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26 to 31st MAY 2025

CURRENT AFFAIRS






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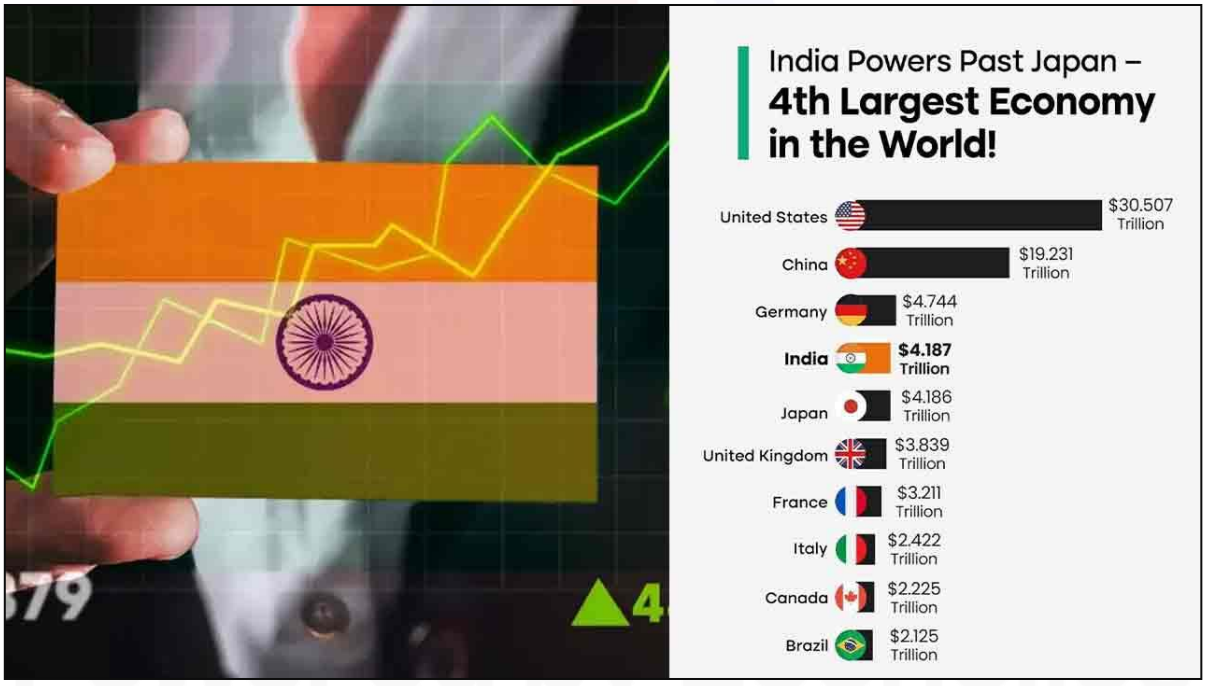
INDIA BECOMES THE WORLD'S 4TH LARGEST ECONOMY

Surpassing Japan: In 2025, India overtook Japan to become the world's fourth-largest economy, with a nominal GDP of approximately $4.187 trillion, marginally ahead of Japan's $4.186 trillion.

Global Standing: India now trails only the United States, China, and Germany in terms of nominal GDP, reflecting its growing influence in the global economic landscape.

Per Capita Consideration: Despite this achievement, India's per capita GDP remains relatively low at $2,934, highlighting disparities in income distribution and the need for inclusive growth strategies.



INDIA'S ECONOMIC GROWTH ACCORDING TO DATA

- **GDP Growth Trends**:
    - India's GDP growth rate for FY2024-25 is estimated at 6.3%, moderation from the 9.2% growth witnessed in the previous fiscal year.
    - The Reserve Bank of India (RBI) projects a growth rate of 6.5% for FY2025-26, indicating a stable economic outlook.

- **Quarterly Performance**:
  - In Q4 FY2024-25, the economy likely expanded by 7%, driven by increased government spending and rising rural demand.
- **Inflation and Monetary Policy**:
  - Inflation is expected to stabilize around 4%, aligning with the RBI's target, facilitating a conducive environment for sustained growth.
  - The RBI is anticipated to implement a 25-basis point rate cut in June 2025, followed by another in August, to stimulate economic activity amid global uncertainties.

INDIA'S POTENTIAL TO BECOME THE THIRD-LARGEST ECONOMY

- **Projections**:
  - India is poised to surpass Germany and become the third-largest economy by 2028, contingent on maintaining current growth trajectories.
- **Growth Drivers**:
  - Strong domestic consumption, a burgeoning middle class, and a youthful workforce are key factors propelling India's economic ascent.
- **Global Recognition**:
  - The World Economic Forum identifies India as the primary engine of global economic growth for 2025 and 2026, underscoring its pivotal role in the global economy.

KEY DETERMINANTS OF INDIA'S ECONOMIC GROWTH

- **Demographic Dividend**:
    - With a population of approximately 1.45 billion, India boasts a significant demographic advantage, characterized by a large, young, and increasingly skilled labor force.
- **Service Sector Dominance**:
    - The services sector, particularly information technology and business process outsourcing, contributes significantly to GDP and export earnings.

- **Infrastructure Development**:
    - Government initiatives like the National Infrastructure Pipeline aim to bolster infrastructure, enhancing connectivity and economic efficiency.
    - **For example:** India's Digital Public Infrastructure (DPI), emergence of India as a **global startup hub** & boost in the IT sector enhancing innovative driven growth.

- **Digital Economy**:
    - India's rapid digitalization, exemplified by initiatives like Digital India and UPI (Unified Payments Interface), has transformed financial inclusion and service delivery.
- **Policy Reforms**:
    - Structural reforms, including the implementation of the Goods and Services Tax (GST) and the Insolvency and Bankruptcy Code (IBC), have improved the business environment.
- **Manufacturing & Services Sector Growth:** India's manufacturing sector has seen significant growth due to initiatives like **Make in India** and **Production-Linked Incentive (PLI) schemes.**
    - Additionally, the services sector, particularly IT and financial services, continues to be a major contributor to GDP.
- **External and Global Realignment:** Strategic initiatives like "China Plus One" and Supply Chain Resilience Initiative (SCRI) are leading to increased FDI inflows into India.
    - Global firms are diversifying their manufacturing bases, turning to India as an alternative to China amid geopolitical tensions **for example:** Apple has investors in India for manufacturing units.

CHALLENGES AND CONCERNS

- **Income Inequality**:
    - Despite overall economic growth, disparities in income and wealth distribution persist, necessitating targeted social and economic policies.
- **Employment Generation**:
    - Job creation has not kept pace with economic growth, particularly in the manufacturing sector, leading to underemployment and labor market challenges.
- **Regulatory and Bureaucratic Hurdles**:
    - Complex regulatory frameworks and bureaucratic inefficiencies can impede business operations and deter foreign investment.
- **Infrastructure Constraints**:
    - Delays in infrastructure projects and slow execution affect economic efficiency and investor confidence.
- **Expanding Domestic Consumption:** India's economic growth is largely fueled by private consumption, particularly in rural areas.
    - Also, the urbanization and lifestyle shifts have led to an increase in consumption-led growth. India's urban population is **expected to touch 600 million by 2030.**
    - The demographic dividend is a unique edge—India's median age is just 29 years, offering a productive workforce for the coming decades.
- **Manufacturing & Services Sector Growth:** India's manufacturing sector has seen significant growth due to initiatives like **Make in India** and **Production-Linked Incentive (PLI) schemes.**
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- **Reform-Driven Growth:** Introduction of Goods and Services Tax (GST) has created a unified domestic market, Insolvency and Bankruptcy Code (IBC) has improved the ease of doing business, corporate tax cuts & initiatives like PM Gati Shakti, National Infrastructure Pipeline (NIP), and Atmanirbhar Bharat are boosting capital formation.

WAY FORWARD

- **Enhancing Human Capital**:
  - Investing in education and skill development is crucial to harness the demographic dividend and meet the demands of a modern economy.
- **Boosting Manufacturing**:
  - Initiatives like 'Make in India' should be revitalized to strengthen the manufacturing sector, create jobs, and reduce import dependence.
- **Improving Ease of Doing Business**:
  - Simplifying regulatory procedures and enhancing transparency can attract domestic and foreign investment.
- **Infrastructure Investment**:

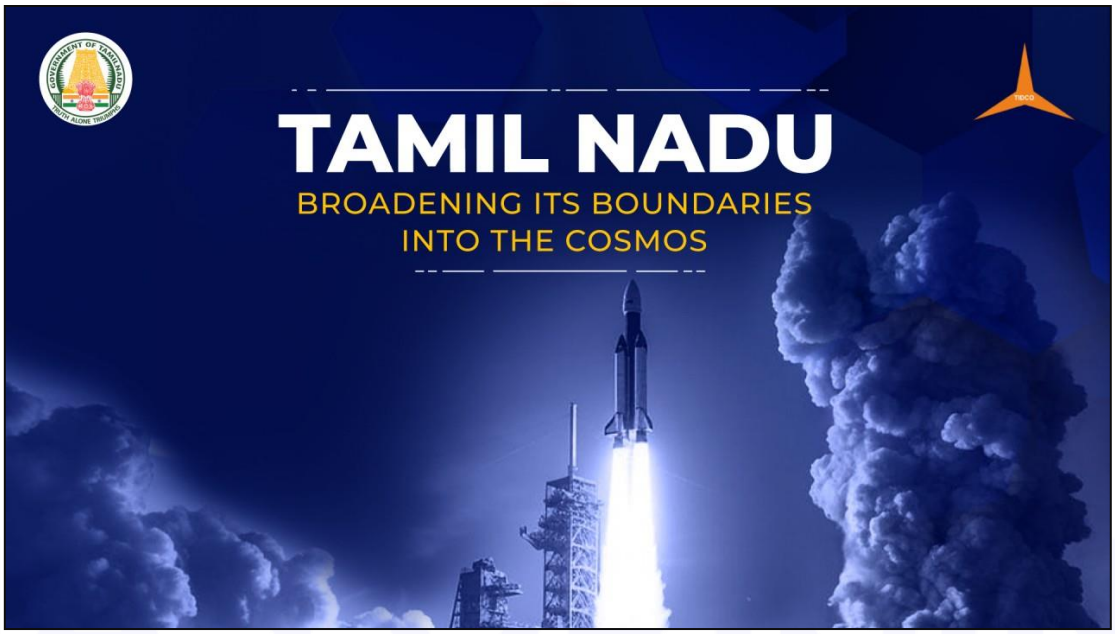
- Accelerating infrastructure development through public-private partnerships can address logistical challenges and stimulate economic activity.

- **Inclusive Growth Strategies**:
  - Policies aimed at reducing regional disparities and supporting marginalized communities are essential for sustainable development.
- **Environmental Sustainability**:
  - Integrating environmental considerations into economic planning ensures long-term sustainability and resilience against climate change impacts.

India's journey to becoming the fourth-largest economy is a remarkable achievement, reflecting its resilience and growth potential. However, to ascend further and ensure that growth translates into improved living standards for all citizen's, concerted efforts are required to address structural challenges and implement inclusive, sustainable policies.

TAMIL NADU'S FORAY INTO THE SPACE SECTOR

Tamil Nadu has historically been a leader in industrial and technological advancements. With a robust manufacturing base, skilled workforce, and institutions like **IIT Madras** and **DRDO** facilities, the state is well-positioned to capitalize on the burgeoning space economy. The **Space Industrial Policy 2024** aims to harness these strengths to make Tamil Nadu a pivotal player in India's space endeavors.



KEY HIGHLIGHTS OF THE TAMIL NADU SPACE INDUSTRIAL POLICY 2024

INVESTMENT AND EMPLOYMENT GENERATION

- **Investment Target**: Aim to attract ₹10,000 crore over the next five years.
- **Employment**: Creation of approximately 10,000 direct and indirect jobs in the same period.

INFRASTRUCTURE DEVELOPMENT

- **Space Industrial Parks**: Establishment of dedicated parks to facilitate space-related industries.
- **Space Bays**: Designation of specific regions as 'Space Bays' offering structured incentive packages for investments below ₹300 crore.

FINANCIAL INCENTIVES

- **Payroll Subsidies**: Support for companies involved in R&D or establishing global capability centers in the space sector.
- **Incentive Packages**: Tailored incentives to attract and retain space sector investments.

FOCUS AREAS

- **Satellite Production**: Encouragement of satellite manufacturing and related technologies.
- **Launch Vehicle Development**: Support for the development and testing of launch vehicles.
- **Applications in Various Sectors**: Promotion of space technology applications in agriculture, disaster management, urban planning, and more.

THE INDIAN SPACE POLICY - 2023: A NATIONAL FRAMEWORK

The **Indian Space Policy 2023** provides a comprehensive framework to enhance private sector participation and delineate roles among various stakeholders.

OBJECTIVES

- **Private Sector Engagement**: Encourage non-governmental entities (NGEs) to participate in space activities.

- **Clear Role Definition**: Delineate responsibilities among ISRO, IN-SPACe, NSIL, and the Department of Space.
- **Global Competitiveness**: Position India as a significant player in the global space economy.

APPLICABILITY:

- Covers all space activities originating from or involving Indian territory or jurisdiction.
- Implementation will be governed by detailed directives issued by DoS.

STRATEGY:

- Encourage full-spectrum private sector participation in the space economy (satellites, ground systems, services, etc.).
- Allow public and private users to procure space services freely.

ROLE OF NON-GOVERNMENTAL ENTITIES (NGES):

NGEs are permitted to:

- Design, launch, and operate satellites and launch vehicles.
- Provide communication, remote sensing, navigation services.
- Build and operate ground stations.

- Develop space transportation, space situational awareness, and recovery systems.
- Conduct asteroid/space resource mining and commercialize it.
- Collaborate internationally and engage in human spaceflight.
- Must comply with IN-SPACe regulations.

ROLES AND RESPONSIBILITIES OF KEY ORGANIZATIONS

IN-SPACE (INDIAN NATIONAL SPACE PROMOTION AND AUTHORIZATION CENTER)

- **Function**: Acts as a single-window agency to promote, authorize, and supervise space activities of NGEs.
- **Responsibilities**:
    - Facilitate sharing of ISRO facilities with private entities.
    - Authorize space activities ensuring safety and compliance.
    - Promote private sector participation in space endeavors.

ISRO (INDIAN SPACE RESEARCH ORGANISATION)

- **Refocused Role**:
    - Concentrate on research and development of new space technologies.
    - Undertake missions of national importance, including human spaceflight programs.

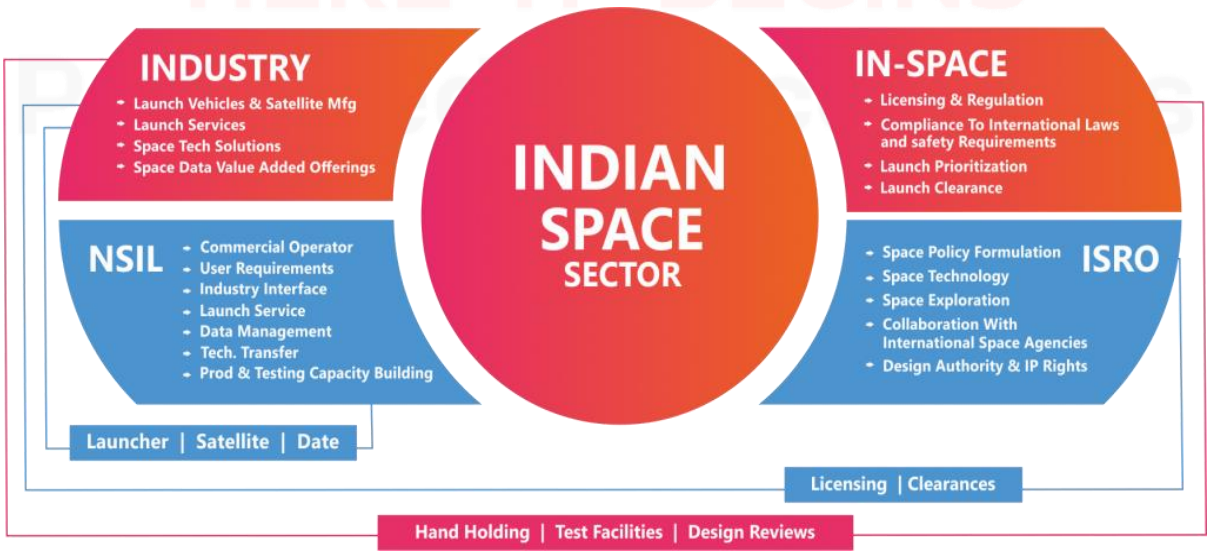
- Transfer mature technologies to the private sector for commercialization.

NSIL (NEWSPACE INDIA LIMITED)

- **Function**: Commercial arm of ISRO responsible for scaling up industry participation in the space sector.
- **Responsibilities**:
  - Manufacture, lease, or procure space components and technologies.
  - Commercialize space technologies developed by ISRO.
  - Facilitate satellite launches and provide space-based services to both government and private entities.

DEPARTMENT OF SPACE (DOS)

- **Role**:
  - Serve as the nodal department for implementing the Indian Space Policy 2023.
  - Oversee the distribution of responsibilities among various stakeholders.
  - Ensure availability of continuous and improved earth observation capabilities.



SIGNIFICANCE OF THE POLICIES

ECONOMIC GROWTH AND EMPLOYMENT

- The integration of state and national policies is poised to boost economic growth, attract investments, and generate employment opportunities in the space sector.

TECHNOLOGICAL ADVANCEMENTS

- Encouraging private sector participation fosters innovation, leading to the development of cutting-edge technologies and applications in various fields.

GLOBAL COMPETITIVENESS

- With clear policies and defined roles, India can enhance its position in the global space market, offering competitive services and technologies.

REGIONAL DEVELOPMENT

- Tamil Nadu's policy aims to decentralize space activities, promoting regional development and reducing concentration in traditional space hubs.

CONCLUSION

Tamil Nadu's Space Industrial Policy 2024, in synergy with the Indian Space Policy 2023, represents a strategic move to harness the potential of the space sector. By fostering collaboration between government agencies and private entities, these policies aim to propel India into a new era of space exploration and commercialization, ensuring technological advancement, economic growth, and global competitiveness.

THE MSC ELSA 3 INCIDENT

On May 26, 2025, the Liberian-flagged container vessel MSC ELSA 3 capsized approximately 38 nautical miles off the Kerala coast near Alappuzha, India. The ship, en route from Vizhinjam to Kochi, was carrying 643 containers, including 13 with hazardous materials and 12 with calcium carbide. Additionally, it had significant quantities of fuel: 84.44 metric tons of diesel and 367.1 metric tons of furnace oil. All 24 crew members were safely rescued. The incident raised serious environmental concerns due to the potential leakage of oil and hazardous substances into the marine ecosystem.

WHAT IS AN OIL SPILL?

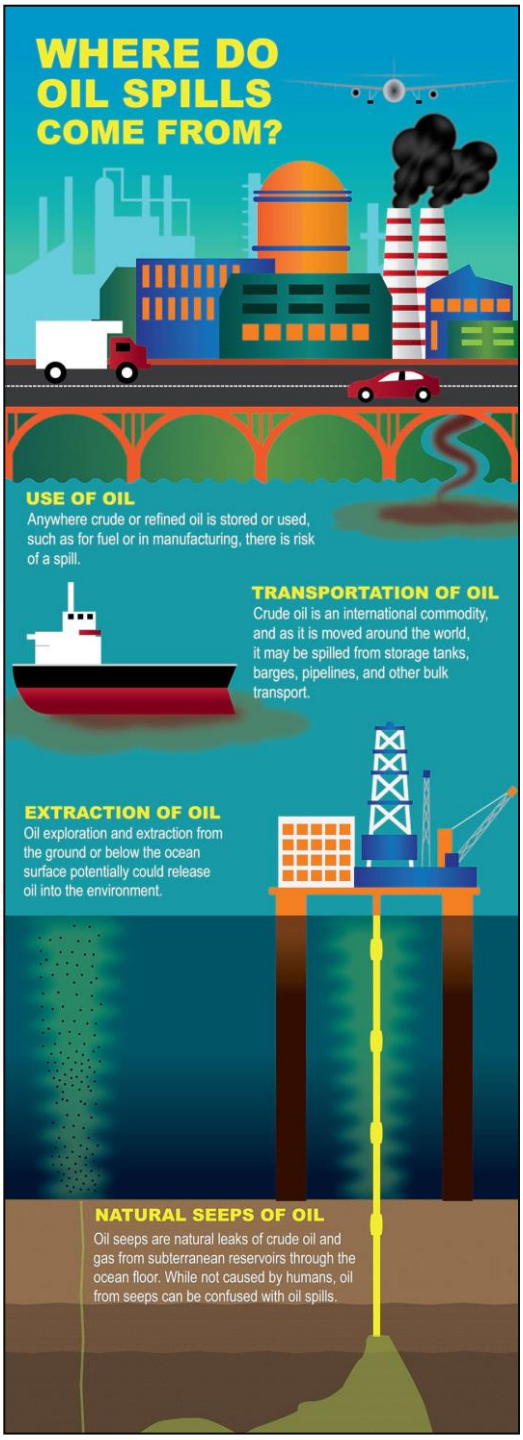
An oil spill refers to the accidental release of petroleum or its derivatives into the environment, particularly marine areas, due to human activities. Key characteristics include:

- **Sources**: Tanker accidents, pipeline ruptures, offshore drilling mishaps, and ship collisions.
- **Types of Oil**: Crude oil, refined petroleum products (like diesel and furnace oil), and other hazardous substances.

- **Environmental Impact**: Oil spills can have devastating effects on marine life, coastal ecosystems, and local economies dependent on fishing and tourism.

PAST INCIDENTS IN INDIA AND THE WORLD

INDIA



- **2017 Ennore Oil Spill**: A collision between two ships near Chennai led to the spillage of approximately 75 metric tons of heavy fuel oil, contaminating the coastline and affecting marine biodiversity.
- **2010 Mumbai Oil Spill**: The MSC Chitra collided with another vessel near Mumbai, resulting in the leakage of about 800 metric tons of oil and the loss of over 300 containers into the sea.
- **2020 Assam Gas and Oil Leak**: A blowout at an oil well in Assam's Tinsukia district led to a massive fire, causing extensive environmental damage and displacement of local communities.
- **Sundarban 2014:** Oil spill in Sela River, Bangladesh created an environmental concern for India too.
- **ONGC Uran Plant leaked** oil in the Arabian Sea in 2013.

GLOBAL

- **Deepwater Horizon (2010)**: An offshore drilling rig explosion in the Gulf of Mexico released

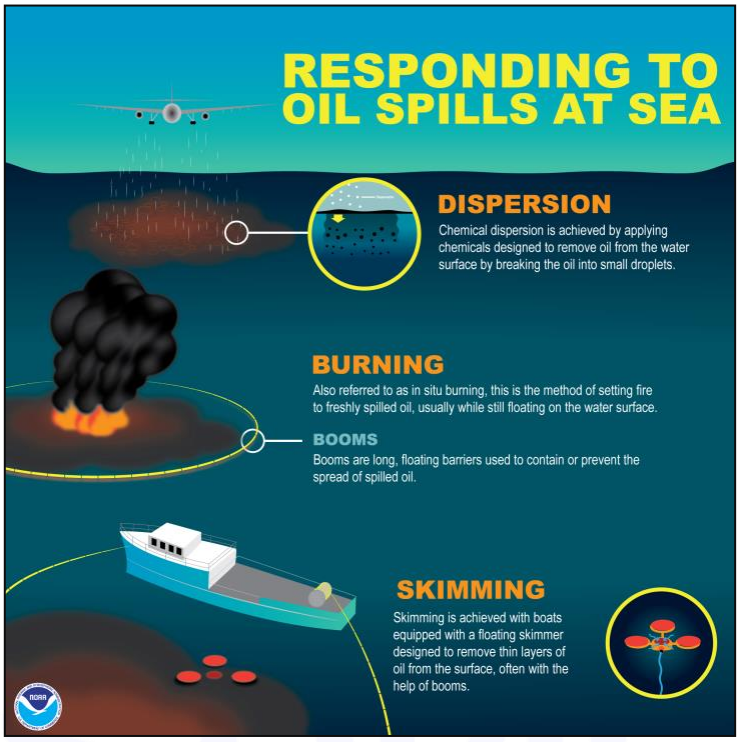
approximately 4.9 million barrels of oil into the sea, marking one of the worst environmental disasters in U.S. history.

- **Exxon Valdez (1989)**: The oil tanker Exxon Valdez spilled about 11 million gallons of crude oil off the coast of Alaska, severely impacting marine wildlife and local fisheries.
- **Venezuela:** In 2020 oil leakage from the El Palito refinery in Venezuela.
- **Japanese ship** MV Wakashio carrying fuel oil split into two parts near Blue Bay Marine Park in south-east Mauritius.
- **Russia:** Arctic (Norilsk diesel fuel spill) Oil Spill.

DAMAGE CAUSED BY OIL SPILLS

- **Marine Ecosystems**: Oil coats the feathers of birds and the fur of marine mammals, reducing their insulating ability and making them more vulnerable to temperature fluctuations and less buoyant in the water.
- **Aquatic Life**: Toxic components of oil can be ingested by fish and other marine organisms, leading to bioaccumulation and long-term health effects.
- **Coastal Habitats**: Mangroves, salt marshes, and coral reefs can suffer long-term damage, affecting biodiversity and shoreline stability.

- **Economic Impact**: Fishing and tourism industries often suffer significant losses due to contaminated waters and beaches.
- **Human Health**: Exposure to oil and its fumes (**polycyclic aromatic hydrocarbons (PAHs)**, can cause respiratory issues, skin irritations, and other health problems for coastal communities.



GLOBAL EFFORTS IN TACKLING OIL SPILLS

- **International Conventions**:
  - **International Convention for the Prevention of Pollution from Ships (MARPOL)**: Aims to minimize pollution of the oceans and seas, including oil spills.
  - **International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC)**: Establishes measures for dealing with oil pollution incidents nationally and in cooperation with other countries.
- **Organizations**:
  - **International Tanker Owners Pollution Federation (ITOPF)**: Provides technical advice on effective response to spills.

- **International Maritime Organization (IMO)**: Sets global standards for the safety, security, and environmental performance of international shipping.

- **Technological Advancements**:
  - **Satellite Monitoring**: Used for early detection and tracking of oil spills.
  - **Bioremediation**: Employing microorganisms to break down and remove oil pollutants.

INDIAN EFFORTS FOR DEALING WITH OIL SPILLS

- **National Oil Spill Disaster Contingency Plan (NOSDCP)**: Formulated in 1993, this plan outlines the framework for responding to oil spills in Indian waters. The Indian Coast Guard is designated as the central coordinating agency.
- **Pollution Response Centers**: Established at Mumbai, Chennai, Port Blair, and Vadinar, these centers are equipped with specialized equipment and trained personnel to handle oil spill incidents.
- **State-Level Initiatives**: Coastal states have their own contingency plans and conduct regular drills in coordination with the Coast Guard to ensure preparedness.

- **Merchant shipping Act, 1958:** The Act, describes the power to give a notice to the owner, when the central government is satisfied the ship is not as per the prescribed rules.
    - After notice, if the person fails to comply, the government can convict the person of an offense

CONTROL MEASURES FOR OIL SPILLS

- **Containment Booms (Oil Booms)**: Floating barriers deployed to prevent the spread of oil on the water surface.
- **Skimmers**: Devices used to remove oil from the water surface.
- **Dispersants**: Chemicals sprayed onto oil spills to break down the oil into smaller droplets, promoting natural biodegradation.
- **Sorbents**: Materials that absorb oil, aiding in its removal from water surfaces.
- **Bioremediation**: Use of microorganisms to degrade oil into less harmful substances.
- **Manual Cleanup**: Involves physical removal of oil from shorelines using tools and protective gear.

ROLE OF THE INDIAN COAST GUARD

- **Primary Responsibility**: As per the NOSDCP, the Indian Coast Guard is the central agency for oil spill response in Indian waters.
- **Rapid Response**: In the MSC ELSA 3 incident, the Coast Guard swiftly deployed ships and aircraft equipped with pollution control equipment to contain the spill.
- **Coordination**: Works in tandem with state authorities, environmental agencies, and international bodies to manage oil spill incidents.
- **Training and Drills**: Regularly conducts exercises to ensure preparedness for oil spill emergencies.

CONCLUSION

The MSC ELSA 3 incident underscores the persistent threat of oil spills to marine ecosystems and coastal communities. While India's response mechanisms, led by the Indian Coast Guard, have shown effectiveness, there is a continuous need for:

- **Enhanced Preparedness**: Regular updates to contingency plans and increased training for response teams.
- **Technological Upgrades**: Investment in advanced equipment for detection and cleanup.
- **Public Awareness**: Educating coastal communities on the risks and response measures related to oil spills.
- **International Collaboration**: Engaging with global bodies to adopt best practices and receive support during major incidents.

By addressing these areas, India can bolster its resilience against future oil spill disasters, safeguarding its rich marine biodiversity and the livelihoods dependent on it.

DEPUTY SPEAKER IN LOK SABHA

The position of the Deputy Speaker has been lying vacant for the last six years raising questions on constitutional adherence and democratic resilience.

The Deputy Speaker of the Lok Sabha holds a constitutionally mandated position, serving as the second-highest authority in the lower house of India's Parliament. Entrusted with presiding over sessions in the Speaker's absence and ensuring the smooth conduct of legislative business, the Deputy Speaker plays a pivotal role in upholding the democratic ethos of the nation. However, the prolonged vacancy of this office since June 2019 has sparked significant constitutional and democratic concerns.

CONSTITUTIONAL PROVISIONS

ARTICLE 93: MANDATE FOR ELECTION

Article 93 of the Indian Constitution stipulates that the Lok Sabha shall, "as soon as may be," choose two members to be respectively the Speaker and Deputy Speaker. While the phrase "as soon as may be" lacks a specific timeframe, it underscores the urgency and necessity of filling these positions promptly to ensure the effective functioning of the House.

ARTICLE 94: TENURE AND VACANCY

Article 94 outlines the circumstances under which the Deputy Speaker's office becomes vacant:

- **Cessation of Membership**: If the Deputy Speaker ceases to be a member of the Lok Sabha.

- **Resignation**: By submitting a written resignation to the Speaker.
- **Removal**: Through a resolution passed by a majority of all the then members of the House.

ARTICLE 95: ACTING AS SPEAKER

In the event of the Speaker's absence, Article 95 empowers the Deputy Speaker to perform the duties of the Speaker. This provision ensures continuity in the presiding authority of the House.

ARTICLE 96: PROCEDURE FOR REMOVAL

Article 96 specifies that when a resolution for the removal of the Deputy Speaker is under consideration, they shall not preside over the sitting, although they may be present. This clause safeguards the impartiality of the proceedings.

ELECTION PROCESS

- **Initiation**: The Speaker of the Lok Sabha determines the date for the election of the Deputy Speaker and communicates it through a parliamentary bulletin.
- **Voting**: Members of the Lok Sabha elect the Deputy Speaker from among themselves via a ballot vote.
- **Convention**: Traditionally, the Deputy Speaker's position is offered to a member of the Opposition to promote bipartisan cooperation and balance.

POWERS AND PRIVILEGES

- **Presiding Over Sessions**: In the Speaker's absence, the Deputy Speaker presides over the Lok Sabha sessions, wielding the same powers as the Speaker.
- **Committee Leadership**: When appointed to any parliamentary committee, the Deputy Speaker automatically assumes the role of its chairperson.
- **Impartiality**: Upon election, the Deputy Speaker is expected to renounce active political affiliations to maintain neutrality in parliamentary proceedings.
- **Casting Vote**: In case of a tie during voting, the Deputy Speaker, like the Speaker, possesses a casting vote to break the deadlock.

REMOVAL MECHANISM

- **Resolution**: The Deputy Speaker can be removed from office by a resolution passed by a majority of all the then members of the Lok Sabha.
- **Notice Period**: A 14-day notice must be given before moving such a resolution.
- **Restrictions During Proceedings**: While the removal resolution is under consideration, the Deputy Speaker cannot preside over the House but may participate in the proceedings.

HISTORICAL CONTEXT

- **Colonial Era**: The position originated during British rule, with the title "Deputy President" in the Central Legislative Assembly. Sachidanand Sinha was the first to hold this office in 1921.
- **Post-Independence**: After independence, the Constituent Assembly retained the position, emphasizing its importance. **M. Ananthasayanam Ayyangar became the first elected Deputy Speaker of the Lok Sabha in 1952**.

PROLONGED VACANCY: A CONSTITUTIONAL CONCERN

Since June 23, 2019, the Deputy Speaker's position in the Lok Sabha has remained vacant. This unprecedented delay contravenes the constitutional mandate and raises several concerns:

- **Violation of Constitutional Provisions**: The extended vacancy undermines Articles 93 and 94, which emphasize the necessity of promptly filling the Deputy Speaker's position.
- **Erosion of Democratic Norms**: The absence of a Deputy Speaker disrupts the balance of power and diminishes the spirit of bipartisan cooperation in the House.
- **Operational Risks**: In the event of the Speaker's absence or incapacitation, the lack of a Deputy Speaker could lead to procedural paralysis in the Lok Sabha.

OPPOSITION'S STANCE

Opposition parties have expressed concerns over the prolonged vacancy, viewing it as a deliberate move to sideline dissenting voices and consolidate power within the ruling party. They argue that the delay undermines the democratic fabric and the principle of shared governance.

COMPARATIVE PERSPECTIVE

In other parliamentary democracies, the role of the Deputy Speaker is integral to legislative functioning:

- **United Kingdom**: The House of Commons elects multiple Deputy Speakers to assist in presiding over sessions, ensuring smooth legislative operations.
- **Canada**: The Deputy Speaker is appointed promptly after general elections, reflecting the importance of the role in parliamentary proceedings.

India's deviation from this norm raises questions about its commitment to parliamentary conventions and democratic principles.

RECOMMENDATIONS

To address the concerns arising from the prolonged vacancy:

- **Time-Bound Election**: Amend parliamentary rules to mandate the election of the Deputy Speaker within a specific timeframe, such as 60 days after the first sitting of the new Lok Sabha.
- **Adherence to Convention**: Reinforce the practice of offering the Deputy Speaker's position to the Opposition to promote inclusivity and bipartisan cooperation.
- **Judicial Oversight**: Establish mechanisms for judicial review in cases where constitutional mandates regarding parliamentary appointments are not adhered to.
- Here's a **comparison table** outlining the **similarities and differences between the Speaker and Deputy Speaker** of the **Lok Sabha** in India:

Aspect	Speaker	Deputy Speaker	Similarity/Difference
Constitutional Provision	Article 93 of the Indian Constitution	Article 93 of the Indian Constitution	Similarity
Election	Elected by members of Lok Sabha	Elected by members of Lok Sabha	Similarity
Presiding Officer	Primary presiding officer of Lok Sabha	Presides in absence of Speaker	Difference
Tenure	Same as Lok Sabha (5 years)	Same as Lok Sabha (5 years)	Similarity
Political Party	Usually from ruling party	Usually from opposition or neutral party	Difference
Salary & Allowances	Decided by Parliament, same for both	Same as Speaker	Similarity
Voting in the House	Votes only in case of a tie	Votes only in case of a tie (when presiding)	Similarity
Resignation	Submits resignation to Deputy Speaker	Submits resignation to Speaker	Difference
Removal	Can be removed by resolution of Lok Sabha	Can be removed similarly	Similarity

Role in Joint Sitting	Presides over joint session of Parliament	Does not preside over joint sessions	Difference
Administrative Powers	Exercises wide administrative powers	No major administrative powers	Difference
Chairperson of Committees	Heads important committees (e.g. BAC)	May chair some committees if delegated	Difference
Vacancy Handling	President may appoint pro tem speaker	May act as Speaker until new one is elected	Difference

CONCLUSION

The Deputy Speaker's role is not merely ceremonial but a cornerstone of India's parliamentary democracy. The prolonged vacancy since 2019 not only violates constitutional provisions but also undermines the principles of democratic governance and power-sharing. It is imperative for the Lok Sabha to address this anomaly promptly, reinforcing its commitment to constitutional mandates and the democratic ethos of the nation.

BREAKTHROUGH PRIZE 2025

The 2025 Breakthrough Prize in Fundamental Physics was jointly awarded to four experimental collaborations operating at CERN's Large Hadron Collider (LHC)—ATLAS, CMS, ALICE and LHCb.

The four collaborations studied the **Higgs boson,** considered as elementary as electrons, photons or neutrinos.

WHAT ARE THE BREAKTHROUGH PRIZES?

- The Breakthrough Prizes were founded by **Sergey Brin, Priscilla Chan and Mark Zuckerberg, Yuri and Julia Milner, and Anne Wojcicki.**
- The Prizes often referred to as the "Oscars of Science," honour pioneering achievements in **Life Sciences, Fundamental Physics, and Mathematics.**
- The Breakthrough Prizes **honor important, primarily recent, achievements** in the fields of **Life Sciences** (with a specific prize

dedicated to work related to Parkinson's Disease, and Neurodegenerative disorders), **fundamental physics, and mathematics.**

- Often referred to as the **"Oscars of Science"**, the mission of the Breakthrough Prizes is to recognize individual accomplishments, celebrate scientists as societal heroes, inspire future generations of scientists, and advocate for "science for the benefit of all" as a global, non-political organization.
- Each Breakthrough Prize **carries a monetary award of $3 million,** significantly **higher than the Nobel Prize.**

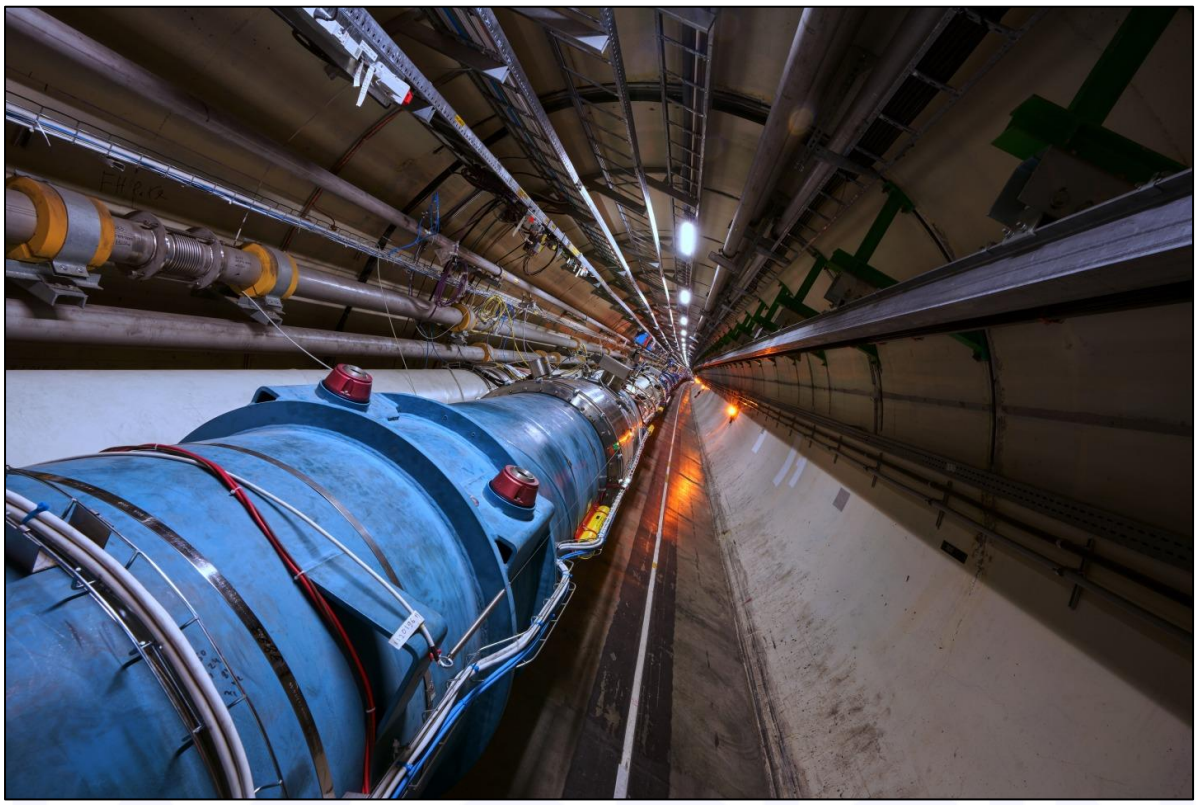
INDIA'S ROLE IN GLOBAL COLLABORATION

- Indian scientists have played a significant role in the international collaboration for the **ALICE (A Large Ion Collider Experiment)** and the **CMS (Compact Muon Solenoid)** experiments.
- **Contribution to ALICE:** It focuses on studying the **Quark-Gluon Plasma (QGP),** a state of matter believed to have existed shortly after the Big Bang.
- **Contribution to CMS:** Indian institutions have contributed to detector development, software tools, and data analysis for the CMS experiment, which was crucial in the discovery of the Higgs boson.

LARGE HADRON COLLIDER (LHC)

- The LHC is the **world's largest and most powerful particle accelerator,** enabling high-energy proton and heavy-ion collisions to explore the structure of matter at the smallest scales.
    - It's a 27-kilometer tunnel-like ring built at CERN.
- **CERN:** The European Organization for Nuclear Research, known as CERN, was established in **1954 in Geneva (France–Switzerland border).**
- **India–CERN Partnership:**
    - **1991:** Department of Atomic Energy (DAE) signed the first cooperation agreement with CERN.
    - **2002:** India awarded Observer status at CERN.

- **2009:** MoU signed to expand cooperation in detector technology, computing, HR training, and joint research.
- **2017:** India became an Associate Member State of CERN.



HIGGS BOSON

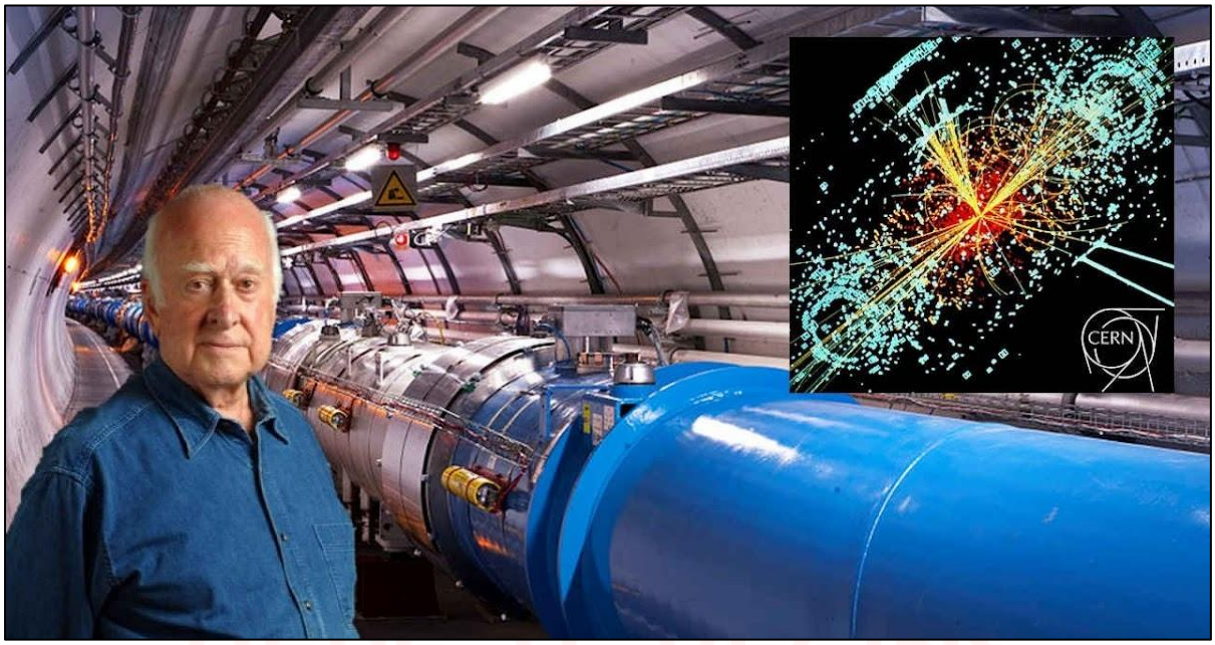
- **Definition**: The Higgs boson is an elementary particle in the **Standard Model of particle physics**, associated with the **Higgs field**, which gives mass to other fundamental particles.
- **Higgs Mechanism**: Proposed by **Peter Higgs** and others in **1964**, it explains how particles acquire mass via interaction with the Higgs field.
- **Discovery**: It was discovered on **4 July 2012** by scientists at **CERN** using the **Large Hadron Collider (LHC)**.
- **Mass**: The Higgs boson has a mass of approximately **125 GeV/c^2** (gigaelectronvolts), confirmed by **ATLAS** and **CMS** experiments.
- **Spin**: It has **zero spin**, classifying it as a **scalar boson** the only one in the Standard Model.

IMPORTANCE:

- Validated the **Standard Model**.
- Crucial for explaining **electroweak symmetry breaking**.
- Helps explain **why some particles have mass** while photons do not.

Nobel Prize: **Peter Higgs** and **François Englert** were awarded the **Nobel Prize in Physics in 2013** for the theoretical discovery.

Indian Contribution: Indian scientists and institutions like **TIFR** and **BARC** contributed to the LHC experiment.



GLOBAL TEMPERATURE LIKELY TO BREACH 1.5°C IN NEXT FIVE YEARS

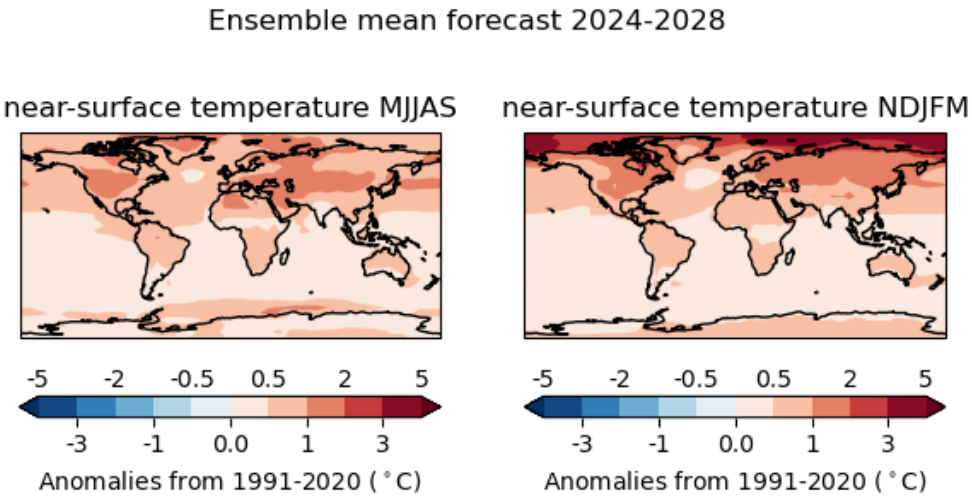
The World Meteorological Organization (WMO) has issued a stark warning: there is a 70% chance that the global average temperature will exceed 1.5°C above pre-industrial levels between 2025 and 2029. This projection underscores the accelerating pace of climate change and the increasing difficulty of meeting international climate targets.

WORLD METEOROLOGICAL ORGANIZATION (WMO)

- **Establishment and Purpose**: Founded in 1950, the WMO is a specialized agency of the United Nations responsible for promoting international cooperation in atmospheric science, climatology, hydrology, and geophysics.
- **Key Functions**:
    - Monitoring global climate trends.

- Providing authoritative information on weather, climate, and water resources.
- Facilitating the exchange of meteorological data among member states.

- It is the specialized agency of the United Nations for meteorology (weather and climate), operational hydrology and related geophysical sciences.
- **It is headquartered in Geneva.**
- **Its supreme body is the World Meteorological Congress.**



INSIGHTS FROM THE 'GLOBAL ANNUAL TO DECADAL CLIMATE UPDATE (2025-2029)'

The WMO's report provides a detailed analysis of expected climate trends over the next five years:

- **Temperature Projections**:
  - Annual global mean near-surface temperatures are predicted to be between 1.2°C and 1.9°C above the 1850–1900 average.
  - There is an 86% chance that at least one year between 2025 and 2029 will exceed the 1.5°C threshold.
- **Implications**:

- Increased frequency and intensity of extreme weather events, including heatwaves, heavy rainfall, and droughts.
- Accelerated melting of ice sheets and glaciers, contributing to sea-level rise.
- Disruption of ecosystems and biodiversity loss.

- **2024:** The year 2024 was not only the **hottest year** on record but also the **first year to breach 1.5°C** above the 1850–1900 baseline.
- **2025–2029:** There is a **70% chance** that the **average global temperature for the 2025-2029** period will exceed pre-industrial levels by **more than 1.5°C.**
- **80% chance** of at least **one of the next 5 years** surpassing 2024 temperature.
- **86% chance** that **at least one year** will cross the 1.5°C threshold.
- **Avg. global temperature** predicted to be **between 1.2°C and 1.9°C higher than avg. for 1850-1900.**
- **Predicted precipitation** patterns for **May-Sep 2025-2029 to be wetter than average.**
- **1% chance** of at least one-year **exceeding 2°C** of warming in the next five years.

KEY TEMPERATURE PROJECTIONS AND REGIONAL CLIMATE OUTLOOK

GLOBAL PROJECTIONS

- **Record-Breaking Heat**: An 80% chance exists that at least one year between 2025 and 2029 will be the warmest on record.
- **Approaching 2°C**: While unlikely, there is a possibility that a single year could reach 2°C above pre-industrial levels before 2030, signaling a potential acceleration in warming trends.

REGIONAL OUTLOOK

- **South Asia**:
  - Anticipated increase in monsoon rainfall variability, leading to both intense flooding and prolonged dry spells.

- Heightened risk of heatwaves, impacting public health and agriculture.

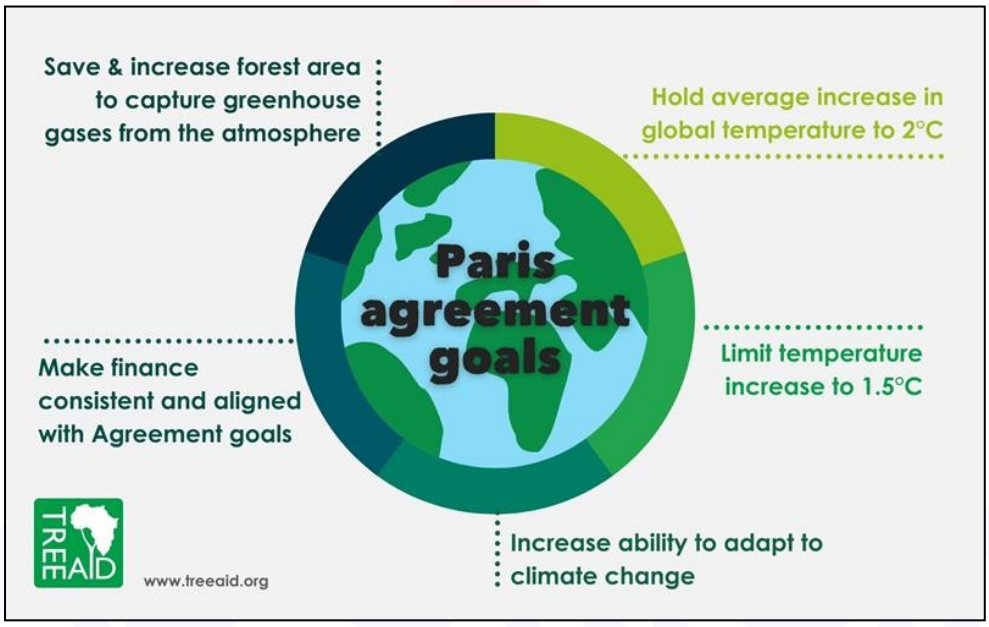
- **Arctic Region**:
  - Projected to warm 3.5 times faster than the global average, leading to significant ice melt and sea-level rise.
  - **Sea ice** is likely to shrink even more between 2025 and 2029 in parts of the Arctic like the **Barents Sea, Bering Sea and Sea of Okhotsk.**
- **Amazon Basin**:
  - Expected to experience drier-than-average conditions, exacerbating the risk of forest fires and biodiversity loss.
- **India:** India received above-normal rainfall during the monsoon season in four of the past five years.
  - IMD predicts above-normal monsoon rainfall in 2025.
- **Regional anomalies (2025–2029):**
  - **Wetter:** Sahel, Northern Europe, Alaska, Northern Siberia.
  - **Drier:** Amazon region.

PARIS AGREEMENT: OBJECTIVES AND CHALLENGES

OVERVIEW

- It is a legally binding international treaty on climate change, adopted in 2015, at the COP21 to the United Nations Framework Convention on Climate Change (UNFCCC).
- It aims to limit global warming to below 2 degrees Celsius above pre-industrial levels, with efforts to limit the increase to 1.5 degrees Celsius.
- The 1.5°C limit is a goal, not a legal boundary.

- A permanent breach implies long-term warming over 20–30 years, not a single year.
- The Paris Agreement emphasizes nationally determined contributions (NDCs) and encourages all countries to take climate action.
    - Countries must review and update their NDCs every five years to enhance their efforts and increase ambition over time.
- 180 of the 195 UNFCCC countries are yet to submit their next round of NDCs for 2031-35 before the 30th Conference of the Parties (COP30).



CHALLENGES IN MEETING TARGETS

- **Emission Reductions**:
    - To limit warming to 1.5°C, global greenhouse gas emissions must peak before 2025 and decline by 43% by 2030.
- **Current Trajectory**:
    - Despite increased renewable energy adoption, global emissions continue to rise, making the 1.5°C target increasingly elusive.

IMPLICATIONS OF BREACHING THE 1.5°C THRESHOLD

- **Ecosystem Disruption**: Coral reefs face widespread bleaching, and biodiversity loss accelerates.

- **Agricultural Impact**: Crop yields may decline due to increased heat stress and altered precipitation patterns.
- **Human Health**: Higher temperatures contribute to heat-related illnesses and the spread of vector-borne diseases.
- **Economic Consequences**: Increased costs associated with disaster response, infrastructure damage, and reduced labor productivity.

WHAT ARE KEY INTERNATIONAL CONVENTIONS/PROTOCOLS AIMED AT LIMITING GLOBAL WARMING?

Conventions/Protocols	Objective
Kyoto Protocol (1997)	It aimed to reduce the emission of gases that contribute to global warming.
Paris Agreement (2015)	Limit global temperature rise to well below 2°C above pre-industrial levels, and pursue efforts to limit the increase to 1.5°C.
Glasgow Climate Pact (COP26) (2021)	Secure global net-zero emissions by mid-century and keep warming within 1.5°C within reach.
Sharm El-Sheikh Plan (COP27) (2022)	Focus on implementation and climate justice; established the Loss and Damage Fund, emphasized adaptation, and reinforced the 1.5°C goal.

Global Stocktake (COP28) (2023)	Reaffirmed the 1.5°C target; governments agreed to raise their 2025 climate commitments to align with this goal, covering all sectors and greenhouse gases.

CONCLUSION: URGENT NEED FOR ACCELERATED CLIMATE ACTION

The WMO's projections serve as a clarion call for immediate and sustained efforts to mitigate climate change. Achieving the goals of the Paris Agreement requires:

- **Enhanced National Commitments**: Countries must submit and implement more ambitious Nationally Determined Contributions (NDCs).
- **Transition to Renewable Energy**: Accelerate the shift away from fossil fuels towards sustainable energy sources.
- **Investment in Adaptation**: Strengthen infrastructure and community resilience to withstand climate impacts.
- **Global Cooperation**: Foster international collaboration to share technology, finance, and best practices.

The window to limit global warming to 1.5°C is rapidly closing. Collective and decisive action is imperative to safeguard the planet for future generations.

URBAN FLOODING IN INDIA

Bengaluru experienced intense **pre-monsoon rains** leading to severe **waterlogging, lake overflows,** and significant **damage to life and property.** With the **early onset of the monsoon this year,** the risk of **urban flooding** in the city is expected to escalate further.

WHAT IS URBAN FLOODING?

Urban flooding refers to the inundation of land or property in densely populated areas, primarily due to rainfall overwhelming the capacity of drainage systems. Unlike rural floods, urban floods occur rapidly and have a higher impact due to the concentration of people and infrastructure. **Examples**: **Bengaluru floods (2024)**, **Delhi Floods (2023), Mumbai floods (2020), Chennai floods (2015)**.

KEY REASONS FOR URBAN FLOODING IN INDIA

Urban flooding in India is a multifaceted issue, stemming from both natural and anthropogenic factors:

- **Rapid Urbanization**: Unplanned expansion of cities has led to the encroachment of natural water bodies and drainage channels, reducing the land's natural ability to absorb rainwater.
    - For instance, Bengaluru once had over 1,000 lakes, but around **80% have been lost** or degraded due to encroachment

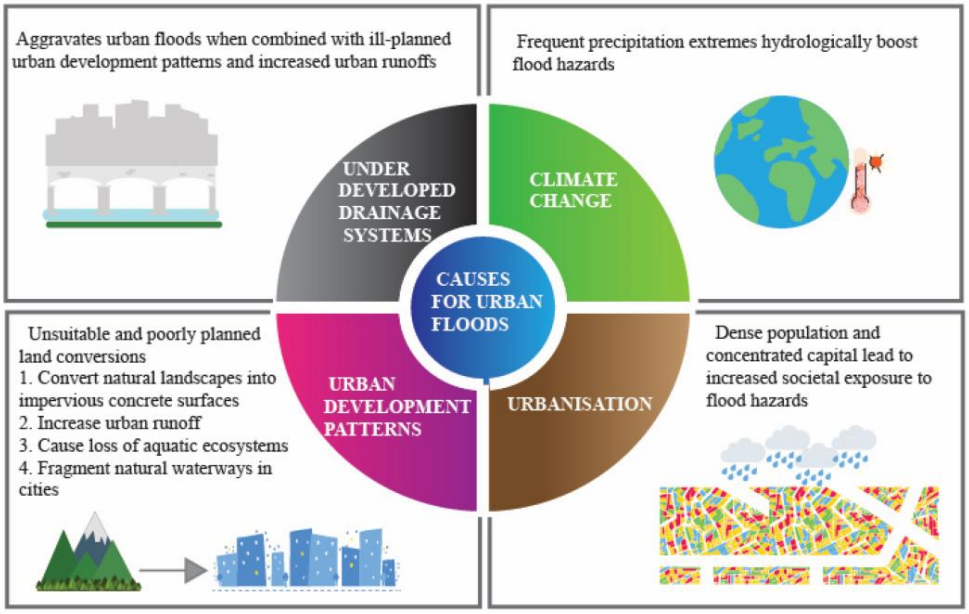
and construction, **reducing natural water retention and increasing runoff.**

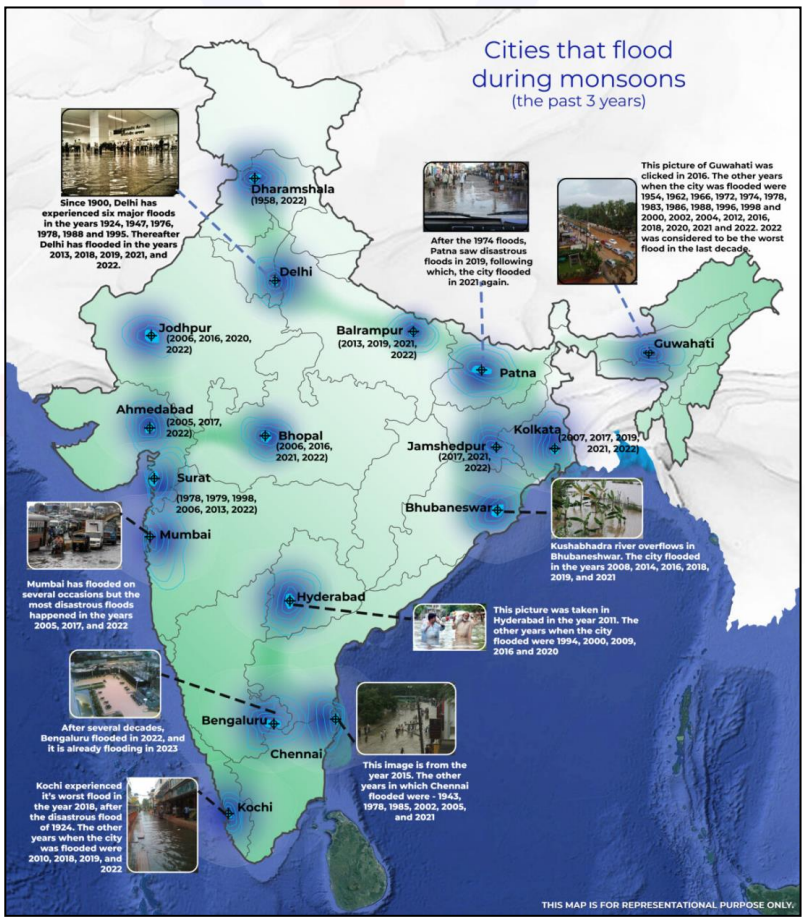
- **Inadequate Drainage Infrastructure**: Many Indian cities have outdated or insufficient drainage systems that cannot cope with heavy rainfall, leading to waterlogging.
    - For instance, **Mumbai's British-era drainage**, designed for **25 mm/hr**, is frequently overwhelmed during heavy monsoons, as seen in the 2023 floods.
- **Encroachment on Natural Water Bodies**: Construction over lakes, ponds, and wetlands disrupts the natural flow of water, exacerbating flooding.
- **Solid Waste Mismanagement**: Improper disposal of waste leads to clogged drains, impeding water flow and causing water to accumulate on streets.
    - For instance, in **Himachal Pradesh in 2023, plastic waste clogged both natural and artificial waterways,** worsening the flood impact.
    - Also, **2015 Chennai floods** were worsened due to **silt and waste blocking estuary canals,** along with unchecked urban development that **blocked natural water flow.**

- **Climate Change**: Increased frequency of extreme weather events, such as intense rainfall, overwhelms urban drainage systems.
    - For example, the **2023 Delhi floods** resulted from **record rainfall causing the Yamuna River to overflow** into urban areas.
- **Loss of Green Cover**: Deforestation and the reduction of green spaces decrease the land's capacity to absorb rainwater, increasing surface runoff.
    - For example, **Assam's Guwahati faces** recurring floods due to such deforestation.

- **Heavy Monsoon Rainfall:** The Indian subcontinent experiences **intense monsoon precipitation** from **Southwest Monsoon**, especially in the **Western Ghats** and northeastern regions. Cities like **Mumbai** often receive heavy downpours in short durations, overwhelming drainage systems.
    - **E.g.:** The **2015 Chennai flood**s were triggered by **record-breaking monsoon rains linked to cyclonic circulation** over the Bay of Bengal.
- **Topography:** Many Indian cities are located in **floodplains or low-lying coastal zones** (e.g., Mumbai on the Konkan coast, Kolkata in the Ganga-

Brahmaputra delta). These areas **naturally accumulate runoff** due to **flat terrain and slow drainage,** exacerbated by **high tidal influence in coastal cities.**





MAJOR IMPACTS OF URBAN FLOODING

Urban flooding has far-reaching consequences:

- **Loss of Life and Property**: Floods can lead to fatalities and damage to homes, businesses, and infrastructure.
- **Disruption of Services**: Essential services like electricity, water supply, and transportation are often disrupted during floods.
- **Economic Losses**: Flooding hampers economic activities, leading to financial losses for individuals and businesses.
- **Public Health Risks**: Stagnant water becomes a breeding ground for disease vectors, increasing the risk of waterborne diseases.
    - **E.g.: 2020 Kerala flood**s saw a rise in **leptospirosis** and other **waterborne diseases.**
- **Environmental Degradation**: Floodwaters can carry pollutants, contaminating natural water bodies and affecting aquatic life.

MEASURES TO ENHANCE RESILIENCE AGAINST URBAN FLOODS

To mitigate the impacts of urban flooding, a combination of structural and non-structural measures is essential:

- **Improvement of Drainage Systems**: Upgrading and maintaining drainage infrastructure to handle heavy rainfall. For instance, the Greater Chennai Corporation has initiated projects to build new stormwater drains to tackle flooding.

- **Restoration of Natural Water Bodies**: Rejuvenating lakes, ponds, and wetlands to enhance their capacity to absorb rainwater.
    - **Bengaluru's Jakkur Lake restoration** showcases effective flood mitigation through eco-restoration.
- **Implementation of Sustainable Urban Planning**: Incorporating flood risk assessments into urban development plans to avoid construction in flood-prone areas.
- **Community Engagement and Awareness**: Educating citizens about waste management and flood preparedness to foster community resilience.

- **Adoption of Green Infrastructure**: Promoting the use of permeable surfaces, green roofs, and rain gardens to reduce surface runoff.
- **Early Warning Systems**: Developing robust forecasting and alert systems to provide timely information to residents.
    - **Singapore's Smart Water Assessment Network (SWAN)** uses **remote sensors** to **track water levels in real time,** issuing **alerts via SMS** to ensure **quick public response and flood preparedness. India can learn from the same.**

- **Integrated Watershed Management**: Comprehensive **management of entire river basins** helps control flooding at the source by considering upstream and downstream impacts.
    - For example, the **Netherlands' "Room for the River" project,** which creates **designated spaces for rivers to safely overflow,** can be adapted to Indian urban contexts to reduce flood hazards.
- **Adopt the Sponge City Concept**: The **Sponge City** approach involves **designing urban landscapes that absorb, store, and purify rainwater** through natural and engineered solutions, reducing runoff and flood peaks.
    - **Shanghai, China** has adopted **green roofs, permeable surfaces, and green spaces** under this model.
    - Similarly, **Mumbai's is also adopting this model to enhance flood resilience and groundwater recharge.**

GOVERNMENT INITIATIVES AND POLICIES

Several schemes and policies have been implemented to address urban flooding:

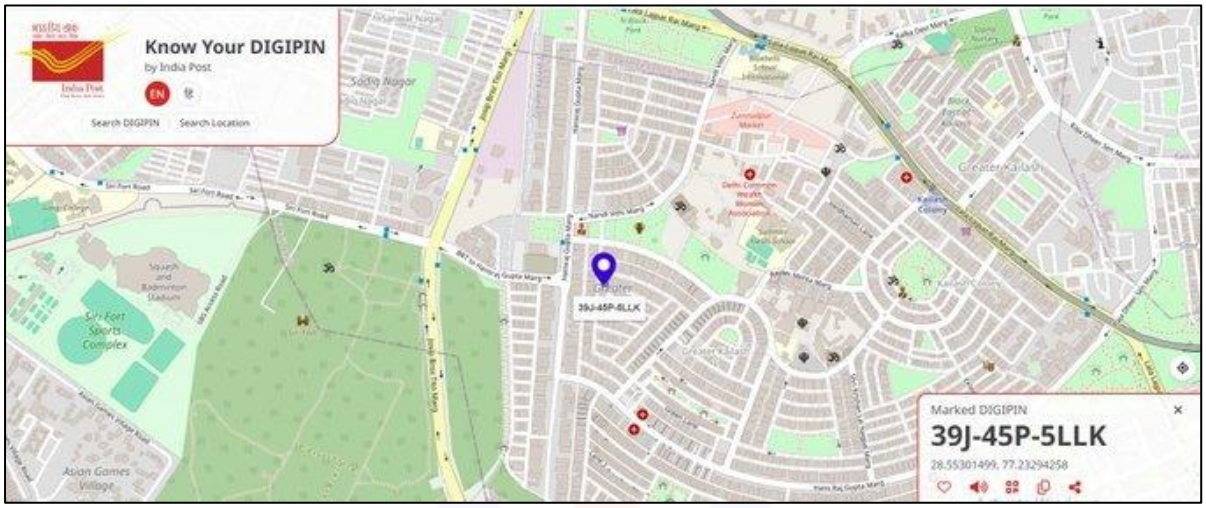
- **National Disaster Management Authority (NDMA) Guidelines**: NDMA has issued guidelines for the management of urban flooding, emphasizing the need for city-specific flood management plans.
- **Atal Mission for Rejuvenation and Urban Transformation (AMRUT)**: Aims to improve urban infrastructure, including water supply and sewerage systems, to enhance the resilience of cities.
- **Smart Cities Mission**: Focuses on sustainable and inclusive development, incorporating smart solutions for efficient urban management, including flood mitigation strategies.
- **State-Level Initiatives**: States like Uttar Pradesh are implementing centralized systems to monitor urban infrastructure projects, including those related to flood management.

CONCLUSION

Urban flooding in India is a complex challenge that requires a multi-pronged approach involving infrastructure development, sustainable urban planning, community engagement, and effective governance. By integrating traditional knowledge with modern technology and ensuring the active participation of all stakeholders, India can enhance its resilience against urban floods and safeguard its urban populations.

DOP LAUNCHED NEW DIGITAL PLATFORMS

The **Department of Posts (DoP)** launched two digital platforms-**'Know Your DIGIPIN'** and **'Know Your PIN Code',** marking a significant stride in India's efforts **to modernise its address system and geospatial governance** under the framework of the **National Geospatial Policy 2022.**



KNOW YOUR DIGIPIN:

- DIGIPIN (Digital Postal Index Number) is an open-source, geo-coded, grid-based digital addressing system developed to enable precise location identification using latitude and longitude coordinates.
- DIGIPIN links addresses to exact latitude-longitude coordinates, enabling high-resolution geospatial identification.
- It facilitates Address-as-a-Service (AaaS) by providing secure, standardized digital address solutions.
- Incorporates Geographic Information System (GIS) tools to enhance logistics, emergency response, and digital governance.
- It enables digital address access in remote and underserved regions.

KNOW YOUR PIN CODE:

- Digitally defines boundaries of over 1.5 lakh PIN Codes by geo-fencing of PIN zones to improve location accuracy.

- Enables users to find the correct PIN Code using real-time GNSS (Global Navigation Satellite System) location data.
- Includes a public feedback system for continuous improvement of the PIN Code database.
- Enhances delivery networks, emergency services, and postal logistics, especially for e-commerce and rural areas.

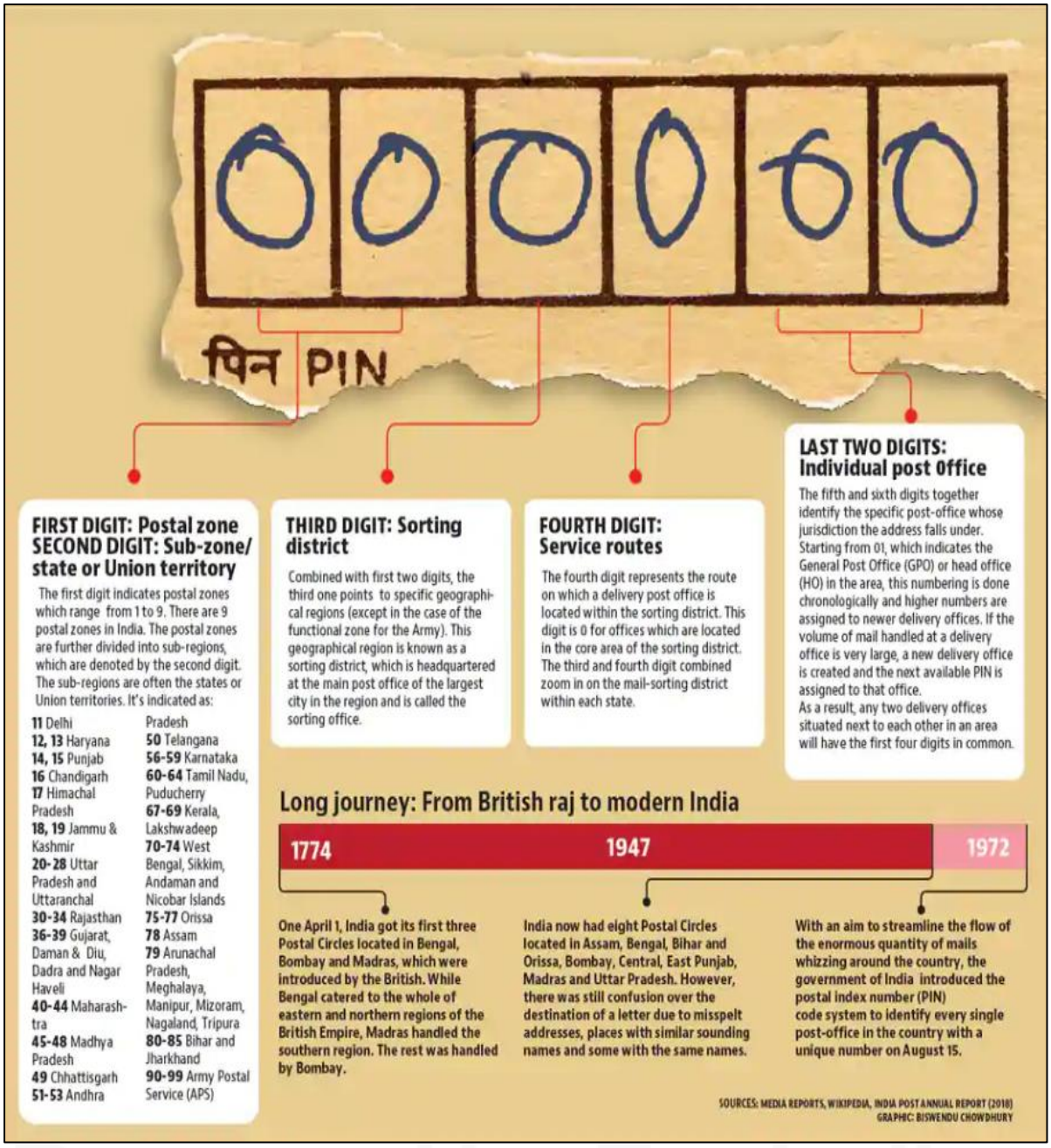
What are PIN codes?

PIN or Postal Index Number codes, are 6-digit codes which are part of the postal office numbering system used by India Post. These are also known as Zip codes or area codes and each of the six digits has a particular meaning.

Brief history

The PIN Code system was introduced in India by Shriram Bhikaji Velankar, who had served as an additional secretary in the Union ministry of communications. Its implementation began from August 15, 1972, with the objective of simplifying the sorting of mails, speeding up mail transmission and delivery.

The need for such a system was realised due to the confusion resulting from the duplication of names of various places across the country, the use of multiple languages to write addresses, and different ways in which the name of a place could be spelt. For example, in Tamil Nadu, names like Mettur and Aathur are very common. PIN codes help postmen deliver the letters to right people.



GOND AND MADHUBANI ART

The **artists of Gond art and Madhubani art** met President Droupadi Murmu at Rashtrapati Bhavan as part of the Artists in Residence programme- Kala Utsav.

MADHUBANI PAINTINGS

They originated in the Madhubani district of Bihar's Mithila region.

- They are known for their intricate line drawings filled with bright, earthy colors and tribal motifs.
- They were traditionally created by women on mud walls of bridal chambers.
- They featured themes from Hindu mythology and local beliefs, symbolizing marriage and fertility.
- The paintings show human beings, animals, trees, flowers, birds, etc

GOND PAINTINGS

Gonds are one of the prominent tribes in India. They are mainly settled in Madhya Pradesh and Chhattisgarh

- The Akbar Nama, a history of Akbar's reign, mentions the Gond kingdom of Garha Katanga that had 70,000 villages.
- Gond tribals belong to the Dravida race, and are very fond of dance, music and storytelling.
- Gond **paintings, also called Thingna**, often feature geometrical designs and motifs like horses, elephants, birds, and human figures, painted using earth colours (white, red, yellow, black).
- Homes are decorated with these motifs, especially around doors, windows, and courtyards, often with relief work made from cow dung and rice husk.

EARLY ARRIVAL OF MONSOON

The India Meteorological Department (IMD) declared the onset of the southwest monsoon over Kerala on May 24, 2025, eight days ahead of the usual June 1 date.

This marks one of the earliest monsoon arrivals in over a decade, last seen in 2009.

INTRODUCTION TO MONSOON IN INDIA

- The term "**monsoon**" originates from the Arabic word "mausim", meaning season.
- The Indian monsoon refers to the seasonal reversal of winds and the associated heavy rainfall between June and September.
- It plays a vital role in India's agrarian economy, replenishing water sources and affecting various sectors like agriculture, energy, and health.

WHAT IS THE SOUTHWEST MONSOON?

DEFINITION AND MECHANISM

- The Southwest Monsoon refers to the annual wind system that brings moist air from the Indian Ocean towards the Indian subcontinent.
- Occurs due to differential heating of land and sea, aided by the Inter-Tropical Convergence Zone (ITCZ) and the Tibetan Plateau's heat low.

CHARACTERISTICS

- **Duration:** Typically, from early June to late September.
- **Rainfall:** Contributes 75–80% of India's annual rainfall.
- **Divisions:**
    - **Bay of Bengal branch** (strikes northeast and eastern India)
    - **Arabian Sea branch** (strikes western coast, including Kerala)

IMPORTANCE

- Crucial for Kharif crops (e.g., rice, maize, pulses)
- Influences water availability, hydroelectric generation, groundwater recharge, and socio-economic planning.

WHEN IS MONSOON ONSET DECLARED?

OFFICIAL DECLARATION: ROLE OF IMD

- The India Meteorological Department (IMD) declares the onset of monsoon based on specific meteorological criteria over Kerala.

CRITERIA FOR DECLARING ONSET OVER KERALA (BY IMD):

- **Rainfall Criterion:** At least 60% of 14 specified stations in Kerala, coastal Karnataka, and Lakshadweep must report ≥2.5 mm rainfall for 2 consecutive days.
- **Wind Field Criterion:** Depth of westerlies should be up to 600 hPa (~4 km above sea level).

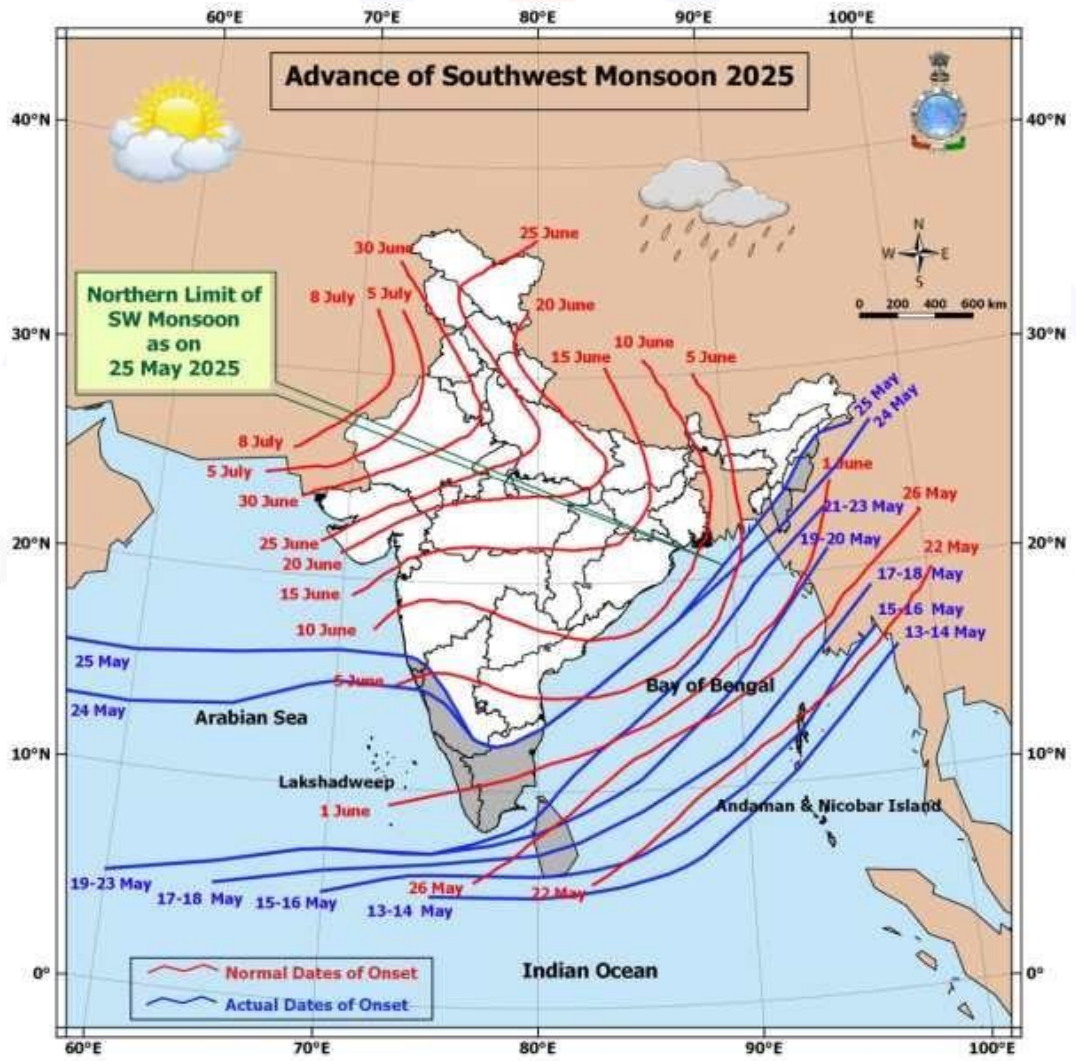
- Wind speed should be ~15–20 knots (28–37 km/h) in the lower troposphere.

- **Outgoing Longwave Radiation (OLR):** OLR value should be <200 W/m² over the southeast Arabian Sea.
- **Normal Date of Onset:** June 1 is the climatological average onset date over Kerala.

EARLY ONSET OF MONSOON IN 2025

BACKGROUND

- In 2025, the Southwest Monsoon hit Kerala on **May 26**, five days ahead of schedule.
- The IMD confirmed early onset due to multiple favorable meteorological conditions.



FACTORS BEHIND EARLY MONSOON ONSET IN 2025

FAVORABLE MADDEN-JULIAN OSCILLATION (MJO) PHASE

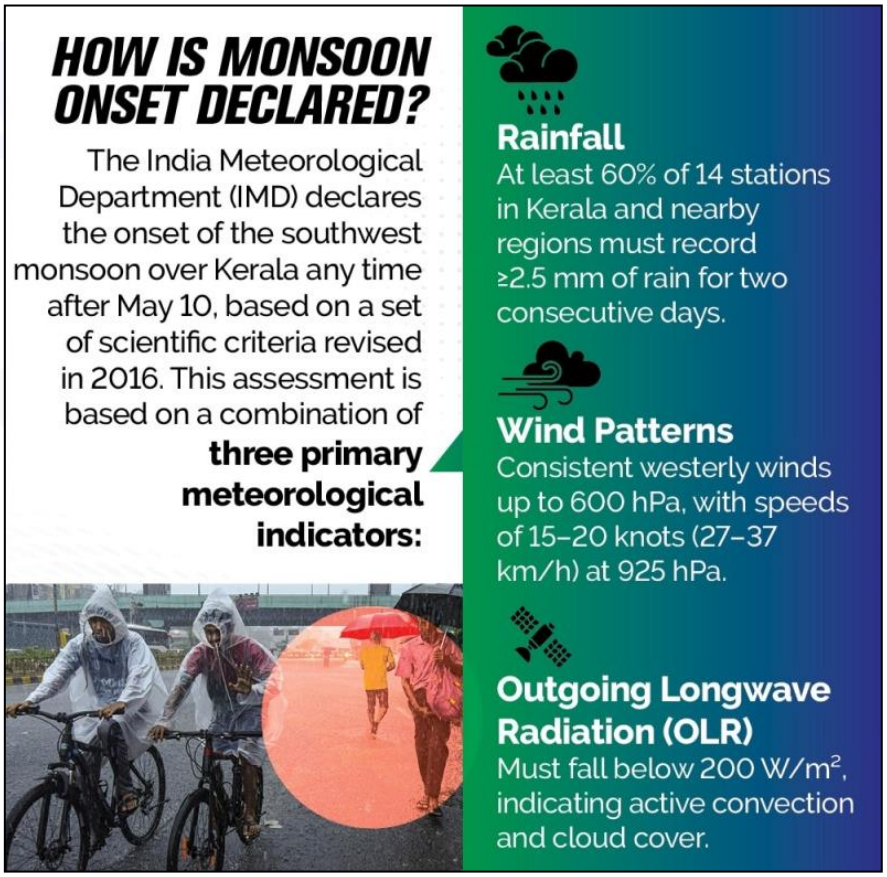
- MJO is an intra-seasonal tropical disturbance that influences monsoon strength.
- In May 2025, MJO was active over the Indian Ocean, increasing convective activity and moisture influx.

POSITIVE INDIAN OCEAN DIPOLE (IOD)

- IOD refers to the difference in sea surface temperature (SST) between the western and eastern Indian Ocean.
- A positive IOD in early 2025 warmed western Indian Ocean, enhancing moisture supply.

PREVALENCE OF STRONG WESTERLIES

- Westerly winds intensified early, penetrating the peninsular region with high speed and depth, fulfilling one of IMD's onset criteria.



WEAK EL NIÑO CONDITIONS

- El Niño, the warming of the central Pacific, generally suppresses monsoon activity.
- In 2025, El Niño began weakening in early May, reducing its suppressive effect on the monsoon.

CYCLONIC CIRCULATION OVER ARABIAN SEA

- A low-pressure system formed over the southeast Arabian Sea, aiding the quick surge of moisture-laden winds toward the Indian mainland.

HIGHER-THAN-NORMAL PRE-MONSOON RAINFALL

- Kerala and parts of Karnataka saw increased convective rainfall in late May, fulfilling the rainfall threshold for onset.

JET STREAM REALIGNMENT

- Subtropical westerly jet streams shifted northward earlier than usual, allowing monsoon circulation to develop over the subcontinent.

GEOGRAPHICAL SPREAD OF EARLY ONSET

Region	Expected Onset	2025 Onset
Kerala	June 1	May 26
Coastal Karnataka	June 5	May 29
Konkan-Goa	June 7	May 31
Mumbai	June 10	June 3
Northeast India	June 5	May 30

Note: Northern and Central India remained within normal timelines.

CONSEQUENCES OF EARLY MONSOON ONSET

POSITIVE CONSEQUENCES

BOOST TO AGRICULTURAL ACTIVITIES

- **Early Sowing of Kharif Crops**: Farmers in Kerala, Karnataka, and Maharashtra began sowing rice, cotton, pulses, etc., early.
- **Reduction in Irrigation Costs**: Rainfall reduced dependence on tube wells and canal irrigation.

IMPROVED GROUNDWATER RECHARGE

- Pre-monsoon dry spells were shortened, allowing early replenishment of aquifers and reservoirs.

ENERGY SECTOR GAINS

- Hydropower generation started earlier in states like Himachal Pradesh, Uttarakhand, and Sikkim.
- Reduced peak summer demand for power due to early cooling and rainfall.

FOREST FIRE RISK REDUCED

- Forested regions in Western Ghats and Eastern Himalayas saw reduced fire danger due to early rainfall.

ECONOMIC BENEFITS

- Boost to rural economy due to timely agricultural operations.
- Reduced heatwave-related economic losses.

NEGATIVE CONSEQUENCES

CROP DAMAGE DUE TO UNSEASONAL RAINS

- In some areas, heavy rainfall before proper land preparation led to **waterlogging** and **seed rotting**.
- In coastal regions, early rain affected late-harvested Rabi crops.

PEST AND DISEASE OUTBREAKS

- Early moisture increased risks of **blast disease** in rice and **whiteflies** in cotton.

URBAN FLOODING

- Cities like Kochi and Mangaluru reported waterlogging due to inadequate drainage preparedness for early rains.

DISRUPTION OF WEATHER PATTERNS

- Early onset does not guarantee normal distribution or total rainfall.
- There is a risk of **monsoon break periods** in July/August, leading to **mid-season droughts**.

IMPACT ON SEASONAL PLANNING

- Farmers and administration faced challenges in adjusting sowing calendars, fertilizer distribution, and insurance schedules.

HOW IMD FORECASTED EARLY ONSET IN 2025

- IMD used **Dynamical Coupled Models (e.g., NCEP-CFSv2, ECMWF)** for long-range prediction.
- Satellite data (INSAT-3D, Kalpana-1), AWS, and Doppler Weather Radars aided real-time monitoring.
- IMD issued an advisory in early May indicating a likely early monsoon onset, allowing partial preparedness.

EXPERT OPINIONS

- **Agricultural Scientists**: Warn against early sowing without confirmed rainfall continuation.
- **Meteorologists**: Highlight the importance of intra-seasonal variability; early onset does not assure timely withdrawal.
- **Environmentalists**: Urge better drainage, forest management, and early flood-warning systems in response to changing monsoon behavior.

CLIMATIC CONTEXT AND CLIMATE CHANGE

IMPACT OF CLIMATE CHANGE ON MONSOON PATTERNS

- **Erratic Onsets and Withdrawals**: Increasing frequency of early/late monsoon onset in recent decades.
- **Rising SSTs**: Warmer oceans contribute to increased convective activity and cyclone formation in the Arabian Sea.
- **Increased Rainfall Extremes**: Higher frequency of intense rainfall days, even if total rainfall remains normal.

IPCC AND IMD OBSERVATIONS

- IPCC AR6 Report highlights increased variability in Asian summer monsoon.

- IMD data from 1950–2020 shows a trend of delayed withdrawal but increasingly erratic onsets.

WAY FORWARD:

POLICY RECOMMENDATIONS

- **Dynamic Crop Calendars**: Based on agro-climatic zones and monsoon behavior.
- **Climate-Resilient Seeds**: Early maturing, flood-tolerant varieties to tackle monsoon uncertainty.
- **Better Forecast Communication**: Dissemination of IMD alerts to farmers via mobile, Gram Panchayats.
- **Urban Infrastructure Upgrades**: Stormwater drainage revamps to tackle early rains.
- **Water Management**: Timely reservoir operations and inter-basin water planning.

CONCLUSION

- The early monsoon onset in 2025 offers a crucial case study in monsoon variability.
- While early rainfall has the potential to benefit the agricultural sector and economy, its unpredictability also brings significant risks.
- UPSC aspirants must understand the **interconnectedness of monsoon patterns with agriculture, disaster preparedness, economic planning, and climate change mitigation**.

MODERNIZATION VS WESTERNIZATION

Union Minister asserted that while modernization is essential for national progress, blind westernization must be resisted to preserve India's cultural identity.

He stressed the importance of **balancing science and tradition** to realize India's vision of becoming a **'Vishwaguru'**.

Modernization and Westernization are two transformative forces shaping Indian society. While both are associated with change, they differ significantly in nature, impact, and intention. In the journey to become a **Vishwaguru (world teacher)** by **2047**, India must balance technological advancement (modernization) with cultural rootedness (resisting blind Westernization). Understanding this difference is essential for policymakers and citizens alike.

WHAT IS MODERNISATION?

DEFINITION:

Modernization refers to a value-neutral, socio-economic, & technological transformation process through which a traditional or pre-modern society evolves into a modern one. Coined in the post-industrialization era, modernization includes changes in economic structure, social organization, cultural values, education, governance, and technological adoption.

KEY FEATURES:

- **Rationality over Tradition:** Emphasis on scientific reasoning and empirical evidence.
- **Industrialization and Urbanization:** Transition from agrarian economies to industrial and urban centers.
- **Scientific Temper:** Encouragement of inquiry and skepticism.
- **Secularization:** Separation of religion from state affairs.
- **Democratic Institutions:** Establishment of participatory governance structures.
- **Education-driven Social Mobility:** Access to education enabling upward mobility.
- **Meritocracy:** Rewarding individuals based on ability and talent.
- **Universalism and Human Rights:** Adoption of universal principles of equality and justice.

IMPORTANT THINKERS:

- **Daniel Lerner:** Viewed modernization as a psychological transformation.
- **Alex Inkeles:** Identified characteristics of a "modern man" (open to new experiences, participatory, rational).

- **Yogendra Singh:** Emphasized modernization without westernization in the Indian context.

EXAMPLE:

India's adoption of digital technologies in governance, such as the Aadhaar system, reflects modernization by enhancing efficiency and inclusivity without necessarily adopting Western cultural norms.

WHAT IS WESTERNISATION?

DEFINITION:

Westernization refers to the adoption of Western culture, values, lifestyles, institutions, and norms by non-Western societies. It is largely a cultural phenomenon, though it may influence politics, economy, and education.

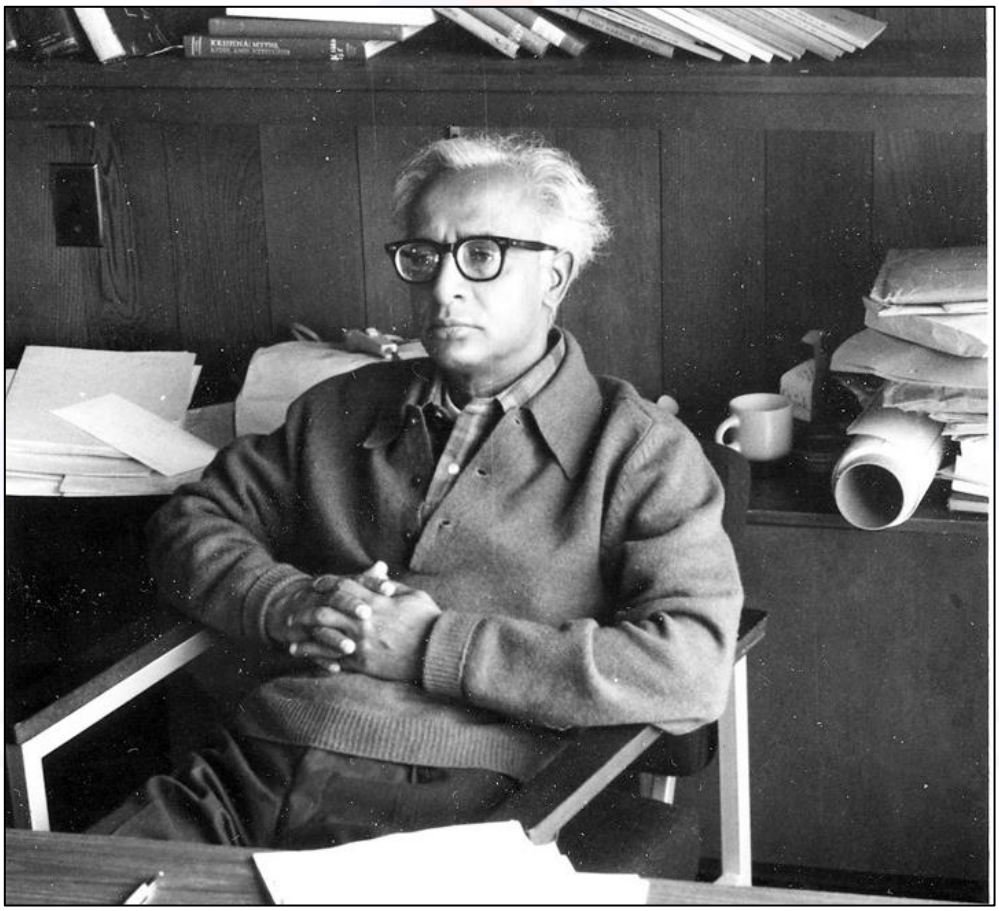
KEY COMPONENTS:

- **Adoption of Western Dress, Language, Food:** Embracing Western fashion, English language, and cuisine.
- **Imitation of Western Lifestyles:** Emulating Western ways of living and social norms.
- **Emphasis on Individualism:** Prioritising individual rights over collective responsibilities.
- **Nuclear Family Preference:** Shift from joint to nuclear family structures.

- **Consumerism:** Increased focus on material possessions and consumption.
- **Secular Morality over Religious Norms:** Ethical frameworks based on secular principles.

M.N. SRINIVAS ON WESTERNISATION:

- Defined it as the “changes brought about in Indian society and
- culture as a result of British rule.”
- Distinguished between simple Westernization (e.g., clothing) and institutional Westernization (e.g., law, education, civil service).



EXAMPLE:

The widespread celebration of Valentine's Day in urban India illustrates Westernization, reflecting the adoption of Western cultural practices.

DIFFERENCES BETWEEN MODERNISATION AND WESTERNISATION

Aspect	Modernization	Westernization
Origin	Global, value-neutral	Western Europe and North America
Nature	Structural, institutional	Cultural, lifestyle-oriented
Scope	Scientific, economic, political	Dress, food, language, customs
Goal	Progress and efficiency	Cultural imitation
Example	E-governance, universal education	Wearing jeans, celebrating Valentine's Day
Thinker	Inkeles, Lerner	M.N. Srinivas

IMPACTS OF WESTERNISATION ON INDIAN SOCIETY

POSITIVE IMPACTS

- **Institutional Reform:** Adoption of modern judiciary, bureaucracy, and parliamentary democracy. Rule of law and human rights-based governance.
- **Social Reforms:** Helped eradicate practices like Sati, child marriage, and untouchability during the colonial period. Encouraged female education and women's participation in public life.

- **Scientific Temper and Education:** Establishment of modern universities, English education, and critical thinking. Rise of STEM and liberal arts education models.
- **Global Connectivity:** Westernization increased India's integration with global culture. Promoted English as a global lingua franca, aiding India in IT, diplomacy, and business.
- **Popular Culture and Media:** Exposure to global cinema, music, literature, and fashion.

NEGATIVE IMPACTS

- **Cultural Alienation:** Detachment from Indian languages, traditions, and festivals. Youth increasingly unfamiliar with regional heritage.
- **Erosion of Family System:** Shift from joint to nuclear families, leading to isolation of the elderly and childcare issues. Decline in inter-generational bonding.
- **Consumerism and Materialism:** Emphasis on brand culture, fast fashion, and conspicuous consumption. Rise in debt, environmental degradation, and mental health issues.
- **Identity Crisis:** Duality in identity – "western outside, Indian inside." Issues of cultural schizophrenia among youth.
- **Imitative Behaviour and Loss of Creativity:** Blind imitation of Western values suppresses indigenous innovation. Overdependence on Western templates for development.

CASE STUDIES: WESTERNISATION IN INDIAN CONTEXT

INDIAN EDUCATION SYSTEM

- British-introduced Macaulayian education focused on English and liberal arts.
- Today, Westernisation is evident in international schools and foreign degrees.
- **Positive:** Competitive global skill set.

- **Negative:** Neglect of mother tongues, Vedic knowledge, and ethical education.

INDIAN FASHION AND POP CULTURE

- Rapid shift from traditional wear to Western clothing styles.
- Bollywood and OTT platforms promote Western lifestyle imagery.
- Globalization of Valentine's Day and Halloween often at the cost of local festivals.

WHY MODERNISATION IS ESSENTIAL FOR INDIA'S PROGRESS

ECONOMIC GROWTH AND INDUSTRIALISATION

- Modernization of infrastructure, logistics, and manufacturing boosts GDP.
- **Examples:** Digital India, Make in India, Smart Cities Mission.

GOVERNANCE AND INSTITUTIONS

- Modern, transparent, and participatory institutions reduce corruption.
- **Examples:** RTI Act, Digital Governance, Aadhaar-Enabled Services.

SCIENCE AND TECHNOLOGY

- Progress in space (ISRO), health (Ayushman Bharat Digital Mission), and agriculture (precision farming).
- Emphasis on R&D, innovation ecosystems (Startup India).

EDUCATION AND HUMAN DEVELOPMENT

- New Education Policy (NEP 2020) promotes critical thinking, skilling, and flexibility.
- Global university partnerships improve knowledge exchange and employability.

INDIA'S AIM TO BECOME VISHWAGURU BY 2047

India aspires to become a **Vishwaguru (world teacher)** by **2047**, when it celebrates 100 years of independence. This vision is based on the idea that **India must provide spiritual, intellectual, economic, and ecological leadership** to the world.

KEY PILLARS:

- **Cultural Resurgence:** Promotion of Yoga, Ayurveda, Sanskrit, and Indic knowledge systems.
- **Democratic and Ethical Leadership:** Non-violence (Ahimsa), Dharma-based diplomacy.
- **Knowledge Economy:** Top global universities (IITs, IIMs, AIIMS) as knowledge exporters.

- **Environmental Stewardship:** Panchamrit pledges at COP26; Net Zero by 2070.
- **Example:** International Day of Yoga (June 21) declared by UN at India's initiative is a soft power milestone.

India's Vishwaguru status will not come from **Western mimicry**, but from modernising based on **its own cultural and civilisational strengths**. A modern India rooted in **Sanatana Dharma and scientific inquiry** is the future.

THREE-YEAR JUDICIAL PRACTICE MANDATE

The Supreme Court reinstated the rule mandating a minimum of three years of legal practice as a prerequisite for applying to the Civil Judge (Junior Division) posts.

WHAT IS THE THREE-YEAR JUDICIAL PRACTICE MANDATE?

- As per the latest ruling in *All India Judges Association v. Union of India*, a candidate must now have **at least three years of courtroom experience** before appearing for judicial service exams.
- The mandate applies to **entry-level judges**, reinstating the condition removed in 2002 to broaden access to judicial posts.

NEED FOR THE PRACTICE REQUIREMENT

- **Improves Judicial Preparedness**: Early exposure to real courtroom scenarios builds decision-making skills and legal maturity.
- **E.g.** The Bar Council of India (2021) stated that judges without practice were often *"inept and incapable"* in handling matters.
- **Reflects High Court Consensus:** 23 out of 25 High Courts reported unsatisfactory outcomes from recruiting fresh graduates into the judiciary.

- **Addresses Training Gaps:** Judicial academies often lack individual mentoring capacity and cannot simulate litigation complexities.
- **Fosters Professional Maturity:** Advocates gain better emotional intelligence and legal intuition through active litigation.

CHALLENGES ASSOCIATED WITH THE MANDATE

- **Exclusion of Marginalized Aspirants:** Women and first-generation lawyers may struggle to sustain three years in litigation due to socio-economic or familial constraints.
  E.g. NFHS data shows average female marriage age is 19.2, creating early-career conflicts for female law graduates.
- **Litigation Is Not a Level Field**: Early-stage advocates, especially women, often face hostile work conditions, harassment, and lack of mentorship in court corridors.
- **Tokenistic Practice Risk:** Without verification norms, the mandate may become a formality rather than a meaningful experience.
- **Reduced Diversity in Judiciary:** The added hurdle may deter young, capable women and others from marginalized communities from even attempting judicial entry.
- **Judicial Overreach Concerns:** The mandate, as per Article 234, should be determined by State executives in consultation with High Courts, not by the Supreme Court.

SIGNIFICANCE OF THE MOVE:

- **Enhances Quality of Judgments**: Judges with courtroom experience are more adept at managing procedural complexities and ensuring fair trials.
- **Bridges Theory-Practice Divide**: The move attempts to build a professionally competent Bench, not just a theoretically sound one.
- **Aligns with Global Best Practices**: Most developed judicial systems expect prior legal experience before assuming judicial office.

CONCLUSION:

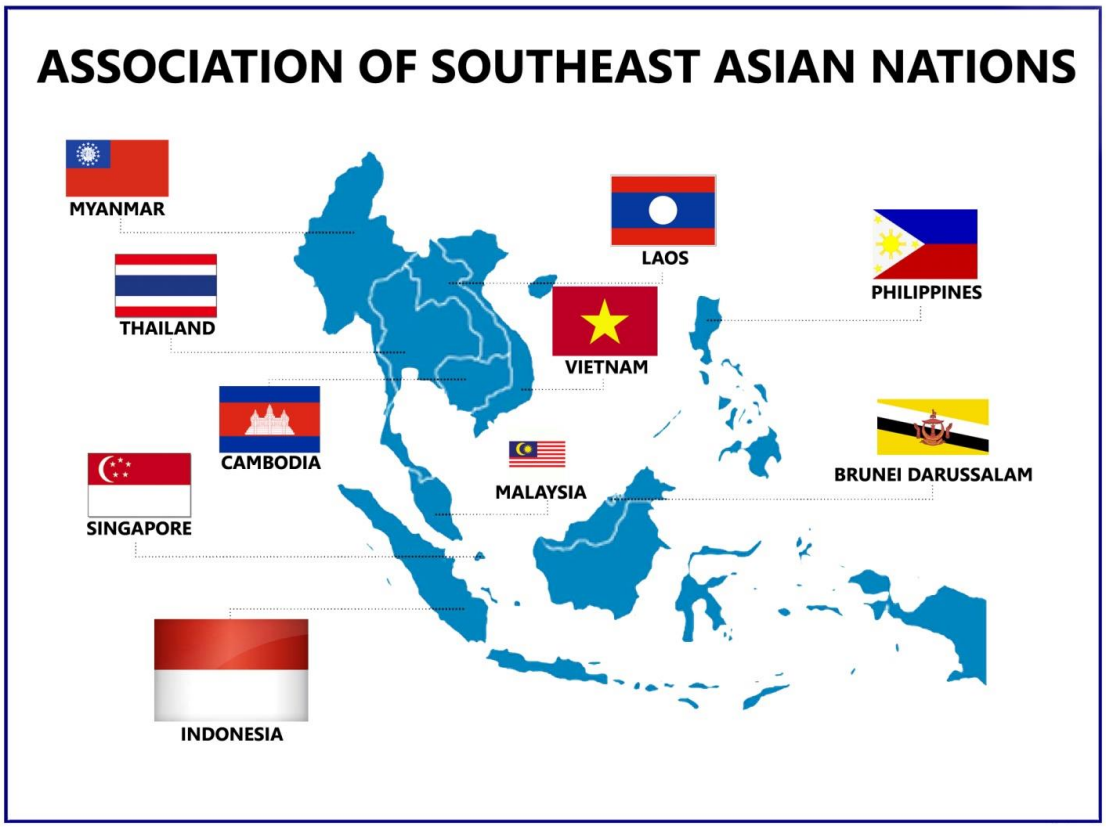
The three-year practice mandate reflects a desire to build a judiciary with practical legal insight and emotional maturity. However, without addressing socio-economic barriers and structural inequalities, it risks narrowing entry for many deserving candidates. Judicial reform must strike a balance between **quality and inclusivity**, **rigour and representation**.

ASSOCIATION OF SOUTHEAST ASIAN NATIONS (ASEAN)

Indonesia and China have reaffirmed their strategic partnership, with the Chinese Premier's visit to Jakarta ahead of the ASEAN Summit reflecting growing diplomatic momentum.

WHAT IS ASSOCIATION OF SOUTHEAST ASIAN NATIONS (ASEAN)?

- **ASEAN** is an **inter-governmental regional organization** formed to **promote political, economic, and security cooperation** among Southeast Asian nations.
- **Established in 1967** with the signing of the **Bangkok Declaration**, its founding members were **Indonesia, Malaysia, the Philippines, Singapore, and Thailand**.
- **ASEAN currently has 10 member countries**: Indonesia, Malaysia, the Philippines, Singapore, Thailand, Brunei, Vietnam, Laos, Myanmar, and Cambodia.
- The **headquarters of ASEAN is located in Jakarta, Indonesia**, underscoring Indonesia's central role in the bloc.



WHERE DOES THE GENESIS OF ASEAN LIE?

- **1967** – ASEAN was established with the signing of the ASEAN Declaration (Bangkok Declaration) by its founding fathers.
    - **Founding Fathers of ASEAN are:** Indonesia, Malaysia, Philippines, Singapore and Thailand.
- **1990s** – Membership doubled after the changing conditions in the region following the end of the Vietnam War in 1975 and the Cold War in 1991.
    - Addition of Brunei (1984), Vietnam (1995), Laos and Myanmar (1997), and Cambodia (1999).
- **1995** – Members signed a deal to create a nuclear-free zone in Southeast Asia.

- **1997** – Adoption of ASEAN **Vision 2020.**
- **2003** – **Bali Concord II** for the establishment of an ASEAN Community.
- **2007** – Cebu Declaration, to accelerate the establishment of ASEAN Community by 2015.
- **2008** – ASEAN Charter comes into force and becomes a legally binding agreement.
- **2015** – Launch of ASEAN Community.
- ASEAN Community is comprised of three pillars:
    - **ASEAN Political-Security Community**
    - **ASEAN Economic Community**
    - **ASEAN Socio-Cultural Community**

WHAT ARE THE OBJECTIVES OF ASEAN?

- To accelerate economic growth, social progress and cultural development for a prosperous and peaceful community of Southeast Asian Nations.
- To promote Southeast Asian studies.
- To maintain close and beneficial cooperation with existing international and regional organizations.

- To promote regional peace and stability through abiding respect for justice and the rule of law and adherence to the principles of the United Nations Charter.
- To promote active collaboration and mutual assistance on matters of common interest in the economic, social, cultural, technical, scientific and administrative fields.
- To collaborate more effectively for the greater utilization of agriculture and industries, the expansion of their trade, the improvement of transportation and communications facilities and the raising of the living standards of peoples.

LEADERSHIP

- ASEAN's leadership rotates annually based on the alphabetical order of the English names of the member states.
- A member state at the helm chairs the ASEAN summit.
- Myanmar was scheduled to take over the leadership in 2026.
- Recently, the ASEAN leaders have decided not to give the leadership of this bloc to Myanmar.
- The Philippines agreed to take over the regional bloc's chairmanship in 2026.

INSTITUTIONAL MECHANISMS OF ASEAN

- The **ASEAN Summit** is held **annually**, where member states discuss regional developments and **set strategic policy directions**. It is chaired by a **rotating presidency**.
- The **ASEAN Coordinating Council (ACC)** monitors, **implementation of agreements and decisions,** ensuring alignment across the member states.

- The ASEAN Secretariat, located in Jakarta, acts as the **administrative** body supporting and **facilitating ASEAN's initiatives,** coordination, and documentation.
- The **ASEAN Regional Forum (ARF)** is a key platform for **dialogue on political and security issues** involving both member countries and external partners.
- **India joined the ARF in 1996**, marking its formal inclusion in ASEAN-led security dialogue mechanisms.
- ASEAN follows a **decision-making process based on consultation and consensus**, promoting unity while respecting national sovereignty.

WHAT ARE THE STRENGTHS OF ASEAN?

- ASEAN commands far greater influence on Asia-Pacific trade, political, and security issues than its members could achieve individually.
- **Demographic dividend** – As of 1 July 2019, the population of the ASEAN was about 655 million people (8.5% of the world population).
- **Economic:**
    - Major global hub of manufacturing and trade, as well as one of the fastest-growing consumer markets in the world.
    - 7th largest economy in the world. It is projected to rank as the fourth-largest economy by 2050.
    - ASEAN has the third-largest labor force in the world, behind China and India.
- **Free-trade agreements (FTAs)**
    - **ASEAN**-Australia-New Zealand Free Trade Area
    - **ASEAN**-China Free Trade Agreements
    - **ASEAN**-India Free Trade Area
    - **ASEAN** – Japan Free Trade Area
    - **ASEAN-**Republic of Korea Free Trade Area
    - **ASEAN** – Hong Kong, China Free Trade Area
    - Regional Comprehensive Economic Partnership
- ASEAN is the fourth-largest exporting region in the world, trailing only the European Union, North America, and China/Hong Kong accounting for 7% of global exports.
- ASEAN has contributed to regional stability by building much-needed norms and fostering a neutral environment to address shared challenges.

WHAT ARE THE CHALLENGES WITHIN ASEAN?

- Regional imbalances in the economic and social status of its individual markets.
- Gap between rich and poor ASEAN member states remains very large and they have a mixed record on income inequality.
- While Singapore boasts the highest GDP per capita—nearly $53,000 (2016), Cambodia's per capita GDP is the lowest at less than $1,300.
- Many regional initiatives were not able to be incorporated into national plans, as the less developed countries faced resource constraints to implement the regional commitments.
- The members' political systems are equally mixed with democracies, communist, and authoritarian states.
- While the South China Sea is the main issue exposing the organization's rifts.
- ASEAN has been divided over major issues of human rights. For example, crackdowns in Myanmar against the Rohingyas.
- Inability to negotiate a unified approach with regards to China, particularly in response to its widespread maritime claims in the South China Sea.
- The emphasis on consensus sometimes becomes a chief drawback – difficult problems have been avoided rather than confronted.
- There is no central mechanism to enforce compliance.

- Inefficient dispute-settlement mechanism, whether it be in the economic or political spheres.

WHAT ABOUT THE COOPERATION BETWEEN INDIA AND ASEAN?

- India's relationship with ASEAN is a key pillar of her foreign policy and the foundation of Act East Policy.
- India has a separate Mission to ASEAN and the EAS in Jakarta.
- India and ASEAN already has 25 years of Dialogue Partnership, 15 years of Summit Level interaction and 5 years of Strategic Partnership with ASEAN.
- **Economic Cooperation:**
    - ASEAN is India's fourth largest trading partner.
    - India's trade with ASEAN stands at approx. 10.6% of India's overall trade.
    - India's export to ASEAN stands at 11.28% of our total exports. The ASEAN-India Free Trade Area has been completed.
    - ASEAN India-Business Council (AIBC) was set up in 2003 to bring key private sector players from India and the ASEAN countries on a single platform.
- **Socio-Cultural Cooperation:** Programmes to boost People-to-People Interaction with ASEAN, such as inviting ASEAN students to India, Special Training Course for ASEAN diplomats, Exchange of Parliamentarians, etc.
- **Funds:** Financial assistance has been provided to ASEAN countries from the following Funds:
    - ASEAN-India Cooperation Fund
    - ASEAN-India S&T Development Fund
    - ASEAN-India Green Fund
- **Delhi Declaration:** To identify Cooperation in the Maritime Domain as the key area of cooperation under the ASEAN-India strategic partnership.
- **Delhi Dialogue:** Annual Track 1.5 event for discussing politico-security and economic issues between ASEAN and India.

- **ASEAN-India Centre (AIC):** To undertake policy research, advocacy and networking activities with organizations and think-tanks in India and ASEAN.
- **Political Security Cooperation:** India places ASEAN at the center of its Indo-Pacific vision of Security and Growth for All in the Region.

WHAT IS THE SIGNIFICANCE OF ASEAN FOR INDIA?

- India needs a close diplomatic relationship with ASEAN nations both for economic and security reasons.
- Connectivity with the ASEAN nations can allow India to improve its presence in the region.
- These connectivity projects keep Northeast India at the centre, ensuring the economic growth of the northeastern states.
- Improved trade ties with the ASEAN nations would mean a counter to China's presence in the region and economic growth and development for India.
- ASEAN occupies a centralized position in the rules-based security architecture in the Indo-Pacific, which is vital for India since most of its trade is dependent on maritime security.
- Collaboration with the ASEAN nations is necessary to counter insurgency in the Northeast, combat terrorism, tax evasions etc.

ASEAN

ASSOCIATION OF SOUTHEAST ASIAN NATIONS

MEMBERS (10)

- INDONESIA
- PHILIPPINES
- MALAYSIA
- SINGAPORE
- THAILAND
- BRUNEI (1984)
- VIETNAM (1995)
- MYANMAR (1997)
- LAOS (1997)
- CAMBODIA (1999)

CORE AIMS

- Accelerate economic and social progress.
- Promote regional peace and stability.
- Foster collaboration across fields.
- Cooperate with global organizations.

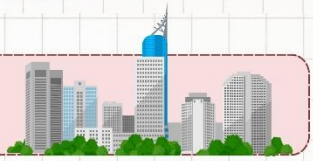
PRINCIPLES

- Non-interference in internal affairs of member states.
- Consensual decision-making.
- Maintaining "centrality" in regional matters.

FORMATION

- 8th August 1967
- Bangkok, Thailand

HEADQUARTERS



- Jakarta, Indonesia

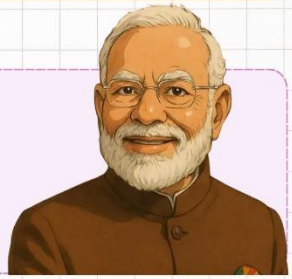
KEY CHALLENGES

- **Geopolitical Pressures:** Balancing influence between China and the U.S.
- **South China Sea Disputes:** Inability to provide a coordinated response to China's territorial claims.
- **Myanmar Crisis:** Criticism for not isolating the military junta in Myanmar.
- **Economic Ties:** China as the largest trading partner, while the U.S. provides strategic support.

INDIAN-ASEAN RELATIONS

- **Importance:** ASEAN is central to India's Act East Policy and Indo-Pacific vision.
- **Current Cooperation:** Emphasis on political, economic, and security cooperation.
- **Historical Context:** India-ASEAN summits began in 2002; the Act East Policy was announced in 2014.
- **Strategic Goals:** Promote a free, open, inclusive, peaceful, and prosperous Indo-Pacific region.

RECENT DEVELOPMENTS AND STATEMENTS



- **India's Commitment:** PM of India at the 20th ASEAN-India Summit emphasized ASEAN's centrality to India's Act East Policy and Indo-Pacific vision.
- **Strategic Engagement:** Continuous expansion of political, economic, and security cooperation with ASEAN.

SPECIES IN NEWS

CAVE-DWELLING FISH DISCOVERED IN MEGHALAYA

A new species of cave-adapted fish, **Schistura densiclava,** has been discovered in **Krem Mawjymbuin cave in Meghalaya** (East Khasi Hills).

ABOUT:

- Schistura densiclava is a **troglophile species**, meaning it can live in both **underground** (subterranean) and **aboveground** (epigean) habitats.
- It belongs to the **Nemacheilidae family**, and is the **6th cave fish species** recorded from Meghalaya.

HABITAT:

- It is found **60 meters** inside **Krem Mawjymbuin cave**, in a **cool, fast-flowing stream** (18°C, low oxygen).
- The species' presence is restricted to the cave, indicating it is **endemic** to this **cave system**.

UNLIKE FULLY ADAPTATION:

- Blind cavefish, it retains **pigmentation and eyesight.**

MORPHOLOGY:

- It has a **pale yellow-green body** with 14–20 grey-black bars, a thick dorsal stripe (densiclava), and shows sexual dimorphism with **slimmer males and sturdier females.**
- **Krem Mawjymbuin (limestone cave)** is carved out of **calcareous sandstone** and adorned with elegant **stalactites** and **stalagmites** formed by mineral-rich **calcium carbonate.**
- Inside the cave lies **Symper Rock**, a striking **dome-shaped structure** characterized by its **unusually flat summit**.

MORINGA

PKM1, a variety of **Moringa oleifera**, has created a global impact, especially in countries such as Senegal, Rwanda and Madagascar in the African continent.

ABOUT MORINGA (MORINGA OLEIFERA)

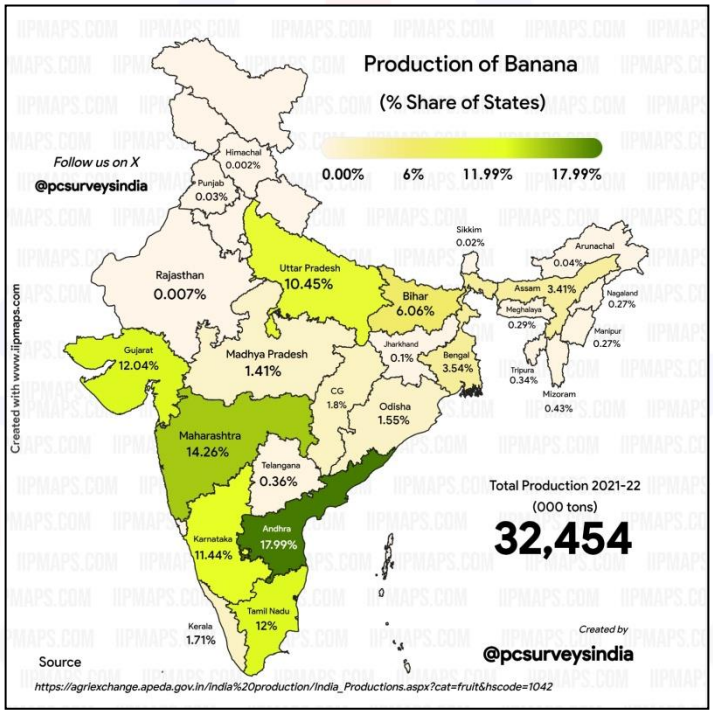
- **Origin and Distribution:**
  - Native to India, especially the foothills of the Himalayas.
  - Now widely cultivated in South Asia, Africa, and tropical regions of Central and South America.
- **Agricultural Requirements:**
  - Prefers deep sandy loam soil with pH between 6.5–8.0.
  - Thrives in semi-arid and tropical climates. Optimal temperature: 25–30°C.
  - Drought-resistant and fast-growing can be harvested multiple times a year.
- **Medicinal & Health Uses:**
  - Used in Ayurveda to treat over 300 conditions.
  - Known for anti-inflammatory, antimicrobial, and anti-diabetic properties.
  - Seeds are used to purify water due to their coagulating ability.

BANANAS CULTIVATION

A recent report by UK NGO Christian Aid has warned that **60% of the best banana growing areas are in danger from climate change**-driven rising temperatures.

ABOUT

- The report showed that extreme weather, rising temperatures and climate related pests pose a **threat to banana producing regions,** sparking calls **for faster emission cuts and more support for farmers.**
- The report indicates that **India is expected to see declining banana yields** due to **climate change by 2050.**

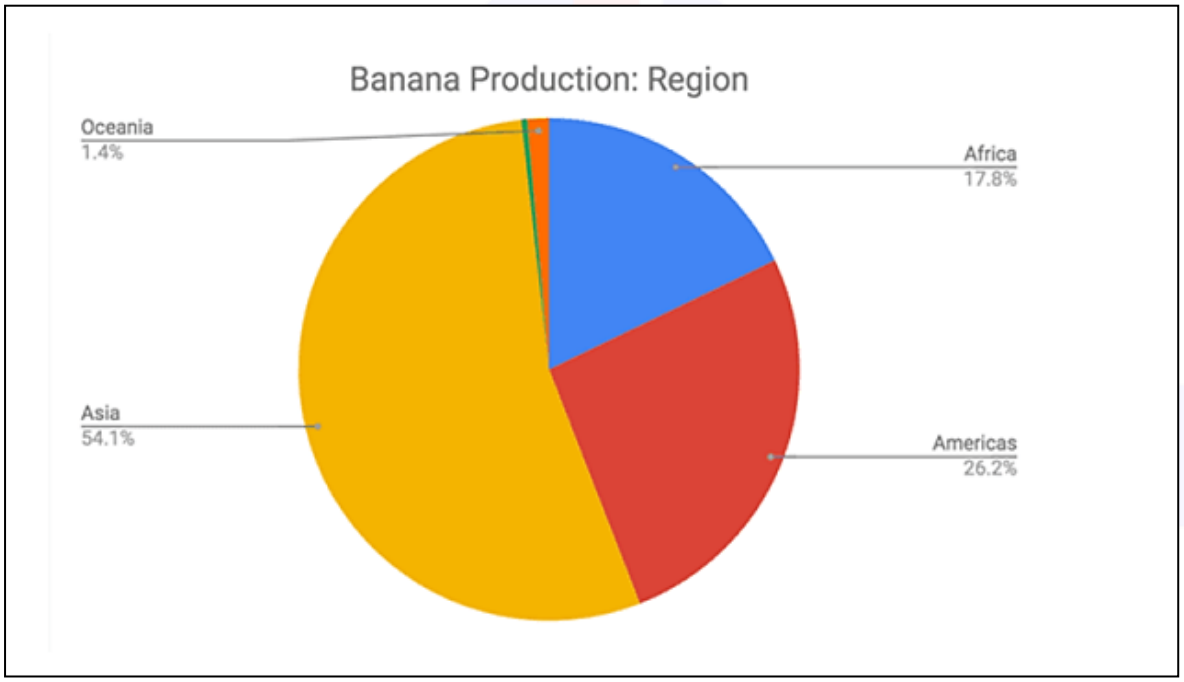


BANANA PRODUCTION

Bananas are the **fourth most important** food crop globally, following wheat, rice and maize.

- **The top banana producing countries** are **India followed by China.**
- Bananas thrive in temperatures ranging from **15 to 35 degrees Celsius and require ample water to grow effectively.**

- Currently, **Latin America and the Caribbean account for 80% of global banana exports.**
- Despite being the **world's largest banana producer, India's export share is currently just one percent** in the global market, even though the country **accounts for 26.45 percent of the world's banana productio**n at 35.36 Million Metric Ton.
- **Andhra Pradesh** is the **largest banana-producing state**, followed by **Maharashtra**, Karnataka, Tamil Nadu, and Uttar Pradesh.
    - These five states collectively contribute around **67 percent to India's banana production in the fiscal year 2022-23.**



INDIA'S FIRST GENE-EDITED SHEEP

Researchers at a Kashmir-based Agricultural university have produced India's first gene-edited sheep, marking a historic milestone in the field of animal biotechnology.

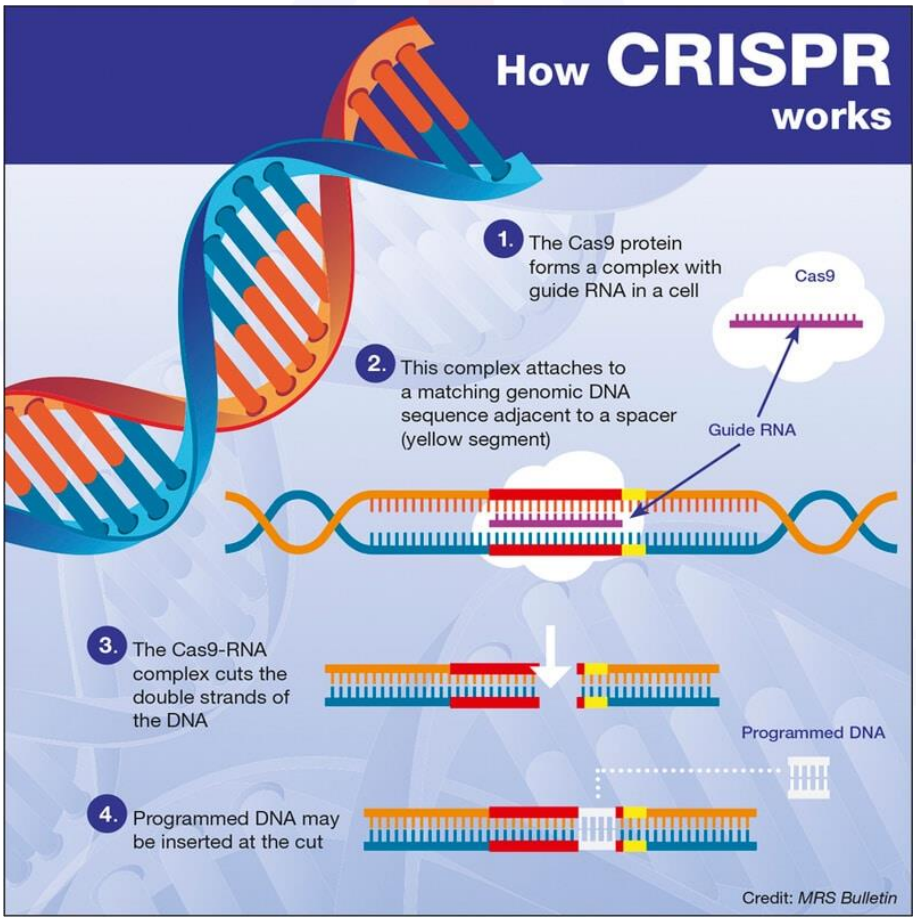
The team of researchers led by Riaz Ahmad Shah had previously cloned **India's first Pashmina goat- 'Noori'- in 2012,** a milestone that garnered global acclaim.

ABOUT THE DEVELOPMENT

- The gene editing was performed using **CRISPR-Cas9** technology and adhered to **international biosafety protocols.**
- The edited sheep contains **no foreign DNA,** distinguishing it from transgenic organisms and paving the way for regulatory approval under India's evolving biotech policy framework,
- The gene editing targeted the **myostatin gene** to increase muscle mass by about 30%, a trait absents in Indian sheep but present in some European breeds.
- The team aims to apply this technology for disease resistance and other improvements.

GENE EDITING

- Genome editing involves technologies that enable precise changes to an organism's DNA by adding, removing, or altering genetic material.
    - The first genome editing technologies were developed in the late 1900s.
    - A new genome editing tool called CRISPR, invented in 2009, has made it easier than ever to edit DNA.
- **CRISPR-Cas9** is a popular and efficient method adapted from a natural bacterial immune system, where bacteria capture viral DNA snippets to recognize and cut viral DNA during future attacks, disabling the virus.
    - This system has revolutionized genome editing due to its speed, accuracy, and cost-effectiveness.



CONSERVATION OF DUGONGS

World Dugong Day is celebrated on May 28 to raise awareness about dugongs.

DUGONGS ((DUGONG DUGON)

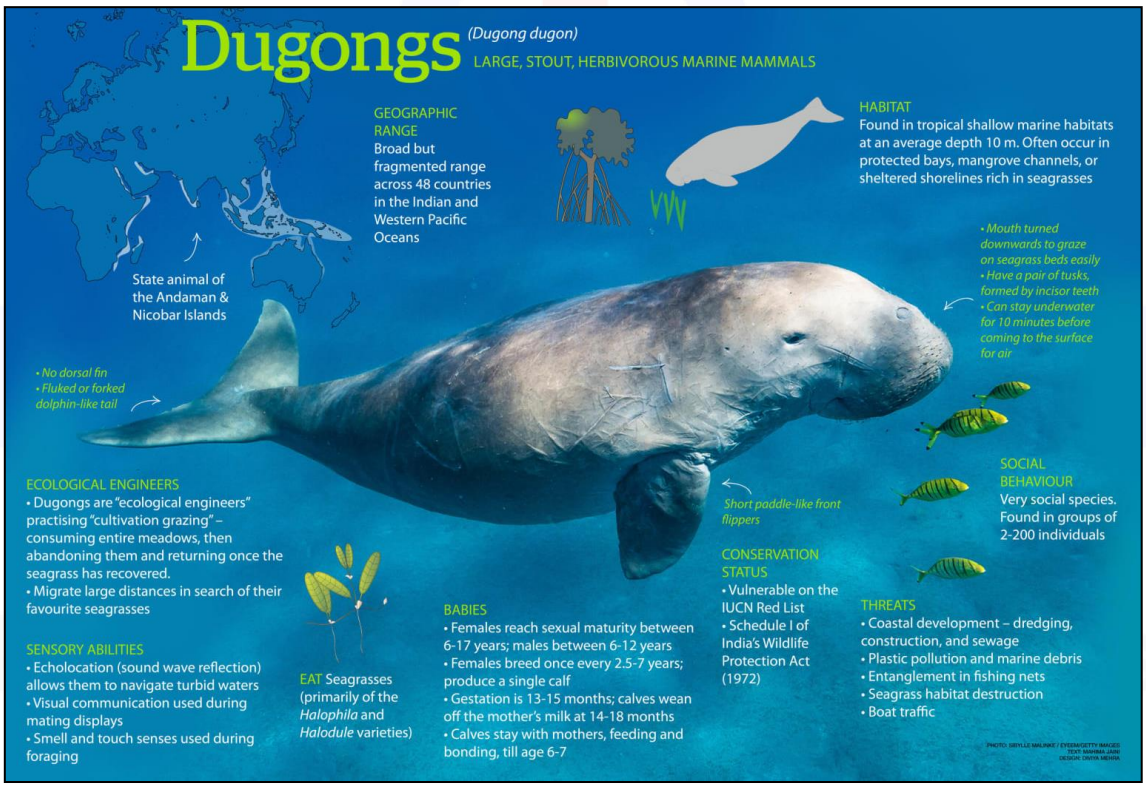
- They are also called '**Sea Cow**' and are one of the four surviving species in the Order Sirenia.
- They are the only herbivorous mammals found in India's marine ecosystems.
- They depend on seagrass meadows for food and habitat, consuming large quantities daily to meet nutritional needs.
- **Distribution:**
    - They resemble a cross between a whale and a seal and are found in shallow Indo-Pacific waters, especially in India's **Gulf of Mannar, Palk Bay, Gulf of Kutch, and the Andaman and Nicobar Islands.**

- **IUCN Red List status:**
    - **They** are listed as being **'vulnerable'** on the IUCN Red List for Threatened Species.
    - In India, they are classified as "regionally endangered".
- **Threats**:
    - Habitat loss due to coastal development, pollution, destructive fishing practices (like mechanized boats, gill nets, and trawl nets),

climate change, and accidental entanglement leading to drowning. Illegal hunting and boat collisions also pose risks.

- their numbers have dwindled to an estimated 200 individuals.

- **Conservation Efforts:**
  - India has taken steps such as creating its first dugong conservation reserve in Palk Bay, Tamil Nadu, protecting key seagrass habitats.
  - NGOs and government bodies have worked on seagrass restoration and monitoring for over a decade.
  - Promoting sustainable fishing, community involvement, awareness campaigns, research support, and alternative livelihoods like eco-tourism are critical for dugong survival.

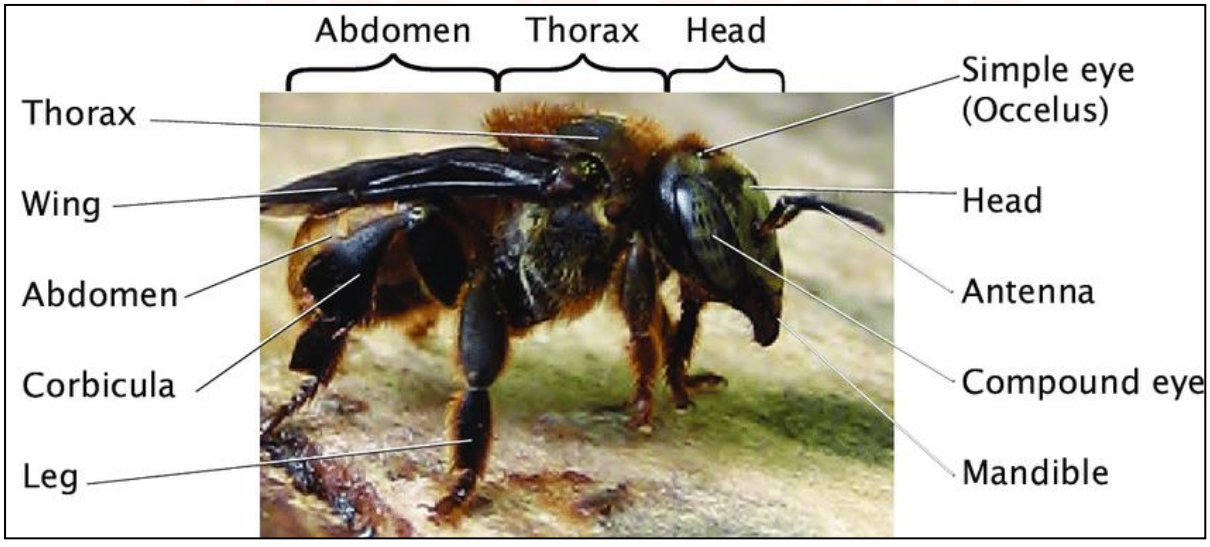


STINGLESS BEES

Study finds that stingless bees can help farmers improve **vegetable and crop yields** by up to **29 percent.**

ABOUT STINGLESS BEES

- A stingless bee is a bee that **appears very similar to a honeybee**, but is incapable of stinging.
- Like honeybees, stingless bees are **eusocial, meaning they live in highly organized perennial colonies** with a queen, drones, and numerous worker bees.
- They are **generally smaller than typical honeybees**. Instead of stinging, they defend their nests by biting attackers.
- Their distribution spans India, Africa, Australia, and other tropical regions. In India, they are **widespread in the North East, South and Eastern parts.**
- Scientific domestication of stingless bees has been done in Nagaland and subsequently extended to Meghalaya and Arunachal Pradesh.
- Stingless bees play an **ecological and economic** role by enhancing crop pollination while producing high-value medicinal honey known for its therapeutic properties.



TYPES OF BEES

Bees are a type of insect we frequently encounter during the summer months. Here's a look at the three type of bees you'll find within a beehive.

QUEEN BEE

Each beehive has one fertile female - the queen. She is the ruler of the hive and lays all the eggs. During the spring, she can lay up to 2,000 eggs a day! If a queen no longer lays enough eggs or dies - the worker bees will feed a new larva on a diet of royal jelly in order to create a new queen. You can recognize a queen as she will be longer and larger than other bees.

WORKER BEE

Worker bees are female but not capable of reproducing. They are crucial in the colony as they do all of the work within the hive. They are responsible for tasks such as feeding the queen, drones and larvae as well as collecting pollen, nectar, making wax and guarding the hive! The typical worker bee lives for just six weeks. In appearance, they are slender and shorter than drones and the queen. Like the queen, worker bees have stingers.

DRONES

Drones are male bees and their only purpose is to mate with the queen. Drones usually live for about eight weeks and during that time the worker bees will look after them. In appearance, drones are fatter and longer than worker bees. They do not have a stinger.

DHOLES

Visakhapatnam's Indira Gandhi Zoological Park is celebrating **World Dhole Day.**

DHOLES

- They are also known as the **Asiatic wild dog (Cuon alpinus).**
- They are a canid native to southeast Asia.
- They typically live 10-13 years in the wild, but can live up to 16 years in captivity.
- **Distribution:**
    - Their global population is estimated to be between 949 and 2,215 adults, mainly located in India and Thailand.
- **Factors Contributing to Decline:**
    - Habitat loss, declining prey, persecution, disease, and competition with other species have fragmented dhole populations.
- **Conservation Status:**
    - It is included in CITES – Appendix II
    - Dholes are classified as **endangered** on the IUCN Red List.

FLAMINGOS

Recently, Flamingos have arrived in large numbers at the Chhaya pond in Porbandar town of Gujarat.

FLAMINGOS

- They are known for their striking pink feathers, long legs, and graceful necks, though they hatch with dark grey downy feathers.
- They are highly social animals that often live in large colonies, occasionally assembling in groups that number in the thousands.

HABITAT:

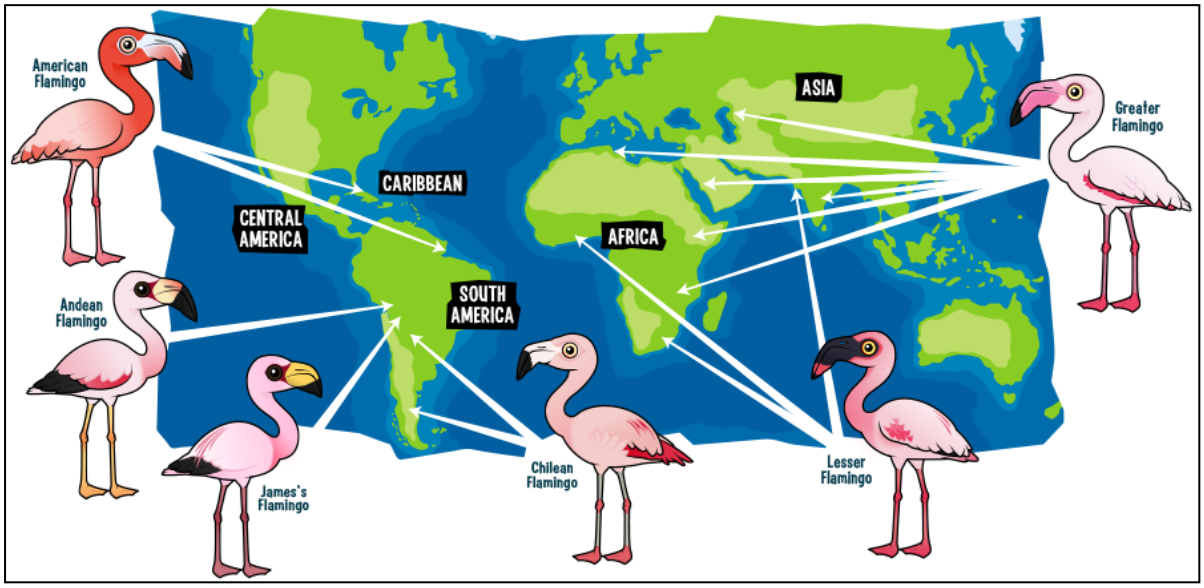
- They live in a wide variety of habitats such as lagoons, estuaries, coastal and inland lakes, and mudflats.
- These habitats often have harsh conditions, including very salty water.

The flamingo species and their IUCN Red List status are

- The greater flamingo: **Least Concern**
- Chilean flamingo: **Near Threatened**
- American flamingo: **Least Concern**
- Lesser flamingo: **Near Threatened**
- Andean flamingo: **Vulnerable**
- James's flamingo (puna flamingo): **Near Threatened**

STATUS IN INDIA:

- **Greater flamingos** usually migrate to India from Israel, Afghanistan, and Pakistan.
- The **greater flamingo** is the State bird of Gujarat.
- **Lesser flamingos** migrate from Siberia to Mumbai via the Rann of Kutch in Gujarat.



PLACES IN NEWS

IRAN SLAMS TRUMP'S PLAN TO RENAME PERSIAN GULF

US President Donald Trump's now-aborted move to rename the **Persian Gulf as the 'Arabian Gulf' or 'Gulf of Arabia'** stirred sharp **condemnation from Iranian officials.**

ABOUT

- **Iran** saw it as a politically charged attack on its national identity and historical legacy.
- The suggestion reportedly emerged ahead of Trump's visit to Saudi Arabia, Qatar and the United Arab Emirates.

PERSIAN GULF

- The Persian Gulf is a strategically important and economically vital body of water in **Western Asia.**
    - A gulf is a large part of the ocean or sea that is **partially enclosed by land, typically with a narrow opening to the sea.**
- It opens into the **Gulf of Oman and the Arabian Sea** via the Strait of Hormuz.

- The countries that surround the Persian Gulf are I**ran, Iraq, Kuwait, Saudi Arabia, Bahrain, Qatar, and UAE.**
    - All these nations, except Iran, use the names **'Arabian Gulf' or just 'Gulf'** to refer to the body of water, and have debated for long that it must be renamed.

BACKGROUND:

- The Persian Gulf gets its name from **Persia**, which was the **former name for Iran.**
- Persia was officially **renamed Iran in 1935** after Reza Shah Pahlavi, then Shah of Iran, felt that 'Persia' was an exonym – a historical name given by outsiders.
- He decided that the country deserves to be known by its endonym – a name given by its natives.

SIEMENS DELIVERS INDIA'S FIRST 9000 HP ELECTRIC LOCOMOTIVE

Siemens India has announced the delivery of **India's first 9000 HP electric locomotive,** with critical components **built at its Nashik, Aurangabad, and Mumbai facilities.**

ABOUT

- **The D9 – 9000 HP electric locomotive** is among the most powerful freight locomotives globally.
    - **An electric locomotive** is a type of railway engine that runs on electricity, instead of using diesel or steam power.
- It is built at the **Dahod factory in Gujarat** under Indian Railways, with significant involvement from Siemens India.
- It is a part of the **Make in India and Atmanirbhar Bharat initiatives.**
- **Key Features**
    - **Horsepower:** 9000 HP.
    - **Top Speed:** 120 km/h.
    - **Technology:** ~90% made in India.
    - **Safety:** Equipped with Kavach (train collision avoidance system).

- **Maintenance:** Handled by Siemens for 35 years using Railigent X for predictive maintenance.

SIGNIFICANCE

- Estimated **800 million tonnes of CO_2 emissions** saved over the lifecycle of the locomotives.
- **Powered by green propulsion technology,** reducing dependence on diesel engines.
- Supports India's goal to **increase rail freight share from 27% to 45%.**
- Enhances logistics efficiency, reduces carbon footprint, and supports sustainable development goals (SDGs).
- Strengthens self-reliance in railway manufacturing and promotes high-tech employment.

SARASWATI PUSHKARALU

The 11th day of the ongoing Saraswati Pushkaralu witnessed a massive turnout of pilgrims at Kaleshwaram.

SARASWATI PUSHKARALU

- Saraswati Pushkaram or Pushkaralu is a Hindu River festival that occurs once every **12 years**, aligned with the **entry of Jupiter (Brihaspati)** into the **Gemini (Mithuna)** zodiac sign.
    - It is **observed for 12 days,** starting from the exact moment Jupiter enters the Mithuna rasi.
- The festival is dedicated to **River Saraswati,** often referred to as Antarvahini—the invisible river believed to flow beneath the **Triveni Sangam.**
- **The Triveni Sangam at Kaleshwaram** where **Godavari, Pranahita, and the invisible Saraswati** are believed to meet is a key pilgrimage site during the festival.

NJATTADI FESTIVAL

Kerala's Agriculture Minister inaugurated the 'Njattadi festival' (sapling festival).

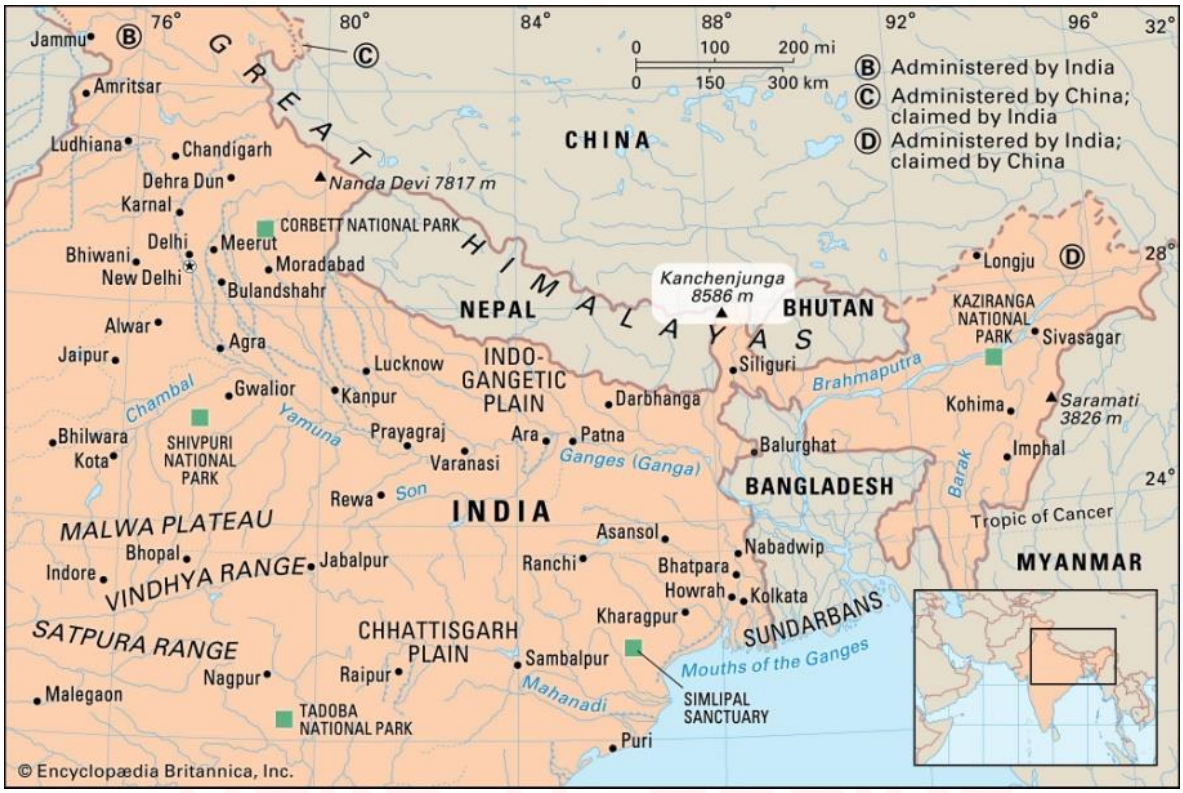
ABOUT

- Njattadi Festival is a **traditional agricultural festival celebrated in Kerala,** particularly among the farming communities.
- T**he term "Njattadi"** comes from the **Malayalam word "Njattuvela"**, which refers to a period in the Malayalam calendar that is **considered ideal for sowing paddy (rice) seeds.**
- The festival marks the **beginning of the paddy cultivation season.**
- Njattadi often features **folk songs (Vanchipattu, Njattu Pattu) and traditional dances**.

KANGCHENJUNGA MOUNTAIN

The Chief Minister of Sikkim has urged the Central Government to declare Mount Khang-chend-zonga, sacred to the people of Sikkim, as out of bounds for mountaineers.

The Sikkim government banned all climbing activities on Mt. Khang-chend-zonga through notifications in **1998 and 2001** under the **Sacred Places of Worship (Special Provisions) Act, 1991.**



ABOUT KANGCHENJUNGA

- It is the **third-highest mountain** in the world at an elevation of **8,586 metres.**
- It is located on the border between **Sikkim in India and eastern Nepal**.
- It is part of a section of the Himalayas known as the **Kangchenjunga Himal**. This section is geographically bounded by the **Tamur River in the west** and the **Teesta River in the east.**

UNESCO WORLD HERITAGE STATUS

- **The Khang-chend-zonga National Park**, located in Sikkim, was declared a UNESCO World Heritage Site in **2016** under the **Mixed category**, both cultural and natural.
- Numerous glaciers**,** such as the **26 km long Zemu Glacier,** and high-altitude lakes further enhance the park's ecological diversity.
- The park lies in the **Eastern Himalaya global biodiversity hotspot** and covers **25%** of the total area of Sikkim.

STATE-WISE LIST OF MOUNTAIN PEAKS IN INDIA

India is home to a variety of mountain peaks spread across different regions. Below is a list of notable peaks, along with their respective mountain ranges, states, and heights:

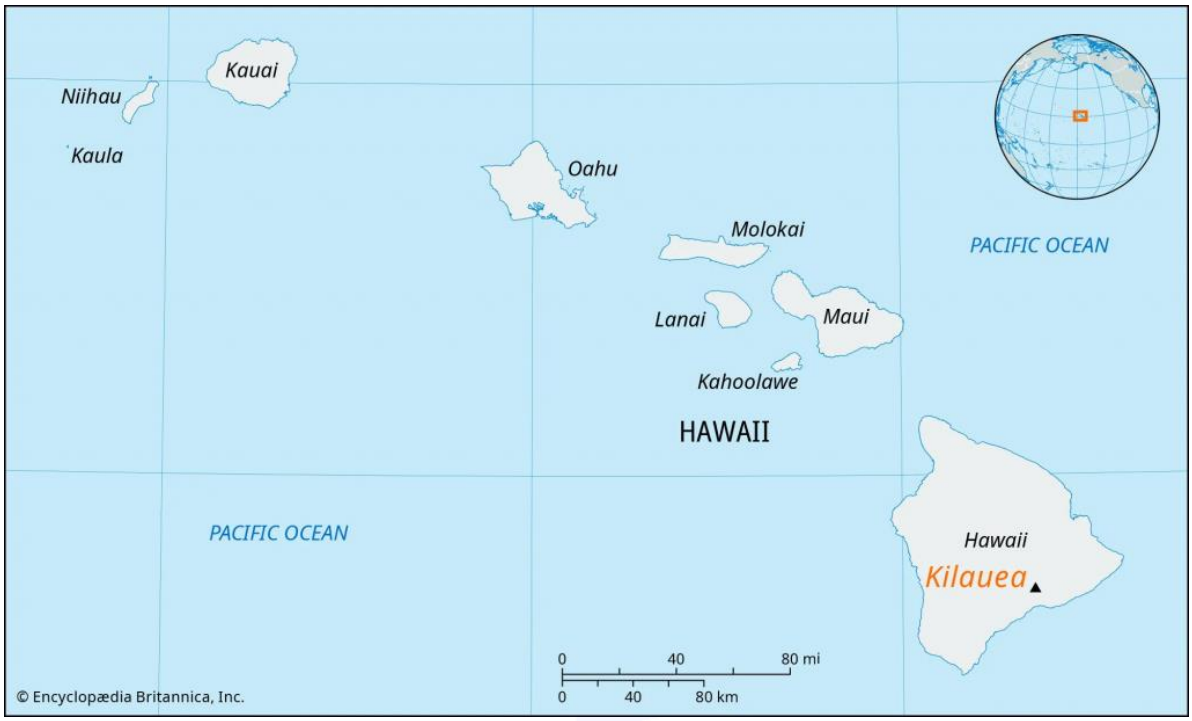
Peak	Range/Region	State	Height
Arma Konda	Eastern Ghats	Andhra Pradesh	1,680 meters
Kangto	Eastern Himalayas	Arunachal Pradesh	7,090 meters
Someshwar Fort	West Champaran District	Bihar	880 meters
Bailadila Range	Dantewada District	Chhattisgarh	1,276 meters
Sosogad	Western Ghats	Goa	1,022 meters
Girnar	Junagadh District	Gujarat	1,145 meters

Peak	Range/Region	State	Height
Karoh Peak	Morni Hills	Haryana	1,499 meters
Reo Purgyil	Western Himalayas	Himachal Pradesh	6,816 meters
K2	Karakoram	Jammu & Kashmir	8,611 meters
Parasnath	Parasnath Hills	Jharkhand	1,366 meters
Mullayanagiri	Western Ghats	Karnataka	1,925 meters
Anamudi	Western Ghats	Kerala	2,695 meters
Dhupgarh	Satpura Range	Madhya Pradesh	1,350 meters
Kalsubai	Western Ghats	Maharashtra	1,646 meters
Mount Iso	Senapati District	Manipur	2,994 meters
Shillong Peak	Khasi Hills	Meghalaya	1,965 meters
Phawngpui	Saiha District	Mizoram	2,165 meters

Peak	Range/Region	State	Height
Mount Saramati	Naga Hills	Nagaland	3,841 meters
Deomali	Eastern Ghats	Odisha	1,672 meters
Unnamed Point	Naina Devi, Rupnagar	Punjab	1,000 meters
Guru Shikhar	Aravali Range	Rajasthan	1,722 meters
Kanchenjunga	Eastern Himalayas	Sikkim	8,598 meters
Doddabetta	Nilgiri Hills	Tamil Nadu	2,636 meters
Laxmidevipalli	Deccan Plateau	Telangana	670 meters
Betalongchhip	Jampui Hills	Tripura	1,097 meters
Amsot Peak	Shivalik Hills	Uttar Pradesh	957 meters
Nanda Devi	Garhwal Himalayas	Uttarakhand	7,816 meters
Sandakphu	Eastern Himalayas	West Bengal	3,636 meters

KILAUEA VOLCANO

The **Kilauea volcano** on Hawaii's Big Island released **lava fountains over 1,000 feet high**, marking the **23rd eruption episode since December 2024**.



ABOUT KILAUEA

- It is one of **six active volcanoes** in the Hawaiian Islands. It is a shield volcano, known for effusive lava flows rather than explosive eruptions.
- It is located within the **Hawaii Volcanoes National Park**, alongside **Mauna Loa** (the largest volcano in the world).
- Although **smaller** than Mauna Loa, **Kilauea is more active** and draws frequent attention due to its **consistent volcanic activity**. It has been **erupting frequently since 1983**.

SEVEN SUMMITS

Hyderabad teenager Vishwanath Karthikey Padakanti has become the **youngest Indian and the second youngest person** in the world to complete the legendary **7 Summits challenge.**

ABOUT

- The **Seven Summits** are defined as the **highest peaks on each of the seven continents; it** ranks among the **most prestigious in global mountaineering.**
- The **seven mountain peaks are** Mt. Everest (Asia), Mt. Kilimanjaro (Africa), Mt. Elbrus (Europe), Mt. Aconcagua (South America), Mount Kosciuszko (Australia), Mt.Vinson (Antarctica) and Mt. Denali (North America).
    - Some people define 'continent' differently leading to an **alternate 'seventh summit'** i.e. **Australia: Mount Kosciuszko or Australasia: Carstensz Pyramid.**
- **Mount Everest in Asia is the tallest** of the seven, while **Mount Kosciuszko in Australia is the shortest.**
    - **The Descending order of Summits:** Mount Everest, Aconcagua, Denali, Mount Kilimanjaro, Mount Elbrus, Vinson Massif, Carstensz Pyramid and Mount Kosciuszko.

Do you know?

- **Jordan Romero**, an American mountaineer, became the **youngest person** in the world to complete the Seven Summits upon climbing **Vinson Massif** in December 2011, at the age of 15 years, 5 months, and 12 days. He broke the previous record held by George Atkinson.
- **The first person** to complete the Seven Summits was **Richard Bass, an American businessman and mountaineer, in 1985.**

JAPAN CARBON EMISSIONS TRADING SYSTEM

Japan's Parliament passed a law mandating large firms to participate in a carbon emissions trading system (ETS) starting April 2026.

WHAT IT IS?

- A **legally binding emissions trading system** (ETS) requiring large firms emitting ≥100,000 tonnes of CO_2 annually to trade carbon credits.

KEY FEATURES:

- **Mandatory participation:** For high-emission industries like power, steel, cement, paper, and chemicals.
- **Emission caps:** Each firm will receive an **annual emissions allowance**.
- **Credit mechanism:** Companies exceeding their cap must buy credits from firms emitting below limits.
- **Market-based system:** Designed to incentivize **low-carbon technologies** and emission efficiency.

SIGNIFICANCE:

- Aligns Japan with **EU's carbon market model**, encouraging corporate innovation in green tech.
- Supports Japan's **carbon neutrality by 2050** and **46% emissions cut by 2030** (baseline: 2013).
- Enhances market accountability, nudging firms to sustainable practices.

GHATAMPUR THERMAL POWER PROJECT

Prime Minister of India dedicated Unit-1 (660 MW) of the Ghatampur Thermal Power Project in Kanpur Nagar, Uttar Pradesh, marking a sig-nificant milestone in India's thermal energy expansion and infrastructure development.

LOCATION:

The power plant is located in **Ghatampur,** in **Kanpur Nagar district**, **Uttar Pradesh.**

IMPLEMENTING AGENCY:

The project is managed by **Neyveli Uttar Pradesh Power Ltd (NUPPL)** — a joint venture between: NLC India Ltd (owns 51%) and UP Rajya Vidyut Utpadan Nigam Ltd (UPRVUNL) (owns 49%).

POWER CAPACITY:

- The project has **3 power units**, each of **660 MW**.
- Total capacity is **1,980 MW**.
- **Total Cost:** The project cost is **₹21,780.94 crore**.

POWER DISTRIBUTION:

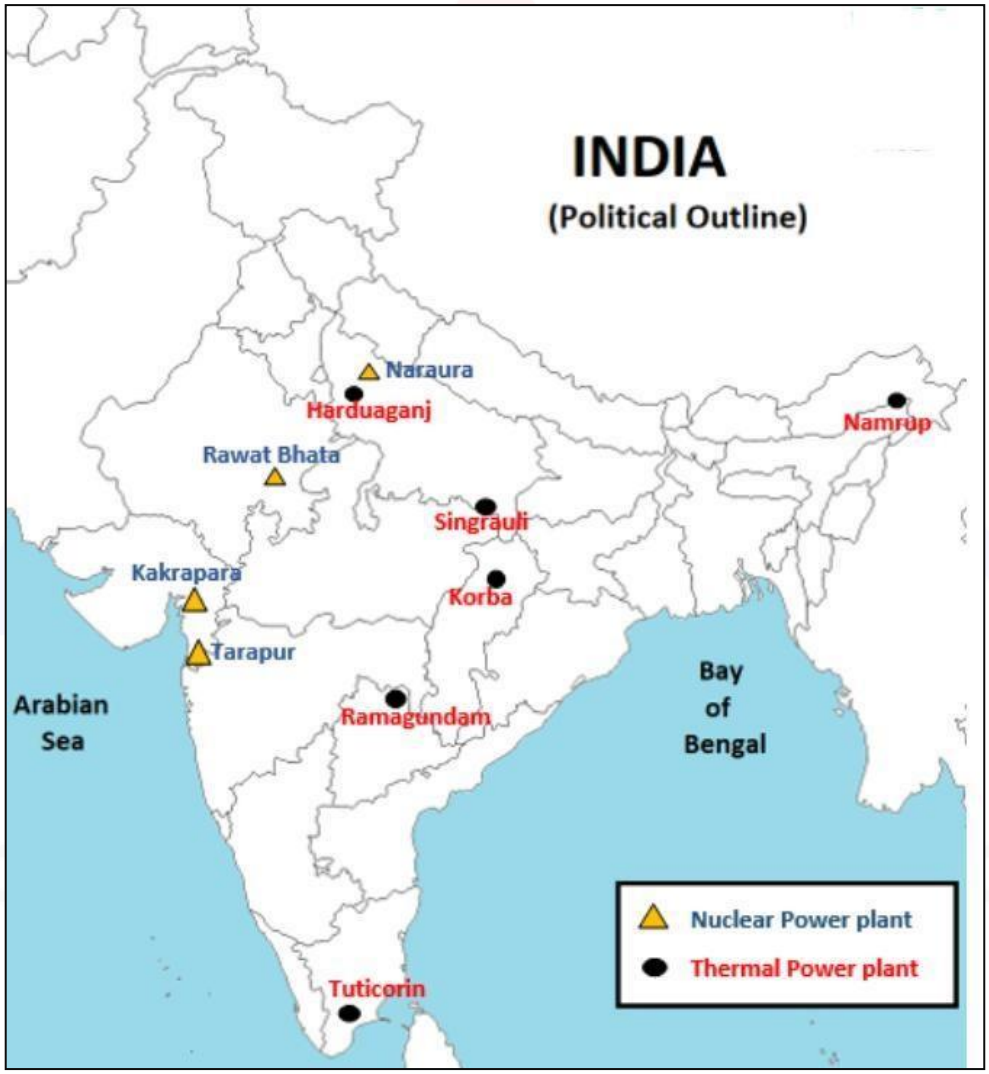
- **75.12% (1487.28 MW)** of electricity will go to **Uttar Pradesh**.
- 24.88% (492.72 MW) will go to Assam, depending on the transfer of shares.

MAIN FEATURES:

- **Efficient Technology:** Uses supercritical boilers with 88.81% efficiency, which saves fuel and increases output.
- **No Wastewater Release:** The plant has a Zero Liquid Discharge (ZLD) system, so no water is released into rivers or land.
- **Pollution Control:** Uses modern systems to cut air pollution:
    - **SCR (Selective Catalytic Reduction)** reduces harmful NOx gases.
    - **FGD (Flue Gas Desulphurization)** reduces SOx gases from smoke.

- **CEMS & AAQMS** track emissions and air quality 24/7.

- **Water Saving:**
  - 288 km of canal is lined to save **195 million litres** of water per day.
  - The plant stores up to **46 lakh cubic meters** of raw water.
- **Coal Supply:**
  - Has its own coal mine producing **9 million tonnes** per year.
  - Can store coal for **30 days of full operation (10.165 lakh tonnes).**



LONZA VALLEY

A massive glacier collapse in Switzerland's Loetschental valley on May 28, 2025, buried Blatten village under ice and rock debris, triggering flood fears as River Lonza's flow is blocked.

LOCATION:

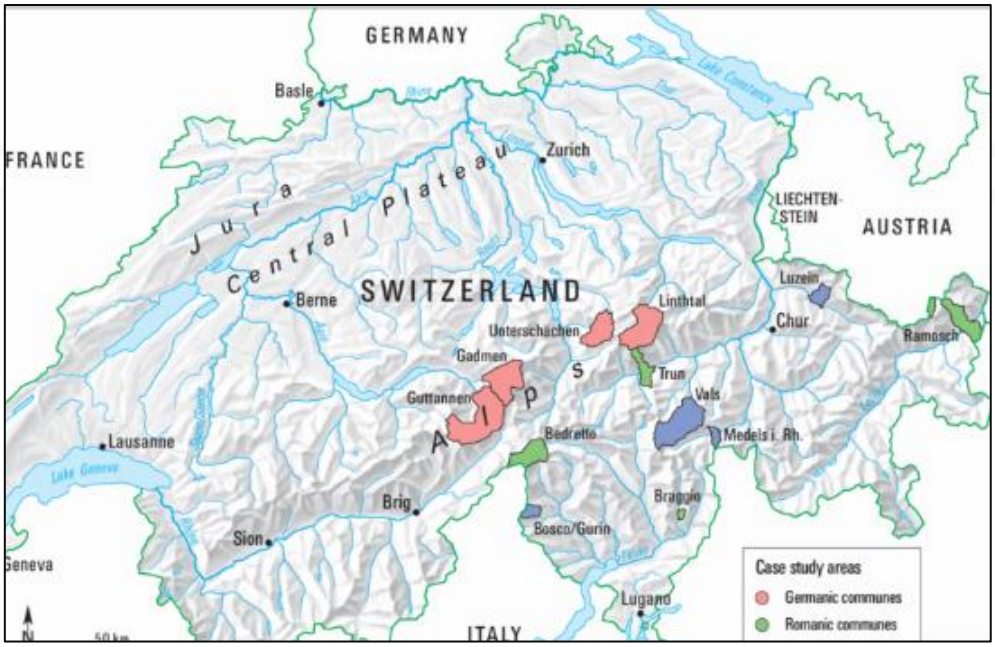
Loetschental (Lonza) Valley is located in the canton of Valais, in southern Switzerland, within the Alpine region.

COUNTRY INVOLVED:

Switzerland is directly affected, with international attention on climate-induced glacial hazards.

KEY FEATURES:

- River Lonza flows through the valley, fed by Alpine glaciers.
- The valley is part of a fragile high-altitude ecosystem highly sensitive to global warming.
- It houses small Alpine settlements like Blatten, known for their proximity to glaciers and scenic landscapes.
- It is vulnerable to glacial retreat, permafrost thawing, and associated hazards like landslides and flash floods.



SCRIPPS NATIONAL SPELLING BEE

Faizan Zaki, a 13-year-old Indian-American student from Texas, won the 2025 **Scripps National Spelling Bee** by correctly spelling "**eclairc-issement**" in the 21st round.

Zaki is only the fifth speller in Bee history to win after coming in second place the year before.

SCRIPPS NATIONAL SPELLING BEE

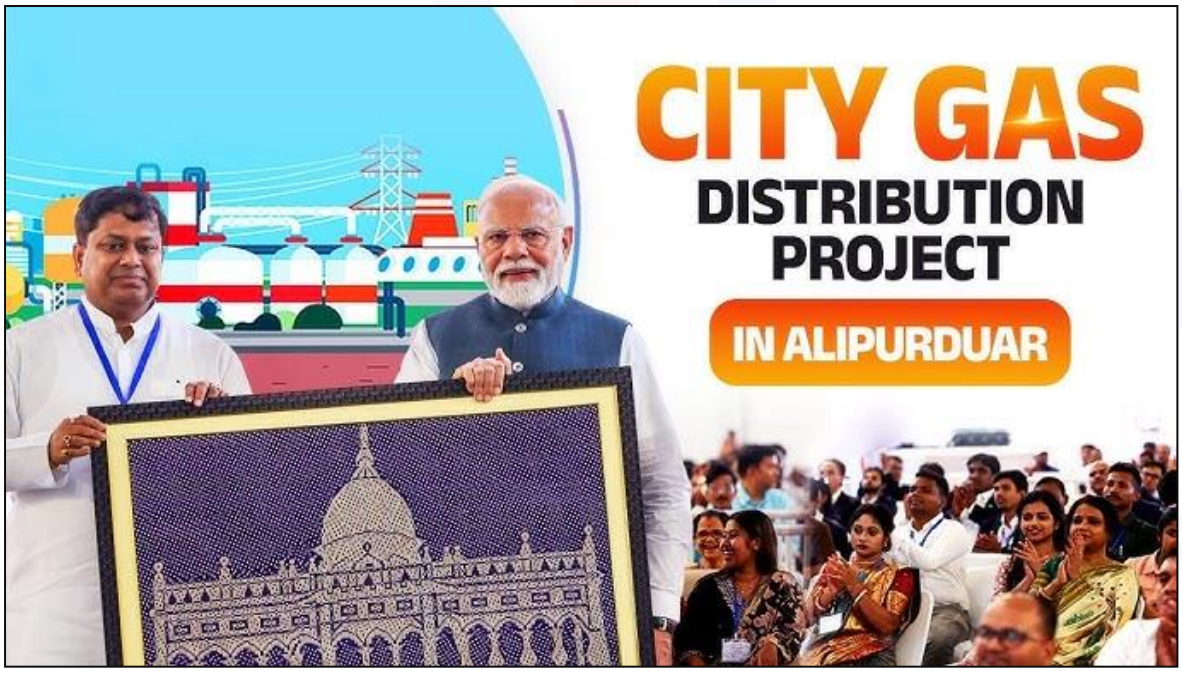
- It is a U.S. educational program and it aims to help students enhance spelling, expand vocabulary, understand concepts, and develop proper English usage.
- It is run as a not-for-profit by The E.W. Scripps Company.
- The first Spelling Bee competition was held in 1925 in Washington, DC, and only nine kids participated.
    - This year, more than 200 students competed.
- Nupur Lala was the first Indian-American to win the competition in 1999.

CITY GAS DISTRIBUTION (CGD) PROJECT

Prime Minister Narendra Modi laid the foundation stone for a ₹1,010 crore City **Gas Distribution (CGD) project in Alipurduar and Cooch Behar districts of West Bengal**, aiming to expand clean energy infrastructure.

MORE ABOUT THE NEWS

- The PM outlined India's progress in expanding its gas network, noting that city gas services have grown from 66 districts in 2014 to over 550 today.
- He credited schemes like **Pradhan Mantri Ujjwala Yojana** for improving the lives of poor women by providing LPG access and reducing indoor pollution.
- He also stressed the importance of the **Urja Ganga project** in bringing gas pipelines to eastern India, boosting energy access and job creation.



CITY GAS DISTRIBUTION (CGD) PROJECT

- The City Gas Distribution (CGD) project, worth over Rs 1010 crore, aims to provide **Piped Natural Gas (PNG)** to more than 2.5 Lakh households, over 100 commercial establishments and industries .

- It will also provide **Compressed Natural Gas (CNG)** to vehicular traffic by establishing around 19 CNG stations in line with the Minimum Work Program (MWP) targets stipulated by the Government.
- It falls under the **Minimum Work Programme (MWP) targets** set by the government to expand India's gas-based economy.
- It will provide convenient, reliable, environment-friendly and cost-effective fuel supply and create employment opportunities in the region.

REVIVAL OF THE RUSSIA-INDIA-CHINA (RIC)

Russia is actively pushing for the revival of the Russia-India-China (RIC) trilateral format, a strategic dialogue that has been largely dormant for nearly five years.

WHAT IS THE RIC FORMAT?

- Initiated in the late 1990s by former Russian Prime Minister Yevgeny Primakov, the RIC format was conceived as a strategic counterweight to Western dominance.
- It facilitated over 20 ministerial-level meetings, promoting cooperation in foreign policy, economics, and security.
- The format lost momentum following the 2020 Galwan Valley incident, which significantly strained India-China relations.

REASONS FOR RUSSIA'S PUSH TO REVIVE RIC

- **Easing India-China Tensions:** Russian Foreign Minister Sergey Lavrov has explicitly stated that the time is ripe for RIC's revival due to signs of de-escalation in India-China border tensions.
- **Countering Western Influence:** Russia views the increasing influence of Western alliances like NATO and the Quad (US, Japan, Australia, India) as a threat to regional stability.
- **Strengthening Eurasian Security Architecture:** Russia aims to promote a "single and equitable system of security and cooperation in Eurasia" through the revived RIC. This aligns with Moscow's broader objective of establishing a multipolar world order and reducing reliance on Western-centric institutions.

IMPORTANCE OF RUSSIA-INDIA-CHINA (RIC) TRILATERAL FORMAT

- **Geographic and Economic Scale:**
    - The RIC countries collectively occupy over 19% of the global landmass & contribute to over 33% of global GDP.
    - All three nations are members of crucial international groupings such as BRICS, G20, and the Shanghai Cooperation Organization (SCO).
- **Promotion of Multilateralism and a Multipolar World Order:**
    - RIC offers a significant non-Western voice on global issues.
    - Russia and China are permanent members of the UN Security Council, giving the RIC considerable diplomatic and strategic leverage on the international stage.
- **Eurasian Integration and Connectivity:**
    - The RIC format can complement and potentially accelerate major regional integration projects like International North-South Transport Corridor (INSTC) & Eurasian Economic Union (EAEU), led by Russia.
    - It will enhance regional stability across Eurasia.

CHALLENGES TO THE RIC REVIVAL

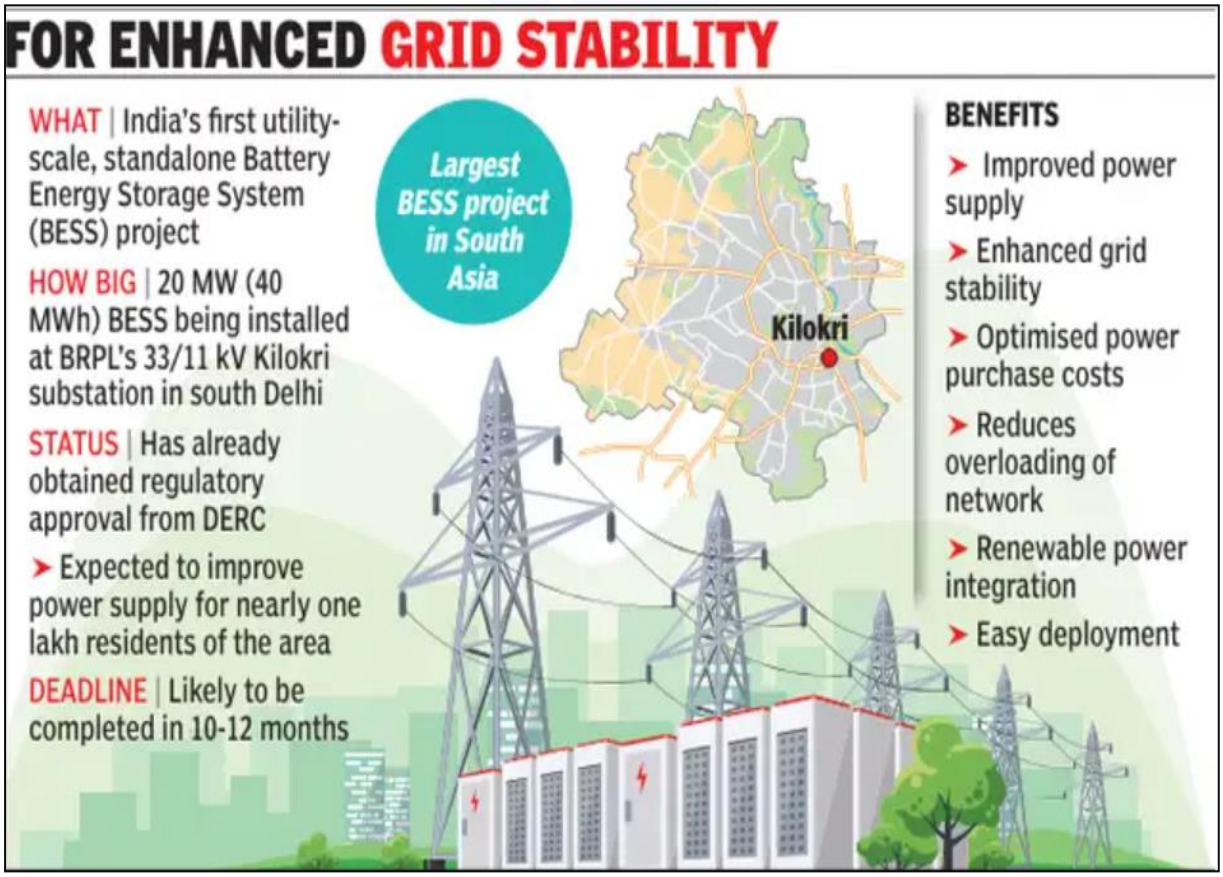
- **Lingering India-China Border Disputes:** Despite recent diplomatic engagements, unresolved border issues between India and China remain a significant hurdle. A persistent trust deficit could impede the effectiveness of the RIC.
- **India's Strategic Alignments:** India's active participation in the Quad and its deepening ties with Western nations demonstrate its strategic balancing act. Navigating close alignment with both RIC and Western alliances could pose diplomatic complexities for India.
- **Russia-China Dynamics:** Russia's growing closeness with China, especially in the wake of the Ukraine conflict, might raise concerns in India about the impartiality of the RIC platform and its potential to become unduly influenced by Beijing.

SOUTH ASIA'S 'LARGEST' BATTERY ENERGY STORAGE SYSTEM (BESS) INAUGURATED

The Delhi Power Minister inaugurated a 20-MW **Battery Energy Storage System (BESS)** at Kilokari, South Delhi.

BATTERY ENERGY STORAGE SYSTEMS (BESS)

- Battery Energy Storage Systems (BESS) are **large-scale batteries used to store energy from renewable sources** like solar and wind for later use.
- They vary in size, design, and technology, and play a crucial role in making green energy more reliable and flexible.
- They can also feed excess power back to the main grid.
- There are **three main types**: Pre-packaged battery modules (just batteries), pre-packaged systems (batteries plus components like chargers or inverters), and custom-made battery banks (individual batteries assembled with additional components).



BESS IN DELHI

- It is the **largest utility-scale system in South Asia** and India's first commercially approved energy storage system.
- The 40 MWh system enhances grid stability, reduces peak load stress, integrates renewable energy, and optimizes power purchase costs.
- It uses **Lithium Iron Phosphate (LFP) technology,** known for safety and thermal stability, and operates efficiently under Delhi's varied weather conditions.

NEED FOR BATTERY ENERGY STORAGE SYSTEMS (BESS) IN INDIA

- **Integrating Renewable Energy into the Grid:** India has ambitious goals of 500 GW of non-fossil capacity by 2030 and net zero by 2070. BESS stores surplus energy during peak generation (e.g., daytime solar) and releases it during demand spikes (e.g., night or cloudy days).
- **Reducing Grid Congestion and Curtailment:** BESS can decongest the grid, prevent curtailment, and increase utilization of RE infrastructure.
- **Supporting Round-the-Clock (RTC) Renewable Power:** India is pushing for RTC green power tenders, where RE + storage competes with coal in reliability.
- **Enabling Electric Mobility and Charging Infrastructure:** BESS can power fast-charging stations, reduce grid stress from EV loads, and enable vehicle-to-grid (V2G) integration.
- **Economic Opportunity and Innovation:** India has launched a Production-Linked Incentive (PLI) scheme for Advanced Chemistry Cell (ACC) batteries worth ₹18,100 crore that can help in domestic manufacturing & create green jobs.

NIGERIA

111 people died in Nigeria Floods

NIGERIA

- **Official Name**: Federal Republic of Nigeria
- **Location**: West Africa
- **Capital**: Abuja
- **Independence**: October 1, 1960 (from the UK)
- **Population**: Over 220 million (2023 est.) – **most populous country in Africa**
- **Currency**: Nigerian Naira (~~₦~~)
- **Language**: English (official); Hausa, Yoruba, Igbo, and other regional languages
- **Religion**: Islam (~50%), Christianity (~48%), others (~2%)

POLITICAL FEATURES OF NIGERIA

FORM OF GOVERNMENT

- **Federal Presidential Republic** with three arms: Executive, Legislature, Judiciary.
- Modeled on the **U.S. system of separation of powers**.

CONSTITUTION

- Current constitution adopted in **1999**.
- Establishes **multi-party democracy**, **fundamental rights**, **rule of law**, and **decentralized governance**.

EXECUTIVE BRANCH

- **President**: Head of state and government; elected by popular vote (4-year term, max two terms).
- **Vice-President** and **Federal Executive Council** assist in governance.
- **Example: Bola Ahmed Tinubu** is the President as of 2023.

LEGISLATURE

- Bicameral **National Assembly**:
    - **Senate**: 109 seats (3 per state + 1 for FCT)
    - **House of Representatives**: 360 members

- Enacts laws, approves budget, and checks executive power.

JUDICIARY

- Independent, based on **common law**, **Islamic law** (in some states), and **customary law**.
- **Supreme Court** is the highest judicial body.
- **Other courts:** Court of Appeal, Federal and State High Courts, Sharia Courts.

FEDERAL STRUCTURE

- **Nigeria is divided into:**
  - **36 states**
  - **774 Local Government Areas (LGAs)**
  - **Federal Capital Territory (FCT)**, Abuja

GEOPOLITICAL ZONES

- For administrative convenience, Nigeria is divided into **6 zones**:
  - North Central
  - North East
  - North West
  - South East
  - South South

- South West

MAJOR POLITICAL ISSUES

- Ethnic and religious tensions
- Corruption and misgovernance
- Electoral violence and voter apathy
- Boko Haram insurgency in the northeast
- Secessionist movements like **IPOB (Biafra)** in the southeast

PHYSICAL FEATURES OF NIGERIA

LOCATION AND SIZE

- **Latitude**: Between 4°N and 14°N
- **Longitude**: Between 3°E and 15°E
- **Area**: ~923,768 sq km (14th largest in Africa; 31st in the world)
- Bordered by:
  - West: **Benin**
  - North: **Niger**
  - East: **Chad and Cameroon**
  - South: **Atlantic Ocean (Gulf of Guinea)**

MAJOR PHYSICAL REGIONS

- Nigeria has four main geographical zones:

LOWLANDS (COASTAL BELT)

- Includes **Lagos**, **Port Harcourt**, and **Calabar**
- **Swampy mangroves**, **creeks**, **tropical rainforests**
- Rich in oil and gas (Niger Delta)

UPLAND PLATEAU

- **Jos Plateau** in central Nigeria (avg. elevation 1,200 m)
- Volcanic in origin, with rich mineral deposits (tin, columbite)

NORTHERN PLAINS

- **Sokoto and Borno basins**
- Dry savanna, scattered vegetation
- Important for agriculture (groundnuts, millet)

EASTERN HIGHLANDS

- **Mambilla Plateau** (Taraba State)

- Home to **Chappal Waddi**, Nigeria's highest point (2,419 m)

MAJOR RIVERS AND WATER BODIES

- **River Niger**: Originates in Guinea; flows through Nigeria to Atlantic
- **River Benue**: Joins Niger at Lokoja
- **Lake Chad**: In the northeast; shrinking due to climate change
- **Cross River**, **Ogun River**, and **Kaduna River** are other notable rivers.

CLIMATE ZONES

- **Equatorial (South)**: Hot, humid, heavy rainfall (over 2,000 mm/year)
- **Tropical Savanna (Central)**: Alternating wet and dry seasons
- **Semi-arid and Arid (North)**: Sparse rain, desertification

VEGETATION ZONES

- **Mangrove forests** in Niger Delta
- **Rainforests** in the south (now heavily deforested)
- **Guinea Savanna** (middle belt): Dominant for agriculture
- **Sudan and Sahel Savanna** in the north: Risk of desert encroachment

SOIL AND AGRICULTURE

- **Fertile alluvial soil** in river basins and delta regions
- **Red lateritic soils** on uplands and plateaus
- **Crops**: Cassava, yams, rice, cocoa (south); millet, maize, sorghum (north)

NATURAL RESOURCES

- **Oil & Gas**: 90% of exports; major reserves in Niger Delta
- **Coal**: Enugu region
- **Tin and Columbite**: Jos Plateau
- **Limestone**, **iron ore**, **lead**, **zinc** also found

NATURAL HAZARDS

- **Floods**: Particularly during rainy season in Niger/Benue basins
- **Desertification**: Northern states like Yobe, Borno, and Kano
- **Oil spills and pollution** in the Niger Delta
- **Gully erosion**: Severe in southeastern states like Anambra

DISCOVERY OF THREE TOMBS IN LUXOR

Egyptian archaeologists have discovered **three ancient tombs in the Dra Abu al-Naga necropolis in Luxor**, dating back to the New Kingdom period (1550–1070 BC).

LUXOR AND DISCOVERY OF TOMBS

- It is located on the **east bank of the Nile River in Egypt**.
- It is home to numerous historic landmarks, including the Luxor Temple, Karnak Temples, the Valley of the Kings and Queens, and several funerary temples and noble tombs.

- The newly discovered tombs belonged to high-ranking officials:
  - **Amum-em-Ipet** from the Ramesside period, who served in the estate of Amun;
  - **Baki,** a grain silo supervisor from the 18th Dynasty;
  - **"S,"** a senior official and mayor of the northern oases.
- These tombs contain courtyards, halls, and burial shafts, although some are damaged or incomplete.

- Various artefacts and statues were also found, with ongoing research aimed at revealing more about the tombs' occupants.

CHOLERA

A cholera outbreak has killed many people in the war-torn Sudan.

CHOLERA

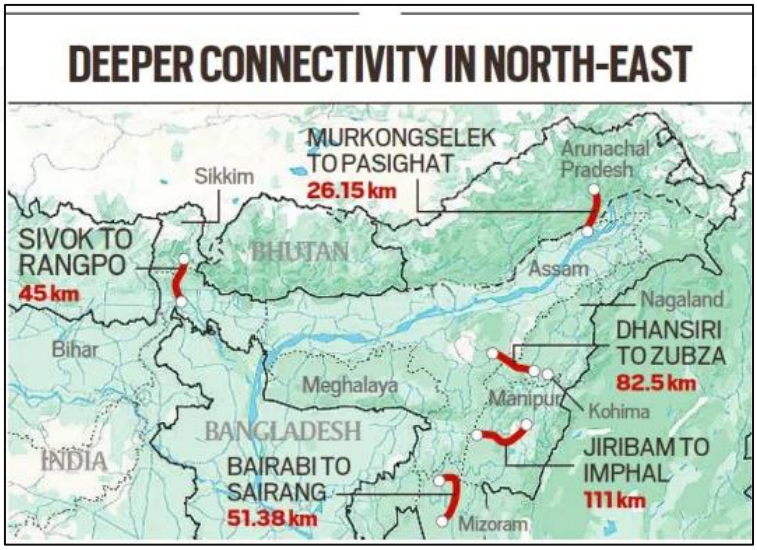
- It is a **serious diarrheal illness** caused by ingesting food or water contaminated with the **bacterium Vibrio cholerae**.
- It remains a significant global public health concern, reflecting deep social and economic inequalities.
- **Symptoms**: Cholera typically causes sudden, severe watery diarrhea that can lead to death within hours if not treated.
- **Effect**: A 2024 World Health Organization (WHO) report noted that cholera deaths have shown an uptick in recent years and attributed the cause to climate change and poor sanitation.
- **Preventing** cholera and other waterborne diseases relies heavily on access to clean water, adequate sanitation, and proper hygiene.
    - While most cholera cases involve mild to moderate diarrhea and **can be treated effectively with oral rehydration solution (ORS)**, the illness can escalate quickly.

AIZAWL JOINS NATIONAL RAILWAY NETWORK

In a major boost for connectivity in the North-East, Mizoram's capital Aizawl is now linked to the national railway network via the **Bairabi–Sairang line.**

ABOUT THE BAIRABI-SAIRANG LINE

- The **51.38-km railway project** extends rail services from Bairabi in Kolasib district—**Mizoram's only previous railhead**—up to Sairang, a satellite town of Aizawl, around 20 km from the city.
- This development makes Mizoram the **fourth North-Eastern state** to have its capital connected by rail, after **Assam, Tripura, and Arunachal Pradesh**. Earlier, trains could only reach up to **1.5 km** inside Mizoram.
- The Bairabi–Sairang line is part of a larger push by the Ministry of Railways to connect **all North-East state capitals** and improve regional infrastructure.
- This milestone is expected to bring greater economic opportunities, improve transport access, and strengthen integration between the **North-East and the rest of India**.



EXERCISE NOMADIC ELEPHANT

The Indian Army is going to have the 17th **edition** of the India-Mongolia Joint Military **Exercise NOMADIC ELEPHANT at Ulaanbaatar, Mongolia.**

ABOUT THE EXERCISE

- Exercise NOMADIC ELEPHANT is an **annual bilateral military exercise** conducted alternately in **India and Mongolia** since **2006**. The last edition of the same exercise was held in Meghalaya, India in 2024.
- The **aim of the exercise** is to enhance interoperability between the two forces while employing a joint task force in **semi conventional operations** in semi urban/ mountainous terrain under **United Nations mandate**.

AMAZON RAIN FORESTS

The recent release of the book **"How to Save the Amazon",** completed posthumously in honor of British journalist Dom Phillips, brings renewed global attention to the significance and fragility of the Amazon Rainforest.

AMAZON RAIN FORESTS

- **Location:** The region belongs to **nine nations** of the **South American** continent.
    - It is bounded by the **Guiana Highlands** to the north, the **Andes Mountains** to the west, the **Brazilian central plateau** to the south, and the **Atlantic Ocean** to the east.
- **Area Covered:** The majority of the forest, 60%, is in **Brazil,** followed by **Peru** with 13%, **Colombia** with 10%, and with minor amounts in **Bolivia, Ecuador, French Guiana, Guyana, Suriname and Venezuela.**
- **Climate:** Hot and humid climate with temperatures of **26-30°C** throughout the year.
    - There are no periodic seasons. The precipitation ranges from 2,000 mm to 10,920 mm annually.
- **Tribes:** Yanomamo, Kayapo, Akuntsu, Matses, Tupi etc.

- **Fauna:** Anaconda, Jesus' lizard, howler monkey, golden lion tamarin, jaguar, sloth, spider monkey, Amazon River dolphin, toucan and the scarlet macaw, poison dart frog and the glass frog.
- **Flora:** Moist broadleaf tropical rainforest like myrtle, laurel, palm, acacia, rosewood, Brazil nut, rubber tree, mahogany and Amazonian cedar.

SIGNIFICANCE OF THE RAINFORESTS

- **Lungs of the planet:** Rainforests generate about **20%** of the world's oxygen and its trees play a key role in reducing pollutant levels.
- **Fight climate change:** They act as a crucial buffer in the global fight against climate change as it holds tremendous capacity to store carbon.
- **Medicinal Properties:** Many of these plants contain bioactive compounds capable of treating diseases that are not yet curable, especially cancer.

THREAT TO THE FORESTS

- **Climate Change:** Due to climate change the forests are witnessing various challenges like changes in rainfall patterns, pollution etc.
- **Deforestation:** The size of the Amazon forest shrank dramatically as a result of settlers' clearance of the land to obtain lumber and to create grazing pastures and farmland.
- **Wildfires:** It causes threat to the survival of ecosystems and biodiversity. The 2019 forest fires in the region have led to widespread devastation in the region.

UPSC EDITORIAL ANALYSIS

THE LANCET STUDY ON CHILD SEXUAL VIOLENCE

INTRODUCTION

A landmark global study published in The Lancet has drawn attention to a deeply distressing reality: a high prevalence of sexual violence against children across the world.

Covering data from 204 countries between 1990 and 2023, the study is a wake-up call for policymakers, law enforcement agencies, educators, and society at large.

Particularly for India, where a third of girls and one-seventh of boys face some form of sexual abuse before age 18, the findings underscore the urgent need for a comprehensive, multi-pronged policy response.

KEY FINDINGS OF THE LANCET STUDY (2024)

- **Prevalence of CSA**: The study reveals that over 370 million girls and women worldwide, or one in eight, were raped or sexually assaulted before turning 18. **When including non-contact sexual violence, this number increases to 650 million, or one in five.**
- **Age of Vulnerability**: Most childhood sexual abuse occurs between ages 14 and 17, leading to severe long-term impacts such as mental health issues and substance abuse problems.

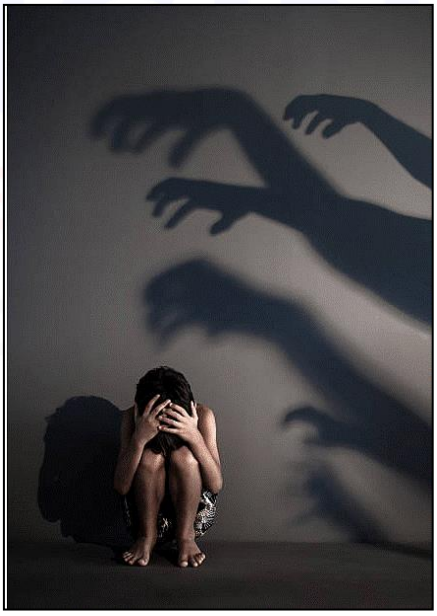
- **Nearly 50% of child sexual abuse cases occur before the age of 15.**
- **18.9% of women and 14.8% of men** globally experienced sexual violence before 18.
- Among youth aged **13–24 who had experienced abuse, 67% of females and 72% of males reported the first incident happened before 18.**

- **Underreporting and Stigma**: The study emphasizes that stigma, inadequate data collection, and measurement challenges hinder the understanding and addressing of CSA.

India-Specific Findings:

- Nearly 33% of girls and 14% of boys under 18 reported experiences of sexual abuse.
- These figures are comparable to high-income countries like the US, despite India's different socio-economic context.

UNDERSTANDING THE CONTEXT IN INDIA



- **High Incidence Rates**: According to the National Crime Records Bureau (NCRB) report, there were 64,469 reported cases of children sexually abused and 38,444 children raped in India in 2022.
- **Underreporting**: Societal taboos, fear of stigma, and lack of awareness contribute to significant underreporting of CSA cases in India.
- **Judicial Backlog**: India has a total of 243,237 child sexual abuse (CSA) cases pending in it fast-track courts as of January 2023. Out of the 268,038 CSA cases that were under trial, only 8,909 (a mere 3%) resulted in a conviction.

LEGAL FRAMEWORK IN INDIA: POCSO ACT

- **Overview**: The Protection of Children from Sexual Offences (POCSO) Act, enacted in 2012, provides a comprehensive legal framework to protect children from sexual offenses.
- **Key Provisions**:
    - Defines various forms of sexual abuse, including penetrative and non-penetrative assault, sexual harassment, and pornography.
    - Establishes Special Courts for speedy trial of offenses under the Act.
    - Mandates child-friendly procedures during the judicial process.
- **Implementation Gaps**:
    - Support persons are not being appointed in most POCSO cases. The Supreme Court noted that in 96% of cases, a support person was not provided to the victim.
    - POCSO courts have not been designated in all districts.
        - **As of 2022, 408 POCSO courts have been set up in 28 States as part of the Government's Fast Track Special Court's Scheme.**

WHY ARE INDIA'S NUMBERS HIGH?

- **Societal Factors**:
  - Deep-rooted patriarchal norms and gender inequality.
  - Taboos surrounding discussions on sexuality and abuse.
- **Lack of Awareness**:
  - Limited sex education in schools.
  - Insufficient awareness campaigns on CSA prevention.
- **Inadequate Reporting Mechanisms**:
  - Fear of stigma and retaliation discourages victims from reporting.
  - Lack of child-friendly reporting channels.

Offence	POCSO Act, 2012	2019 Bill
Use of child for pornographic purposes	**Maximum:** 5 years	**Minimum:** 5 years
Use of child for pornographic purposes resulting in penetrative sexual assault	**Minimum:** 10 years **Maximum:** life imprisonment	**Minimum: 10** years (in case of child below 16 years: 20 years) **Maximum:** life imprisonment

Use of child for pornographic purposes resulting in aggravated penetrative sexual assault	Life imprisonment	**Minimum:** 20 years **Maximum:** life imprisonment, or death.
Use of child for pornographic purposes resulting in sexual assault	**Minimum:** Six years **Maximum:** Eight years	**Minimum:** Three years **Maximum:** Five years
Use of child for pornographic purposes resulting in aggravated sexual assault	**Minimum:** Eight years **Maximum:** 10 years	**Minimum:** Five years **Maximum:** Seven years

GEOGRAPHIC AND SOCIO-ECONOMIC VARIATION IN INDIA

- **Urban vs. Rural Disparities**:
    - Urban areas may have better reporting mechanisms, but CSA remains prevalent.
    - Rural areas face challenges like lack of awareness, limited access to legal aid, and entrenched societal norms.

- **State-wise Variations**:

- Certain states report higher CSA cases due to better reporting systems, while others may have lower reported cases due to underreporting.

- **Socio-Economic Factors**:
  - Children from economically disadvantaged backgrounds are more vulnerable due to factors like child labor, lack of supervision, and limited access to education.

IMPACT ON VICTIMS

- **Psychological Effects**:
  - Victims often suffer from depression, anxiety, post-traumatic stress disorder (PTSD), and other mental health issues.
- **Physical Health Consequences**:
  - Injuries, sexually transmitted infections, and unwanted pregnancies.

- **Educational and Social Impacts**:
  - Dropout from schools, social ostracization, and difficulties in forming relationships.
- **Long-term Consequences**:
  - Increased risk of substance abuse, self-harm, and suicidal tendencies.

GAPS IN PREVENTION AND SUPPORT

- **Lack of Comprehensive Sex Education**:
  - Absence of age-appropriate sex education in schools' hampers awareness.
- **Inadequate Support Systems**:
  - Limited availability of counseling services and rehabilitation centers for victims.
- **Judicial Delays**:
  - Backlog of cases leads to prolonged trauma for victims and delays in justice.
- **Insufficient Training for Law Enforcement**:
  - Police and judicial officers often lack specialized training to handle CSA cases sensitively.

GLOBAL COMPARISONS AND LEARNINGS

- **Global Statistics**:
  - The UNICEF report indicates that over 370 million girls and women worldwide were raped or sexually assaulted before turning 18.
- **Best Practices from Other Countries**:
  - **United Kingdom**: Comprehensive sex education and child protection policies in schools.
  - **Sweden**: Strong emphasis on children's rights and mandatory reporting laws.
  - **Australia**: National frameworks for child protection and specialized training for professionals.
- **Applicability to India**:
  - Adopting comprehensive sex education curricula.
  - Implementing mandatory reporting laws.
  - Establishing specialized training programs for professionals dealing with children.

WAY FORWARD

- **Strengthening Legal Frameworks**:
  - Amendments to the POCSO Act to address current gaps.
  - Ensuring the establishment of Special Courts in all districts.
- **Enhancing Awareness and Education**:
  - Integrating comprehensive sex education in school curricula.
  - Conducting nationwide awareness campaigns on CSA prevention.
- **Improving Support Systems**:
  - Establishing more counseling centers and rehabilitation facilities.
  - Training law enforcement and judicial officers in child-sensitive approaches.
- **Community Involvement**:
  - Engaging community leaders and organizations in CSA prevention efforts.
  - Encouraging community-based reporting mechanisms.
- **Monitoring and Evaluation**:
  - Regular audits of CSA cases and judicial processes.
  - Implementing feedback mechanisms for continuous improvement.

Addressing child sexual violence requires a multi-faceted approach involving legal reforms, education, community engagement, and robust support systems. By learning from global best practices and tailoring them to the Indian context, we can work towards creating a safer environment for our children.

THE ATTACK ON HARVARD AND THE CRISIS OF AMERICAN SOFT POWER

INTRODUCTION

America's university system has historically served as one of its most powerful tools of soft power.

Institutions like Harvard University have embodied values such as pluralism, freedom of thought, academic excellence, and innovation, attracting global talent and contributing to U.S. leadership on the world stage.

However, under the administration of President Donald Trump, this foundation came under ideological and political assault, with significant implications for international students, academic freedom, and U.S. global influence.

AMERICA'S UNIVERSITY SYSTEM AS A SOFT POWER ENGINE

- **Soft power**, a term coined by Joseph Nye, **refers to the ability of a country to attract and co-opt rather than coerce.**
- **American universities, especially Ivy League institutions like Harvard, MIT, and Stanford, have been central to this soft power:**
    - They attract over **1 million international students** annually.
    - These students often carry back American values of liberty, democracy, and innovation to their home countries.
    - Institutions act as **intellectual and cultural ambassadors**, spreading American ideals globally.

HARVARD'S SYMBOLIC ROLE IN U.S. ACADEMIA AND IDEALS

- Founded in 1636, **Harvard University is one of the oldest and most prestigious institutions in the world.**
- It symbolizes:
    - **Intellectual freedom** and rigorous scholarship.
    - **Pluralism**, with a diverse student body from 150+ countries.
    - **Democratic engagement**, with student activism often taking center stage in national debates.
- Harvard, along with similar institutions, contributes significantly to **scientific innovation** and **public policy research**, influencing global discourses.

TRUMP ADMINISTRATION'S IDEOLOGICAL OFFENSIVE

- Under Donald Trump, American universities faced significant
- **Political pressure and ideological scrutiny:**
    - The administration accused them of being **left-leaning bastions**, allegedly intolerant to conservative viewpoints.
    - Harvard, in particular, became a **symbolic target** due to its elite status and vocal progressive faculty and student body.

SPECIFIC MOVES AGAINST HARVARD:

- **Freeze on Federal Grants**:
    - About **$2.2 billion in federal funding** was withheld to financially destabilize Harvard over issues of compliance.
- **Imposed Administrative Demands**:
    - Demands included the monitoring of students, external oversight of departments, and submission of **race and nationality-specific admission data**.
    - These steps were widely viewed as attempts to **undermine institutional autonomy** and **control academic discourse**.

THE PALESTINE PROTEST AND STUDENT ACTIVISM

- Student protests on issues like **Palestine and civil rights** were painted by the administration as illegal or unpatriotic.
- This labeling reflects a broader pattern of **delegitimizing dissent** and **redefining national identity** in line with the MAGA (Make America Great Again) ideology.

CRACKDOWN ON INTERNATIONAL STUDENTS

- In a sweeping and controversial move:
    - The Trump administration **banned the admission of foreign students** under specific visa conditions.
    - Roughly **6,800 international students at Harvard** (including 750 Indians) faced uncertainty and potential deportation.
    - Student visa policies were weaponized, not just for immigration control, but to **undermine university autonomy** and enforce ideological conformity.
- This has global ramifications:
    - Loss of **cultural diversity** and **academic talent** in American campuses.

- Diminished appeal of the U.S. as an **educational destination**.
- Rise in academic migration to countries like **Canada, the UK, Germany, and Australia**.

RESISTANCE AND LEGAL PUSHBACK

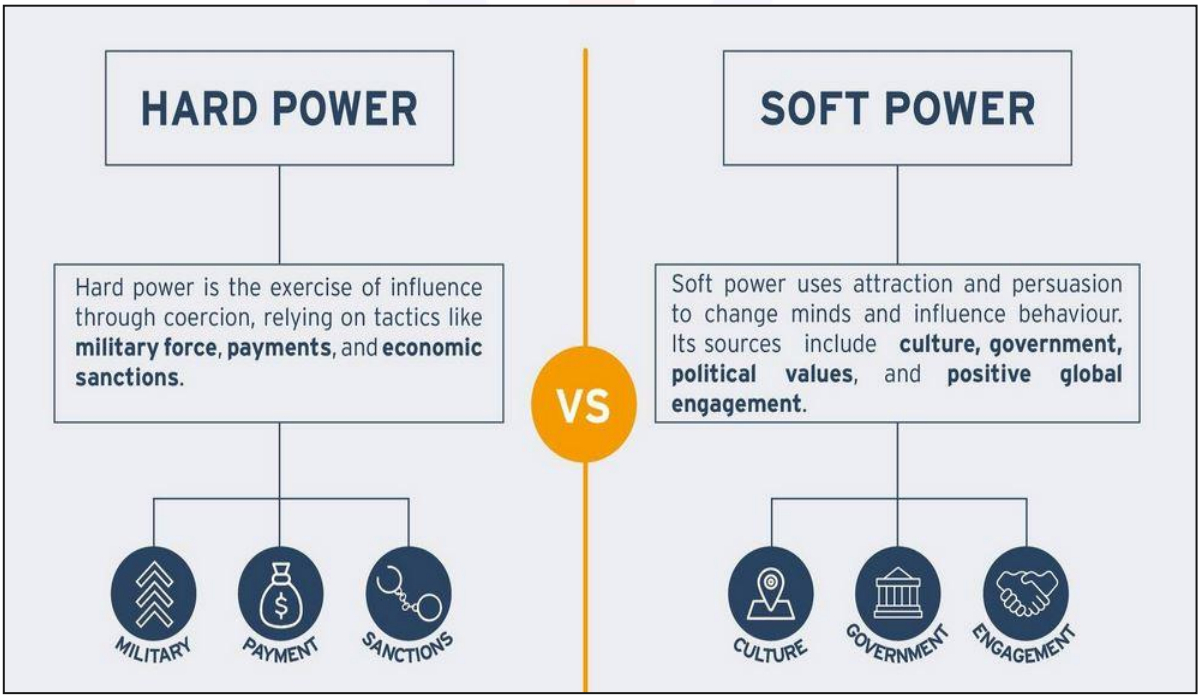
- Harvard, backed by other academic institutions, pushed back through:
  - **Legal action** resulting in a judicial stay on the administration's visa restrictions.
  - **Public mobilization** of students, alumni, and civil society defending academic freedom.
- Harvard's resistance symbolizes a deeper ideological battle between:
  - **Open, liberal academia** and
  - **Nationalistic, exclusionary politics**.

WIDER IMPLICATIONS FOR U.S. SOFT POWER

- **Global Leadership in Education at Risk**
  - International students contribute over $45 billion annually to the U.S. economy (source: NAFSA, 2020).

- They also strengthen diplomatic ties, as many alumni go on to become global leaders (e.g., several Nobel laureates, heads of state, CEOs).

- **Innovation and Research Impacted**
  - U.S. academic dominance in areas like AI, medicine, economics, etc., is fueled by international minds.
  - Policies that deter these talents could result in a brain drain away from America.
- **Rise of Alternatives**
  - Countries like Canada, Germany, and China are investing in their university systems to attract displaced international students.
  - American universities risk losing their competitive edge and global prestige.



INDIAN STUDENTS AND THE FALLOUT

- Indian students form the **second-largest international student group** in the U.S., after China.
- Sudden policy shifts under Trump endangered the academic careers of hundreds of Indians.

- These moves triggered a **rethinking among Indian aspirants**, with many now considering **alternate destinations** for higher education.
- Long-term trust in the U.S. as a **safe and welcoming education hub** has been dented.

WAY FORWARD

- **For the U.S.:**
  - Reaffirm commitment to academic freedom, pluralism, and diversity.
  - Depoliticize university funding and visa regulations.
  - Engage in global academic diplomacy to rebuild trust.
- **For India and Other Countries:**
  - Strengthen domestic institutions to retain talent.
  - Promote global collaborations to ensure student and faculty mobility.
  - Invest in academic excellence and infrastructure to become education hubs.

CONCLUSION

- The attack on Harvard by the Trump administration was not just a policy decision it was a symbolic blow to the very values that made America a global beacon of learning and progress.
- In undermining its universities, the U.S. risks diminishing its global influence, stifling innovation, and alienating the very talent that has powered its rise.

SUPREME COURT'S CRITICISM OF ENFORCEMENT DIRECTORATE (ED) AND ITS IMPLICATIONS FOR FEDERALISM AND DEMOCRATIC INSTITUTIONS

INTRODUCTION

The Supreme Court of India recently made scathing remarks against the Enforcement Directorate (ED) regarding its actions in Tamil Nadu, especially concerning the Tasmac case.

The apex court suspended ED's investigation into financial irregularities in the Tamil Nadu State Marketing Corporation (Tasmac) and warned the agency against overstepping its jurisdiction.

The development has ignited debates over the misuse of central agencies, erosion of federalism, and the politicization of law enforcement in India.

KEY OBSERVATIONS:

In the TASMAC case, the Court criticized the ED for "crossing all limits" and undermining the federal structure by initiating investigations into a state-run entity without clear jurisdiction.

The Court emphasized the need for the ED to operate within the bounds of its authority and respect the autonomy of state institutions.

THE TASMAC CASE: A BRIEF OVERVIEW

- **Background**:
    - Tamil Nadu State Marketing Corporation (TASMAC) is a government-owned entity responsible for alcohol distribution in Tamil Nadu.
    - The ED initiated proceedings against TASMAC under the Prevention of Money Laundering Act (PMLA), alleging involvement in a liquor-related scam.
- **Supreme Court's Intervention**:

- The Court stayed the ED's investigation, questioning the legality of the agency's actions and emphasizing the importance of maintaining the federal balance.

WHAT IS THE ENFORCEMENT DIRECTORATE (ED)?

- **Establishment**:
  - Formed in 1956, the ED is a law enforcement and economic intelligence agency under the Department of Revenue, Ministry of Finance.
- **Mandate**:
  - Enforces economic laws and combats financial crimes, primarily under:
    - Prevention of Money Laundering Act (PMLA), 2002
    - Foreign Exchange Management Act (FEMA), 1999
    - Fugitive Economic Offenders Act (FEOA), 2018
- **Functions**:
  - Investigates offenses related to money laundering and foreign exchange violations.
  - Attaches properties involved in money laundering.
  - Prosecutes offenders under PMLA.

FEDERALISM UNDER STRAIN?

- **Centralization of Power**:
    - The ED's actions, especially in cases involving state-run entities like TASMAC, have raised concerns about the central government's overreach into state affairs.
    - Examples: Investigations in **West Bengal (Coal Scam)**, **Maharashtra (SRA scam)**, **Delhi Liquor Policy caseb**all involved opposition-ruled states.
- **Supreme Court's Stand**:
    - The Court's criticism of the ED underscores the need to uphold the federal structure enshrined in the Constitution.

RECURRENT CRITICISM OF THE ED

- **Allegations of Political Misuse:**
    - Opposition parties have accused the ED of being used as a tool by the ruling party to target political adversaries.
- **Judicial Observations:**
    - Courts have, on multiple occasions, questioned the ED's methods and the legality of its actions, emphasizing the need for the agency to operate within legal boundaries.

- **Selective targeting** of political opponents.
- Low conviction rates despite high-profile raids.
- Non-transparent working: most actions are under “sealed cover”.

DATA:

- ED has only 25 convictions under PMLA out of 5,400+ cases (as of 2023).
- Nearly 95% of ED’s actions are against **opposition leaders or their associates** (Source: PRS Legislative Research, 2024).

EXAMPLES:

- Leaders like **Hemant Soren**, **Sanjay Raut**, **K. Kavitha** faced ED action ahead of elections.
- Former Finance Minister **P. Chidambaram** was arrested in 2019 without clear charges under PMLA.

MISUSE OF PMLA AND DEMOCRATIC BACKSLIDING

- **Concerns Over PMLA's Application**:
    - The broad powers granted under PMLA, including property attachment and arrest without stringent safeguards, have led to concerns about potential misuse.

- **Impact on Democracy**:
    - The perceived misuse of PMLA and the ED's actions have been linked to a broader regression in democratic practices, with institutions being used to suppress dissent.
- In Vijay Madanlal Choudhary v. Union of India (2022), SC upheld PMLA provisions but flagged procedural opacity.
    - Critics call PMLA a **"draconian legislation"** incompatible with Article 21.

WHAT IS THE PREVENTION OF MONEY LAUNDERING ACT (PMLA)?

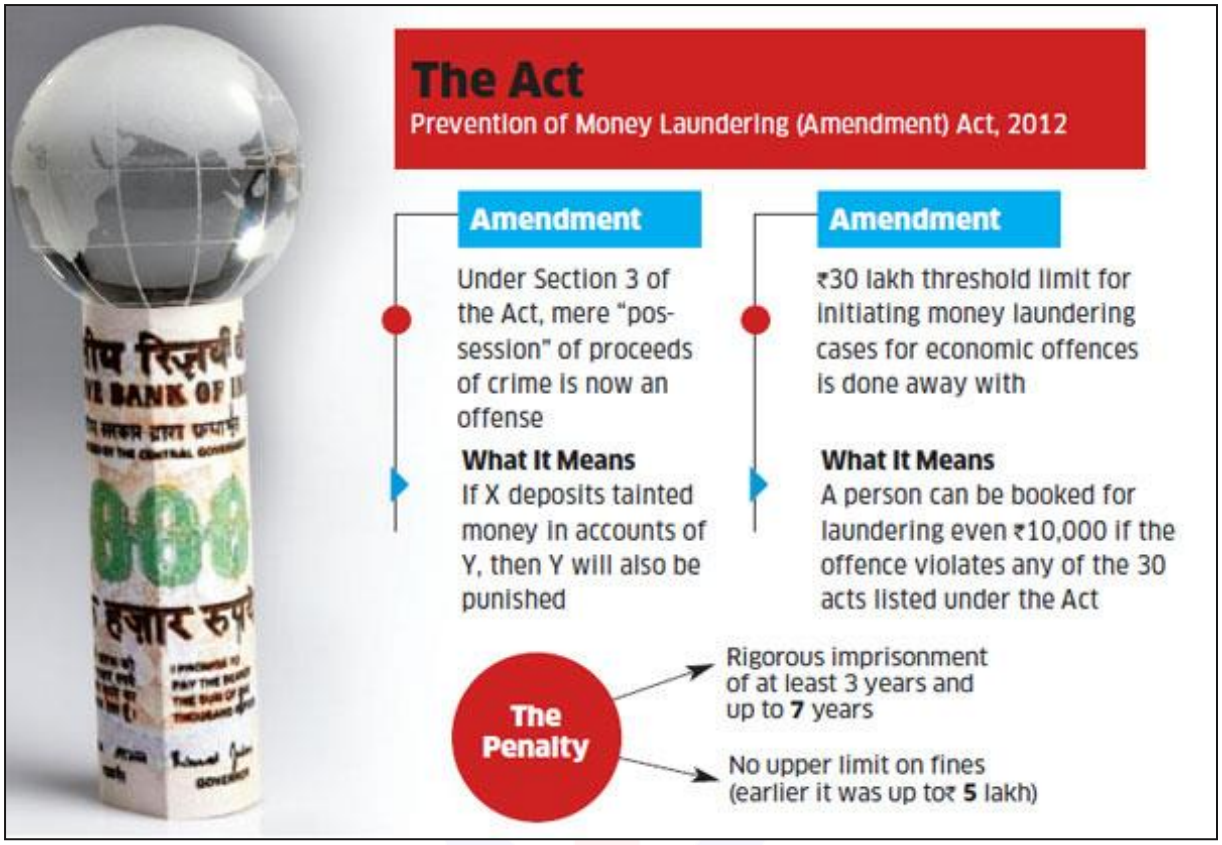
- **Enactment**:
    - PMLA was enacted in 2002 to prevent money laundering and provide for the confiscation of property derived from such activities.
- **Key Provisions**:
    - Defines the offense of money laundering.
    - Empowers authorities to attach and confiscate properties involved in money laundering.
    - Establishes Special Courts for the trial of offenses under the Act.

KEY PROVISIONS:

- **Section 3**: Defines money laundering.
- **Section 5**: Provisional attachment of property.
- **Section 45**: Bail restrictions, twin conditions.
- **Section 17**: Powers of search and seizure.
- **Section 50**: Powers akin to a civil court.

AMENDMENTS:

- 2019 amendment expanded the list of scheduled offences and granted **retrospective powers**.



CRITICISM:

- Goes against **Article 14** and **Article 21** (right to life and liberty).
- Accused must prove innocence (reverse burden), which contradicts criminal jurisprudence.

BROADER IMPLICATIONS FOR GOVERNANCE AND RULE OF LAW

- **Erosion of Institutional Trust**: The ED's actions, perceived as politically motivated, can undermine public trust in law enforcement agencies.
- **Judicial Oversight**: The judiciary plays a crucial role in checking potential abuses of power by investigative agencies, ensuring adherence to the rule of law.

SUPREME COURT'S ROLE IN SAFEGUARDING INSTITUTIONS

- **Guardian of the Constitution**: The Supreme Court acts as the guardian of the Constitution, ensuring that all branches of government operate within their defined limits.

- **Interventions**: By staying the ED's investigation in the TASMAC case, the Court reaffirmed its commitment to upholding federal principles and preventing executive overreach.

KEY POINTS:

- The judiciary is the **final interpreter** of the Constitution and guardian of **citizen rights**.
- By staying ED's proceedings (TASMAC), SC reaffirmed its role in protecting federal values.

NOTABLE JUDGMENTS:

- **Maneka Gandhi v. Union of India (1978):** Emphasized **procedure established by law must be just, fair, and reasonable**.
- **Vineet Narain Case (1997):** Established guidelines for **CVC and CBI's independence**.

INSTITUTIONAL ROLE:

- SC-led judicial review ensures **investigative objectivity** and **non-partisanship**.

REFORMS IN INVESTIGATIVE AGENCIES

- **Need for Accountability**:

- There is a pressing need to establish mechanisms that ensure investigative agencies like the ED operate transparently and are held accountable for their actions.

- **Recommendations**:
  - Implement checks and balances to prevent misuse of power.
  - Ensure that appointments to key positions are based on merit and free from political influence.
  - Strengthen internal oversight mechanisms within agencies.

WAY FORWARD

- **Strengthening Federalism**: Reaffirm the autonomy of state institutions and prevent undue interference by central agencies.
- **Legal Reforms**: Review and amend laws like PMLA to incorporate stringent safeguards against misuse.
- **Capacity Building**: Invest in training and capacity building of investigative agencies to ensure professionalism and adherence to legal norms.
- **Public Awareness**: Educate citizens about their rights and the importance of institutional integrity to foster a culture of accountability.

In conclusion, the Supreme Court's criticism of the ED, particularly in the TASMAC case, underscores the importance of maintaining the delicate balance between central authority and state autonomy. It highlights the need for investigative agencies to operate within the confines of the law, ensuring that their actions do not undermine democratic principles and the rule of law.

FRONTIER OF PROGRESS: ON THE POTENTIAL OF THE NORTHEAST"

The Northeast region, comprising eight states (Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, and Sikkim), holds critical importance in India's strategic, economic, ecological, and socio-cultural development.

STRATEGIC AND GEOPOLITICAL SIGNIFICANCE

GEOPOLITICAL BUFFER ZONEA

- **Border Extent**: Northeast shares over **5,300 km of international borders** with China, Bhutan, Myanmar, Bangladesh, and a small section with Nepal.
- **Strategic Shield**: Acts as a **defensive shield** against potential external threats, especially from China and Myanmar.

- **Sensitive Zones**:
    - **Arunachal Pradesh**: Claimed by China as "South Tibet."
    - **Doklam Plateau**: Close to Sikkim-Bhutan-Tibet trijunction.
    - Frequent Chinese PLA incursions in Tawang and Upper Subansiri districts.

GATEWAY TO SOUTHEAST ASIA: ACT EAST POLICY

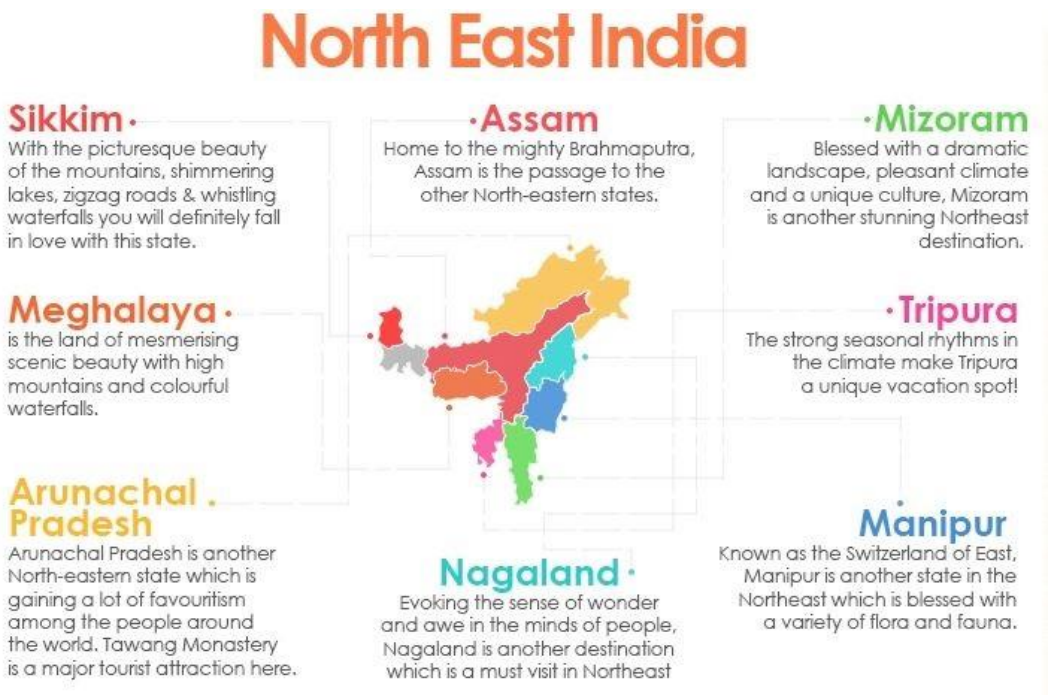
- **Act East Policy**: Aims to enhance **economic and strategic ties** with ASEAN and East Asian countries.
- **Northeast as Bridge**: The only **land bridge** connecting India to Southeast Asia.
- **Key Corridors**:
    - **India-Myanmar-Thailand Trilateral Highway**.
    - **Kaladan Multimodal Transit Transport Project**.
- **Regional Forums**: BIMSTEC, ASEAN, Mekong-Ganga Cooperation.

DEFENSE PREPAREDNESS

- **Military Infrastructure**:
    - Rapid expansion of **Advanced Landing Grounds (ALGs)**.
    - Construction of border roads under **BRO (Border Roads Organization)**.
- **Deployment**:
    - Heavy military deployment in Sikkim, Arunachal, Nagaland.

- **Mountain Strike Corps** aimed at quick mobilization.

- **Tensions**:
  - **Doklam Standoff (2017)**.
  - Regular transgressions by China across the LAC.



STRATEGIC BUFFER AND SURVEILLANCE

- **Border Villages**: Initiatives like **Vibrant Villages Programme** to fortify border areas.
- **Infrastructure Projects**: Enhanced surveillance through road, satellite, and drone systems.
- **Border Management**:
  - Coordination among **BSF, Assam Rifles, ITBP**.
  - **Smart fencing** and integrated check-posts.

ECONOMIC SIGNIFICANCE OF NORTHEAST INDIA

NATURAL RESOURCE WEALTH

- **Minerals**: Rich in hydrocarbons, limestone, coal, and uranium.
  - **Assam**: Major contributor to India's oil production (~15%).

- **Forest Wealth**:
    - Dense forests provide timber, medicinal plants, and bamboo.
    - **Tripura and Mizoram**: Bamboo-based industries.
- **Water Resources**:
    - Rivers like Brahmaputra and Barak are hydropower goldmines.

AGRO-CLIMATIC ADVANTAGE

- **Organic Farming**:
    - **Sikkim**: World's first fully organic state.
    - Huge potential in **organic spices, fruits, and vegetables**.
- **Horticulture**:
    - Pineapple (Tripura), orange (Nagaland), kiwi (Arunachal).
    - Ginger and turmeric: niche exports.

TOURISM INDUSTRY

- **Eco-Tourism**:
    - Pristine landscapes, wildlife sanctuaries, national parks.
    - Kaziranga, Namdapha, Manas are UNESCO sites.

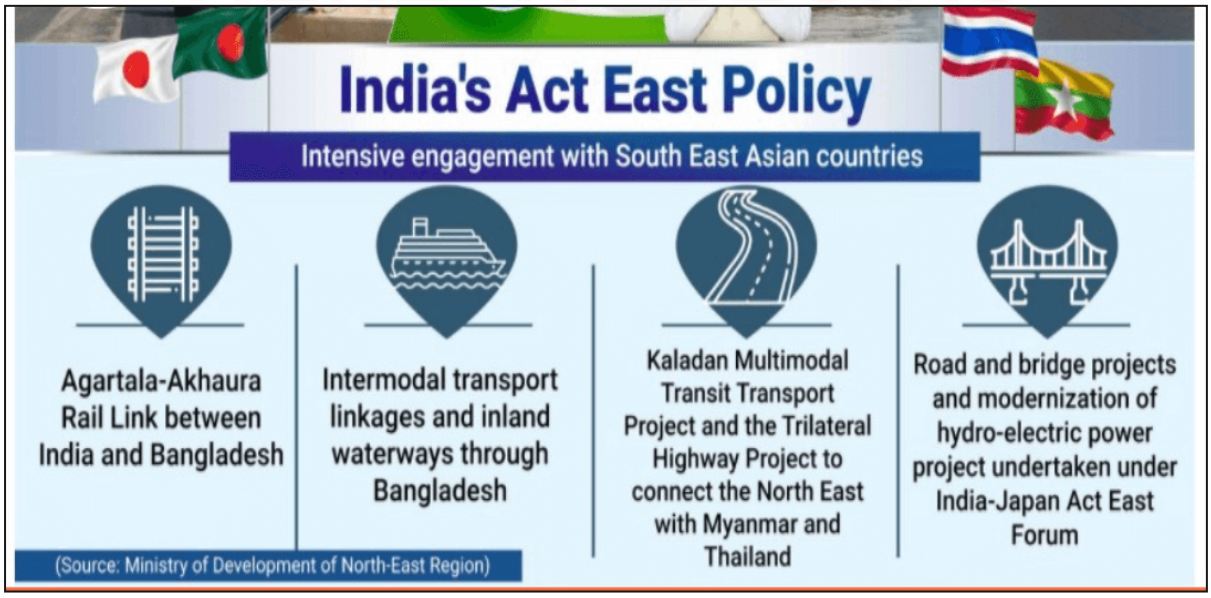
- **Cultural Tourism**:
    - Unique tribal festivals like **Hornbill (Nagaland)** and **Sangai (Manipur)**.
- **Adventure Tourism**: Trekking, river rafting, and mountaineering.

INDUSTRIAL AND TRADE POTENTIAL

- **Tea Economy**:
    - Assam's tea is globally acclaimed.
    - Contributes heavily to **exports and rural employment**.
- **SEZs and Industrial Parks**:
    - Focus on handicrafts, handlooms, food processing.
- **Border Trade**:
    - Border haats with Myanmar and Bangladesh for MSME boost.

CONNECTIVITY INITIATIVES

- **Kaladan Multimodal Transit**: Connects Kolkata Port with Sittwe (Myanmar) and Northeast India.
- **Trilateral Highway**: Enhances trade with Thailand and beyond.
- **SASEC**: Connects Northeast to Bangladesh and Bhutan.
- **Bharatmala** and **UDAN 2.0**: Improve Road and air connectivity.



ECOLOGICAL AND ENVIRONMENTAL SIGNIFICANCE

BIODIVERSITY HOTSPOT

- **Eastern Himalayas and Indo-Burma**: Two global biodiversity hotspots.
- **Unique Species**:
    - Red Panda, Hoolock Gibbon, Clouded Leopard, Hornbill.
- **Protected Areas**: Over 100 national parks and sanctuaries.

WATER SECURITY

- **River Systems**:
    - Brahmaputra, Subansiri, Barak originate or flow through the region.
- **Watershed Management**:
    - Integral to controlling floods in downstream states.
- **Hydropower**:
    - Enormous untapped potential in Arunachal Pradesh.

CLIMATE REGULATION

- **Forest Carbon Sinks**: Dense forests absorb greenhouse gases.
- **Monsoon Stabilization**:
  - Green cover stabilizes rainfall patterns.
- **Disaster Buffer**:
  - Acts as a cushion against landslides and flash floods.

ECOLOGICAL SENSITIVITY

- **Fragile Ecosystems**:
  - Prone to earthquakes, landslides, and soil erosion.
- **Jhum Cultivation**: Contributes to **deforestation and degradation**.
- **Climate Change Impact**:
  - Melting glaciers, erratic rainfall, rising temperatures.

SOCIO-CULTURAL SIGNIFICANCE

ETHNIC AND LINGUISTIC DIVERSITY

- **Over 200 tribes** with unique languages and customs.
- **Examples**:
  - Nagas, Kukis, Mizos, Bodos, Dimasas, Apatanis.
- **Linguistic Pluralism**:
  - Use of multiple tribal languages, Hindi, and English.

CULTURAL PLURALISM

- Reinforces **India's "unity in diversity"**.
- **Festivals**:
  - Hornbill (Nagaland), Sangai (Manipur), Bihu (Assam), Losar (Arunachal).
- **Traditional Knowledge**:
  - Herbal medicine, crafts, and community-based governance.

HERITAGE AND ART FORMS

- **Handloom and Handicrafts**:
  - Eri silk, bamboo crafts, tribal ornaments.
- **Folk Traditions**:
  - Dance, music, and oral literature are integral.
- **Soft Power Diplomacy**:
  - Cultural exchange programs attract global attention.

SOCIAL CAPITAL

- Strong **community bonding**, self-help groups.
- **Matriarchal Society**:
  - Meghalaya's Khasi tribe is matrilineal.

KEY ISSUES AND CHALLENGES

CONNECTIVITY DEFICIT

- **Infrastructure Gaps**:
  - Poor road, rail, and air penetration in remote areas.
  - **Arunachal Pradesh**: Least accessible state.
- **Digital Divide**:
  - Limited broadband access.
  - Weak e-governance and digital literacy.

INSURGENCY AND ETHNIC TENSIONS

- **Insurgent Groups**:
  - ULFA (Assam), NSCN (Nagaland), KYKL (Manipur).
- **Ethnic Clashes**:
  - Meitei vs Kuki (Manipur, 2023).
  - Bodo vs Non-Bodo (Assam).
- **Root Causes**:
  - Identity politics, economic neglect, and autonomy demands.

ECONOMIC ISOLATION

- **Underdevelopment**:
  - Low contribution to GDP (~3%) despite 8% population share.
- **Youth Outmigration**:
  - Lack of opportunities leads to brain drain.
- **Investment Apathy**:
  - Private sector hesitant due to poor logistics and instability.

GOVERNANCE AND ADMINISTRATIVE CHALLENGES

- **Centralized Power**:
  - Limited autonomy of **Autonomous District Councils**.

- **Corruption and Leakages**:
    - Funds underutilized; weak institutions.
- **AFSPA**:
    - Armed Forces (Special Powers) Act leads to alleged **human rights violations**.

ENVIRONMENTAL DEGRADATION

- **Shifting Cultivation (Jhum)**:
    - Leads to soil erosion, forest loss.
- **Flooding**:
    - Brahmaputra and Barak rivers flood annually.
    - Lack of embankments and poor drainage.
- **Natural Disasters**:
    - Landslides, earthquakes, glacial lake outbursts.

MEASURES FOR DEVELOPMENT AND INTEGRATION

INFRASTRUCTURE AND CONNECTIVITY

- **Physical Connectivity**:
    - **Bharatmala**, **SASEC**, and **Trilateral Highway** projects.
- **Air and Rail Expansion**:
    - **UDAN 2.0**: Connects remote airports.
    - BG (Broad Gauge) conversion of Lumding–Silchar.

- **Digital Push**:
    - **BharatNet Phase-II:** High-speed broadband to villages.

PEACE AND SECURITY REFORMS

- **Peace Accords**:
    - Bodo Accord (2020), Naga Talks, Bru-Reang resettlement.
- **Youth Engagement**:
    - Skill development, education, and employment incentives.
- **Police Reforms**:
    - Local recruitment, training in human rights and modern policing.

ECONOMIC DIVERSIFICATION

- **Agro-Industry**:
    - Value chain development for bamboo, pineapple, ginger.
    - **MOVCDNER**: Mission Organic Value Chain Development.
- **Startup Ecosystem**:
    - Tourism-tech, e-commerce, tribal crafts.
- **Special Economic Zones (SEZs)**:

- Assam (Tea), Manipur (Textiles), Tripura (Handicrafts).

- **Schemes**:
  - NEIDS 2017, PM-FME, Startup India NE Desk.

TOURISM AS GROWTH ENGINE

- **Eco and Cultural Circuits**:
  - Swadesh Darshan, PRASAD schemes.
  - Package tours integrating Kaziranga-Meghalaya-Arunachal.
- **Local Empowerment**:
  - Homestays, community guides, tourism cooperatives.
- **Digital Promotion**:
  - Campaigns via Instagram, YouTube, and influencer marketing.

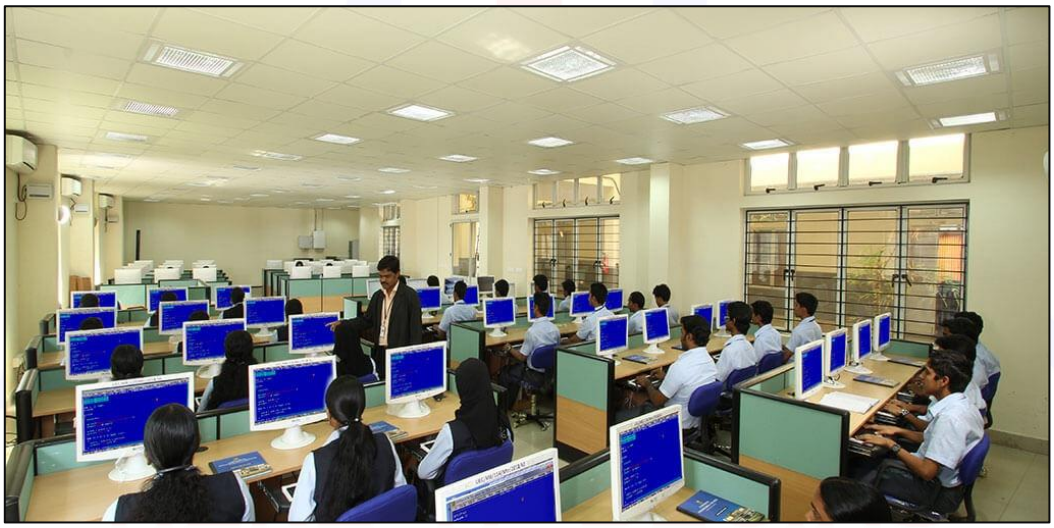
GOVERNANCE AND EMPOWERMENT

- **Decentralized Planning**:
  - Greater funds and autonomy to local councils.
- **Ease of Doing Business**:
  - Single-window clearances, tax incentives.
- **AFSPA Reforms**:

- Gradual withdrawal, periodic audits, confidence-building.

ENVIRONMENTAL SUSTAINABILITY

- **Agricultural Transition**:
  - From Jhum to terrace farming, permaculture.
- **Disaster Preparedness**:
  - Early warning systems, embankments, resilient housing.
- **Forest Conservation**:
  - Community Forest Management, REDD+ schemes.
- **Green Missions**:
  - National Mission on Himalayan Studies, Jal Shakti Abhiyan.



EDUCATION AND SKILL BUILDING

- **Higher Education Hubs**:
  - New IITs/NITs, vocational universities.
- **Skill Development**:
  - Hospitality, handicrafts, digital marketing.
- **Scholarships and Inclusion**:
  - Umbrella Scheme for Education of STs, girl child incentives.

INTERNATIONAL AND REGIONAL INTEGRATION

- **ASEAN and BIMSTEC Synergy**:
    - Trilateral Highway, Kaladan Project.
- **BBIN Initiative**:
    - Boosts regional transport, electricity grid, trade.
- **Border Haats**:
    - Local trade zones supporting small artisans and MSMEs.

CONCLUSION

The Northeast region is **not a fringe** of India but a **fulcrum** of its **strategic ambitions**, **cultural diversity**, **ecological wealth**, and **economic aspirations**.

- A holistic development approach demands:
    - Inclusive governance
    - Infrastructure upgrades
    - Peace and reconciliation
    - Environmental stewardship
    - People-centric policies

FIRST ROUND OF INDIA-CHILE CEPA NEGOTIATION CONCLUDES

India and Chile have completed the **first round of negotiations** for a proposed comprehensive free trade agreement.

The next round of negotiations is expected in **July-August, 2025**. India and Chile aim to conclude their trade negotiations for a **Comprehensive Economic Partnership Agreement (CEPA**) by 2026.

India and Chile already have a **Partial Scope Agreement (PSA) since 2007**, which was expanded in 2017.

Despite this, trade volumes remained modest, with **bilateral trade standing at around $3 billion in 2023–24**, dominated by copper imports from Chile and automobiles and pharmaceuticals from India.

CHILE: GEOGRAPHY, NATURAL RESOURCES, AND KEY FEATURES

GEOGRAPHY AND RIVERS

- **Location**: Chile is a long, narrow country stretching along the western edge of South America, bordered by the Pacific Ocean to the west and the Andes Mountains to the east.

- **Rivers**: Chile's river systems are primarily fed by Andean snowmelt. Notable rivers include:
    - **Melado River**: Originates in the Andes and is utilized for hydroelectric power generation at the Pehuenche Hydroelectric Plant.
    - **Maule River**: One of the major rivers in central Chile, significant for agriculture and hydroelectric power.

NATURAL RESOURCES AND MINERALS

- **Copper**: Chile is the world's largest producer of copper, with major mines like Los Pelambres contributing significantly to global supply.
- **Lithium**: Home to the Salar de Atacama, Chile holds substantial lithium reserves, making it the second-largest producer globally.
- **Other Minerals**: Chile is also a leading producer of iodine, rhenium, molybdenum, silver, and salt.

ENERGY RESOURCES

- **Hydroelectric Power**: The country's mountainous terrain and river systems provide significant hydroelectric potential, contributing to its renewable energy mix.
- **Fossil Fuels**: Chile has moderate reserves of coal, oil, and natural gas, primarily located in the southern regions.

COMPREHENSIVE ECONOMIC PARTNERSHIP AGREEMENT (CEPA)

WHAT IS CEPA?

A Comprehensive Economic Partnership Agreement (CEPA) is a type of free trade agreement that covers trade in goods and services, investment, intellectual property rights, and other areas of economic cooperation. It aims to reduce or eliminate barriers to trade and investment between the signatory countries.

INDIA'S CEPA AGREEMENTS

India has signed CEPAs with several countries to enhance economic ties:

- **Japan**: The India-Japan CEPA came into effect in August 2011, covering trade in goods and services, investment, and other areas.
- **South Korea**: The India-South Korea CEPA was implemented in January 2010, aiming to reduce tariffs and promote trade and investment.
- **United Arab Emirates (UAE)**: India signed a CEPA with the UAE in February 2022, focusing on trade in goods and services, investment, and other areas of cooperation.
- **Australia**: While not a CEPA, India and Australia signed the Economic Cooperation and Trade Agreement (ECTA) in April 2022, which is a step towards a comprehensive agreement.

INDIA-CHILE RELATIONS: KEY AGREEMENTS AND INITIATIVES

DIPLOMATIC ENGAGEMENTS

- **Establishment of Relations**: India and Chile established diplomatic relations in 1949.
- **High-Level Visits**: Notable visits include the Chilean President Gabriel Boric's visit to India in April 2025 and Indian President Ram Nath Kovind's visit to Chile in March 2019.

TRADE AND ECONOMIC COOPERATION

- **Preferential Trade Agreement (PTA)**: Signed in 2006 and expanded in 2016, the PTA aims to reduce tariffs and enhance trade between the two countries.
- **CEPA Negotiations**: The ongoing CEPA negotiations aim to further deepen economic ties by covering broader sectors.

STRATEGIC SECTORS

- **Critical Minerals**: India seeks to secure long-term supplies of critical minerals like copper and lithium from Chile to support its green energy initiatives.
- **Renewable Energy**: Both countries are collaborating on renewable energy projects, including solar and wind energy, under frameworks like the International Solar Alliance (ISA).

SCIENCE AND TECHNOLOGY

- **Space Cooperation**: Chile launched its first satellite, SUCHAI-1, via India's ISRO in 2017, marking a significant step in space collaboration.
- **Digital Infrastructure**: Chile has expressed interest in adopting India's digital public infrastructure models, including fintech and digital payments.

DEFENSE AND SECURITY

- **Military Training**: Chile has been prioritized for training at Indian defense institutions, with specialized courses in mountain warfare and peacekeeping operations.
- **Counter-Terrorism**: Both countries have committed to strengthening cooperation under frameworks like the Financial Action Task Force (FATF) and the No Money For Terror (NMFT) initiative.

HEALTH AND PHARMACEUTICALS

- **Pharmaceutical Trade**: Chile acknowledges India as a key supplier of affordable and high-quality medicines, with agreements to facilitate market access for Indian pharmaceutical products.

- **Traditional Medicine**: An MoU has been signed to promote traditional medicine, homeopathy, and yoga in Chile.

EDUCATION AND CULTURE

- **Academic Collaboration**: Chilean universities are encouraged to partner with Indian institutions under India's National Education Policy (NEP) 2020.
- **Cultural Exchange**: Efforts are underway to strengthen ties in music, dance, theatre, literature, and festivals, including the establishment of an ICCR Chair on Indian Studies in Chile.

MULTILATERAL COOPERATION

- **Global Governance**: Chile supports India's bid for permanent membership in a reformed and expanded UN Security Council.
- **Climate Change**: Both countries are committed to joint investment in renewable energy and are members of the Coalition for Disaster Resilient Infrastructure (CDRI).

The India-Chile relationship is multifaceted, encompassing diplomatic, economic, strategic, and cultural dimensions. The successful conclusion of the first round of CEPA negotiations signifies a mutual commitment to deepening this partnership, with a focus on critical sectors like minerals, renewable

energy, and digital infrastructure. As both nations continue to collaborate across various domains, the bilateral relationship is poised for significant growth in the coming years.

LANDSLIDE

A tragic landslide on the Kedarnath National Highway in Rudra Prayag, Uttarakhand killed one and injured five pilgrims from Chhattisgarh. Authorities have warned against travel due to ongoing extreme weather.

WHAT IS A LANDSLIDE?

DEFINITION:

A landslide is the movement of a mass of rock, debris, or earth down a slope due to gravity. It can occur suddenly or slowly and is influenced by natural and anthropogenic factors.

KEY CHARACTERISTICS:

- **Downslope Movement:** Material moves from higher to lower elevations.
- **Gravity-Driven:** The main driving force is gravitational pull.
- **Triggers:** Heavy rainfall, earthquakes, volcanic activity, human interference.
- **Rapid or Slow:** Speed ranges from sudden catastrophic movement to gradual creep.

EXAMPLES:

- **Kedarnath Tragedy (2013):** A devastating landslide combined with flash floods killed thousands in Uttarakhand.
- **Malin Landslide (Maharashtra, 2014):** A massive earth movement buried an entire village, killing 151 people.

TYPES OF LANDSLIDES IN INDIA

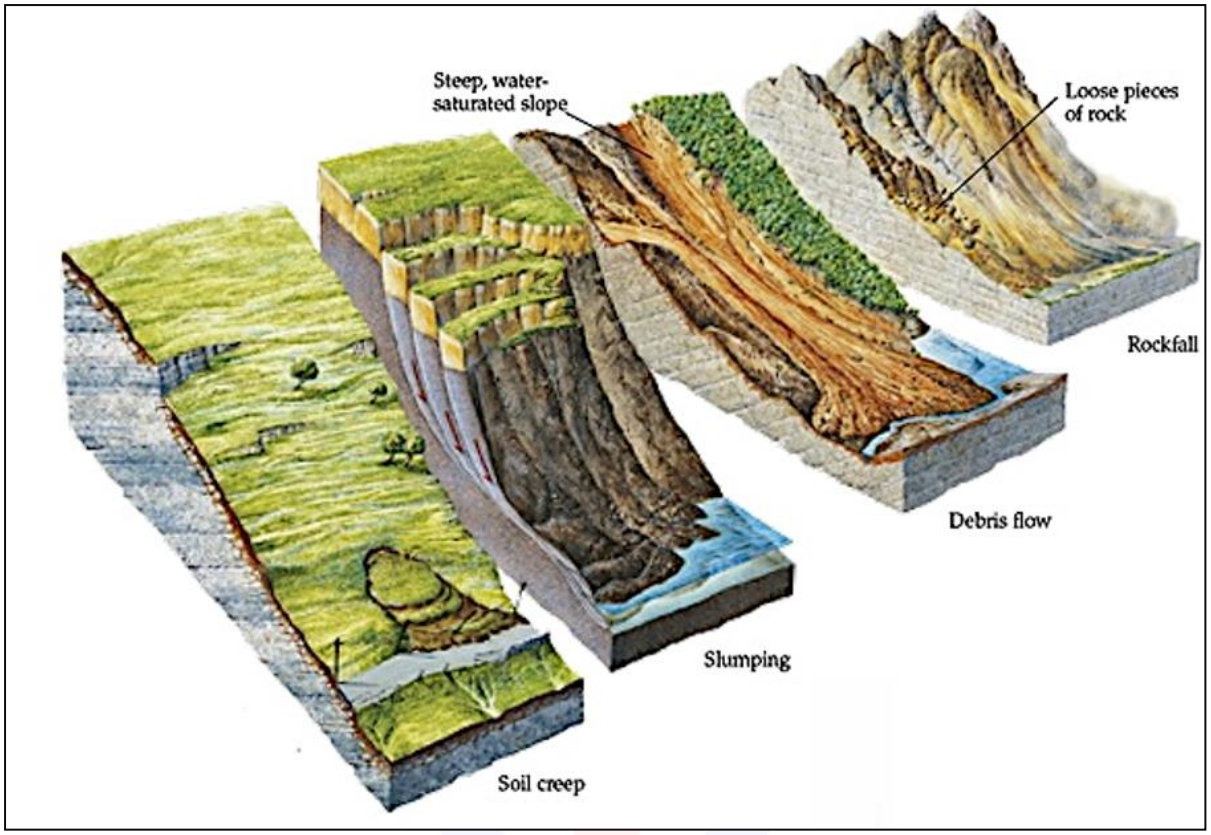
Landslides are classified based on the type of material and movement involved:

BASED ON MATERIAL:

- **Rockfall:** Sudden free fall of rocks from a cliff or steep slope.
  - **Example:** Zojila Pass, Jammu & Kashmir.
- **Debris Flow:** A fast-moving slurry of water, soil, and rock.
  - **Example:** 2021 debris flow in Himachal Pradesh's Kinnaur district.
- **Mudflow:** A flow of fine materials mixed with water; highly destructive.
  - **Example:** Occurs frequently in Sikkim and Darjeeling hills.
- **Earthflow:** Slower than mudflow; involves saturated soil.
  - **Example:** Nilgiri Hills, Tamil Nadu.
- **Slump (Rotational Slide):** Downward and outward rotational movement of earth mass.
  - **Example:** Slumping in Meghalaya's Garo Hills.

BASED ON MOVEMENT:

- **Falls:** Free-falling material (mostly rock).
- **Topples:** Rock mass rotates and falls forward.
- **Slides:** Material moves along a distinct failure surface.
- **Spreads:** Lateral extension due to liquefaction.
- **Flows:** Chaotic movement like mud, debris, or earthflows.



CAUSES OF LANDSLIDES IN INDIA

Landslides result from complex interactions of geological, hydrological, and anthropogenic factors:

NATURAL CAUSES:

HEAVY RAINFALL (MONSOON-INDUCED)

- Saturates soil and rock layers, reducing cohesion.
- ***Example:*** Kerala floods (2018) caused >5,000 landslides.

EARTHQUAKES AND SEISMIC ACTIVITY

- Loosens rock and destabilizes slopes.
- ***Example:*** 2005 Kashmir earthquake triggered massive landslides.

VOLCANIC ERUPTIONS

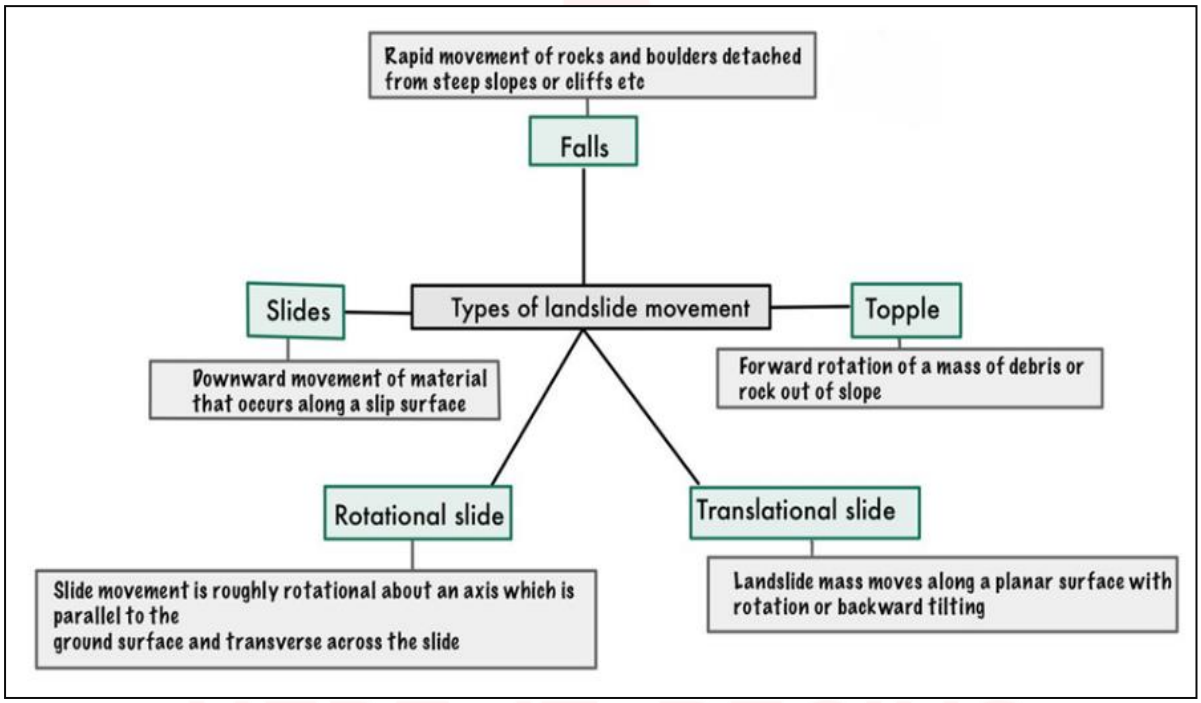
- Though rare in India, globally known to cause landslides.
- ***Example:*** Not common in the Indian subcontinent.

SOIL EROSION AND WEATHERING

- Long-term degradation of slope strength.
- ***Example:*** Shiwalik Hills in Himachal and Uttarakhand.

GLACIAL MELTING AND SNOW AVALANCHES

- Glacial retreat destabilizes surrounding slopes.
- ***Example:*** Chamoli glacier burst (2021), causing landslide-triggered floods.



ANTHROPOGENIC CAUSES:

DEFORESTATION AND SLOPE DISTURBANCE

- Roots bind soil; tree removal destabilizes slopes.
- ***Example:*** Massive landslides in Western Ghats due to plantation activities.

CONSTRUCTION AND INFRASTRUCTURE PROJECTS

- Road cutting, dams, hydel projects weaken slopes.
- ***Example:*** Char Dham Highway project has triggered multiple landslides.

MINING AND QUARRYING

- Blasting disturbs natural balance.
- ***Example:*** Coal mining-induced landslides in Meghalaya.

UNSCIENTIFIC AGRICULTURE

- Terracing, irrigation, and ploughing on unstable slopes.
- ***Example:*** Jhum cultivation in the North East.

WATER LEAKAGE FROM PIPELINES

- Infiltration of water leads to soil loosening.
- ***Example:*** Urban landslides in Mumbai and Pune.

IMPACTS OF LANDSLIDES

ENVIRONMENTAL IMPACTS:

- **Habitat Destruction:** Loss of vegetation and biodiversity.
    - **Example:** Western Ghats forests.
- **River Blockage:** Can create artificial dams and flash floods.
    - **Example:** Dhauliganga river blockage in Chamoli (2021).

- **Soil Degradation:** Erosion and loss of topsoil fertility.

SOCIO-ECONOMIC IMPACTS:

- **Loss of Life and Property:**
    - **Example:** Malin disaster (2014) – 151 people killed.
- **Damage to Infrastructure:** Roads, bridges, electricity, telecom.
    - **Example:** NH-7 and NH-58 frequently disrupted in Uttarakhand.
- **Displacement and Rehabilitation Issues:** People living in hazard-prone areas are forced to relocate.
- **Tourism Disruption:** Hill states suffer revenue loss.
    - **Example:** Badrinath-Kedarnath Yatra gets halted frequently.
- **Agricultural Loss:** Soil burial of farmlands reduces productivity.
- **Strategic Impacts:** Affects border roads and army logistics.
    - **Example:** Arunachal Pradesh and Ladakh face landslide-induced isolation.

REGION-WISE LANDSLIDE-PRONE ZONES IN INDIA

HIMALAYAS (J&K, HIMACHAL, UTTARAKHAND, SIKKIM)

- **Reasons:** Young fold mountains, seismic activity, high rainfall.
- ***Example:*** Frequent landslides in Rudraprayag, Kedarnath region.

NORTH EASTERN HILLS (MEGHALAYA, MIZORAM, NAGALAND)

- **Reasons:** Steep slopes, jhum cultivation, intense rainfall.
- ***Example:*** Aizawl and Kohima see annual landslide episodes.

WESTERN GHATS (KERALA, KARNATAKA, TAMIL NADU)

- **Reasons:** Laterite soil, deforestation, high rainfall.
- ***Example:*** 2018 and 2019 landslides in Wayanad, Idukki.

EASTERN GHATS (ANDHRA PRADESH, ODISHA)

- Less frequent, but vulnerable due to mining and deforestation.

URBAN AREAS

- ***Mumbai, Pune, Guwahati***—Construction on hillocks and improper drainage.

NDMA GUIDELINES (2009) COMPREHENSIVE FRAMEWORK

The **National Disaster Management Authority (NDMA)** issued dedicated guidelines in 2009 for landslide risk reduction.

OBJECTIVES:

- Reduce loss of life and property
- Institutionalize disaster preparedness
- Promote safe construction practices

STRATEGIC MEASURES:

LANDSLIDE HAZARD ZONATION (LHZ) MAPPING

- Classifies land into **High, Moderate, and Low Susceptibility Zones**
- Conducted using **GIS, Remote Sensing, Satellite Imagery**
- Carried out by **GSI, ISRO, BMTPC**

- **Example:** GSI mapped over 85% of the Himalayan region by 2023

MONITORING & EARLY WARNING SYSTEMS

- Rainfall threshold monitoring to issue warnings
- Installation of **real-time sensors** for soil movement and rainfall
- **Doppler Weather Radars** and **Automatic Rain Gauges**
- **Example:** Early warning system in Darjeeling hills by IIT-KGP and NDMA

LANDSLIDE INVENTORY & RISK ASSESSMENT

- Historical database collection
- Helps in predictive modelling and planning
- **Implemented by:** Geological Survey of India (GSI)

POLICY-LEVEL RECOMMENDATIONS

- **Regulate construction in high-risk zones**
- **Compulsory EIA** for large projects
- Promote **land-use zoning laws** in vulnerable districts

STRUCTURAL MITIGATION MEASURES

RETAINING WALLS

- Prevent slope materials from moving downward
- Made of **reinforced concrete**, stone masonry, gabions
- ***Example:*** NH-58 in Uttarakhand uses reinforced retaining walls

GABION WALLS

- Wire-caged rocks placed to absorb energy from soil movement
- Useful in hill slope stabilization

CHECK DAMS AND DRAINAGE CHANNELS

- Divert surface water away from slopes
- Prevent water accumulation in cracks

- ***Example:*** Idukki and Wayanad (Kerala) use contour trenches and check dams

SOIL NAILING AND ROCK BOLTING

- Reinforces unstable slopes by inserting rods into soil/rock
- ***Example:*** Implemented on roads to Gangtok, Sikkim

VEGETATIVE SLOPE STABILIZATION

- Use of **vetiver grass, bamboo, shrubs** to hold soil
- Reduces erosion and improves infiltration

REGRADING OF SLOPES

- Converts steep slopes to gentler gradients
- Enhances slope stability

NON-STRUCTURAL MITIGATION MEASURES

LAND-USE PLANNING & REGULATION

- Enforce **zoning laws** to restrict construction in high-risk zones
- ***Example:*** Darjeeling Development Authority guidelines restrict hilltop construction

ENVIRONMENTAL IMPACT ASSESSMENTS (EIA)

- Mandatory for **dams, hydropower, mining**, and large-scale construction
- Consideration of **terrain stability and slope angle**

LEGAL & INSTITUTIONAL FRAMEWORK

- **Disaster Management Act (2005)**
- **Environment Protection Act (1986)** regulates land usage

COMMUNITY AWARENESS AND CAPACITY BUILDING

- **Mock drills**, awareness campaigns, and school programs
- ***Example:*** Sikkim's 'Landslide School Safety Program' by Save the Children

EMERGENCY PREPAREDNESS

- District Disaster Management Plans (DDMPs)
- Mobile alerts, sirens, evacuation routes

TECHNOLOGICAL AND SCIENTIFIC MEASURES

REMOTE SENSING AND GIS

- High-resolution mapping for zonation and vulnerability analysis
- **ISRO's Cartosat and RISAT satellites**

REAL-TIME MONITORING SYSTEMS

- **Inclinometers, piezometers, ground-penetrating radar (GPR)**
- Used in fragile slopes of Himachal and Sikkim

DRONES AND UAVS

- Used for real-time imagery after events
- Helps in rescue and relief operations

LANDSLIDE SUSCEPTIBILITY MAPPING (LSM)

- Implemented under **National Landslide Susceptibility Mapping (NLSM)** by GSI
- **Coverage targeted: 0.42 million sq. km of India's hill areas**

AI AND MACHINE LEARNING MODELS

- **Rainfall threshold modeling** for prediction
- ***Example:*** IIT-Hyderabad using AI for early warning in Western Ghats

COMMUNITY-BASED DISASTER RISK REDUCTION (CBDRR)

LOCAL TASK FORCES

- Village-level Disaster Management Committees
- Trained in **first aid, rescue, early warning response**

PARTICIPATORY RISK MAPPING

- Community identifies vulnerable areas and hazard zones

LIVELIHOOD DIVERSIFICATION

- Reduce pressure on hills from agriculture, mining
- ***Example:*** Promote eco-tourism in Mizoram & Nagaland

SCHOOL SAFETY PROGRAMS

- Training children in landslide-prone zones
- Conducted by **UNDP, NDMA, and State DMAs**

DISASTER RESPONSE AND RELIEF MEASURES

RESCUE TEAMS

- **National Disaster Response Force (NDRF)**
- Equipped with life-detection kits, cutters, and UAVs

RELIEF AND REHABILITATION

- Temporary shelters, ration kits, health camps

- **Long-term: Relocation of entire villages**, as in Malin (2014)

POST-DISASTER DAMAGE ASSESSMENT

- Use of satellite and drone data
- Supports insurance, rehabilitation planning

ENVIRONMENTAL AND ECOLOGICAL MEASURES

AFFORESTATION AND REFORESTATION

- Stabilizes slopes, reduces runoff
- ***Example:*** Nagaland and Manipur Forest cover programs

WATERSHED MANAGEMENT

- Checks overland water flow, stabilizes micro-slopes

BAN ON SAND AND HILL MINING

- Strict implementation needed in Uttarakhand and Himachal

PROMOTION OF TRADITIONAL HILL ARCHITECTURE

- Sloped roofs, low-rise wooden houses
- Earthquake- and landslide-resilient

CONCLUSION - INTEGRATED AND SUSTAINABLE APPROACH

- **Landslides are multi-factorial** – solutions must address physical, social, and ecological dimensions.
- Government, community, and science must come together for long-term resilience.
- India needs to **mainstream disaster risk reduction into development planning**.
- **Technology, awareness, and early action** are the best defenses.

GLACIER ICE MELT

A new study published in science reveals that glaciers are melting faster than feared, with up to 76% of glacier ice potentially lost if global warming reaches 2.7°C.

KEY FINDINGS FROM THE REPORT:

- Even at current temperatures, 39% of 2020 glacier ice mass is committed to melting over centuries.
- If temperatures rise to 2.7°C, only 24% of glacier ice will remain; limiting warming to 1.5°C preserves 54%.
- Himalayan glaciers (serving 2B+ people) may retain only 25% of ice at 2°C, or 40-45% at 1.5°C.
- Regions like the Alps and Scandinavia may lose nearly all glaciers at 2°C warming.
- Ice loss will continue for centuries, even after temperature stabilization.

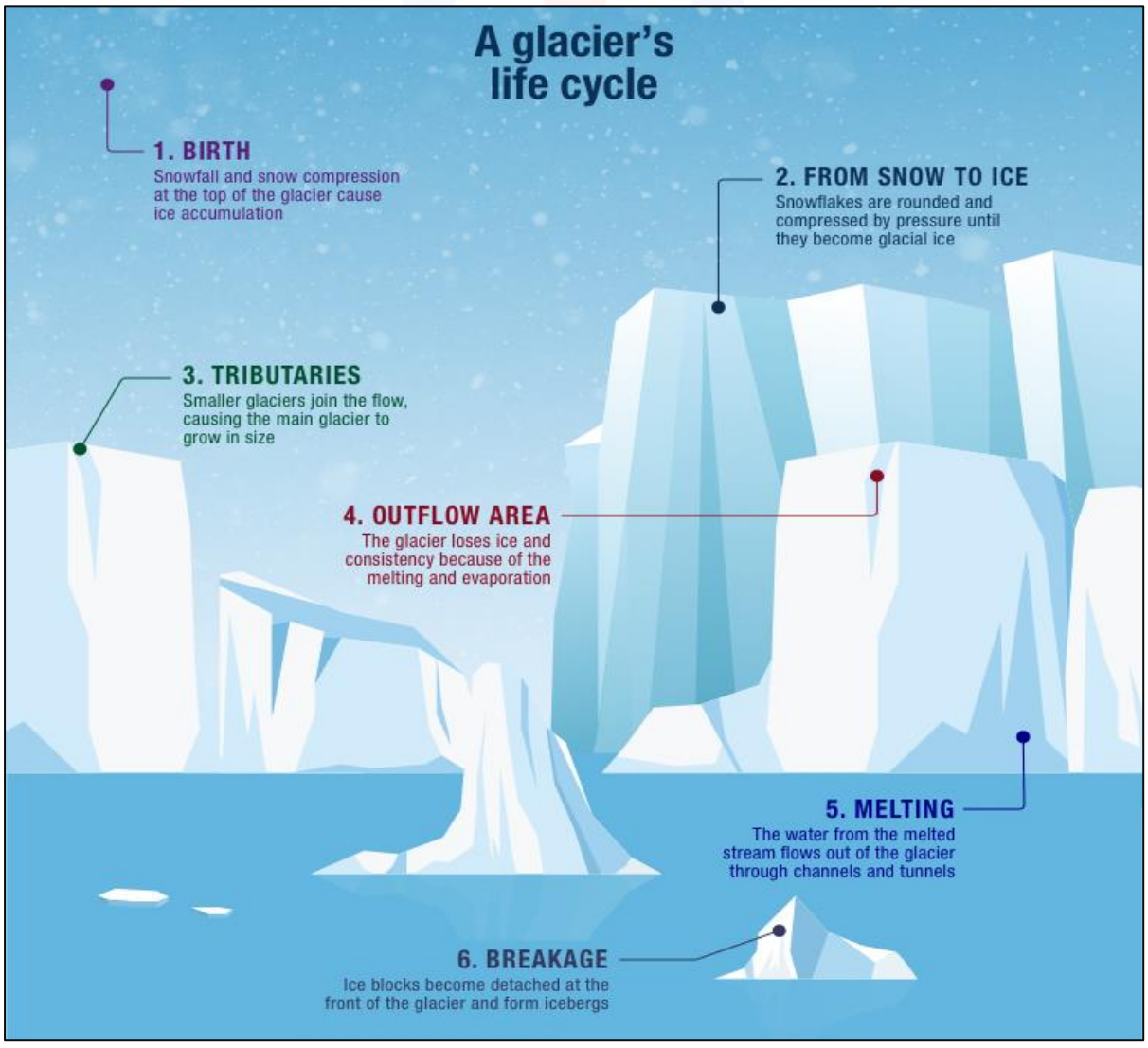
WHAT IS GLACIER ICE MELT?

Glacier Ice Melt refers to the **process by which solid glacial ice transforms into liquid water** due to rising temperatures, solar radiation, and other climatic and environmental factors.

Glacier Ice Melt is the loss of mass from a glacier due to **melting of ice** at or near the surface, **sublimation**, or **calving** (breaking off of chunks into water bodies), primarily caused by **global warming** and **climate change**.

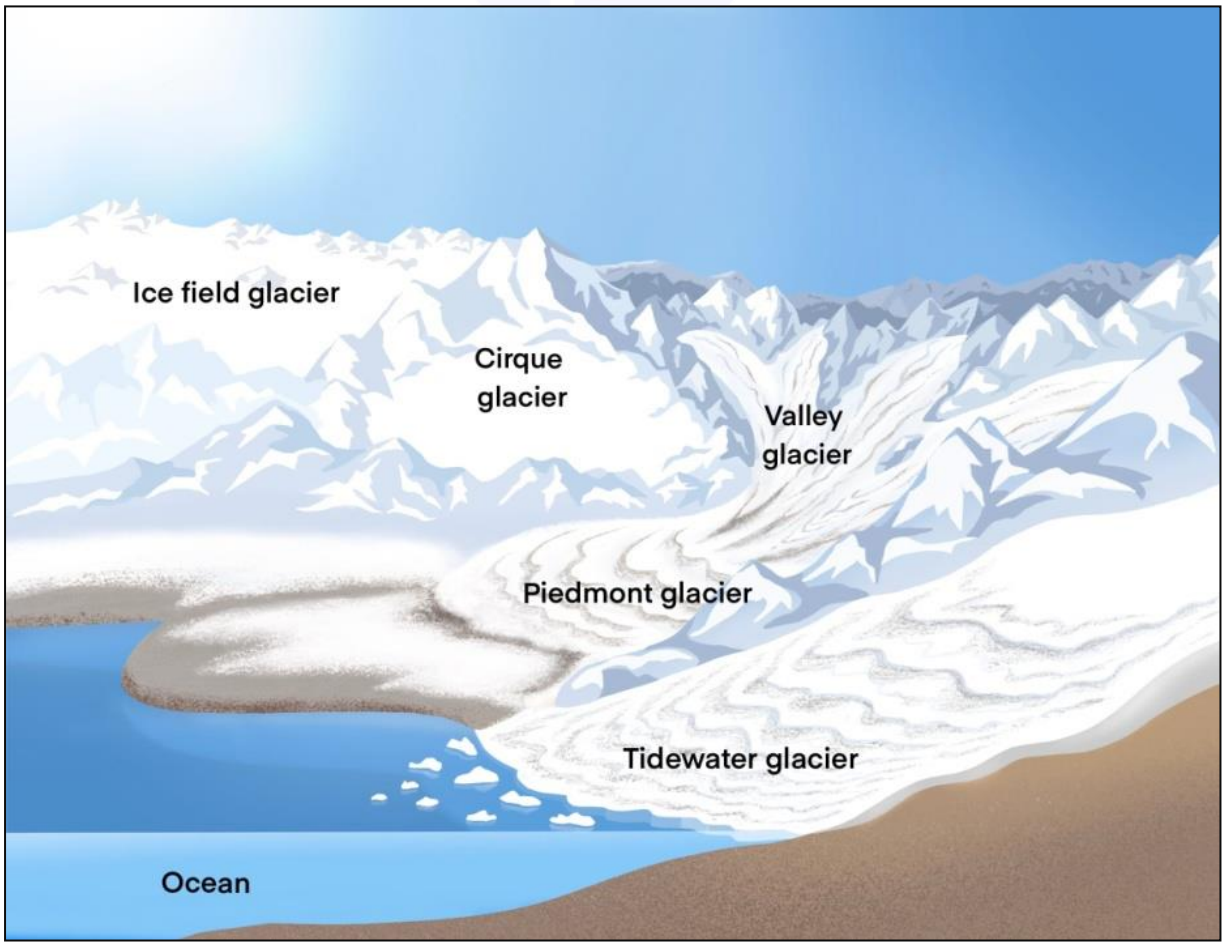
KEY CHARACTERISTICS:

- **Occurs in Glaciers:**
    - Large, slow-moving masses of ice formed from compacted snow over centuries.
    - Found in **Himalayas, Alps, Andes, Arctic, Antarctic,** etc.
- **Seasonal and Long-term Process:**
    - Increases during **summer** months.
    - Long-term ice loss reflects **climate trends,** not just weather.
- **Measured by:**
    - **Glacier Mass Balance** = Accumulation (snowfall) – Ablation (melt + sublimation).



TYPES OF GLACIER ICE MELT:

Type	Description	Example
Surface Melt	Melting of ice at glacier surface due to solar heat	Common in summer on Himalayan glaciers
Basal Melt	Melting at the glacier's base due to geothermal heat or pressure	Occurs in thick glaciers
Sublimation	Ice directly converts to vapor	Happens in dry, cold areas like Ladakh
Calving	Ice chunks break into lakes/oceans	Antarctic ice shelves, Gangotri glacier edges



CAUSES OF GLACIER MELT:

- **Global Warming** – primary cause
- **Greenhouse Gas Emissions (CO_2, CH_4)**
- **Albedo Effect** – less reflection due to dust/dark snow
- **Black Carbon Deposits** – from forest fires, diesel engines
- **Forest Fires & Land Use Change**
- **Industrial Emissions and Air Pollution**
- **Natural Events** – volcanic eruptions, El Niño

GLACIER MELT IN INDIA - KEY EXAMPLES:

- **Himalayan Glacier Retreat**
  - Gangotri Glacier is retreating ~22 meters/year
  - Satopanth Glacier in Uttarakhand also shrinking rapidly
- **Chorabari Glacier**
  - Responsible for the 2013 Kedarnath disaster due to melting and moraine-dammed lake outburst
- **Sikkim and Arunachal Pradesh Glaciers**
  - Fastest melting due to rising pre-monsoon temperatures

CONSEQUENCES OF GLACIER ICE MELT:

- **Glacial Lake Outburst Floods (GLOFs)**
  - Sudden release of water from glacial lakes
  - **Example: Lhonak Lake burst in Sikkim, 2023**
- **Rising Sea Levels**
  - Contributes to coastal flooding worldwide
- **Reduced River Flow in Long Term**
  - Rivers like **Ganga, Brahmaputra, Indus** depend on glacier-fed water
- **Loss of Freshwater Reservoirs**
  - Himalayan glaciers are known as the **"Third Pole"**
- **Impact on Biodiversity & Agriculture**
  - Changes cropping patterns, impacts livelihoods in mountain areas
- **Infrastructure Threats**
  - Roads, dams, and power projects vulnerable in melt-prone areas

MITIGATION AND ADAPTATION MEASURES:

- **Global Climate Action:**
  - Cut greenhouse emissions (Paris Agreement, Net Zero goals)
- **Monitoring Glaciers:**
  - Use satellites (ISRO's CartoSat, NISAR), drones, field sensors
- **Early Warning Systems:**
  - For Glacial Lake Outburst Floods (GLOFs)
- **Restricting Black Carbon Sources:**
  - Cleaner fuel policies, BS-VI norms, forest fire prevention
- **Sustainable Development in Mountain Regions:**
  - Avoid unplanned construction and tourism

INDIA'S FIRST INDIGENOUS THROMBECTOMY DEVICE

The **Technology Development Board (TDB)** under DST has funded India's first indigenously developed mechanical thrombectomy device for stroke treatment.

WHAT IS IT?

A **Mechanical Thrombectomy Kit** used to treat acute ischemic stroke caused by large vessel blockage. It offers quicker and more effective recovery than traditional clot-busting drugs.

DEVELOPED BY:

M/s S3V Vascular Technologies Limited, Mysuru with financial assistance from the Technology Development Board (TDB), Department of Science & Technology.

HOW IT WORKS:

- The device is put into a blocked artery in the brain during a stroke.
- It removes the blood clot using special tools like stent retrievers and aspiration catheters.
- This helps restore blood flow to the brain, preventing paralysis or permanent brain damage.

KEY FEATURES:

- **Indigenous Innovation:** First Indian company to design and manufacture stroke-care tools like microcatheters, aspiration catheters, guidewires, and stent retrievers.
- **Advanced Manufacturing:** Built at Medical Devices Park, Oragadam, with an integrated facility for high-precision production.
- **Patent-Driven R&D:** Patent filings underway for innovations like clot retriever head design and advanced catheter structures.
- **Skill Development:** Offers simulator-based training programs for young doctors, especially in Tier-II cities.
- **Global Standards:** Targeting CE and USFDA certifications to enable global exports and ensure world-class quality.

WHY IT MATTERS?

- Helps **India reduce its need to import** expensive stroke-care devices.
- Makes stroke treatment **more affordable and easier to access** for patients.
- Will be part of **Ayushman Bharat**, supporting public health programs.
- Strengthens India's **global presence** in medical technology.

FIRST BATCH OF 17 FEMALE CADETS GRADUATED

Recently, the first batch of 17 female cadets graduated alongside over 300 male counterparts from the National Defence Academy (NDA) in Pune.

WHAT IS THE NATIONAL DEFENCE ACADEMY (NDA)?

- **Tri-Service Institution**: The NDA is the world's first tri-service academy, training cadets for the Indian Army, Navy, and Air Force together.
- **Location**: Situated in Khadakwasla near Pune, Maharashtra.
- **Training**: Cadets undergo rigorous academic and physical training before proceeding to their respective service academies.
- **Admission**: Entry is through the UPSC-conducted NDA examination, followed by the Services Selection Board (SSB) interview.

2021 SUPREME COURT JUDGMENT: A TURNING POINT

- **Case**: Kush Kalra v. Union of India.
- **Verdict**: The Supreme Court allowed women to appear for the NDA examination, emphasizing gender equality in armed forces recruitment.

- **Impact**: This judgment paved the way for women's admission into the NDA, leading to the historic graduation of the first female cadets in 2025.

WOMEN AND ARMED FORCES

- **Early Contributions:**
    - **World War I:** Women were primarily recruited as nurses in the British Indian Army, filling gaps left by male doctors.
    - **World War II:** Women's roles expanded with the formation of the **Women's Auxiliary Corps**, allowing them to serve in administrative and communication roles.
        - The **Rani of Jhansi Regiment**, led by **Subhash Chandra Bose's Azad Hind Fauj,** was a pioneering **all-female combat unit** that actively fought alongside the **Imperial Japanese Army.**
- **Post-Independence Struggles and Progress:**
    - After independence, women were **largely restricted to medical roles.** It wasn't until 1958 that they **received regular commissions** in the Indian Army Medical Corps.
    - Over the decades, women gradually entered **non-medical branches,** including **logistics, engineering, and legal services.**

- **Combat Roles and NDA Entry:** The 1990s saw a significant shift, with women being inducted into the Indian Air Force as pilots.
    - The Supreme Court of India, in 2021, ruled **in favor of women's entry** into the NDA, allowing them **to train alongside male cadets** for permanent commissions.

RECENT CONTRIBUTION

- **Combat and Leadership Roles:** Women officers have actively participated in Operation Sindoor, contributing to India's defense strategies.
    - **Colonel Sofiya Qureshi and Wing Commander Vyomika Singh** led key operations, showcasing women's leadership in military engagements.

- **Naval Achievements:** Lieutenant Commanders Dilna K and Roopa A completed the **Navika Sagar Parikrama II,** a circumnavigation expedition covering 25,600 nautical miles over eight months.
    - Their journey demonstrated endurance and resilience, reinforcing the role of women in maritime defense.

CURRENT REPRESENTATION

- **Indian Army**: Women constitute approximately 3.8% of the total personnel.
- **Indian Air Force**: Women make up about 13% of the force, with roles in flying, technical, and ground duties.
- **Indian Navy**: Women represent around 6% of the personnel, serving in logistics, law, and education branches.

ARGUMENTS FAVORING WOMEN IN DEFENSE SECTOR

- **Gender Equality in Armed Forces:** Allowing women into NDA promotes inclusivity and equal opportunities in defense services.
- **Expanding Talent Pool:** Women bring diverse skills and perspectives, strengthening the military's operational effectiveness.
- **Successful Integration in Other Countries:** Many nations, including the US, UK, and Israel, have successfully integrated women into combat roles.
- **Breaking Stereotypes:** Women's participation challenges traditional gender roles and inspires future generations.

ARGUMENTS AGAINST THE WOMEN IN DEFENSE SECTOR

- **Physical Training Differences:** Critics argue that physiological differences may require modifications in training programs.
- **Operational Challenges:** Concerns exist about logistical adjustments, including infrastructure and deployment conditions.
- **Combat Readiness:** Some believe that integrating women into frontline combat roles may require additional policy adaptations.
- **Cultural and Social Resistance:** Traditional mindsets may pose challenges in acceptance and integration within military ranks.

KEY STEPS INCORPORATING WOMEN IN DEFENSE SECTOR

- **Agnipath Scheme (2022):** It introduced **Agniveers**, a **short-term military recruitment program** that included **women for the first time**.
    - It aims to modernize the armed forces while providing young recruits with military training and career opportunities.
- **Supreme Court Ruling (2020):** It ruled in favor of **granting Permanent Commission to women officers** in the Indian Army.
    - It emphasized gender equality and rejected stereotypes that questioned women's ability to serve in command roles.
- **Kargil Review Committee (1999):** It recommended the **expansion of women's roles** in the armed forces, and suggested that women be inducted into non-combat roles in logistics, engineering, and intelligence.
- **Parliamentary Standing Committee on Defence:** It advocated for equal opportunities for women in the defense sector, and recommended infrastructure improvements to accommodate female officers in training academies.

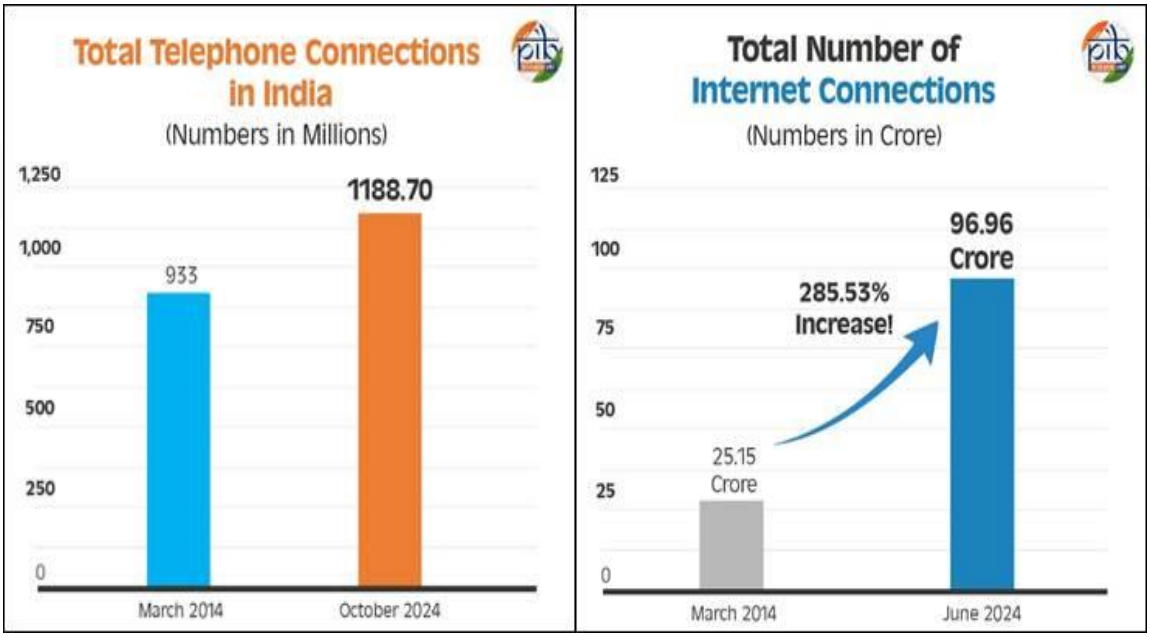
INDIA WILL HAVE 1 BILLION INTERNET USERS BY THIS FISCAL YEAR

The Minister of Communications announced at the **India Mobile Congress (IMC) 2025** that India's Internet user base is set to touch 1 billion by the end of FY26.

The theme of the IMC 2025 is **"Innovate to transform".**

GROWTH OF INDIA'S TELECOM AND INTERNET SECTOR

- **Internet Penetration Surge:** Internet users in India have risen from 250 million (2014) to 974 million, a nearly fourfold increase in a decade.
- **Broadband Subscribers:** Subscribers with **speeds >2 Mbps** rose from **66 million** in 2014 to **940 million.**
- **Mobile Market:** The telecom subscriber base increased from 1 billion to 1.2 billion.
- **Affordability:** Call rates reduced from ₹0.50/minute to **₹0.003/minute**.
    - Data prices in India have dropped dramatically from ₹287 per GB to just ₹9 per GB making it one of the cheapest globally at just 11 cents per GB, compared to the global average of $2.49.



KEY POLICY INITIATIVES OF GOI

- **Prime Minister's WiFi Access Network Interface (PM-WANI)** was launched by the Department of Telecommunication in **2020.**
    - **The scheme aims** to enhance the **proliferation of public WiFi hotspots** to create robust digital communications infrastructure in the country, especially in rural areas.
- **BharatNet Project:**
    - **Phase I:** Connected **2.14 lakh** Gram Panchayats with 7 lakh km of optical fibre.
    - **Phase II:** Target to connect remaining 2.64 lakh Gram Panchayats, totaling connectivity for 3.8 lakh villages.
    - **Investment:** ₹1.39 lakh crore ($16.9 billion) – world's largest public-sector connectivity program.

- **Technology Upgrades in BharatNet II:** Use of MPLS routers (better redundancy) instead of GPON.
    - Shift from linear to **ring topology for uninterrupted service.**
    - Mandating **10-year maintenance** by implementation agencies.
    - Setting up a **central Network Operating Centre.**

- **Telecom Manufacturing and Export:** From 80% mobile imports to exporting ₹1.75 lakh crore worth of phones.
    - The transformation has been driven by the **Production-Linked Incentive (PLI) Scheme**, which has attracted over **₹4,000 crore** in investments, facilitated exports worth ₹16,000 crore, and created around 25,000 jobs.
- **Bharat 6G Alliance:** It is a collaboration between India's domestic industry, academia, research institutions, and standards organisations.
    - The alliance aims to build a national action plan for 6G, ensuring that India remains at the forefront of technological innovation in the coming decades.

SIGNIFICANCE

- **Digital Governance Backbone:** Enables delivery of digital services like e-governance, telemedicine, and online education to rural areas.
- **Inclusive Growth:** Empowers the digitally underserved, especially rural and remote regions.
- **Global Leadership:** India's telecom affordability and scale, position it as a model for developing nations.
- **Economic Multiplier:** Internet and telecom expansion enhances productivity, innovation, and investment.

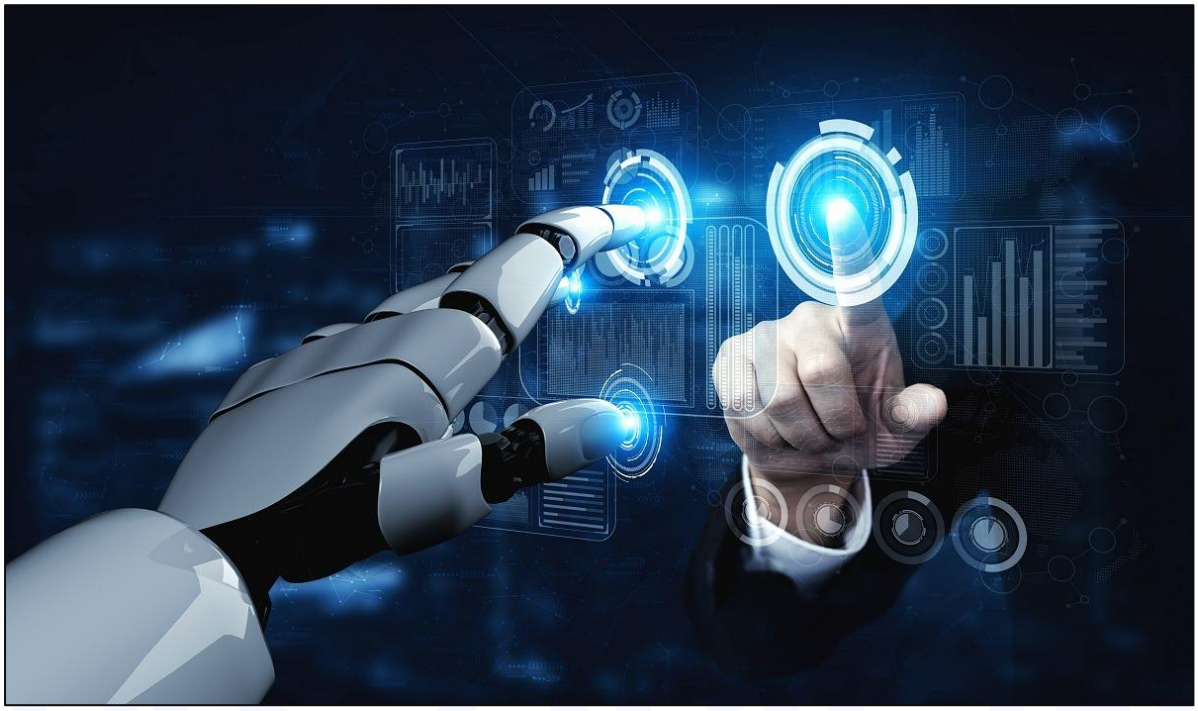
CHALLENGES

- **Last-Mile Connectivity:** Difficult terrain, low affordability, and lack of digital skills still limit access in remote areas.
- **Data Privacy and Cybersecurity:** India needs stronger laws and greater public awareness to protect user data.
- **Quality of Service:** Internet speed and reliability remain uneven despite wide network coverage.
- **Skilling:** Increased digital access must be supported by basic digital literacy and training programs.

CONCLUSION

India's near-billion Internet **users mark a paradigm shift in digital empowerment.**

With supportive policies like BharatNet and PLI, the country is not just connecting its people, but also aspiring to lead the global digital future.



PROMOTION OF ORGANIC FARMING

Indian Overseas Bank (IOB), Amul, and Rich Plus have signed a tripartite Memorandum of Understanding (MoU) to **promote organic farming in India.**

Launch of Organic Farming Card: A co-branded Organic Farming Card has been introduced for account holders of IOB who are engaged in organic farming.

This card will enable farmers to access discounted organic agricultural inputs through Amul's certified retail outlets.

IOB has announced a dedicated credit scheme named **"Harit Kranti",** specifically designed to address the financial needs of organic farmers.

Richplus will play a key role in offering **technical expertise** and training to farmers on organic farming practices.

WHAT IS ORGANIC FARMING?

- Organic farming is a sustainable agriculture system that excludes synthetic inputs like chemical fertilizers and pesticides.
- It relies on natural resources like crop residues, farmyard manure, and compost to maintain soil health and manage pests and diseases.

ORGANIC FARMING IN INDIA

- **India ranks at 4th place** in terms of certified area globally as per the report published by International Federation of Organic Agriculture Movements (IFOAM) Statistics 2022.
- **Madhya Pradesh** has the largest area under organic certification followed by Maharashtra, Rajasthan, Gujarat and Karnataka.
    - **Sikkim** is India's first fully organic state, with implementing organic practices on around 75,000 hectares of agricultural land.
- **India ranks first** globally in terms of number of farmers practicing organic farming.

- **The exports of India's organic products** stood at $708 million in 2022-23 and considering the global market size of around $138 billion, there is a tremendous scope to increase the organic exports in the near future.

ADVANTAGES OF ORGANIC FARMING

- **Healthier Food Products:** Organic farming results in food products that are free from harmful chemical residues with higher levels of essential nutrients.
- **Enhanced Soil Health:** Organic farming methods focus on building and maintaining soil health by increasing organic matter content, microbial activity, and nutrient cycling.
- **Economic Opportunities:** Organic farming provides economic benefits to farmers through premium prices for organic products, access to niche markets, and reduced input costs over the long term.
- **Climate Change Mitigation:** Organic farming practices such as composting and organic soil management contribute to carbon sequestration in the soil, helping to mitigate climate change by reducing greenhouse gas emissions.
- **Biodiversity Conservation:** Organic farming practices support biodiversity by creating habitats for beneficial insects, birds, and other wildlife.

ORGANIC CERTIFICATIONS SYSTEMS IN INDIA

- **National Programme for Organic Production (NPOP):** It is under the Ministry of Commerce and Industry for development of the export market.
    - It is a **third-party certification programme** where the production and handling of activities at all stages such as production, processing, trading and export requirements for organic products is covered.
- **Participatory Guarantee System (PGS-India):** PGS-India under **Ministry of Agriculture and farmers Welfare** involves stakeholders (including farmers/ producers) in decision making about the operation of the PGS-India certification by assessing, inspecting and verifying the production practices of each other.
- **Food Safety Regulation** has made it mandatory for organic products to be certified under NPOP or PGS for being sold in the domestic market under the **Jaivik Bharat logo.**

Agricultural and Processed Food Products Export Development Authority (APEDA)

- It was set up in 1986 through an Act of Parliament under the Ministry of Commerce and Industry, Government of India.
- **Headquarters**: New Delhi
- APEDA is mandated with the responsibility of export promotion and development of the products like Fruits, Vegetables, Meat, Poultry and their Products.
- APEDA functions as the Secretariat to the National Accreditation Board (NAB) for implementation of accreditation of the Certification Bodies under National Programme for Organic Production (NPOP) for organic exports.

GOVERNMENT INITIATIVES FOR ORGANIC FARMING

- **Paramparagat Krishi Vikas Yojana (PKVY):** The schemes stress on end-to-end support to farmers engaged in organic farming i.e. from production to processing, certification and marketing and post-harvest management.
    - Training and Capacity Building are integral parts of the scheme.

- **Mission Organic Value Chain Development for North Eastern Region (MOVCDNER):** The scheme is being implemented exclusively in the NE States to support farmers engaged in organic farming.

- **Jaivik Kheti portal** is a one stop solution for facilitating organic farmers to sell their organic produce and promoting organic farming and its benefits. This portal caters various stakeholders like local groups, individual farmers, buyers and input suppliers.

ORGANIC FARMING METHODS (PRACTICES)

The organic agriculture method needs strict compliance with the placed standards that define and also prohibit applicable techniques. Below is a list of some of the common and approved:

CROP ROTATION

Crop rotation simply means shifting from one species to another on the same land, season by season. It may also involve a fallow period within a given interval of time.

When compared with monoculture farming trends, crop rotation:

- Prevents soil erosion through different root systems.
- Gets rid of pests and weed infestations and also chemical contaminations to handle the problems.
- Increases yields and also lower costs involved.
- Protects the soil from depletion since different plants increase nutrient release hence getting rid of synthetic fertilizer uses that are not allowed in organic agriculture.

GREEN MANURES

- Combining green plants with soil increases organic matter and specifically nitrogen.
- Besides that, it also adds moisture levels and also increases nutrients for microorganisms leading to improved soil quality.
- Lastly, the above-explained method of agriculture lowers weed infestation.

ANIMAL MANURES

- This method of organic farming simply enriches the soil with natural components that are derived from animals and even both raw and composted materials.
- However, this method has restrictions the materials should not have any form of synthetic additives, the soil has to be tested prior to applications, and also manures are allowed at least three months to harvest.
- Composted forms are also highly used or recommended because they are more compact in terms of volume and also have fewer potential pathogens and also contaminants.

INTEGRATED WEED MANAGEMENT

Heavy chemicals are not allowed in organic farming. This is the reason why weed control is done through other alternatives to integrated weed

management. These are prevention, biological, cultural, and physical. They include:

- Manual weeding
- Preventing weed penetration onto the land using machinery, irrigation waters, and even animals
- Haymaking before weed seeding
- Mulching
- Natural chemicals to prevent germination
- Crop rotation
- Introducing populations of insects and birds to eat weed seeds

ZERO-BUDGET NATURAL FARMING (ZBNF)

India introduced ZBNF in its Budget 2019-20. It was first propagated by Subhash Palekar (who was conferred with Padma Shri in 2016) as a movement for farmers who were in debt due to the Green Revolution.
ZBNF is neither chemical-loaded nor organic. It seeks to reduce input costs to ZERO by avoiding chemical and manufactured inputs and encouraging farmers to rely upon natural products available locally.
It is considered a 'zero budget' because there is not much need to spend money on inputs and the costs of raising the main crop are offset by the income that farmers earn from intercrops.

Components of Zero-Budget Natural Farming (ZBNF) ZBNF promotes:

- Soil aeration,
- Minimal watering (saves electricity),
- Intercropping,
- Bunds and topsoil mulching
- ZBNF discourages intensive irrigation and deep ploughing.

It opposes the use of vermicompost. Instead, it recommends the revival of local deep soil earthworms through increased organic matter.

In ZBNF, chemical fertilizers and pesticides make way for locally available cow dung, cow urine, jaggery, etc., and treating seeds with natural

ingredients made on the farm by the farmer himself.

ZBNF promotes the application of

- Jivamrita/jeevamrutha: it is a fermented microbial culture. It provides nutrients and promotes the activity of micro-organisms and earthworms in the soil. It also helps to prevent fungal and bacterial plant diseases.
- **Bijamrita:** Bijamrita effectively protects young roots from fungus and soil-borne and seed-borne diseases. Jeevamrutha and Bijamrita are prepared from a mixture of desi cow dung & urine, jaggery, etc.
- **Acchadana/Mulching:** a protective layer of biomass on the soil.
- **Whapasa/Moisture:** Whapasa is the condition where there are both air molecules **and water molecules present in the soil**. It involves reducing irrigation, irrigating only at noon, in alternate furrows.

Also, ZBNF includes three methods of insect and pest management: **Agniastra, Brahmastra, and Neemastra** (preparations using cow urine, cow dung, tobacco, fruits, green chili, garlic, and neem).

WAY AHEAD

- **Enhance Market Access:** Expand procurement, branding, and retailing of organic produce through platforms like Amul and Jaivik Kheti.
- **Promote Awareness and Training:** Ensure that farmers receive technical guidance and training to meet certification norms and market expectations.
- **Expand Certification Infrastructure:** Simplify certification processes and increase availability of local certification bodies.

IAS ORIGIN

HERE IT BEGINS

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