTEXT

- **Late 19th Century India**: Rise of Indian nationalism and socio-religious reform movements.
- Bankim Chandra Chatterjee infused patriotic sentiment into literature to inspire unity against colonial rule.
- Anandamath depicted a fictional uprising of ascetics against foreign rule, making "Vande Mataram" a call to rally.

ADOPTION AS NATIONAL SONG

- "Vande Mataram" was adopted as the **National Song of India** by the **Constituent Assembly** in 1950.
- It is distinct from the **National Anthem**, which is "Jana Gana Mana".
- The first two stanzas of the song were declared the National Song.

CULTURAL AND EMOTIONAL SIGNIFICANCE

- Embodies **patriotism, self-sacrifice, and reverence for the motherland**.
- Represents unity across religions, regions, and cultures.
- Used in national movements such as the **Swadeshi Movement (1905)**, **Quit India Movement (1942)**, and other protests against colonial rule.

TEXT AND MEANING

- Written in Sanskrit and Bengali, "Vande Mataram" praises India as a **divine mother** — blending nationalism with spirituality.
- The first stanza, often sung, glorifies the motherland and calls for dedication and sacrifice.

Meaning in brief:
"I bow to thee, Mother, rich with thy hallowed wealth,
Thy name vibrates in the hearts of millions."

CONTROVERSIES SURROUNDING "VANDE MATARAM"

- Some sections of society opposed its adoption, arguing the **religious symbolism** conflicted with secular ideals.
- Muslim groups argued that the portrayal of the mother as a goddess was not acceptable under their religious beliefs.
- To address concerns, only the first two stanzas were officially adopted as the National Song, avoiding explicitly religious references in the rest of the poem.

COMMEMORATION OF 150 YEARS (2025)

- Government of India and cultural organisations are marking the sesquicentennial year with:
    - Cultural events, seminars, and exhibitions.
    - Publication of historical research and translations of "Vande Mataram".

- Promotion of the song in schools and public programmes.

- Significance: Reaffirmation of "Vande Mataram" as a **symbol of India's cultural heritage and freedom struggle**.

SYMBOLISM IN INDIAN FREEDOM STRUGGLE

Aspect	Significance
Patriotic Unity	Uniting Indians across linguistic, religious, and regional lines
Moral Courage	Inspired sacrifices of freedom fighters
Cultural Identity	Emphasised India's civilisational heritage
Protest Symbol	Sung in protests, rallies, and revolutionary gatherings

CONTEMPORARY RELEVANCE

- Remains part of national ceremonies and school curricula.
- Symbol of **national pride and patriotism**.
- Inspires cultural preservation and understanding of India's freedom movement.
- Encourages dialogue on balancing tradition and secularism.

23 INDIA WELCOMES THE US'S PLAN FOR GAZA PEACE

Prime Minister Narendra Modi welcomed US President Donald Trump's 20-point peace plan aimed at ending the ongoing Israel–Hamas conflict in Gaza. India, which advocates a two-state solution and peaceful coexistence, reiterated its support for all diplomatic efforts towards regional stability.

KEY PROVISIONS OF THE PEACE PLAN

- **Deradicalisation of Gaza:** Transforming Gaza into a terror-free zone without threats to neighbouring countries.
- **Immediate Ceasefire:** Suspension of all military operations between Israel and Hamas.
- **Hostage Release:** All hostages (living or deceased) to be returned within 72 hours of Israel's acceptance.
- **Interfaith Dialogue:** A global platform for tolerance and reconciliation among Jews, Christians, and Muslims.
- **Economic Revival:** Establishment of a special economic zone, investment initiatives, and large-scale job creation.

BACKGROUND OF THE ISRAEL–HAMAS CONFLICT

- **Historical Roots:** The conflict traces back to the **1947 UN Partition Plan**, which proposed separate Jewish and Arab states. Arabs rejected the plan, while Jews declared Israel's independence in 1948, leading to successive wars.
- **Oslo Accords (1993):** Signed between Israel and the Palestine Liberation Organization (PLO) to establish peace. Hamas opposed the agreement, continuing armed resistance.
- **Recent Escalation:** In **October 2023**, Hamas launched Operation Al-Aqsa Storm, killing over 1,200 Israelis. Israel retaliated with extensive military operations, resulting in **64,000+ casualties in Gaza**, creating a severe humanitarian crisis.

INDIA'S STAND

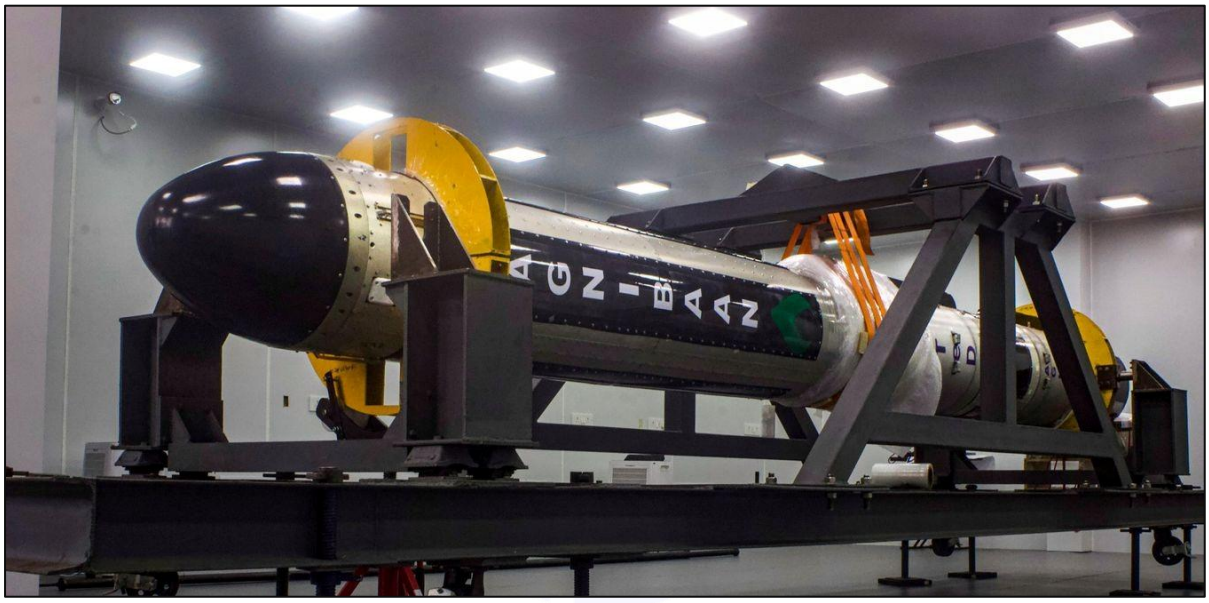
- India supports a **sovereign, independent Palestine living peacefully alongside Israel**.
- It maintains **balanced relations** with both Israel and Palestine, providing humanitarian aid to Gaza while also strengthening defence cooperation with Israel.
- Welcoming the US initiative aligns with India's long-standing call for dialogue, non-violence, and respect for international law.

SIGNIFICANCE

- **For West Asia:** If successful, the plan could end one of the most intractable conflicts in modern history.
- **For India:** Stability in the region secures energy supplies, ensures diaspora safety, and strengthens India's diplomatic footprint as a responsible global actor.

24 INDIA'S BID FOR FULLY REUSABLE ROCKETS

Chennai-based spacetech startup Agnikul Cosmos has announced that its upcoming rockets will be fully reusable, ensuring no component is discarded. This aligns with the International Astronautical Congress (IAC) 2025 theme: "Sustainable Space: Resilient Earth."



KEY HIGHLIGHTS

- **Agnikul's Vision:** To offer **globally competitive small-satellite launch services** with complete reusability.
- **Technology Achievements:**
- Successfully tested **3D-printed sub-orbital rocket Agnibaan SOrTeD (2024)**.
- Plans for orbital launches with reusability.
- **Support Mechanism:** Backed by **IN-SPACe**, which provides policy and technical support.
- **Focus Areas:** Cost efficiency, scalability, and **compliance with space debris mitigation**.

REUSABLE LAUNCH VEHICLES (RLVS)

- A rocket system that can be launched, recovered, and reused multiple times. Unlike expendable rockets, RLVs ensure **controlled re-entry** and reduce space junk.
- **Advantages:**

- Cuts down **launch costs**.
- Minimizes **space debris**, mitigating risks like the **Kessler Syndrome** (cascading orbital collisions).
- Enhances **sustainability** of global space missions.

INDIA'S EFFORTS IN RLVS

- **ISRO Milestones:**
  - **RLV-TD HEX-01 (2016):** Demonstrator flight for re-entry.
  - **RLV LEX Series (2024):** Autonomous landing tests.
  - **PUSHPAK Mission:** Ongoing experimental reusability projects.
  - **Agnikul's Initiative:** Complements ISRO's programmes by targeting **commercial small-satellite launches**.

GLOBAL CONTEXT

- **SpaceX (USA):** Falcon 9, Falcon Heavy — world leaders in reusable rockets.
- **China:** Long March 8 with partial reusability.
- **India's Entry:** Aims to position itself as a **sustainable, affordable, and competitive space launch hub**.

SIGNIFICANCE

- Strengthens India's **Atmanirbhar Bharat** vision in space technology.
- Encourages **startups–ISRO collaboration**, expanding the private space ecosystem.
- Demonstrates India's commitment to **sustainable space exploration** and debris-free orbits.

25 PNGRB PROPOSES LPG INTEROPERABILITY FRAMEWORK

The Petroleum and Natural Gas Regulatory Board (PNGRB) has proposed an interoperable LPG delivery system to address the growing challenge of delayed cylinder deliveries.

The move aims to enhance consumer convenience and strengthen India's energy service delivery mechanism.

KEY FEATURES OF THE PROPOSAL

- **24-Hour Delivery Mandate:** If a distributor fails to deliver a refill within 24 hours of booking, the order will be rerouted to the nearest available distributor, irrespective of the oil marketing company (OMC).
- **Cross-OMC Flexibility:** Customers of IOC, BPCL, or HPCL can receive a refill from any nearby distributor, effectively merging three separate delivery silos into a **unified national LPG supply network**.
- **Phased Rollout:** The framework will begin with pilot projects in select urban and rural areas to test coordination and technology systems before nationwide implementation.

RATIONALE BEHIND THE PROPOSAL

- **Delivery Complaints:** Around **1.7 million LPG-related grievances** are filed annually, with nearly half linked to delayed refills.
- **Focus Shift:** With **32 crore domestic LPG connections** and near-universal coverage achieved, the challenge is no longer access but **timely and reliable service**.

- **Universal Service Obligation:** As all three OMCs operate under the Ministry of Petroleum and Natural Gas (MoPNG) and sell LPG at **uniform subsidised prices**, interoperability aligns with their common mandate to ensure uninterrupted household fuel access.

PETROLEUM AND NATURAL GAS REGULATORY BOARD (PNGRB)

- **Statutory Body:** Established under the **PNGRB Act, 2006**, headquartered in New Delhi.
- **Nodal Ministry:** Ministry of Petroleum and Natural Gas.
- **Composition:** Chairperson, one legal member, and three other members, appointed by the Centre for five years or until the age of 65.
- **Functions:** Regulates refining, storage, transportation, distribution, marketing, and sale of petroleum products and natural gas (excluding crude oil and production).
- **Powers:** Adjudicate disputes, levy fees, maintain databanks, conduct inquiries, and recommend policies.
- **Appeals:** Decisions can be challenged before the **Appellate Tribunal for Electricity**.

SIGNIFICANCE OF THE PROPOSAL

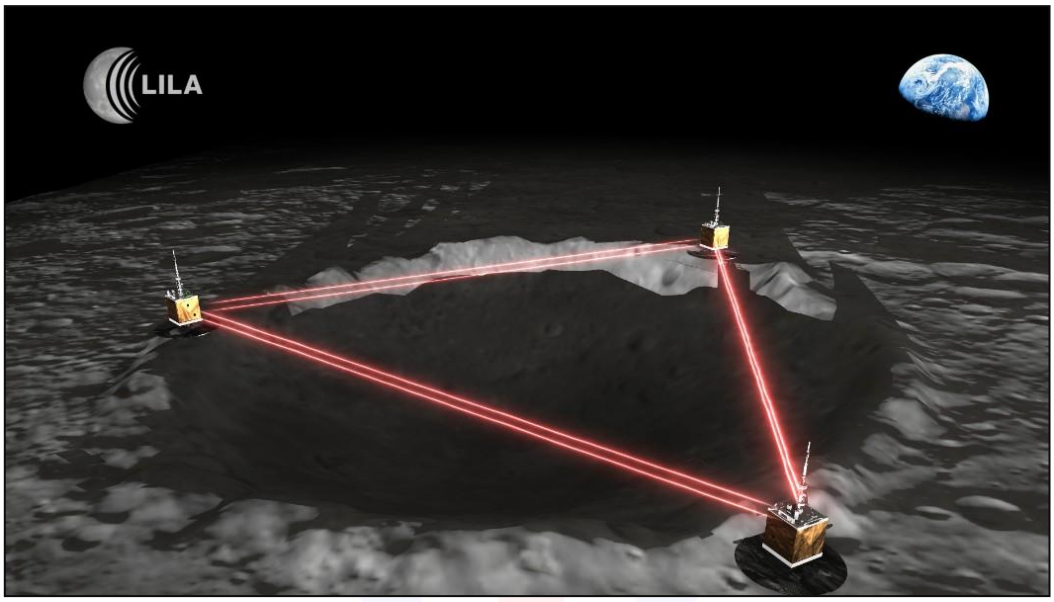
- **Consumer-Centric Reform:** Ensures faster deliveries and reduces reliance on a single distributor.
- **Efficiency & Competition:** Encourages better performance among distributors by eliminating monopolistic silos.
- **Digital Integration:** Pushes for advanced IT systems to seamlessly transfer bookings across OMCs.
- **Strengthening Energy Security:** Builds a more resilient and responsive LPG supply chain.

CHALLENGES AHEAD

- **Operational Coordination:** Requires robust digital infrastructure and real-time inventory tracking across companies.
- **Accountability & Monitoring:** Clear mechanisms must be in place to prevent mismanagement and ensure transparency.
- **Pilot to Scale:** Lessons from pilot projects must be carefully integrated before nationwide rollout.

26 LASER INTERFEROMETER LUNAR ANTENNA

Scientists have proposed the Laser Interferometer Lunar Antenna (LILA) as a next-generation project to detect gravitational waves directly from the Moon's surface.



WHAT IS AN INTERFEROMETER?

An interferometer is a precision instrument that uses the **interference of light waves** to measure extremely small changes in distance. This principle is used in gravitational-wave detection.

ABOUT LILA

- **Objective**: Detect mid-frequency gravitational waves (0.1–10 Hz), a range inaccessible to Earth-based **LIGO** or space-based **LISA**.
- **Lead Institution**: Vanderbilt Lunar Labs, USA, in collaboration with global partners.
- **Design**: Network of lunar interferometers placed on the Moon's surface.
- **Significance**: Fills the "**decihertz gap**" in the gravitational-wave spectrum.

DEVELOPMENTAL PHASES

- **Pioneer Phase**:
  - Robotic deployment of an interferometer with **3–5 km arms**.
  - Test of mid-band sensitivity and new technologies.
- **Horizon Phase**:

- Construction of a **triangular array** with **40 km-long arms**.
- Astronaut-led assembly using quantum sensors and advanced seismic isolation.

WHY THE MOON?

- **Vacuum Advantage**: No atmosphere to distort laser signals.
- **Low Seismic Noise**: The Moon has fewer vibrations than Earth.
- **No Newtonian Noise**: Absence of oceans and large mass movements reduces disturbances.

SCIENTIFIC SIGNIFICANCE

- **Complements LIGO & LISA**: Bridges the gap in the gravitational-wave spectrum.
- **Astrophysical Breakthroughs**: Enables study of **intermediate-mass black holes** and exotic cosmic events.
- **Lunar Science**: Provides insights into the Moon's deep interior, aiding **3D geophysical mapping**.

CONCLUSION

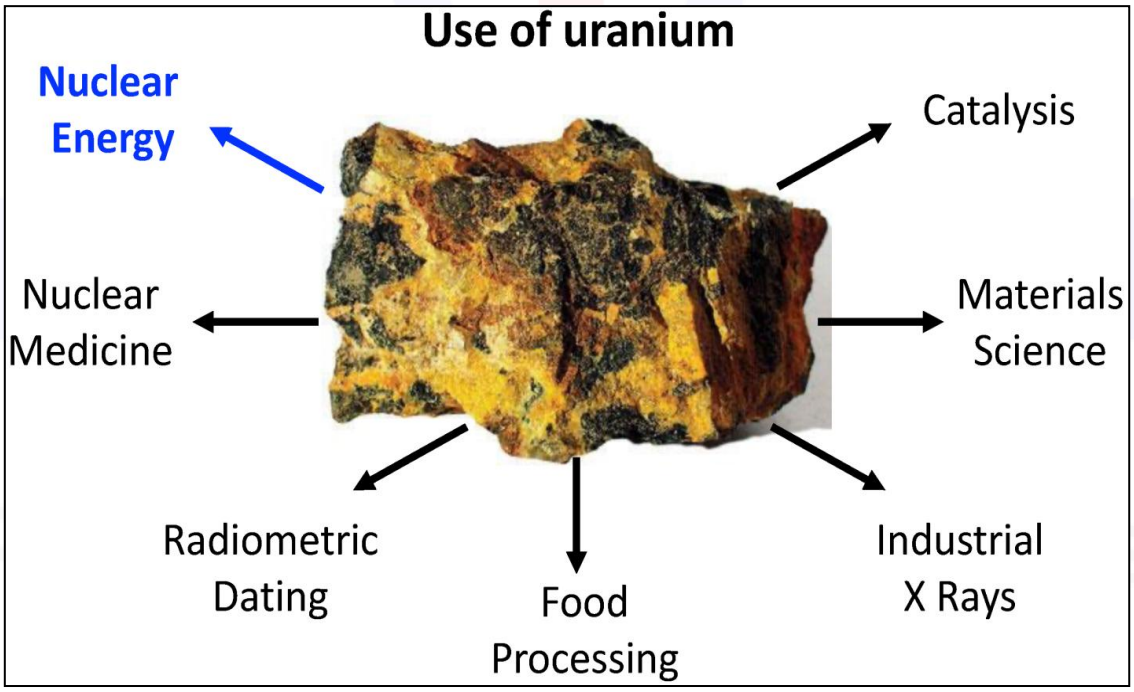
If realized, **LILA will revolutionize astrophysics**, enabling humanity to observe parts of the universe never seen before. Its lunar placement could make it the **quietest and most sensitive gravitational-wave detector ever built**, marking a leap forward in space science.

27 GLOBAL URANIUM RESERVES

Uranium is a key mineral for nuclear energy, supplying about 10% of the world's electricity, and is shaping global energy security and geopolitics as clean energy demand grows.

ABOUT URANIUM

- A silvery-grey metallic **radioactive element**, naturally formed only in supernova explosions.
- Along with **thorium** and **potassium**, it contributes to natural terrestrial radioactivity.
- Chemical symbol **U**, atomic number **92**.
- **Naturally Occurring Isotopes:** U-238 (99.27%) and U-235 (0.72%).
- All isotopes are radioactive & fissionable, but only **U-235** is fissile (supports neutron chain reaction).



URANIUM IN INDIA

- **India's domestic uranium output** remains **much lower than demand**, leading to imports of over 7,600 tonnes in recent years, mainly from **Kazakhstan** and **Canada**.
- Atomic Minerals Directorate for Exploration & Research (AMD) **under the** Department of Atomic Energy **continues active exploration.**

TOP 5 COUNTRIES WITH THE LARGEST URANIUM RESERVES

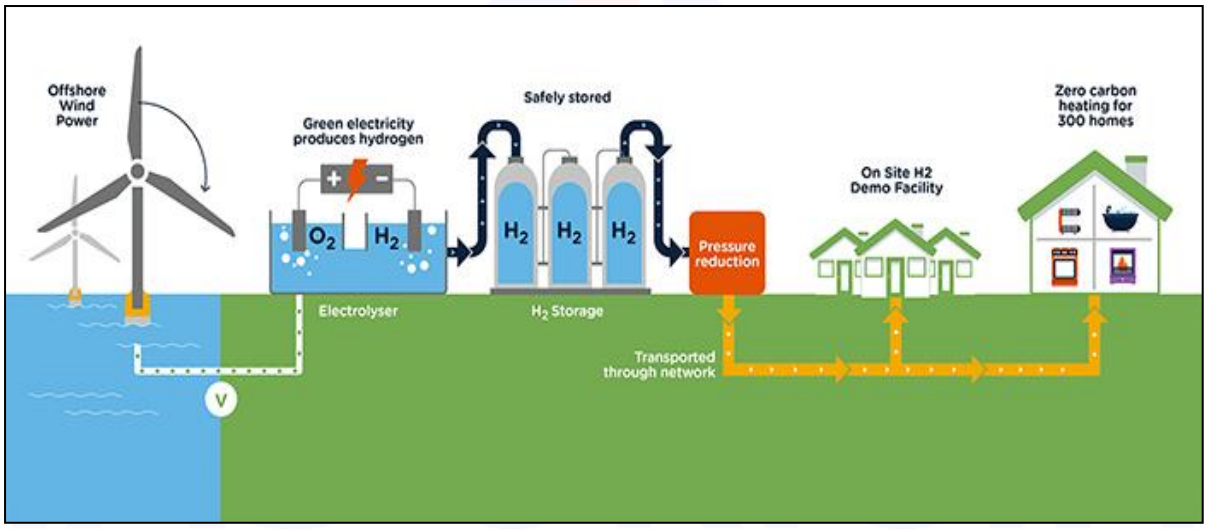
- **Australia: Largest uranium reserves globally** with **3.6 million tonnes**, home to some of the richest ore, making it the leading nuclear fuel resource nation.
- **Kazakhstan: World's top uranium producer**, supplying **about 40% of global output annually**; holds nearly 3 million tonnes, mainly via in-situ leaching.
- **Canada: Third in reserves** with 1.7 million tonnes; the **Athabasca Basin** hosts the **highest-grade uranium deposits** in the world.
- **Russia:** Around **1.2 million tonnes** of reserves, powering its civil nuclear plants and military programmes.
- **Namibia:** Africa's uranium hub, with about **1 million tonnes**, exports most of its supply to Europe & Asia.

28 CHINESE DOMINANCE IN THE ELECTROLYSER MARKET

Electrolysers, vital for green hydrogen production, are witnessing rising Chinese dominance, creating supply chain and strategic concerns for India.

ELECTROLYSERS

- An **electrolyzes** is a device that uses **electricity to drive a chemical reaction** known as **electrolysis**.
- In the context of green energy, electrolyzes are primarily used to **split water (H_2O) into hydrogen (H_2) and oxygen (O_2)**, producing **green hydrogen** when powered by renewable electricity.



TYPES OF ELECTROLYSERS

Electrolysers are classified based on the electrolyte and operating temperature:

ALKALINE ELECTROLYSERS (AEL)

- Use an alkaline solution (e.g., potassium hydroxide, KOH) as the electrolyte.
- Technology is mature and commercially available.
- Lower cost but less responsive to fluctuating renewable energy supply.
- Efficiency: ~60–70%.
- Example: Large industrial hydrogen production.

PROTON EXCHANGE MEMBRANE (PEM) ELECTROLYSERS

- Use a solid polymer electrolyte.

- Compact, respond quickly to variable power supply.
- High efficiency (70–80%), suitable for renewable energy integration.
- More expensive due to use of precious metals.

SOLID OXIDE ELECTROLYSERS (SOE)

- Operate at high temperatures (~700–1,000°C).
- Can achieve higher efficiencies (up to ~90%) using heat energy.
- Still in research and development stage; promising for industrial hydrogen production.

WORKING MECHANISM

BASIC PRINCIPLE OF ELECTROLYSIS:

- Electricity is supplied to electrodes immersed in water.
- At the **anode**: Water is oxidised to produce oxygen gas and protons (H^+).
- At the **cathode**: Protons combine with electrons to form hydrogen gas.

PROCESS STEPS:

- Renewable energy (solar, wind, hydro) powers the electrolyser.
- Water enters the electrolyser chamber.
- Electrolysis produces hydrogen at the cathode and oxygen at the anode.
- Hydrogen is collected, compressed, and stored for use.

APPLICATIONS

GREEN HYDROGEN PRODUCTION

- Clean fuel for industry, transport, and power generation.
- Used in steel production, ammonia synthesis, and refineries.

ENERGY STORAGE

- Hydrogen produced can be stored and used later for power generation, balancing intermittent renewable supply.

TRANSPORTATION

- Hydrogen fuel cell vehicles use hydrogen produced by electrolysers.

INDUSTRIAL PROCESSES

- Chemicals production, metallurgy, glass production.

ADVANTAGES OF ELECTROLYSERS

- **Zero carbon emissions** when powered by renewable energy.
- Produces hydrogen without fossil fuels.
- Supports decarbonisation of hard-to-abate sectors.
- Helps integrate renewable energy into the grid.
- Hydrogen produced can be stored long term.
- Modular technology, scalable for various needs.

DISADVANTAGES / CHALLENGES

- **High cost** of electrolysers and renewable electricity.
- Efficiency is lower compared to fossil fuel-based hydrogen production.
- Requires large amounts of pure water.
- Storage and transportation of hydrogen remain expensive and technically challenging.
- Current electrolyser capacity is limited compared to demand.

GLOBAL AND INDIAN CONTEXT

GLOBAL

- Electrolysers are key to achieving **Net Zero goals** by enabling hydrogen economy.
- Europe (especially Germany) is investing heavily in electrolyser manufacturing under the EU Hydrogen Strategy.
- US and Japan also pushing large-scale electrolyser deployment.

INDIA

- India aims to become a **global hub for green hydrogen** under its National Hydrogen Mission.
- Target: 5 million tonnes of green hydrogen production by 2030.
- Electrolysers are critical to achieving this target.

- Incentives and public–private partnerships being promoted for electrolyser manufacturing.
- Government is exploring **local production of electrolysers** to reduce dependency on imports.

SIGNIFICANCE OF ELECTROLYSERS FOR INDIA

- **Green Hydrogen Mission:** India aims to produce **5 MMT of green hydrogen** by **2030**, which necessitates the use of electrolysers.
- **Energy Security:** Electrolysers **reduce dependence** on 85% oil imports and costly Liquefied Natural Gas.
- **Industrial Decarbonisation:** Green hydrogen can **cut 20% of emissions** from hard-to-abate sectors.
- **Export Potential: EU's CBAM** creates a market for India to be a green hydrogen export hub.
- **Climate Goals:** Supports India's pledge to net-zero by 2070 (Panchamrit Goals).

CHALLENGES FACED BY INDIA IN THE ELECTROLYSER MARKET

- **Cost Barriers:** Current cost of green hydrogen is **₹300–400/kg**, compared to ₹150/kg for grey hydrogen.
- **Raw Material Dependence:** Electrolysers need **iridium** & **platinum** (global supply <10 tonnes/year), with India importing >90% of such critical minerals.
- **Technology Gap:** India's domestic manufacturing capacity is **<1 GW**, compared to **China's >20 GW** electrolyser capacity (2024).
- **Supply Chain Risks:** China **supplies 85% of global electrolysers**, creating energy security risks.

WAY FORWARD FOR BOOSTING ELECTROLYSER MARKET IN INDIA

- **Domestic Manufacturing:** Expand electrolyser capacity under the **PLI scheme** for green hydrogen.
- **Critical Mineral Strategy:** Secure supply chains via **Australia (lithium)**, **Africa (platinum group metals)**, the **Middle East (nickel, cobalt)**.
- **Integrated Ecosystem: Hydrogen Corridors** & **Industrial Hubs** connecting producers and consumers.
- **Best Practice: EU Hydrogen Valleys model** – local clusters linking production, storage, and end-use.

29 RANGARAJAN COMMITTEE

Recently, economists from the RBI updated the Rangarajan poverty line for 20 major states using the 2022-23 Household Consumption Expenditure Survey (HCES).

The Rangarajan Committee (2014) set the poverty line at ₹972 (rural) and ₹1,407 (urban) monthly per capita expenditure, placing 29.5% of the population below the poverty line (BPL).

BACKGROUND

- **Original Rangarajan Committee (2014)**: The committee, led by Dr. C. Rangarajan, recommended higher poverty thresholds than the previous Tendulkar Committee. It proposed:
    - **Urban areas**: ₹1,407 per month (₹47/day)
    - **Rural areas**: ₹972 per month (₹33/day)
- **Methodology**: The committee used a **cost-of-basic-needs approach**, considering food, education, and health consumption.
- **Government Adoption**: The government did not officially adopt this recommendation, continuing with the Tendulkar poverty line.

2025 UPDATE BY RBI

In 2025, economists from the Reserve Bank of India (RBI) updated the Rangarajan poverty line using the 2022–23 Household Consumption Expenditure Survey (HCES).

This update aimed to reflect more current consumption patterns and economic conditions.

KEY FINDINGS

- **Poverty Reduction**: The updated poverty line indicates a significant reduction in poverty levels across major states.
- **State-wise Improvements**:
    - **Odisha and Bihar**: These states showed the most substantial decline in poverty, with the proportion of the population below the updated poverty line falling by around 40 percentage points between 2011–12 and 2022–23.
- **Urban vs. Rural**: The decline in poverty was observed in both urban and rural areas, though the extent varied across states.

IMPLICATIONS

- **Policy Insights**: The updated poverty line provides a more accurate reflection of current poverty levels, aiding in better-targeted welfare programs.
- **Economic Planning**: Accurate poverty estimates are crucial for effective economic planning and allocation of resources.
- **International Comparisons**: Aligning national poverty lines with international standards enhances comparability and understanding of India's position globally.

METHODOLOGY ADOPTED

- RBI economists did not simply inflate Rangarajan's line with the Consumer Price Index (CPI) because **consumption baskets differ**.
- Instead, they constructed a **new price index** reflecting the **Rangarajan poverty line basket (PLB)** weights (food, non-food). This was then applied to update the 2011-12 poverty lines to 2022-23.

SHIFT TO MULTIDIMENSIONAL POVERTY

- The Government now focuses more on the Multidimensional Poverty Index (MPI) than **income/expenditure**-based poverty lines.
- MPI measures **deprivation** across health, education, and living standards using **12 indicators** (nutrition, child mortality, sanitation, electricity, etc.).
- According to **NITI Aayog** (Jan 2024), **24.82 crore** people **exited** multidimensional poverty between 2013-14 and 2022-23.
- Also, MPI fell from **29.17% to 11.28%** in this period.
- According to the **World Bank**, India's poverty headcount ratio stood at **23.9% in 2022** at the international poverty line of $4.2/day.

NITI AAYOG'S SUGGESTIONS TO COMBAT POVERTY

- **Smart Targeting:** Improve targeting using technology **(JAM trinity)** to minimise inclusion and exclusion.
- **Capability enhancement:** Invest in education and skills following **Amartya Sen's "Development as Freedom,"** enabling empowerment and entrepreneurship, especially among the urban poor.
- **Digital Push:** Strengthen rural digital infrastructure, expand awareness campaigns, and securely integrate Jan Dhan accounts with digital payments.

- **State Competition:** Use outcome-based indices in health, water, and education to deepen cooperative and competitive federalism.
- **Knowledge Sharing:** Scale up the **Transforming India Lecture Series** to share **global best practices**, innovation, and governance models with policymakers.

SUMMARY TABLE

Aspect	Details
Original Rangarajan Line	₹1,407 (urban), ₹972 (rural) per month (2014)
Updated Line (2025)	Based on 2022–23 HCES data; specific thresholds not publicly disclosed
Key States	Odisha, Bihar showed significant poverty reduction
Methodology	Cost-of-basic-needs approach using current consumption data
Implications	Better-targeted welfare programs, improved economic planning

30 GOVERNMENT RESTRICTS ANIMAL-BASED BIO-STIMULANTS

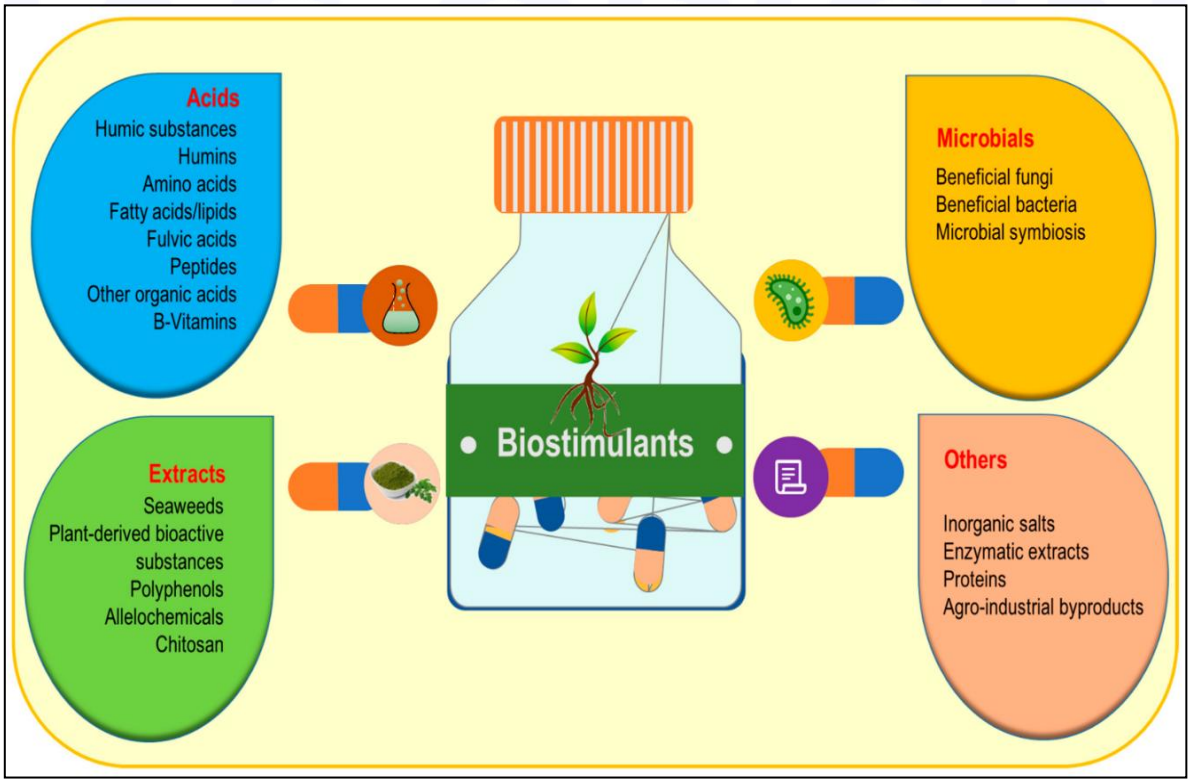
The Union Agriculture Ministry has recently withdrawn approval for 11 animal-derived biostimulants, citing concerns related to religious and dietary restrictions.

BIOSTIMULANTS

- **Biostimulants** are substances or microorganisms that, when applied to plants or the soil, **enhance plant growth, development, yield, and stress tolerance**, but are **not traditional fertilizers or pesticides**.
- They work by **stimulating natural processes** in plants rather than directly supplying nutrients.
- Biostimulants are increasingly important for **sustainable agriculture** and **soil health**.

FAO DEFINITION (2022):

"A plant biostimulant contains substances and/or microorganisms whose function when applied to plants or the rhizosphere is to stimulate natural processes to enhance/benefit nutrient uptake, nutrient efficiency, tolerance to abiotic stress, and crop quality."



KEY CHARACTERISTICS

- Not nutrients themselves (like nitrogen, phosphorus, potassium).
- Do not directly kill pests or diseases (unlike pesticides).
- Improve **plant vigor, quality, and resilience**.
- Can be derived from **organic, inorganic, or microbial sources**.
- Work in **small quantities** and have long-term effects on soil and plants.

TYPES OF BIOSTIMULANTS

Biostimulants can be broadly classified into:

MICROBIAL BIOSTIMULANTS

- Contain beneficial microorganisms that enhance plant growth.
- Examples:
    - **Mycorrhizal fungi** (enhance nutrient absorption).
    - **Rhizobacteria** (promote root growth and nutrient availability).
    - **Nitrogen-fixing bacteria** (e.g., Azospirillum, Rhizobium).

NON-MICROBIAL BIOSTIMULANTS

Include:

- **Humic Substances**:
    - Derived from organic matter decomposition (humic acid, fulvic acid).
    - Improve soil structure, water retention, and nutrient uptake.
- **Seaweed Extracts**:
    - Rich in plant growth hormones like auxins and cytokinins.
    - Enhance stress tolerance and seed germination.
- **Protein Hydrolysates and Amino Acids**:
    - Provide building blocks for proteins.
    - Improve nitrogen assimilation and plant metabolism.
- **Chitosan**:
    - Derived from chitin (from crustacean shells).
    - Improves plant immune response and stress tolerance.
- **Other Substances**:

- Silicon-based biostimulants, plant extracts, etc.

MECHANISM OF ACTION

Biostimulants work through multiple mechanisms:

- **Enhanced nutrient uptake**: Increase solubility and availability of nutrients in the soil.
- **Stimulate root growth**: Improve root architecture for better absorption.
- **Stress tolerance**: Induce biochemical pathways that help plants survive abiotic stress (drought, salinity, heat, cold).
- **Improved soil health**: Stimulate microbial activity, improve organic matter decomposition.
- **Enhanced crop quality**: Improve fruit colour, shelf life, taste, and nutrient content.

APPLICATIONS IN AGRICULTURE

- **Seed treatment**: Improves germination and seedling vigour.
- **Foliar spray**: Enhances nutrient efficiency and stress tolerance.
- **Soil application**: Improves soil fertility and microbial health.
- **Hydroponics & precision farming**: Used to boost growth without heavy fertilizer use.
- **Stress management**: In drought, salinity, or extreme temperatures.

ADVANTAGES OF BIOSTIMULANTS

- **Sustainable agriculture**: Reduce dependency on chemical fertilizers and pesticides.
- **Eco-friendly**: Lower environmental pollution.
- **Cost-effective in the long run**: Improves nutrient use efficiency.
- **Enhances stress resilience**: Important under climate change.
- **Improves soil health**: Encourages beneficial microorganisms.
- **Better crop quality**: Improves nutritional content and shelf life.

DISADVANTAGES / CHALLENGES

- **Regulatory issues**: Lack of standardised definitions and regulations globally.
- **Slow results**: Benefits may take time to manifest.

- **Effect variability**: Performance depends on crop type, soil, climate, and product formulation.
- **Lack of awareness** among farmers.
- **Quality control issues**: Variability in biostimulant products.

EXAMPLES OF BIOSTIMULANTS

Type	Example	Benefit
Microbial	Rhizobium, Azospirillum	Nitrogen fixation, root growth
Humic substances	Humic acid, fulvic acid	Improves nutrient uptake
Seaweed extracts	Ascophyllum nodosum extracts	Stress tolerance, growth
Protein hydrolysates	Amino acids	Nitrogen assimilation
Chitosan	Derived from crustacean shells	Disease resistance, stress tolerance

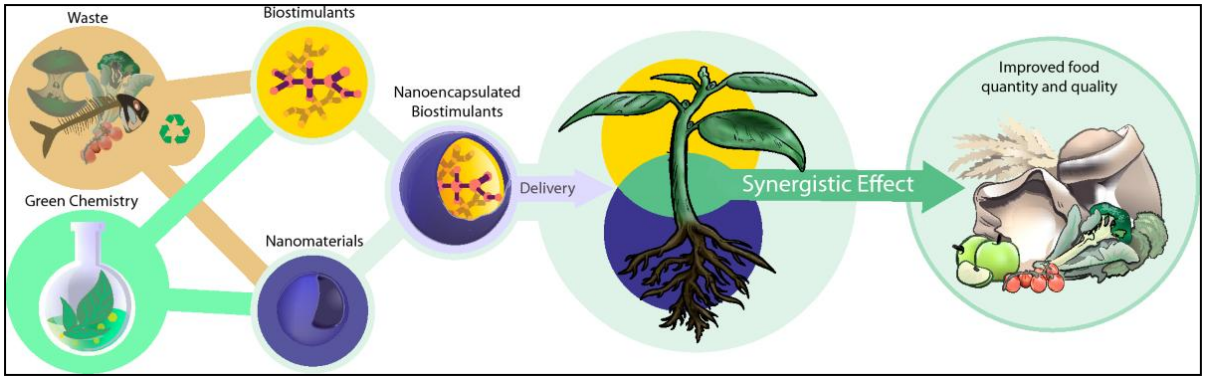
GLOBAL AND INDIAN CONTEXT

GLOBAL

- Biostimulants market is growing rapidly, expected to reach **USD 4.6 billion by 2027** (FAO report).
- Driven by demand for sustainable farming, organic produce, and climate resilience.

INDIA

- India is actively promoting biostimulants under **sustainable agriculture** schemes.
- Growing awareness among farmers for eco-friendly farming.
- Biostimulants are important for:
    - Achieving **Net Zero agriculture** goals.
    - Increasing productivity under changing climate conditions.
    - Reducing overuse of chemical fertilisers.
- **Regulation**: The Indian Council of Agricultural Research (ICAR) and the Department of Agriculture are working on standards and guidelines.



BIOSTIMULANTS REGULATION FRAMEWORK IN INDIA

- **FCO Coverage:** Biostimulants were brought under the **Fertiliser (Inorganic, Organic or Mixed) (Control) Order, 1985**, through a 2021 amendment.
- **Approval Requirement:** No biostimulant can be manufactured, sold, or imported unless it is notified and listed in **Schedule VI** of the Fertiliser Control Order by the Central Government.
- **Central Committee:** The **Central Biostimulant Committee** was formed in 2021 under the Ministry of Agriculture to review evidence, set specifications, and advise the government.
- **Residue Limit:** The **permissible pesticide residue limit** for biostimulants, initially 0.01 ppm, was increased to **1.0 ppm** through a 2024 amendment.

BIOSTIMULANTS LANDSCAPE IN INDIA

- **Market Growth:** The Indian biostimulant market was valued at **$355 million** in 2024 and is projected to surpass USD 1.13 billion by 2032, with a compound annual growth rate of more than **15%**.
- **Major Crops: Cereals** such as wheat, rice, and maize account for the largest share due to their cultivation scale and responsiveness to biostimulants.
- **Active Ingredient: Seaweed extracts** dominate as the largest ingredient segment because of proven efficacy, availability, and favourable regulatory recognition.
- **Common Application: Foliar spraying** is the most prevalent method, enabling rapid nutrient uptake and improved stress resilience in crops.

31 SOUTH-SOUTH AND TRIANGULAR COOPERATION (SSTC)

SSTC has become a key tool for promoting development, solidarity, and innovative solutions amid declining traditional aid and global inequalities. With the 2030 Agenda for Sustainable Development nearing its deadline, India is leveraging SSTC to strengthen development partnerships among Global South countries.

ABOUT SOUTH-SOUTH AND TRIANGULAR COOPERATION (SSTC)

- **South-South Cooperation** is a framework for collaboration and exchange among developing countries in political, economic, social, cultural, environmental, and technical domains.
- **Triangular Cooperation** is a Southern-driven partnership between two or more developing countries, supported by a developed country or multilateral organisation.
- It is based on Principles of Mutual respect for **sovereignty**, **equality**, **non-interference**, **mutual benefit, solidarity**, and **peaceful coexistence**.

EVOLUTION OF SOUTH-SOUTH AND TRIANGULAR COOPERATION

- The **United Nations Office for South-South Cooperation (UNOSSC)** was created on **1974** to promote economic cooperation among developing countries.
- **Buenos Aires Plan of Action (BAPA) 1978,** adopted by 138 UN member states, establishing the first framework for SSC and emphasising solidarity, mutual respect, and shared learning.
- **Nairobi Outcome Document (2009)** expanded SSC beyond technical cooperation to political, institutional, and infrastructural collaboration.

- **India-UN Development Partnership Fund (2017)** was established to finance demand-driven SSTC projects across developing countries.
- The **United Nations** declared "**New Opportunities and Innovation through SSTC**" as the theme for the **2025 UN Day for South-South and Triangular Cooperation.**

RELEVANCE OF SOUTH-SOUTH AND TRIANGULAR COOPERATION TODAY

- **Empowerment and Solidarity:** Strengthens **self-reliance**, **mutual respect**, and **shared learning** while avoiding the conditionalities often linked to North-South aid
- **Tackling Global Challenges:** Provides collective solutions to poverty, rising inequalities, climate change, and shrinking traditional aid.
- **Driver of SDGs:** Acts as a major force for achieving the **2030 Agenda**, particularly **SDG 2 (Zero Hunger)**, through affordable, locally driven innovations.
- **Multi-Sectoral Role:** Supports progress in agriculture, health, education, digital economy, climate resilience, social protection, and urban development.

INDIA'S ROLE IN SOUTH-SOUTH AND TRIANGULAR COOPERATION

- **Philosophy:** Aligned with India's philosophy of **Vasudhaiva Kutumbakam** ("The world is one family").
- **Development Partnership Administration:** Key agency within the Ministry of External Affairs (MEA), Central body for planning and implementing SSTC projects.
- **Indian Technical and Economic Cooperation (ITEC):** Capacity-building program in 160+ countries.
- **India-UN Development Partnership Fund:** Supports 75+ demand-driven projects in 56 countries, focusing on **Least Developed Countries (LDCs)** and **Small Island Developing States (SIDS)**.
- **Technological Leadership:** Shares digital public infrastructure like Aadhaar and UPI for cost-effective, replicable solutions globally.
- **Regional Advocacy:** Hosted **Voice of the Global South Summits** to amplify Southern priorities and advocated for permanent **African Union membership** in **G20**.
- **World Food Programme (WFP):** Piloted **Annapurti** (Grain ATMs), women-led **Take-Home Ration**, and **rice fortification** for improving food security in other developing countries.

CHALLENGES IN SOUTH-SOUTH AND TRIANGULAR COOPERATION

- **Fragmentation:** Diverse political systems, economic priorities, and historical contexts often lead to scattered efforts, diluting impact and hindering cohesive collaboration.
- **Funding Gaps:** SSTC largely depends on trust funds and voluntary contributions (e.g. IBSA Fund), which are often unpredictable and insufficient.
- **Political Will:** Inconsistent commitment and delayed initiatives weaken trust among partners.
- **Triangular Cooperation Complexities:** Involvement of developed countries or multilateral organisations introduces bureaucracy and power asymmetries, which may compromise Southern leadership.
- **Monitoring Gaps:** Absence of a common framework results in weak evaluation, limited transparency, and difficulty in scaling successful projects.

WAY FORWARD

- **Foster Innovation:** Building on the 2025 UN Day theme, countries should promote creative, locally relevant solutions and support pilot projects with strong institutional frameworks.
- **Enhance Financing:** Increase funding for demand-driven initiatives and embed monitoring to strengthen transparency, effectiveness, and replication.
- **Multi-Stakeholder Partnerships** to include civil society, private sector, academia, and grassroots communities, ensuring cooperation remains people-centred and contextually relevant.
- **High-Impact Sectors:** prioritize food security, nutrition, climate resilience, health systems, and education, where Southern innovations can be scaled and replicated across similar contexts.
- **Knowledge Sharing:** Strengthen regional and global knowledge platforms, facilitate training programs, and share best practices to enhance learning across countries.
- **Align with SDGs:** Design projects with measurable development outcomes, linking SSTC initiatives to Sustainable Development Goals (SDGs) for maximum impact.

32 ANALYSING POLAR GEOENGINEERING PROJECTS

A recent study has raised serious concerns over fiver polars geoengineering concept aimed at mitigating climate change.

PROPOSED POLAR GEOENGINEERING METHODS

- Stratospheric Aerosol Injection (SAI): Releasing **reflective aerosols** like Sulphur dioxide to cool the atmosphere.
- **Sea Curtains/Walls:** Large buoyant structures **blocking warm water** inflows to ice sheets.
- **Sea Ice Management:** Using **glass microbeads** to increase **ice reflectivity**.
- **Basal Water Removal:** Extracting **subglacial water** to slow glacier flow.
- **Ocean Fertilisation:** Adding nutrients (iron) to **stimulate phytoplankton** and absorb CO_2.

MAJOR CONCERNS IDENTIFIED IN THESE METHODS

- **Stratospheric Aerosol Injection (SAI):** Ineffective in polar winters when **no sunlight is available**. If suddenly stopped, there is a risk of "termination shock," which could lead to a rapid global temperature rise within 10-20 years.
- **Sea Curtains:** Involve **technical difficulties** in anchoring structures in remote hostile seas, and the costs exceed $1 billion per kilometer.
- **Sea Ice Management:** Microbeads could dissolve quickly or even absorb heat, **worsening warming**. Also, 360 million tons of beads are required annually, equal to global plastic production.

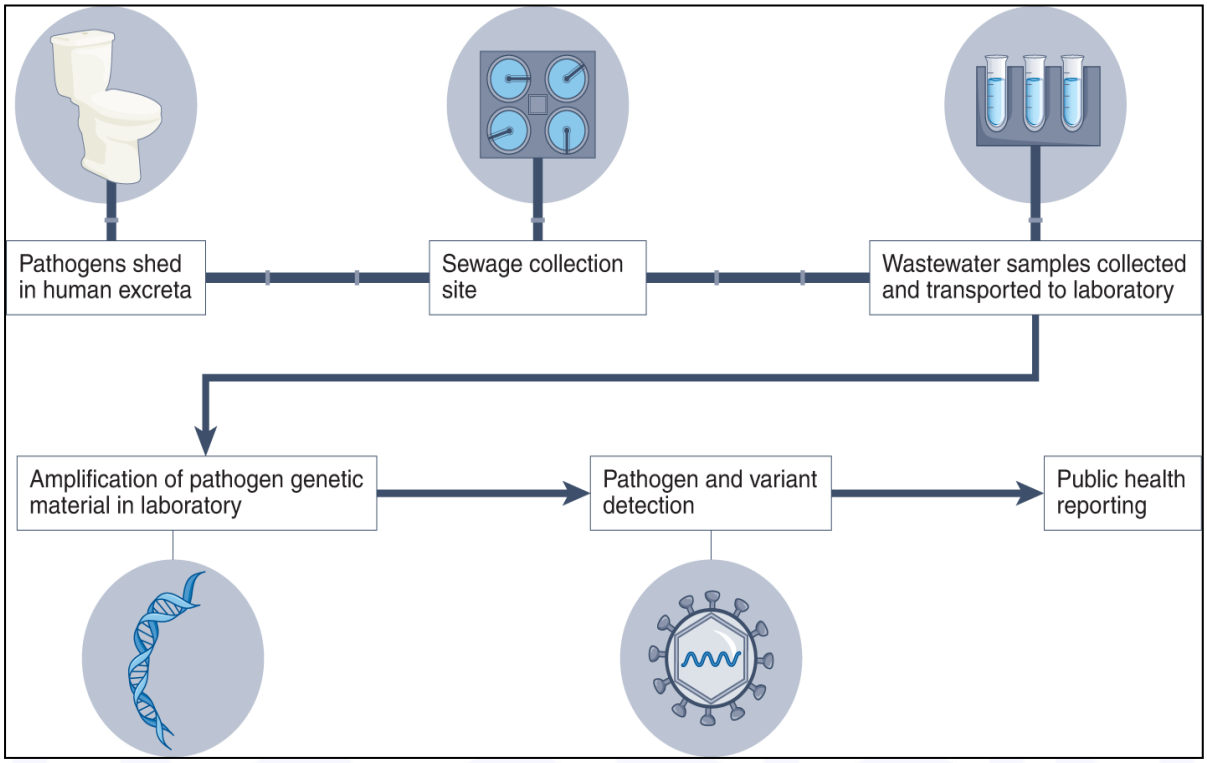
- **Ocean Fertilisation:** It risks disrupting **marine food chains** and **nutrient cycles**.

ALTERNATIVE SOLUTIONS TO GEOENGINEERING

- **Decarbonisation:** Immediate decarbonization remains the **proven, effective way** to protect polar regions and stabilize the global climate.
- Challenges include upfront costs, supply chain constraints for critical minerals, and political resistance.
- **Natural Defences:** Better management of **protected areas** and ecosystem-based adaptation (e.g., mangrove restoration).
- Avoid **fortress-style conservation** that excludes local communities; instead, integrate traditional knowledge and livelihoods.

33 ENVIRONMENTAL SURVEILLANCE

Environmental surveillance using wastewater is emerging as a key tool in India for **early detection** of disease outbreaks and **public health preparedness**.



Environmental surveillance is the systematic, continuous collection, analysis, and interpretation of environmental data to detect and monitor hazards that can affect human health and ecosystems.

It is a **public health and environmental monitoring tool** designed to detect changes in environmental conditions that may signal risks to health or biodiversity.

OBJECTIVES

- **Early detection of environmental hazards** (chemical, biological, radiological, or physical).
- **Monitoring environmental quality** (air, water, soil).
- **Tracking pollution trends** to assess environmental policy effectiveness.
- **Public health protection** by preventing disease outbreaks.
- **Compliance monitoring** with environmental regulations.
- **Informing policy decisions** and scientific research.

SCOPE OF ENVIRONMENTAL SURVEILLANCE

Environmental surveillance covers multiple domains:

- **Air quality monitoring** — pollutants, particulate matter (PM2.5, PM10), greenhouse gases, VOCs.
- **Water quality monitoring** — biological contamination, chemical pollutants, heavy metals.
- **Soil monitoring** — pesticide residues, heavy metals, erosion.
- **Biodiversity monitoring** — tracking endangered species, invasive species.
- **Radiological monitoring** — nuclear radiation, natural radioactivity.
- **Climate surveillance** — temperature, rainfall, glaciers, sea level rise.
- **Waste management monitoring** — e-waste, plastic pollution.

METHODS OF ENVIRONMENTAL SURVEILLANCE

- **Sampling and Laboratory Analysis**:
  - Water sampling for pathogens, heavy metals.
  - Soil sampling for nutrient or contaminant levels.
- **Sensor-based Monitoring**:
  - Air quality sensors for PM, NO_2, SO_2, CO.
  - Water quality sensors for pH, turbidity, dissolved oxygen.
- **Remote Sensing and GIS**:
  - Satellite imagery for deforestation, glacier monitoring, land-use change.
- **Citizen Science and IoT Tools**:
  - Mobile applications for pollution reporting.
  - IoT sensors for real-time environmental data.
- **Biological Surveillance**:
  - Monitoring of indicator species to detect ecological changes.

EXAMPLES OF ENVIRONMENTAL SURVEILLANCE

Type	Example
Air Quality	National Air Quality Monitoring Programme (India)
Water Quality	Central Pollution Control Board (CPCB) river monitoring

Soil Quality	Soil Health Card Scheme
Climate	IMD climate monitoring systems
Biodiversity	India Biodiversity Portal
Radiological	Radiation monitoring near nuclear power plants

ADVANTAGES

- **Early warning**: Detect environmental risks before they cause harm.
- **Policy guidance**: Supports evidence-based policymaking.
- **Public health protection**: Reduces risks from pollution and environmental hazards.
- **Environmental protection**: Helps conserve biodiversity and ecosystems.
- **Compliance monitoring**: Ensures adherence to environmental laws.
- **Climate action**: Tracks progress on climate change mitigation.

CHALLENGES

- **Data quality and availability**: Gaps in real-time, high-resolution data.
- **Cost**: Setting up and maintaining surveillance infrastructure is expensive.
- **Integration of data**: Combining data from multiple sources and sectors.
- **Technical capacity**: Shortage of trained manpower.
- **Policy gap**: Lack of robust enforcement mechanisms.
- **Public awareness**: Low understanding of environmental surveillance importance.

GLOBAL AND INDIAN CONTEXT

GLOBAL

- Environmental surveillance is a key part of **Sustainable Development Goals (SDG)** monitoring — e.g., SDG 6 (Clean Water), SDG 13 (Climate Action), SDG 15 (Life on Land).
- International initiatives:
    - WHO's **Environmental Health Surveillance** programmes.
    - UNEP's **Global Environment Monitoring System (GEMS)**.

INDIA

- Environmental surveillance is conducted by institutions such as CPCB, State Pollution Control Boards (SPCBs), National Remote Sensing Centre (NRSC), IMD, and NCPOR.
- Examples:
    - **National Air Quality Monitoring Programme (NAMP)** — real-time air quality monitoring.
    - **National Aquatic Animal Health Programme** — monitoring aquatic environments.
    - **India Biodiversity Portal** — crowdsourced biodiversity surveillance.
- Challenges: Need for more robust, integrated, real-time environmental surveillance systems.

INDIA'S EFFORTS IN ENVIRONMENTAL SURVEILLANCE

- **Polio Monitoring (2001):** Wastewater surveillance for polio began in Mumbai and was later expanded.
- **COVID-19 Response:** Wastewater-based monitoring launched in five cities, continues post-pandemic.
- **Avian Flu**: Environmental surveillance is used in outbreak-prone areas.
- **ICMR Initiative (2025):** Plans to monitor 10 viruses across 50 cities through **wastewater surveillance**.

34 M.S. SWAMINATHAN AWARD 2025

31st M.S. Swaminathan Award for Environmental Protection was presented in Chennai.

AWARD RECIPIENTS:

- **Sahaja Samrudha (Mysuru):** A people's movement dedicated to preserving traditional farming practices and conserving indigenous crop varieties.
- **Veerappan (Tamil Nadu):** A 60-year-old fisherman recognized for propagating mud crabs and fish.

M.S. SWAMINATHAN AWARD

- It was instituted in **2004** as a **biennial award** named after Dr M.S. Swaminathan.
- It recognises lifetime contributions to agricultural research and development.
- **Prize:** It carries a cash prize of **₹2 lakh**, a medal, and a citation; it is open to all nationalities.
- **Eligibility:** Under 65 years, with at least two decades of work in India.
- **Related awards:** M.S. Swaminathan Memorial Women Award (women scientists) and Global M.S. Swaminathan Award for Food and Peace (global hunger alleviation).

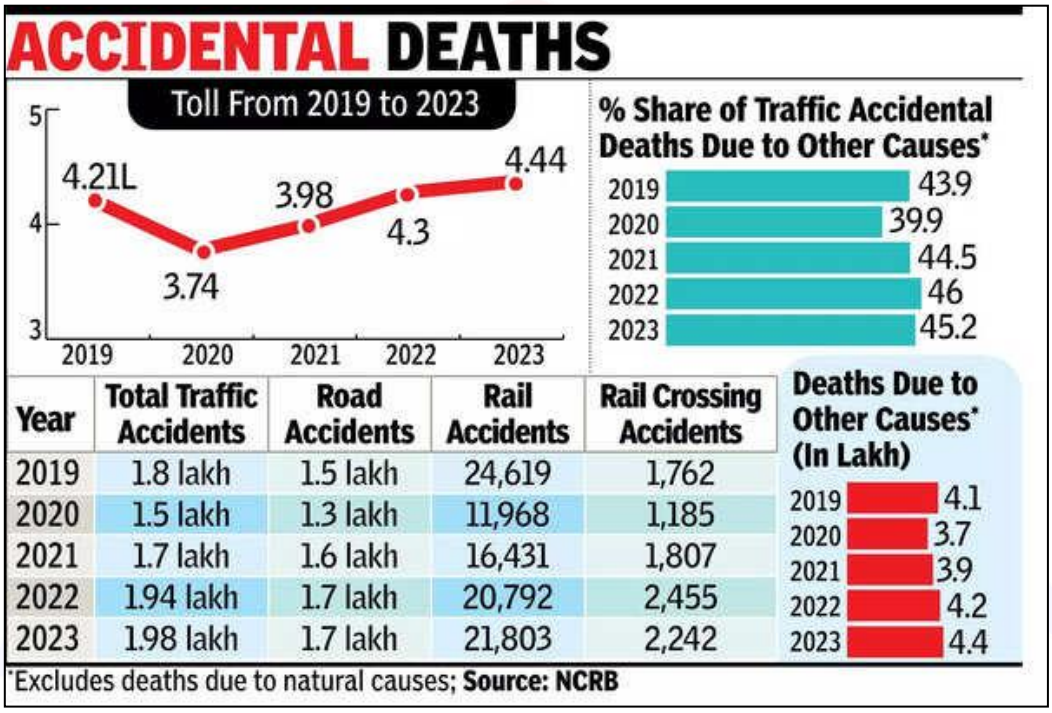
About M S Swaminathan

- Mankombu Sambasivan Swaminathan (1925-2023), renowned Indian geneticist and agricultural scientist, is hailed as the Father of the Green Revolution in India.
- He pioneered high-yielding varieties of wheat and rice, which transformed India's food security.
- Introduced the concept of the "Evergreen Revolution" for sustainable agriculture.
- His work helped India overcome famine threats & achieve food grain self-sufficiency by the early 1970s.

35 ACCIDENTAL DEATHS AND SUICIDES IN INDIA: NCRB REPORT (2023)

The **Accidental Deaths and Suicides in India (ADSI) Report 2023**, published by the **National Crime Records Bureau (NCRB)**, provides comprehensive data on fatalities due to accidents and suicides across the country.

The report is a crucial resource for policymakers, researchers, and civil society organizations working on public health, safety, and social issues.



Year	Total Traffic Accidents	Road Accidents	Rail Accidents	Rail Crossing Accidents
2019	1.8 lakh	1.5 lakh	24,619	1,762
2020	1.5 lakh	1.3 lakh	11,968	1,185
2021	1.7 lakh	1.6 lakh	16,431	1,807
2022	1.94 lakh	1.7 lakh	20,792	2,455
2023	1.98 lakh	1.7 lakh	21,803	2,242

KEY HIGHLIGHTS FROM THE ADSI REPORT 2023

OVERALL, DEATHS

- **Total fatalities**: Over **4.4 lakh** (440,000) deaths recorded, marking a **3% increase** from the previous year.

ACCIDENTAL DEATHS

- **Total accidental deaths**: Approximately **4.2 lakh** deaths.
- **Major contributors**:
  - **Road accidents**: The leading cause of accidental deaths.
  - **Railway accidents**: A significant contributor to the total.
  - **Natural disasters**: Including floods, heat strokes, and lightning.

SUICIDES

- **Total suicides**: Over **1.7 lakh** (170,000) suicides recorded.
- **Suicide rate**: The highest ever recorded, with a rate of **12.4 per 100,000 population**.
- **Age group most affected**: Young adults aged **18–30 years**, accounting for **35%** of all suicides.
- **Gender disparity**: Males continue to account for a higher number of suicides compared to females.

GEOGRAPHICAL VARIATIONS

- **States with highest suicide rates**:
  - **Sikkim**: 43.1 per 100,000 population.
  - **Kerala**: 28.5 per 100,000.
  - **Chhattisgarh**: 28.2 per 100,000.
- **States with significant declines**:
  - **Himachal Pradesh**: 28% decrease in suicide rates.
  - **Bihar**, **West Bengal**, and **Punjab**: Reported declines of 15%, 6.2%, and 6.1%, respectively.

PROFESSION-WISE SUICIDE DATA

- **Daily wage earners**: Consistently the largest group among suicide victims.
- **Self-employed persons**: Registered the most significant rise in suicide deaths.
- **Persons engaged in farming sector**: Including farmers and agricultural laborers, continue to be significantly affected.

Accidents in India

	2022	2023
Accidental Deaths	4,30,504	4,44,104
*Rate of Accidental Deaths	31.2	31.9

*Accidental Deaths per lakh population

Suicides in India

	2022	2023
Suicides	1,70,924	1,71,418
*Rate of Suicides	12.4	12.3

*Suicides per lakh population

SIGNIFICANCE OF THE REPORT

- **Policy Formulation**: The ADSI report serves as a vital tool for the government and NGOs in crafting policies aimed at reducing accidental deaths and suicides.
- **Public Awareness**: Highlights the need for public awareness campaigns on road safety, mental health, and disaster preparedness.
- **Resource Allocation**: Assists in the allocation of resources for emergency services, mental health support, and disaster management.

36 MODEL YOUTH GRAM SABHA INITIATIVE

The Union Government is set to launch the **Model Youth Gram Sabha (MYGS) initiative** from October 2025, inspired by the **Model UN framework**, to instill awareness about Panchayati Raj institutions among school students.

MODEL YOUTH GRAM SABHA (MYGS)

- The initiative will **train rural and tribal students** in grassroots democracy.
- **Vision:** To create a new generation of **informed and responsible citizens** who see local governance as central to development and social justice.
    - The program involves students in **mock Gram Sabha sessions,** where they take on roles like sarpanch and ward members to discuss village issues and pass resolutions.
    - Each school receives **₹20,000 financial support** to conduct the activity.
- **Implementing Ministries:** Ministry of Panchayati Raj, in collaboration with the Ministries of Education and Tribal Affairs.

IMPLEMENTATION OF THE SCHEME

- **Phased Rollout:** The initiative began with a first phase covering about 1,100–1,200 schools.
- **Participating Institutions in Phase 1:**
    - **Over 600 Jawahar Navodaya Vidyalayas (JNVs)** across the country.
    - **200 Eklavya Model Residential Schools (EMRS)** in tribal regions.
    - Selected government schools in Maharashtra and Karnataka.

37 BATHUKAMMA FESTIVAL

The Bathukamma festival set Guinness World Records for the **largest floral arrangement and the most synchronized female dance participants.**

GUINNESS WORLD RECORDS ACHIEVED

- **Largest Floral Bathukamma Decoration**
  - **Dimensions**: 63.11 feet in height and 11 feet in width.
  - **Weight**: Approximately 11 tonnes.
  - **Materials Used**: Crafted from nine types of flowers, including Gunugu, Tangedu, and Banthi.
  - **Construction Time**: 72 hours, involving around 300 skilled workers.
  - **Significance**: Symbolizes Telangana's rich cultural heritage and floral diversity.
- **Largest Synchronized Dance Performance**
  - **Participants**: 1,354 women from self-help groups.
  - **Performance**: Traditional Bathukamma dance, showcasing unity and cultural pride.
  - **Recognition**: Officially acknowledged by Guinness World Records representatives present at the event.

BATHUKAMMA FESTIVAL

- **Bathukamma** means "Mother Goddess come alive" — from Telugu words *Bathuku* (life) and *Amma* (mother).
- It is a **floral festival** celebrated predominantly in **Telangana**, symbolising the **cultural spirit, ecological harmony, and feminine energy**.
- Bathukamma honours **Goddess Maha Gauri (an aspect of Goddess Parvati)**, reflecting themes of fertility, prosperity, and harmony with nature.

DURATION AND TIMING

- Celebrated annually during **Durga Navaratri** (usually September–October).
- Festival spans **nine days**, culminating in **Saddula Bathukamma** on the last day.
- It marks the **end of the monsoon season** and celebrates the blooming of flowers in Telangana.

CULTURAL AND RELIGIOUS IMPORTANCE

- Symbolises **women's collective spirit** and **community bonding**.
- Linked to **ecological respect** — use of seasonal flowers promotes environmental harmony.
- Acts as a thanksgiving to nature for agricultural prosperity.
- Preserves Telangana's cultural heritage and folk traditions.

RITUALS AND CUSTOMS

- **Making the Bathukamma**:
  - Flower stacks arranged in a **conical or circular arrangement** on a wide brass plate or wooden base.
  - Flowers used include *Gunugu*, *Tangedu*, *Chamanti*, *Thangedu*, *Mallika*, *Celosia*, and *Marigold*.
  - Flowers are arranged in nine layers, reflecting spiritual significance.
- **Evening Celebrations**:
  - Women carry Bathukammas in procession, singing folk songs praising Goddess Maha Gauri.
  - Bathukammas are immersed in nearby water bodies on the last day (*Saddula Bathukamma*), symbolising the return of the Goddess to nature.
- **Community Participation**:

- Large gatherings with singing, dancing (*Bathukamma dance*), and cultural performances.

VARIATIONS

- Different names and styles of Bathukamma making exist in Telangana's districts, reflecting local traditions.
- Example: Some regions have *Tella Bathukamma* (white flower variant) or *Atla Bathukamma* (made during Atla festival).

SOCIAL AND ECOLOGICAL IMPACT

- **Empowerment of Women**: Women are central to the celebrations, strengthening social bonds.
- **Promotion of Local Flora**: Encourages use of indigenous flowers and traditional knowledge.
- **Cultural Tourism**: Attracts visitors, boosting Telangana's cultural tourism.

38 VISVESVARAYA, MUTHULAKSHMI AND MAHALANOBIS

Recent national commemorations and public discussions have revisited the enduring legacies and highlighted the continued influence of Mokshagundam Visvesvaraya, Muthulakshmi Reddy, and Prasanta Chandra Mahalanobis in 2025.

MOKSHAGUNDAM VISVESVARAYA

- He was born on September 15, 1861 and is regarded as one of India's greatest engineers whose pioneering work revolutionised infrastructure development.
- He also served as the **Diwan of Mysore** and **president of the All-India Manufacturers' Organisation.**
- He was a key **figure in India's push for industrial modernity** during colonial times.
- He led pioneering projects in **irrigation, flood control, education, infrastructure, and economic planning.**
- He believed in self-reliance, integrity, and national progress through education and development.
- He was conferred with the **Bharat Ratna in 1955** and his legacy extends beyond engineering to economics, governance and nation-building, making him one of the most influential figures in modern India.

MUTHULAKSHMI REDDY

- Muthulakshmi Reddy, born in Pudukottai, overcame early discrimination to become the **first Indian woman surgeon from Madras Medical College.**
- A pioneer in women's rights, she was also the first woman legislator in Madras, who fought against the **Devadasi system**.

- She founded the Avvai women's shelter, and established the Adyar cancer hospital with a commitment to equal treatment for all patients.
- Her legacy lives on through Tamil Nadu's maternity benefit scheme named after her, and her inspirational impact remains strong in her hometown.

PRASANTA CHANDRA MAHALANOBIS

- Prasanta Chandra Mahalanobis, initially a science student in England, became a pioneer in applying statistics for India's economic development.
- He founded the **Indian Statistical Institute in 1932** and the **National Sample Survey in 1950,** which played a key role in shaping India's data-driven planning, especially during the **Second Five Year Plan focused on industrial growth**.

- His surveys provided critical insights into poverty, employment, and consumption across India.
- He believed statistics should serve the purpose of addressing poverty, highlighting his commitment to public service and national progress—values shared by other reformers like Visvesvaraya and Muthulakshmi Reddy.

39 AMAZON'S 'FLYING RIVERS'

The Amazon rainforest plays a critical role in **South America's water cycle** through the phenomenon **called "flying rivers".**

FLYING RIVERS

Flying Rivers refers to the large-scale movement of atmospheric moisture — in the form of water vapour transported through the atmosphere over long distances by wind patterns, especially from oceans to land regions.
They are essentially **natural "airborne rivers"** that carry water vapour, which eventually precipitates as rain, supporting ecosystems, agriculture, and human life.

The term became popular in environmental science to highlight **the invisible flow of water through the atmosphere**.

CONCEPT

- Flying Rivers are formed by **evaporation from large water bodies** such as oceans, seas, and rainforests.

- Moist air masses are carried by prevailing winds across continents.
- When these vapours meet mountain ranges or cooler climates, they condense and fall as precipitation.
- These "rivers in the sky" are crucial for replenishing freshwater sources far from their origin.

IMPORTANCE

Flying Rivers are critical to:

- **Hydrological cycles** — supporting rivers, lakes, and groundwater.
- **Agriculture** — supplying rainfall to farmlands.
- **Ecosystems** — maintaining biodiversity and forests.
- **Climate regulation** — transporting heat and moisture globally.

Example: The **Amazon rainforest** acts as a major "Flying River" source for South America, while the forests of the Himalayas support moisture transport in Asia.

FLYING RIVERS IN INDIA

- India relies heavily on Flying Rivers for its **monsoon rains**.
- Moisture is transported to India mainly from:
    - The **Indian Ocean**
    - The **Bay of Bengal** (via monsoon winds)
    - The **Arabian Sea**
    - Forests such as the Sundarbans and the Eastern Himalayas.
- **Eastern Himalayas** play a vital role in channeling moisture from the Bay of Bengal deep into northern and central India.
- Deforestation, climate change, and loss of biodiversity threaten these Flying Rivers.

THREATS TO FLYING RIVERS

- **Deforestation**: Reduces transpiration, diminishing atmospheric moisture generation.
- **Climate change**: Alters wind patterns and precipitation distribution.
- **Urbanization**: Reduces natural absorption and evapotranspiration.
- **Loss of wetlands and green cover**: Weakens moisture transport systems.

SIGNIFICANCE FOR INDIA

- India's **agriculture, hydropower, and drinking water supply** depend on the Flying Rivers sustaining the monsoon.
- Disruption of Flying Rivers could lead to:
    - Reduced rainfall and droughts in interior regions.
    - Decline in agricultural productivity.
    - Stress on water security.

CONSERVATION MEASURES

- **Afforestation**: Protecting forests that act as moisture sources.
- **Wetland conservation**: Maintaining areas that regulate evaporation and humidity.
- **Sustainable urban planning**: Reducing heat islands and conserving green spaces.
- **Climate change mitigation**: Controlling greenhouse gas emissions to stabilise wind and precipitation patterns.

40 US TOMAHAWK MISSILES

Ukraine has requested long-range Tomahawk cruise missiles from the United States.

WHAT ARE TOMAHAWK MISSILES?

- Tomahawks are long-range subsonic cruise missiles that can be launched from ships, submarines or ground launchers.
- They have long-range, deep-strike capabilities, and can hit targets **1,250km-2,500km away.**
- They carry high-explosive warheads designed to penetrate hardened targets like military bunkers.
- They **avoid radar detection** by flying at **high subsonic speeds** while maintaining low altitudes.

41 PANDIT CHHANNULAL MISHRA

The Prime Minister has expressed deep sorrow at the passing away of **Padma Vibhushan Pandit Chhannulal Mishra ji.**

PANDIT CHHANNULAL MISHRA

IDENTITY

- Eminent **Hindustani classical vocalist** from **Varanasi**, India.
- Known for mastery in **Khayal** and **Purab Ang Thumri**.
- Revered as a doyen of Indian classical music.

EARLY LIFE

- Born on **3 August 1936** in **Hariharpur, Azamgarh, Uttar Pradesh**.
- Initiated into music by his father, **Pandit Badri Prasad Mishra**.
- Trained under **Ustad Abdul Ghani Khan** (Kirana gharana) and **Thakur Jaidev Singh** (musicologist).

MUSICAL STYLE

- Blended **melodic depth of Kirana gharana** with **emotive richness of Banaras traditions**.
- Repertoire included:
    - *Khayal*

- *Thumri*
- *Dadra*
- *Kajri*
- *Chaiti*
- *Bhajans*.

- Contributed to both **classical concerts** and **film music** (e.g., *Aarakshan* and *Mohalla Assi*).

AWARDS AND HONOURS

- **Padma Bhushan** (2010)
- **Padma Vibhushan** (2020) — one of India's highest civilian honours.
- **Sangeet Natak Akademi Fellowship**.
- **Uttar Pradesh Sangeet Natak Akademi Award**.
- **Yash Bharti Award**.
- **Naushad Award**.

CONTRIBUTIONS

- Preserved and promoted **Purab Ang Thumri** tradition.
- Enriched the cultural heritage of **Banaras gharana**.
- Inspired generations of classical vocalists.
- Actively engaged in **music education and cultural promotion**.

PASSING

- Passed away on **2 October 2025**, at age 89, in **Mirzapur, Uttar Pradesh** after prolonged illness.
- State honours accorded during his last rites.
- Mourned nationally; tributes from Prime Minister Narendra Modi and other dignitaries.

LEGACY

- Left behind a rich legacy of recordings and performances.
- Remembered for **emotional depth, spiritual purity, and cultural dedication** in music.
- Considered one of the last great torchbearers of **Banaras gharana tradition**.

42 NATO PIPELINE SYSTEM (NPS)

Recently, Poland announced plans to join NATO Pipeline System (NPS) with a €4.7 billion investment.

NATO PIPELINE SYSTEM (NPS)

- It was established during the **Cold War**, and supplies fuel and lubricants to NATO forces with modern flexibility.
- It spans about 10,000 km across 12 countries, has a storage capacity of 4.1 million cubic meters, and connects depots, air bases, airports, refineries, and transport points.
- While most networks are managed nationally, the Central Europe Pipeline System (CEPS) is a multinational system overseen by NATO's Support and Procurement Agency.

NORTH ATLANTIC TREATY ORGANIZATION

MEANING AND PURPOSE

- **NATO** stands for **North Atlantic Treaty Organization**, a **military and political alliance** of sovereign states.
- Formed to ensure **collective defence** and maintain peace and security among members.
- Operates on the principle that an attack against one member is an attack against all (*collective security*).

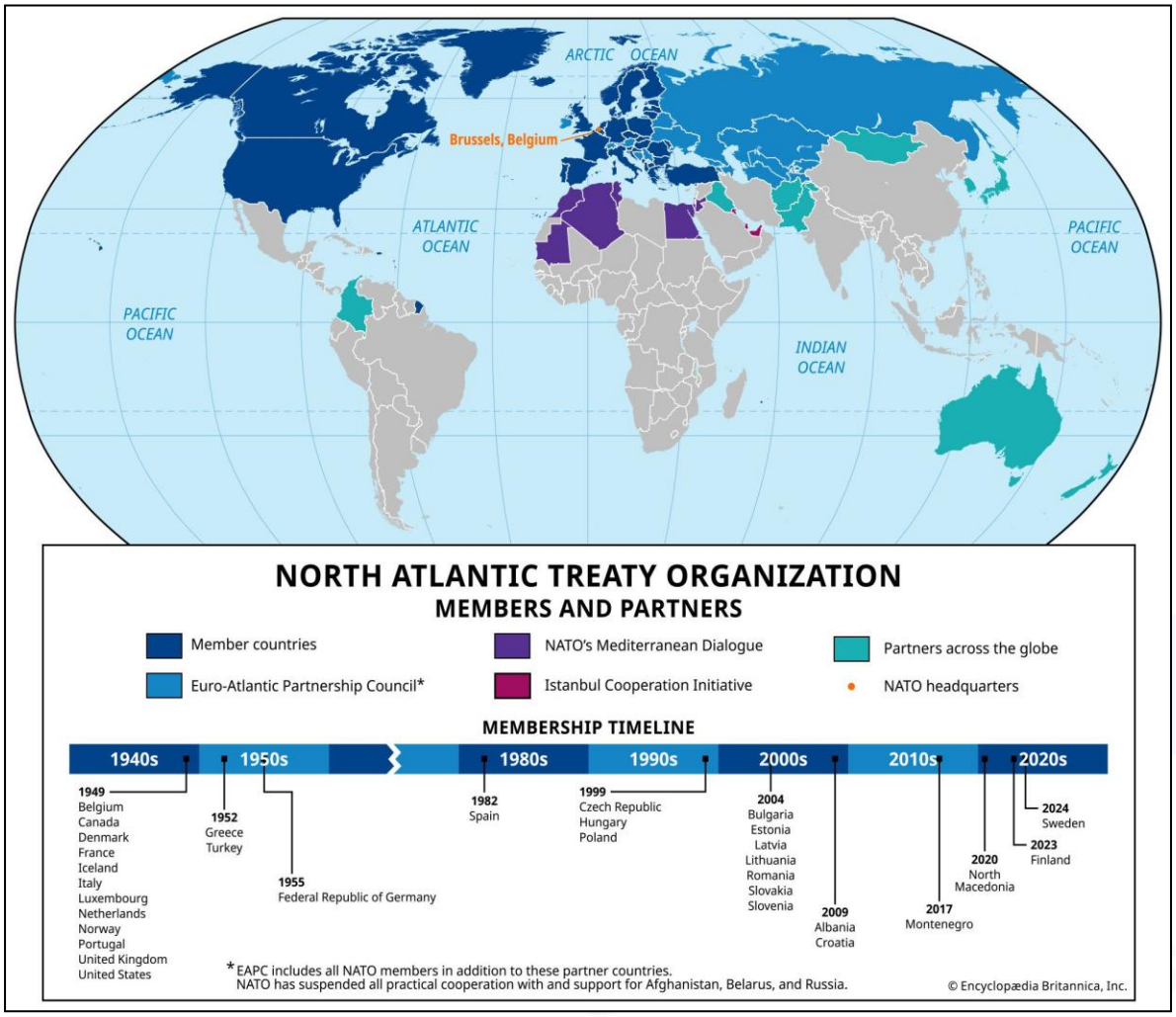
HISTORICAL BACKGROUND

- **Formed:** 4 April 1949
- **Founding members:** 12 countries — United States, Canada, United Kingdom, France, Italy, Belgium, Netherlands, Luxembourg, Norway, Denmark, Portugal, and Iceland.
- **Treaty:** North Atlantic Treaty (signed in Washington, D.C., 1949).
- **Context:** Formed in the early Cold War era as a counterbalance to the Soviet Union and the Warsaw Pact, protecting Western Europe and North America from aggression.

OBJECTIVES

NATO was established to:

- Provide **collective defence** (*Article 5* of the treaty).
- Promote **political consultation** and cooperation among members (*Article 4*).
- Preserve **peace and stability** in the North Atlantic area.
- Defend members against armed attacks.
- Promote democratic values and cooperation.
- Respond to crises affecting NATO members.



STRUCTURE AND DECISION-MAKING

- **North Atlantic Council (NAC):** Principal political decision-making body where all members have equal representation.
- **Military Committee:** Advises NAC and coordinates military policy.
- **Allied Command Operations (ACO):** Oversees NATO operations.
- **Supreme Allied Commander Europe (SACEUR):** Heads NATO military structure.

- **Allied Command Transformation (ACT):** Ensures NATO forces adapt to emerging threats.

MEMBERSHIP

- **Current members:** 31 countries (including Finland, joined in 2023; Sweden is pending).
- NATO membership is open to any European state that can contribute to security and meets NATO standards.
- Enlargement requires consensus of all existing members.

PRINCIPLES OF NATO

- **Article 5 (Collective Defence):** An armed attack against one member is considered an attack against all members.
- **Article 4 (Consultation):** Members consult when their security is threatened.
- **Consensus-based decision-making:** All decisions require agreement of all members.
- **Commitment to democracy:** Members must uphold democratic governance and human rights.

EXPANSION AND EVOLUTION

- Cold War era: Initially 12 members; expanded gradually to include Greece, Turkey, Germany, Spain, former Warsaw Pact countries after 1990.
- Post-Cold War expansions: Included Central and Eastern European nations such as Poland, Hungary, Czech Republic, Baltic states.
- **Recent expansions:** Finland joined in April 2023; Sweden is in accession talks.
- NATO's role evolved from collective defence to crisis management, counter-terrorism, cyber defence, and hybrid warfare.

OPERATIONS AND MISSIONS

- NATO conducts:
    - **Defensive operations** (e.g., collective defence under Article 5 after 9/11).
    - **Peacekeeping operations** in conflict zones (Afghanistan, Balkans).
    - **Crisis response** (Libya, Iraq, Mediterranean anti-terrorism patrols).
    - **Training missions** and capacity-building in partner nations.
    - **Cybersecurity cooperation** and hybrid threat mitigation.

NATO IN THE CONTEMPORARY CONTEXT

- NATO plays a key role in **European security**, especially after **Russia's invasion of Ukraine (2022)**.
- Strengthened military presence in Eastern Europe.
- Strategic partnerships with countries beyond NATO (e.g., EU, Australia, Japan, South Korea).
- Increasing focus on cyber defence, artificial intelligence, and space as domains of security.
- Defence against **hybrid threats** — disinformation, cyberattacks, economic coercion.

CRITICISMS AND CHALLENGES

- **Russia's opposition:** NATO expansion seen as a threat by Russia, escalating tensions.
- **Uneven burden-sharing:** Debates over defence spending — some members spend below the target of 2% of GDP.
- **Decision-making difficulties:** Consensus requirement slows action.
- **Geopolitical limitations:** Balancing NATO's role between collective defence and crisis management.
- **New threats:** Cybersecurity, terrorism, climate security demand adaptation.

GLOBAL SIGNIFICANCE

- NATO is the **largest military alliance in the world**, with the strongest collective defence.
- Serves as a **model for alliances** globally.
- Plays a crucial role in **global security architecture** and **transatlantic relations**.

43 INDIA CONFERRED WITH PRESTIGIOUS ISSA AWARD 2025

India has been awarded the prestigious International Social Security Association (ISSA) Award 2025 for 'Outstanding Achievement in Social Security' at the World Social Security Forum in Kuala Lumpur.

THE INTERNATIONAL SOCIAL SECURITY ASSOCIATION (ISSA)

- It is the world's leading international organization for social security institutions, government departments and agencies.
- The ISSA, founded in 1927 under the International Labour Organization, promotes excellence in social security administration worldwide.
- It supports over 320 member institutions from 160+ countries by providing a professional community, developing standards and research, offering practical services, fostering innovation, and advocating for comprehensive social security systems globally.

INDIA'S ACHIEVEMENTS

International Social Security Association (ISSA) Award recognized India's expansion of social security coverage from 19% in 2015 to 64.3% in 2025, now reaching over 940 million citizens.

IAS ORIGIN

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