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# Baba's Monthly

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**GAMMA RAY BURSTS**

**MALABAR EXERCISE**

**RIGHT TO VOTE**

**PIPRAHWA RELICS**



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# PRELIMS EXCLUSIVE MENTORSHIP PROGRAMME (PEP) 2026

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## PRELIMS



## POLITY &amp; GOVERNANCE



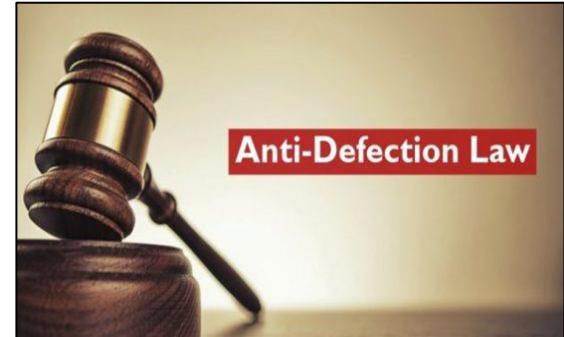
## ANTI-DEFECTION LAW

## Context:

- The Legislature Secretariat of Telangana has summoned four more MLAs of the Bharat Rashtra Samiti (BRS) who are facing charges of defection to the ruling Congress.

## About Anti-Defection Law:

- Evolution:**
  - In post-Independence India, frequent defections led to political instability. The phrase "Aaya Ram, Gaya Ram" became popular in the 1960s after a Haryana MLA switched parties multiple times in a single day.
  - To address this issue, the Anti-Defection Law was introduced as the Tenth Schedule to the Constitution through the 52nd Constitutional Amendment, 1985.
- Objective:** It aimed to stop political defections for personal gain. It applies to both Parliament and State Assemblies.
- Amendment:** The 91st Amendment Act (2003) amended the anti-defection law by scrapping the one-third split provision, allowing mergers only if two-thirds of a party's members agreed, and disqualifying defectors from holding ministerial or paid political posts until they are re-elected.
- Grounds for Disqualification:**
  - A member voluntarily gives up party membership (can be inferred from conduct, not just resignation).
  - A member votes or abstains from voting against the party whip can lead to disqualification.
  - A legislator can further be disqualified if he is an independently elected member and joins a political party.
  - A nominated member is disqualified if they join a political party after six months of becoming a legislator.
- Exceptions to Disqualification:**
  - A party can merge with another if two-thirds of its legislators agree, with no disqualification for those who merge or stay.
  - No disqualification for Speaker/Chairman/Deputy Chairman resigning from the party to remain neutral.
- Deciding authority:** Disqualification cases are decided by the Speaker/Chairman. There's no legally binding time frame for the Speaker to decide on disqualification cases, allowing for strategic delays.
- Judgements by SC:**
  - In *Kihoto Hollohan vs Zachillhu* (1992), the SC ruled that the Speaker's decisions are subject to judicial review. This means Courts can intervene in the Speaker's decision if there's mala fide intent, procedural lapse, or constitutional violation, ensuring fairness and transparency.
  - In *Keisham Meghachandra Singh vs The Hon'ble Speaker Manipur Legislative Assembly & Ors* (2020), the SC directed Speakers to decide defection cases within 3 months and



suggested an independent tribunal to ensure neutrality and speed. The SC noted that delaying disqualification proceedings violates the intent of Tenth Schedule and undermines trust in the Speaker's office by failing to uphold the standard of timely decision-making.

## NATIONAL LEGAL SERVICES AUTHORITY (NALSA)

### Context:

- November 9 is celebrated as the National Legal Services Day to commemorate the Legal Services Authorities Act, 1987 (which led to formation of NALSA).

### About National Legal Services Authority (NALSA):

- Formation:** The NALSA (National Legal Services Authority) was founded in 1995 under the Legal Services Authorities Act of 1987.
- Mandate:** It aims to monitor and review the effectiveness of legal aid programs and to develop rules and principles for providing legal services under the Act. It also distributes funding and grants to state legal services authorities and non-profit organisations to help them execute legal aid systems and initiatives.
- Constitutional Provisions:**
  - Article 39A of the Constitution of India provides that State shall secure that the operation of the legal system promotes justice on a basis of equal opportunity, and shall in particular, provide free legal aid, by suitable legislation or schemes.
  - Articles 14 and 22(1) also make it obligatory for the State to ensure equality before law and a legal system which promotes justice on a basis of equal opportunity to all.
- Objectives of Legal Services Authorities:**
  - Provide free legal aid and advice.
  - Spread legal awareness.
  - Organise lok adalats.
  - Promote settlements of disputes through Alternative Dispute Resolution (ADR) mechanisms such as arbitration, conciliation and judicial settlement.
  - Provide compensation to victims of crime.
- Eligibility:**
  - The eligible persons include women and children, members of SC/ST, industrial workmen, victims of mass disaster, violence, flood, drought, earthquake, industrial disaster, disabled persons and persons in custody.
  - Those persons who have annual income of less than the amount prescribed by the respective State Government, if the case is before any court other than the Supreme Court (SC), and less than Rs. 5 Lakhs, if the case is before the SC.



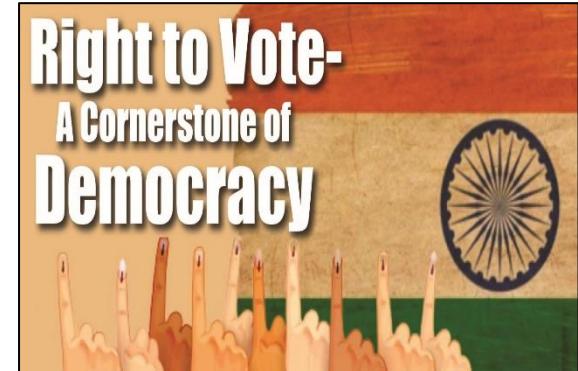
## RIGHT TO VOTE

### Context:

- The Centre has argued in the Supreme Court that the 'right to vote' in an election is different from the 'freedom of voting', and while one is a mere statutory right, the second is a part of the fundamental right to freedom of speech and expression.

**About Right to Vote:**

- **Significance:** It is the cornerstone of our democracy, allowing citizens to have a say in who governs them and how they are governed. The ability to vote is not only a right, but a responsibility, as it ensures that the voices of all citizens are heard and that their interests are represented in the government.
- **Protected by UDHR:** The right to vote is not just a privilege, but a basic human right. It is protected by the Universal Declaration of Human Rights (1948) and the International Covenant on Civil and Political Rights (1966).
- **Constitutional provision:** The Constitution of India, under Article 326, guarantees universal adult franchise, stating that every citizen aged 18 or above is entitled to vote, provided they are not disqualified under law.
- **Amendment:** The 61<sup>st</sup> Constitutional Amendment Act, 1988, lowered the voting age of elections to the Lok Sabha and to the Legislative Assemblies of States from 21 years to 18 years (earlier it was 21 years).
- **Legal provisions:**
  - Representation of the People Act, 1950 (RP Act, 1950): Section 16 disqualifies non-citizens from being enrolled in electoral rolls. Further, Section 19 requires voters to be ordinarily resident and aged 18 or more on the qualifying date.
  - Representation of the People Act, 1951 (RP Act, 1951): Section 62 allows voting for all enrolled individuals unless disqualified by law or imprisoned.
- **Important judgements by SC:**
  - N.P. Ponnuswami Case (1952): The Supreme Court held that the right to vote is purely statutory.
  - PUCL Case (2003): Justice P.V. Reddy observed that even if not fundamental, the right to vote could be considered a constitutional right.
  - Kuldip Nayar Case (2006): The Supreme Court reverted to viewing voting as a statutory right.
  - Anoop Baranwal Case (2023): Majority opinion once again concluded that the right to vote is statutory


**NATIONAL COMPANY LAW APPELLATE TRIBUNAL (NCLAT)**
**Context :**

- Supreme Court said that CJI must deal with claim that HC judge approached National Company Law Appellate Tribunal (NCLAT) member on order.

**About National Company Law Appellate Tribunal (NCLAT):**

- **Nature:** The NCLAT is a quasi-judicial body constituted under Section 410 of the Companies Act, 2013. It was established to hear appeals against the decisions of the National Company Law Tribunal (NCLT), functioning since 1st June 2016.
- **Objective:** Its main objective is to promote timely corporate dispute resolution, ensure transparency, and improve efficiency in insolvency and corporate governance matters.
- **Functions:**
  - Hearing appeals against orders of NCLT under Section 61 of IBC.

- Hearing appeals against orders of the Insolvency and Bankruptcy Board of India (IBBI) under Sections 202 and 211 of IBC.
- Hearing appeals against orders of the Competition Commission of India (CCI).
- Hearing appeals related to the National Financial Reporting Authority (NFRA).
- Giving advisory opinions when legal issues are referred by the President of India.
- **Headquarters:** Its headquarters is located in New Delhi.
- **Composition:** It includes a Chairperson, along with Judicial and Technical Members, all appointed by the Central Government based on expertise in law, finance, accountancy, and administration.
- **Regulation:** It can regulate its own procedure and possesses powers equivalent to a civil court under the Civil Procedure Code, 1908.
- **Powers:** It can summon witnesses, receive affidavits, enforce production of documents, and issue commissions. Orders passed by NCLAT are enforceable like civil court decrees.
- **Appeals:** Appeals against NCLAT orders can be filed in the Supreme Court of India.
- **Exceptions:** Civil courts have no jurisdiction over matters within the purview of NCLAT. No court or authority can grant injunctions against any action taken by NCLAT under its legal authority.
- **Disposal of appeals:** NCLAT is required to dispose of appeals within six months from the date of receipt to ensure swift resolution.



## INTERNATIONAL INSTITUTE FOR DEMOCRACY AND ELECTORAL ASSISTANCE

### Context:

- CEC of India is set to assume the role of the Chairperson of International Institute for Democracy and Electoral Assistance (International IDEA) for the year 2026.

### About International Institute for Democracy and Electoral Assistance (International IDEA):

- **Establishment:** It is an inter-governmental organisation established in 1995 to strengthen democratic institutions and electoral processes worldwide.
- **Objective:** The objectives of the Institute are to support stronger democratic institutions and processes, and more sustainable, effective and legitimate democracy.
- **Secretariat:** Its secretariat is located in Stockholm, Sweden.
- **Association with UN:** International IDEA has been granted UN observer status.
- **Member countries:** It currently has 35 member countries, with the United States and Japan as observers. India is a founding member of International IDEA.
- **Governance:** The Institute's governance consists of a Council of Member States, a Steering Committee, a Finance and Audit Committee, a Board of Advisers and a Secretariat, led by the Secretary-General.
- **Major functions:** Its working modalities include four elements: knowledge production, capacity development, advocacy as well as convening of dialogues.



- **Focus areas:** It focuses on six workstreams namely:
  - Electoral Processes
  - Constitution-Building
  - Democracy Assessment
  - Political Participation and Representation
  - Climate Change and Democracy
  - Digitalization and Democracy

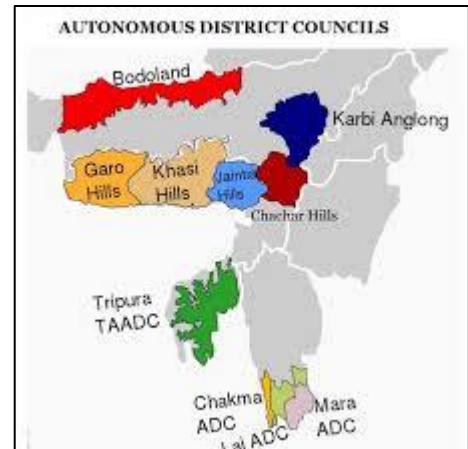
## SIXTH SCHEDULE

### Context:

- The Leh Apex Body (LAB), which is spearheading an agitation over Statehood and Sixth Schedule status for Ladakh, submitted a draft proposal to the Ministry of Home Affairs.

### About 6th Schedule:

- **Constitutional provision:** The Sixth Schedule of the Constitution, under Article 244(2) and Article 275(1) of the Constitution, is provided for the administration of tribal areas in Assam, Meghalaya, Tripura, and Mizoram.
- **Objectives:**
  - To protect tribal land and resources and prohibits the transfer of such resources to non-tribal individuals or communities.
  - To ensure the tribal communities are not exploited or marginalized by non-tribal populations and that their cultural and social identities are preserved and promoted.
- **Creation of Autonomous districts and autonomous regions:**
  - The tribal areas in the four states of Assam, Meghalaya, Tripura, and Mizoram are to be administered as Autonomous Districts.
  - If there are different Scheduled Tribes in an autonomous district, the Governor can divide the district inhabited by them into Autonomous Regions.
  - The Governor is empowered to organize and reorganize the autonomous districts. He can also increase, decrease the boundaries or alter the name of any autonomous district.
- **Constitution of District Councils and Regional Councils:**
  - There shall be a District Council for each autonomous district consisting of not more than 30 members, of whom not more than four persons shall be nominated by the Governor, and the rest shall be elected on the basis of adult suffrage.
  - There shall be a separate Regional Council for each area constituted an autonomous region.
- **Powers of the District Councils and Regional Councils:**
  - The District and Regional councils are empowered to make laws on certain specified matters like lands, management of forest (other than the Reserved Forest), inheritance of property, etc.
  - These councils also empowered to make law for the regulations and control of money-lending or trading by any person other than Scheduled Tribe residents in that Scheduled District.



- However, all laws made under this provision require the assent of the Governor of the State.
- **Administration of justice in autonomous districts and autonomous regions:**
  - The District and Regional Councils are empowered to constitute Village and District Council Courts for the trial of suits and cases where all parties to the dispute belong to Scheduled Tribes within the district.
  - The High Courts have jurisdiction over the suits and cases which is specified by the Governor.
  - However, the Council Courts are not given the power to decide cases involving offenses punishable by death or imprisonment for five or more years.
- **Exceptions:** To autonomous districts and autonomous regions, the acts of Parliament or the state legislature do not apply or apply with specified modifications and exceptions. The Governor can appoint a commission to investigate and provide a report on any issue pertaining to the autonomous districts or regions.

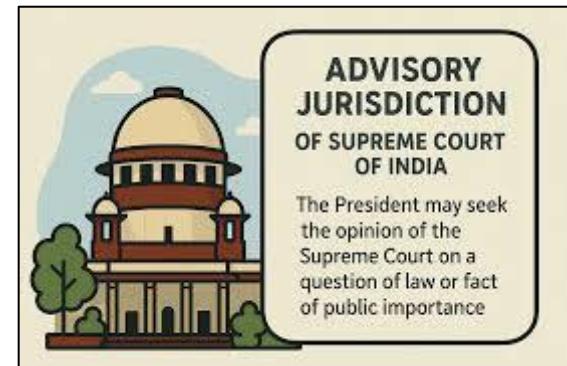
## ADVISORY JURISDICTION OF SC

### Context:

- The Supreme Court has provided its opinion on a Presidential reference made under Article 143.

### About Advisory Jurisdiction of SC:

- **Related Article:** Article 143 (Advisory jurisdiction) empowers the President of India to seek the SC's advisory opinion on any question of law or fact that is of public importance and is likely to arise or has already arisen.
- **Exclusivity:** The SC's advisory jurisdiction is exclusive to the President.
- **Significance:** It gives the President the power to refer any question of law or fact of public importance to the Supreme Court for its opinion, based on the Union Council of Ministers' advice.
- **Opinion not binding:** The opinion expressed by the SC is only advisory and not a judicial pronouncement. Hence, it is not binding on the president; she may follow or may not follow the opinion.
- **Acts as authoritative legal opinion:** Though advisory in nature, it facilitates the government to have an authoritative legal opinion on a matter to be decided by it.
- **Minimum bench of 5 judges:** Article 145 (3) requires such references to be heard by a bench of at least five judges.
- **Historical Context:**
  - Advisory jurisdiction under Article 143 is derived from the Government of India Act, 1935, which allowed the Governor-General to refer legal questions to the federal court.
  - The Canadian Constitution allows its SC to provide legal opinions, while the US SC refrains from giving advisory opinions to uphold a strict separation of powers.
- **Past Instances of Such References: Some landmark cases include:**
  - Delhi Laws Act case (1951): Defined the scope of delegated legislation.
  - Kerala Education Bill (1958): Harmonized Fundamental Rights with Directive Principles.
  - Berubari case (1960): Held that territorial cession requires a constitutional amendment.
  - Keshav Singh case (1965): Explained legislative privileges.



- Presidential poll case (1974): Allowed elections despite vacancies in State Assemblies.
- Third Judges case (1998): Established the Collegium system for judicial appointments.

## SPECIAL LEAVE PETITION (SLP)

### Context:

- The Jammu & Kashmir HC has observed that dismissal of a Special Leave Petition (SLP), does not lead to merger of the impugned order with the Supreme Court's order.

### About Special Leave Petition (SLP):

- **Definition:** A SLP is a request made to the Supreme Court seeking special permission to appeal against any judgment, order, or decree from any court or tribunal (except military tribunals), even when the law does not provide a statutory right of appeal.
- **Not a right:** Special Leave Petition (SLP) is not a right—it's a privilege granted by the Supreme Court at its discretion. It is a discretionary/optional power of the SC, and the court can refuse to grant the appeal at its discretion.
- **Constitutional provision:** Article 136 states that the Supreme Court may, in its discretion, grant special leave to appeal from any judgment, decree, determination, or order from any court or tribunal in India.
- **Conditions for using SLP:** It can only be exercised when a substantial question of law or gross injustice has been committed. A judgement, decree, or order need not be final for an SLP. An interim or interlocutory order or decree can also be challenged.
- **Filed by:** SLP can be filed by any aggrieved party (individual or business), government bodies, public sector undertakings or NGOs or associations (in relevant cases).
- **Filed against:** SLP can be filed against judgments from High Courts, Tribunals (except those under armed forces) or Quasi-judicial bodies.
- **Time limit to file SLP:** It can be filed against any judgment of the High Court within 90 days from the date of judgment or it can be filed within 60 days against the order of the High Court refusing to grant the certificate of fitness for appeal to SC.
- **Procedure for a SLP:** A SLP must contain all the facts upon which the SC is to decide, which revolve around the grounds on which an SLP can be filed. The said petition needs to be duly signed by an Advocate-on-Record. The petitioner must include a statement within the SLP stating that no other petition has been filed in a High Court.
- **Acceptance or rejection by SC:** Once the petition is filed, the SC will hear the aggrieved party and depending upon the merits of the case, will allow the opposite party to state their part in a counter affidavit. After the hearing, if the court deems the case fit for further hearing, it will allow the same; otherwise, it will reject the appeal.





## INTERNATIONAL RELATIONS



### ASIA-PACIFIC ECONOMIC COOPERATION (APEC)

#### Context:

- Chinese President Xi Jinping takes centre stage at Asia-Pacific Economic Cooperation (APEC) meet and promises to defend global free trade.



#### About Asia-Pacific Economic Cooperation (APEC):

- Nature:** The Asia-Pacific Economic Cooperation is a regional economic forum and was formed in 1989.
- Objective:** The aim of the grouping is to "leverage the growing interdependence of the Asia-Pacific and create greater prosperity for the people of the region through regional economic integration."
- Focus:** The focus of APEC has been on trade and economic issues and hence, it terms the countries as "economies."
- Non-binding commitments:** APEC operates based on no binding commitments or treaty obligations. Commitments are undertaken voluntarily and capacity-building projects help members implement APEC initiatives.
- Member Countries:** Currently, APEC has 21 members, which includes Australia, Brunei, Hong Kong, New Zealand, Papua New Guinea, the Philippines, Indonesia, China, Japan, South Korea, Russia, Canada, the United States, Mexico, Peru, Chile, Malaysia, Vietnam, Singapore, Thailand and Taiwan.
- Membership criterion:** The criterion for membership, however, is that each member must be an independent economic entity, rather than a sovereign state.
- India as member:** India was not its member till 1997 as it still had too many rules and restrictions. Further, the group decided to stop accepting new members in 1997, to focus on improving the existing cooperation among the current members. So, India is not its member and currently has the 'observer' status.

- **Significance:** Since its formation, the grouping championed the lowering of trade tariffs, free trade, and economic liberalisation. In the Seoul Declaration (1991), APEC member economies proclaimed the creation of a liberalised free trade area around the Pacific Rim as the principal objective of the organisation.
- **Contribution in world trade:** APEC accounts for approximately 62% of world GDP and about half of world trade. It is one of the oldest and most influential multilateral platforms in the Asia-Pacific region.

## BRICS

### Context:

- For over a decade, the BRICS have taken a series of steps showing their increasing determination to reduce dependence on the dollar-dominated international financial system.



### About BRICS:

- **Nomenclature:** The acronym 'BRIC' was coined by British economist Jim O'Neill in 2001 to represent the emerging economies of Brazil, Russia, India, and China.
- **Evolution:** BRIC began functioning as a formal group during the G-8 Outreach Summit in 2006, held its first summit in Russia in 2009, and became BRICS with the inclusion of South Africa in 2010.
- **Members:** The initial five BRICS members were Brazil, Russia, India, China, and South Africa. In 2024, Iran, the United Arab Emirates (UAE), Egypt, and Ethiopia joined the group while Indonesia joined in 2025. Saudi Arabia has not yet formalised its BRICS membership, while Argentina, initially expected to join in 2024, later opted out.
- **Significance:** BRICS accounts for 45% of the world's population and 37.3% of global GDP, surpassing the EU's 14.5% and the G7's 29.3%.
- **Important for energy security:** With Iran, Saudi Arabia, and the UAE joining, BRICS now accounts for around 44% of global crude oil production positioning it as a key player in ensuring energy security and influencing oil prices and supply chains.
- **Key Initiatives of BRICS:** These include New Development Bank (2014), Contingent Reserve Arrangement (CRA), BRICS Grain Exchange, BRICS Rapid Information Security Channel, STI Framework Programme (2015) etc.

### About New Development Bank:

- **Focus on developing countries:** NDB is a multilateral development bank established by BRICS with the purpose of mobilising resources for infrastructure and sustainable development projects in emerging markets and developing countries (EMDCs).
- **Fortaleza declaration:** The Agreement was signed during the BRICS Summit held in Fortaleza in 2014, and the Bank started operations in 2015.
- **Headquarters:** Its headquarters is in Shanghai, China, with regional offices in South Africa and Brazil.
- **Members:** Apart from the founding members, Bangladesh and United Arab Emirates, Egypt, and Uruguay are the new members. The membership is open to members of the United Nations.
- **Voting power:** The voting power of each member shall equal its subscribed shares in the capital. However, the share of the BRICS nations can never be less than 55% of the voting power. Also, none of the countries will have veto power.

## GULF COOPERATION COUNCIL (GCC)

### Context :

- The Gulf Cooperation Council has approved a landmark one-stop travel system designed to streamline movement across member states.

### About Gulf Cooperation Council (GCC):

- **Establishment:** It is a regional political and economic alliance established in 1981.
- **Members:** The member countries include Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates (UAE).
- **Objective:** It aims to foster economic, security, cultural, and social cooperation among its members. This cooperation is based on common Islamic values, tribal links, and mutual security and development goals.
- **History:** It was formed in response to escalating regional tensions, particularly the Iranian Revolution (1979) and the Iran-Iraq War (1980–1988).
- **Headquarters:** Its headquarters is located in Riyadh, Saudi Arabia.
- **Significance:** GCC countries are located strategically along the Persian Gulf, linking Europe, Asia, and Africa through maritime routes. Further, the bloc controls around 30% of global oil reserves and is a major exporter of natural gas.
- **Organizational Structure:** Supreme council is the highest authority of the GCC, composed of the heads of the member states. Ministerial council is composed of foreign ministers or their representatives from member states. It proposes policies and implements decisions of the Supreme Council.
- **About One-stop Travel System:**
  - It is part of the GCC's ambitious push to eliminate redundant travel procedures and foster stronger cooperation between member states.



- It will allow Gulf citizens to complete all travel procedures including immigration, customs and security checks at a single checkpoint.

## APDIM

### Context:

- Recently, the 10th Session of the Asian and Pacific Centre for Development of Disaster Information Management (APDIM) took place at Vigyan Bhawan in New Delhi.

### About APDIM:

- **Nomenclature:** APDIM stands for Asian and Pacific Centre for Development of Disaster Information Management.
- **Nature:** It is a regional institution of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP).
- **Vision:** Its vision is to ensure effective disaster risk information is produced and used for sustainable development in Asia and the Pacific.
- **Mandate:** It aims to reduce human and material losses due to natural hazards and contribute to the effective design, investment and implementation of disaster risk reduction and resilience policies.
- **Administration:** It is governed by a Governing Council consisting of eight ESCAP member countries elected for a period of three years (India is one of the members for a period from 2022 to 2025).
- **Headquarters:** Its headquarters is located in Tehran, Iran.
- **Functions:** It functions as a regional facility to strengthen the science-policy interface. It also promotes effective regional cooperation, facilitates dialogue.
- **Facilitates disaster management between countries:** It facilitates the exchange of expertise, experiences, and knowledge in disaster information management between and within the countries of the region.
- **Acts as a knowledge hub:** It acts as a regional knowledge hub, consolidating and sharing disaster-related data, strengthening information systems, and supporting cooperation on transboundary hazards.



## COMMONWEALTH NATIONS

### Context:

- Recently, Commonwealth Sport's General Assembly in Glasgow formally confirmed Ahmedabad as the venue of centenary edition of the Commonwealth Games 2030.

### About Commonwealth Nations:

- **Nature:** It is a voluntary association of several countries, mostly formerly British colonies, with shared goals of development, democracy, and peace.
- **Historical Genesis:**

- Imperial Conference (1926): UK and Dominions agreed to be equal members within the British Empire, owing allegiance to the monarch but retaining autonomy.
- London Declaration (1949): Established the Modern Commonwealth of Nations, allowing republics and non-British monarchies to join.
- **Membership:** It is composed of 56 independent countries, most formerly British colonies. Membership is voluntary, and any country can join.
- **Governance:** It is guided by the Commonwealth Charter, promoting development, democracy, and peace, with the Commonwealth Secretariat in London supporting member states in achieving these goals.
- **India and the Commonwealth:** India is the largest Commonwealth member by population and the 4th largest financial contributor. It has hosted the Commonwealth Summit (1983) and the Commonwealth Games (2010) in New Delhi.



#### About Commonwealth Games:

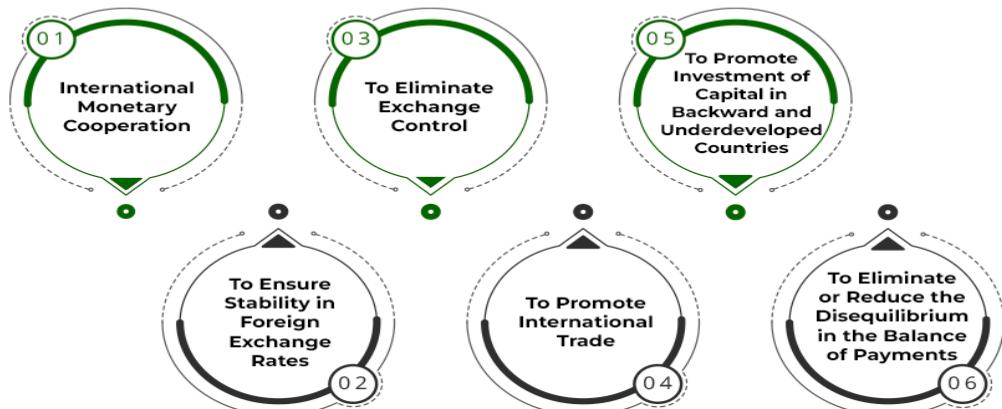
- **Nature:** It is the world's 2nd largest multi-sports event (after Olympic Games), bringing together athletes from 71 nations and territories and celebrating the diversity and unity of the Commonwealth.
- **First edition:** It was first held in 1930 in Hamilton, Canada as the British Empire Games.
- **Nomenclature:** The event was known as the British Empire and Commonwealth Games in 1954, before being renamed the Commonwealth Games from 1978 onwards.
- **Governing Body:** Commonwealth Games Federation (CGF) is responsible for the direction and control of the Games.
- **Frequency:** It is held once every 4 years and is often referred to as the Friendly Games, reflecting the core values of Humanity, Equality, and Destiny.
- **Promotes diversity:** It promotes sports, education, and recreation while celebrating the Commonwealth's cultural and linguistic diversity.

## INTERNATIONAL MONETARY FUND (IMF)

#### Context :

- The International Monetary Fund's annual review has given India's national accounts statistics, a grade of 'C', the second-lowest rating.

### Objectives of International Monetary Fund(IMF)



### About International Monetary Fund (IMF):

- **Nature:** The International Monetary Fund (IMF) is an organization of 191 member countries, each of which has representation on the IMF's executive board in proportion to its financial importance.
- **Establishment:** The IMF, also known as the Fund, was conceived at a UN conference in Bretton Woods, New Hampshire, United States, in July 1944.
- **Reason behind its foundation:** The 44 countries at that conference sought to build a framework for economic cooperation to avoid a repetition of the competitive devaluations that had contributed to the Great Depression of the 1930s.
- **Major objectives:**
  - To foster global monetary cooperation
  - To secure financial stability and facilitate international trade
  - To promote high employment and sustainable economic growth
  - To reduce poverty around the world and ensure macro-economic growth
  - To promote exchange rate stability, and an international payment system
- **Governance setup:**
  - Board of Governors: It consists of one governor and one alternate governor for each member country. Each member country appoints its two governors.
  - Ministerial Committees: The Board of Governors is advised by two ministerial committees- International Monetary and Financial Committee (IMFC) and Development Committee.
  - Executive Board: It is 24-member Executive Board elected by the Board of Governors.
- **Management:** IMF's Managing Director is both chairman of the IMF's Executive Board and head of IMF staff. The Managing Director is appointed by the Executive Board by voting or consensus.
- **Membership:** Any other state, whether or not a member of the UN, may become a member of the IMF in accordance with IMF Articles of Agreement and terms prescribed by the Board of Governors. Membership in the IMF is a prerequisite to membership in the International Bank for Reconstruction and Development (IBRD).
- **Quota system:** On joining the IMF, each member country contributes a certain sum of money, called a quota subscription, which is based on the country's wealth and economic performance. Members' voting power is related directly to their quotas (the amount of money they contribute to the institution).
- **Use of SDRs:** Special Drawing Rights (SDRs) is the IMF's unit of account and not a currency. The currency value of the SDR is determined by summing the values in U.S. dollars, based on market exchange rates, of a SDR basket of currencies (U.S. dollar, Euro, Japanese yen, pound sterling and the Chinese renminbi).
- **Capacity Development:** It provides technical assistance and training to central banks, finance ministries, tax authorities, and other economic institutions.

## UN WATER CONVENTION

### Context:

- Bangladesh's accession to the UN Water Convention has a ripple effect that could cause problems with India after Bangladesh became the first country in South Asia to join the convention.

### About UN Water Convention:

- **Nomenclature:** It is also known as the Convention on the Protection and Use of Transboundary Watercourses and International Lakes.
- **Adoption:** It was adopted in Helsinki in 1992 and entered into force in 1996.

- Amendment:** It was originally negotiated as a regional framework for the pan-European region. Following an amendment procedure, since March 2016 all UN Member States can accede to it.
- Legally binding:** It is a unique legally binding instrument promoting the sustainable management of shared water resources, the implementation of the Sustainable Development Goals, the prevention of conflicts, and the promotion of peace and regional integration.
- Mandate:** It requires Parties to prevent, control and reduce transboundary impact, use transboundary waters in a reasonable and equitable way and ensure their sustainable management. Parties bordering the same transboundary waters have to cooperate by entering into specific agreements and establishing joint bodies.
- Does not replace bilateral and multilateral agreements:** As a framework agreement, the Convention does not replace bilateral and multilateral agreements for specific basins or aquifers; instead, it fosters their establishment and implementation, as well as further development.
- Significance:** It is a powerful tool to promote and operationalize the achievement of the 2030 Agenda for Sustainable Development and its SDGs.



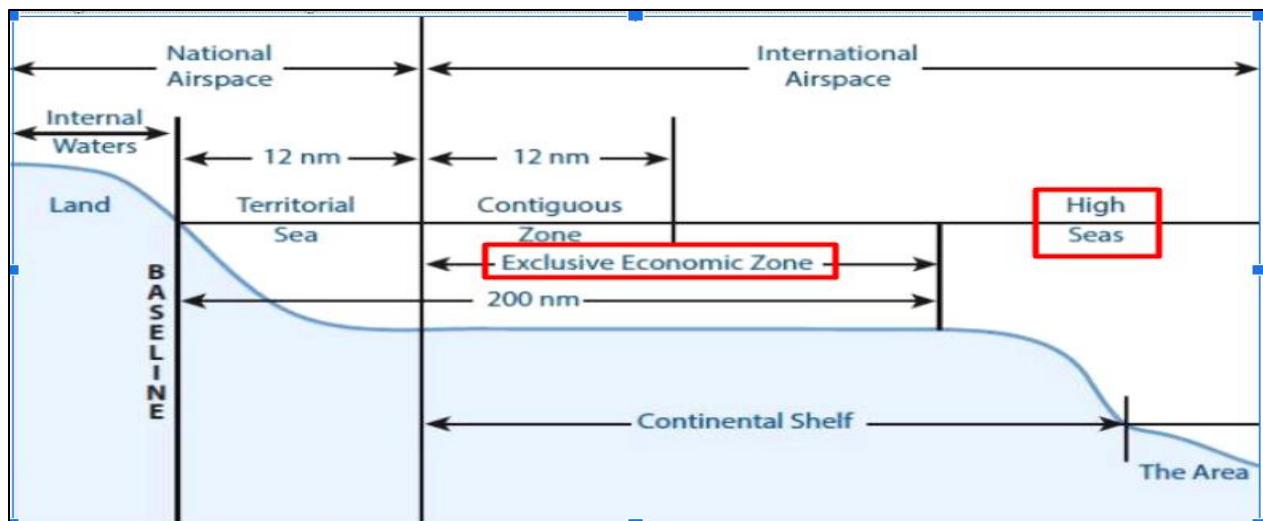
WATER CONVENTION



## HIGH SEAS TREATY

### Context :

- The High Seas Treaty was ratified by over 60 countries in September and it will now be enforced in January 2026.



### About High Seas:

- Definition of high Seas:** According to the 1958 Geneva Convention on the High Seas, parts of the sea that are not included in the territorial waters or the internal waters of a country are known as the high seas. It is the area beyond a country's Exclusive Economic Zone (that extends up to 200 nautical miles from the coastline) and till where a nation has jurisdiction over living and non-living resources.
- Significance of high seas:** The high seas cover over 64% of the world's oceans and 50% of the Earth's surface, making them vital for marine life. They are home to around 270,000 known species, with many yet to be discovered.

- **Influence on climate:** The high seas regulate climate, absorb carbon, store solar radiation, and distribute heat, crucial for planetary stability and mitigating climate change.

#### About High Seas Treaty:

- **Formal name:** It is formally called the Agreement on Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction. In short, known as BBJN or High Seas Treaty.
- **Under UNCLOS:** It is a new international legal framework under UNCLOS for maintaining the ecological health of the oceans.
- **Objective:** The treaty was negotiated in 2023 and is meant to reduce pollution, and promote the conservation and sustainable use of biodiversity and other marine resources in ocean waters outside the national jurisdiction of any country.
- **Focus on fair and equitable sharing:** It identifies Marine Genetic Resources (MGRs) as the common heritage of humankind, and insists on a fair and equitable sharing of benefits.
- **Includes EIAs:** The treaty also entails Environmental Impact Assessments (EIAs) for events potentially affecting these areas, especially when cumulative and transboundary impacts are taken into account.
- **Evolution:**
  - The first steps for the treaty began two decades ago. In 2004, the UN General Assembly formed an ad-hoc working group to fix the gap in the UN Convention on the Law of the Sea (UNCLOS), 1982, which did not have clear guidelines on protecting BBNJ.
  - By 2011, states had agreed to negotiate on four key issues, mainly MGRs, ABMTs, EIAs, and capacity building and technology transfer. Following this, four Intergovernmental Conference sessions were held between 2018 and 2023.
  - The parties to these discussions finally reached an agreement in March 2023, which led to the adoption of the treaty in June 2023.



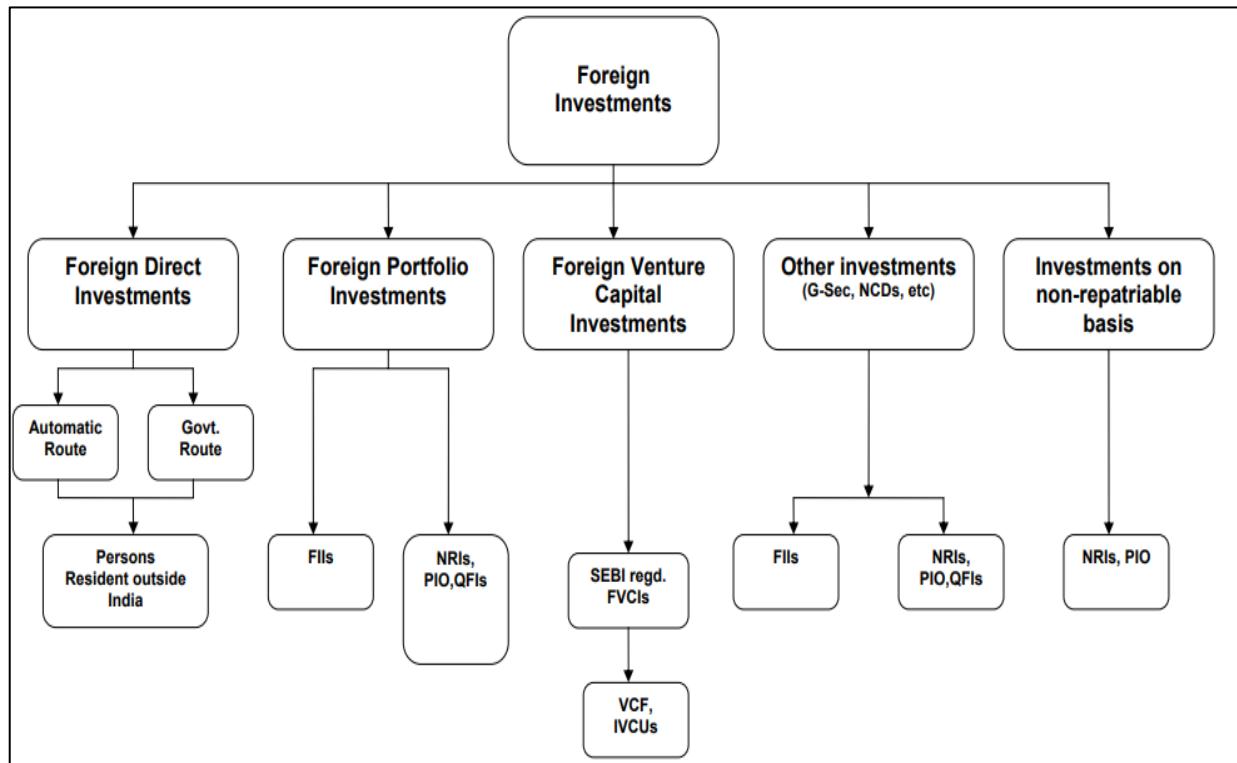
## ECONOMY



## FOREIGN PORTFOLIO INVESTMENT (FPI)

## Context:

- Foreign Portfolio Investors net bought equities worth ₹14,610 crore in October after three consecutive months of selling, the strongest inflow since July this year.



## About Foreign Portfolio Investment (FPI):

- Definition:** Foreign portfolio investment (FPI) consists of securities and other financial assets passively held by foreign investors. It does not provide the investor with direct ownership of financial assets and is relatively liquid depending on the volatility of the market.
- Composition:** FPIs include stocks, bonds, mutual funds, exchange traded funds, American Depository Receipts (ADRs), and Global Depository Receipts (GDRs).
- Part of capital account:** FPI is part of a country's capital account and is shown on its Balance of Payments (BOP). The BOP measures the amount of money flowing from one country to other countries over one monetary year.
- Regulated by SEBI:** The Securities and Exchange Board of India (SEBI) brought new FPI Regulations, 2019, replacing the erstwhile FPI Regulations of 2014.
- Hot money:** FPI is often referred to as "hot money" because of its tendency to flee at the first signs of trouble in an economy. FPI is more liquid, volatile and therefore riskier than FDI.
- Key features:** Investors do not participate in the management of the company. It aims for capital appreciation rather than long-term strategic interests. Further, it provides capital flow into financial markets, increasing efficiency and investment potential.
- Difference with FDI:** A foreign investor can hold up to 10% of the total paid-up capital of an Indian company without being classified as an FDI. If the holding exceeds 10%, it is reclassified as Foreign Direct Investment (FDI).

**About FOREX Reserves:**

- **Nature:** Foreign exchange (FOREX) reserves are assets held on reserve by a central bank in foreign currencies, which can include bonds, treasury bills and other government securities.
- **Dominated by dollars:** It needs to be noted that most foreign exchange reserves are held in US dollars.
- **India's Forex Reserve include:**
  - Foreign Currency Assets
  - Gold reserves
  - Special Drawing Rights
  - Reserve Tranche Position with the International Monetary Fund (IMF).

### INDIAN INSTITUTE OF PACKAGING (IIP)

**Context :**

- Indian Institute of Packaging (IIP), an autonomous body under the Ministry of Commerce and Industry (MoCI), opened its Bengaluru Centre recently.

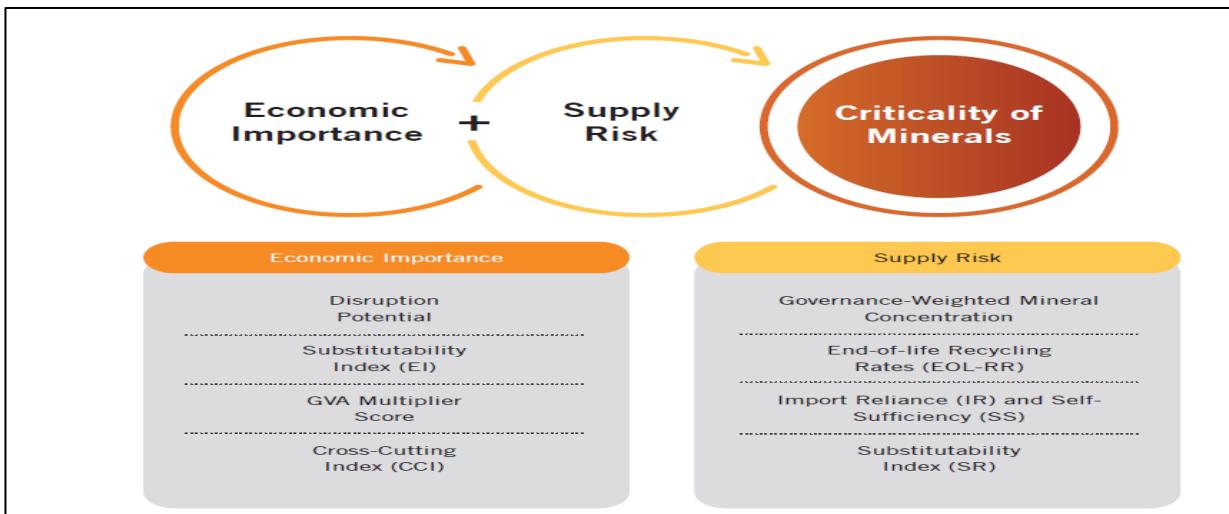

**About Indian Institute of Packaging (IIP):**

- **Nature:** It is an autonomous body in the field of packaging and working under the administrative control of the Ministry of Commerce and Industry, Government of India.
- **Establishment:** It was established on 14th May, 1966, and the institute set up its first branch office at Chennai in 1971, followed by branches at Kolkata, Delhi, and Hyderabad in 1976, 1986, and 2006, respectively.
- **Headquarters:** Its headquarters and principal laboratories are located in Mumbai.
- **Objective:** The main objective of the Institute is to promote the export market by way of innovative package design and development as well as to upgrade the overall standards of packaging in the country.
- **Activities involved:** The Institute is involved in various activities like testing and evaluation of packaging materials and packages, consultancy services, and research & development related to packaging. Besides this, the Institute is involved in training and education in the field of packaging.
- **Closely associated with export promotion councils:** It imparts training in innovative and aesthetic packaging to the artisans, weavers, exporters, stakeholders, etc. It is closely working with various commodity boards and export promotion councils such as APEDA, Spices Board, MPEDA, Tea Board, MoFPI, and others.
- **Member of various packaging federations:** The Institute has linkages with international organisations and is a founding member of the Asian Packaging Federation (APF); a member of the Institute of Packaging Professionals (IOPP), USA; the Institute Packaging (IOP), UK; Technical Association of Pulp and Paper Industry (TAPPI), USA.
- **Events:** The Institute organizes a biannual event i.e. International Packaging Exhibition, i.e., INDIAPACK, and a national contest for excellence in packaging, i.e., INDIASTARA.

## CRITICAL MINERALS

### Context:

- Seeking to reduce import dependency in the supply chain of critical minerals, the Union Cabinet approved the rationalisation of royalty rates of graphite, caesium, rubidium and zirconium.



### About Critical Minerals:

- Definition:** Critical minerals are those minerals which are essential for economic development and national security of a country.
- Significance:** The lack of availability of these minerals or even concentration of existence, extraction or processing of these minerals in few geographical locations may lead to supply chain vulnerability and disruption.
- Top Producers:** Top producing countries of critical minerals include Chile, Indonesia, Congo, China, Australia, and South Africa.
- Uniqueness:** Their 'criticality' changes over time depending on technological demand and supply dynamics. Further, countries identify minerals critical for them based on their national priorities.
- Foundation of Modern Technology:** Critical minerals are the foundation on which modern technology is built. They are used in a wide range of essential products, from mobile phones to solar panels to electric vehicle batteries to medical applications.
- Important for futuristic economy:** The future global economy will be powered by technologies that depend on minerals such as lithium, graphite, cobalt, titanium and rare earth elements.
- Initiatives taken for critical minerals in India:**
  - Planning Commission: A Planning Commission report (now NITI Aayog) in 2011 highlighted the need for the assured availability of mineral resources for the country's industrial growth. 12 minerals and metals were identified as strategic minerals which included Tin, Cobalt, Lithium, Germanium, Gallium, Indium, Niobium, Beryllium, Tantalum, Tungsten, Bismuth and Selenium.
  - Geological Survey of India (GSI): A strategic plan for enhancing REE exploration in India was jointly submitted by the Geological Survey of India (GSI) and Atomic Mineral Division (AMD).
  - Ministry of Mines: In 2023, the Ministry of Mines released a list of 30 critical minerals for India. These minerals are Antimony, Beryllium, Bismuth, Cobalt, Copper, Gallium, Germanium, Graphite, Hafnium, Indium, Lithium, Molybdenum, Niobium, Nickel, PGE, Phosphorous, Potash, REE, Rhenium, Silicon, Strontium, Tantalum, Tellurium, Tin, Titanium, Tungsten, Vanadium, Zirconium, Selenium, and Cadmium.

- National Critical Mineral Mission (NCMM): The Government of India launched the NCMM in 2025 to establish a robust framework for self-reliance in the critical mineral sector. The NCMM encompasses all stages of the value chain, including mineral exploration, mining, beneficiation, processing, and recovery from end-of-life products.

## DIRECTORATE GENERAL OF CIVIL AVIATION (DGCA)

### Context:

- The Directorate General of Civil Aviation (DGCA) has proposed revised airfare refund norms requiring airlines to issue a full refund or credit note if a passenger cancels a flight due to a medical emergency, among several other changes.

### About Directorate General of Civil Aviation (DGCA):

- **Nodal ministry:** It is the regulatory body in the field of civil aviation primarily dealing with safety issues. It is an attached office of the Ministry of Civil Aviation.
- **Objective:** It is responsible for regulation of air transport services to/from/within India and for enforcement of civil air regulations, air safety and airworthiness standards. It also coordinates all regulatory functions with the International Civil Aviation Organisation.
- **Headquarters:** Its headquarters is located in New Delhi.
- **Functions:** It ensures the safety of passengers and crew members on all flights operating in India. It also conducts regular safety inspections of all airlines and aircraft to meet the required safety standards.
- **Manages air traffic control systems:** The DGCA also plays a key role in developing new air traffic control systems and technologies to improve the overall efficiency of Indian airspace.
- **Awards certificates to pilots:** The DGCA is also responsible for issuing licenses and certificates to pilots, aircraft maintenance engineers, and other aviation personnel.
- **Works closely with AAI:** The DGCA is also responsible for the regulation of air traffic in India. It works closely with the Airports Authority of India (AAI) to ensure air traffic is managed safely and efficiently.



Directorate General of Civil Aviation (DGCA)

### About Airports Authority of India (AAI):

- **Nature:** It is a statutory body under the Directorate General of Civil Aviation, Ministry of Civil Aviation, Government of India.
- **Establishment:** It was constituted by an Act of Parliament and came into being on 1st April, 1995, by merging the erstwhile National Airports Authority and the International Airports Authority of India.
- **Function:** The merger brought into existence a single Organization entrusted with the responsibility of creating, upgrading, maintaining, and managing civil aviation infrastructure both on the ground and air space in the country.

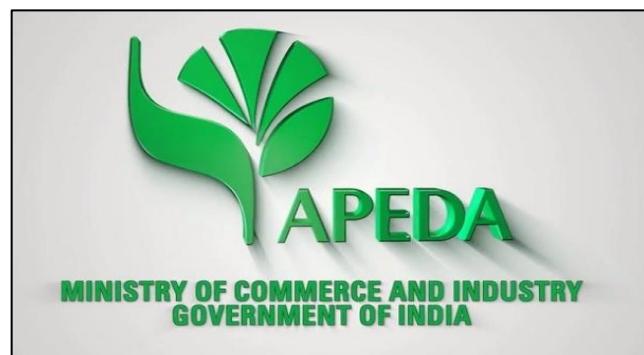
## APEDA

### Context:

- APEDA, under the Ministry of Commerce and Industry, Government of India, has facilitated the first export consignment of 12 metric tonnes of Fortified Rice Kernel (FRK) from Chhattisgarh to Costa Rica.

### About APEDA:

- Establishment:** The Agricultural and Processed Food Products Export Development Authority (APEDA) was established by the Government of India under the Agricultural and Processed Food Products Export Development Authority Act, 1985.
- Nodal ministry:** It functions under the Ministry of Commerce and Industry.
- Headquarters:** Its headquarters is located in New Delhi.
- Secretariat to NAB:** It also functions as the Secretariat to the National Accreditation Board (NAB) for the implementation of accreditation of the Certification Bodies under National Programme for Organic Production (NPOP) for Organic exports.
- Objective:** APEDA is mandated with the responsibility of export promotion and development of the scheduled products viz. fruits, vegetables and their products, meat and meat products, poultry and poultry products, floriculture and floriculture products, herbal and medicinal plants, etc.
- Conducting surveys and studies:** It looks after the development of industries relating to the scheduled products for export by way of providing financial assistance or otherwise for undertaking surveys and feasibility studies, participating through subsidy schemes.
- Inspection of slaughterhouses:** It carries out inspection of meat and meat products in slaughterhouses, processing plants, storage premises and improving packaging of the scheduled products.
- Composition of APEDA Authority:** The APEDA Authority consists of the following members namely:
  - A Chairman appointed by the Central Government
  - The Agricultural Marketing Advisor to the Government of India, ex-official
  - One member appointed by the Central Government representing the Niti Aayog
  - Three members of Parliament of whom two are elected by the House of People and one by the Council of States
  - Eight members appointed by the Central Government representing respectively, the Ministries of the Central Govt.



## INDIAN COUNCIL OF AGRICULTURAL RESEARCH (ICAR)

### Context :

- A study by the Indian Council of Agricultural Research (ICAR) has highlighted serious degradation of soil organic carbon (SOC) in India's arable lands.

### About Indian Council of Agricultural Research (ICAR):

- Nodal ministry:** It is an autonomous organisation under the Department of Agricultural Research and Education (DARE), Ministry of Agriculture and Farmers Welfare, Government of India.
- Objective:** It is the apex body for coordinating, guiding, and managing research and education in agriculture, including horticulture, fisheries, and animal sciences, throughout the country.
- Establishment:** Formerly known as the Imperial Council of Agricultural Research, it was established on 16 July 1929 as a registered society under the Societies Registration Act, 1860, in pursuance of the report of the Royal Commission on Agriculture.

- **Headquarters:** Its headquarters is located in New Delhi. With 101 ICAR institutes and 71 agricultural universities spread across the country, this is one of the largest national agricultural systems in the world.
- **Focus areas:** ICAR's primary mandate focuses on the thematic areas of Crop Science, Horticultural Science, Natural Resource Management, Agricultural Engineering, Animal Science, Fisheries Science, Agricultural Education and Agricultural Extension.
- **Significance:** The ICAR has played a pioneering role in ushering in the Green Revolution and subsequent developments in agriculture in India through its research and technology development.



## TRIFED

### Context :

- Tribal communities are not just “beneficiaries” of government schemes, but “drivers of India’s progress”, Union Minister for Tribal Affairs said on Tuesday, speaking on the eve of the Tribal Business Conclave 2025, which was different from events routinely organised by institutions like the TRIFED.



**Tribal Co-Operative Marketing Development Federation of India Limited**  
**Ministry of Tribal Affairs, Govt. of India**

### About TRIFED (Tribal Cooperative Marketing Development Federation of India):

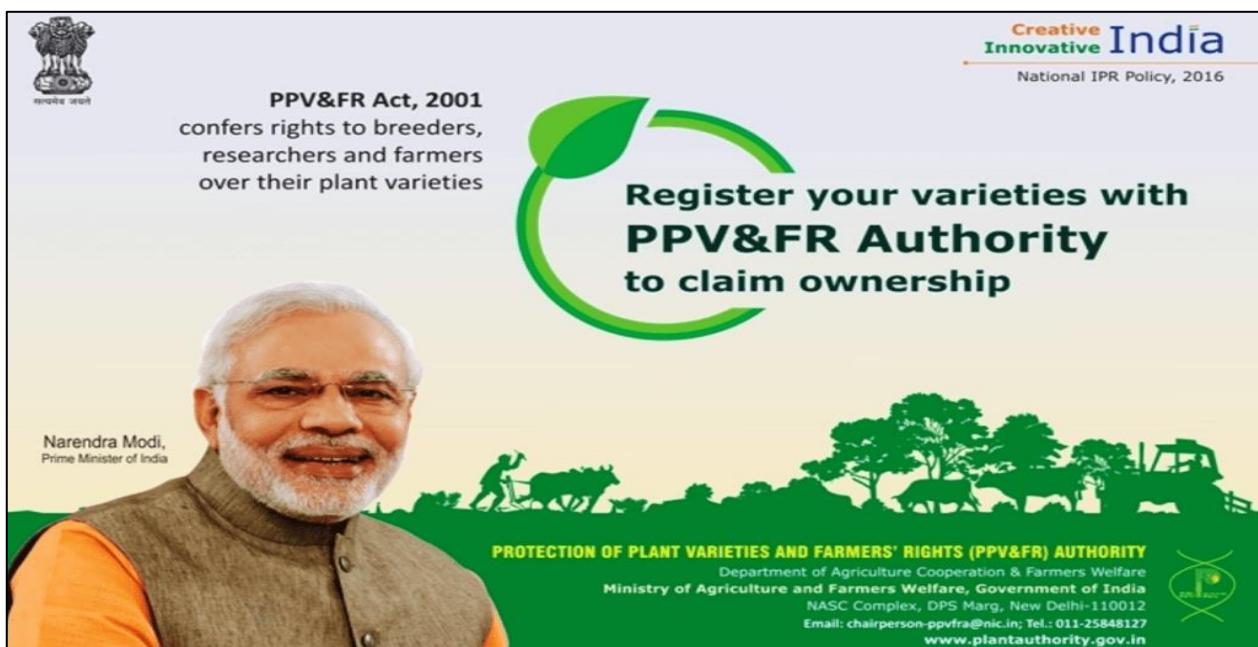
- **Nodal ministry:** TRIFED is an organization under the Ministry of Tribal Affairs, Government of India, dedicated to the socio-economic development of tribal communities through the marketing development of tribal products.
- **Establishment:** It was established in August 1987 under the Multi-State Cooperative Societies Act, 1984, by the Government of India as a national-level cooperative body.
- **Mandate:** It aims to bring about the socio-economic development of the tribals of the country by institutionalizing the trade of Minor Forest Produce (MFP) & Surplus Agricultural Produce (SAP) collected/cultivated by them.
- **Objectives:**
  - To develop the socio-economic welfare of the tribal community.
  - To act as a facilitator and service provider for the tribal community to uplift production.
  - Provide training to enhance artistic skills with modern technology to meet the requirements of the global market.
  - To increase the promotion of tribal art and crafts for a stable livelihood.

- To identify target groups to monitor and evaluate the process and activities and provide input to the Ministry.
- **Focus on SHGs:** The approach involves capacity building of the tribal people through sensitization, formation of Self Help Groups (SHGs), and imparting training to them for undertaking a particular activity, exploring marketing possibilities in national as well as international markets, creating opportunities for marketing tribal products on a sustainable basis, and creating a brand.
- **Retail Marketing:** TRIFED has been doing the retail marketing of tribal products under the brand name of TRIBES INDIA. TRIFED promotes and creates a sustainable market through retail outlets, exhibitions such as Aadishilp, Aadichitra, OCTAVE; international fairs, and e-marketing.
- **Implementation of MSP:** TRIFED has also been entrusted by the Govt. of India to implement its proposed Minimum Support Price (MSP) Scheme for Minor Forest Produce.

## PROTECTION OF PLANT VARIETIES AND FARMERS' RIGHTS (PPV&FRA) ACT

### Context:

- Union Minister for Agriculture & Farmers' Welfare participated in the 'Plant Genome Saviour Awards Ceremony', celebrating the Silver Jubilee of the Protection of Plant Varieties and Farmers' Rights (PPV&FRA) Act, 2001.



### About PPV&FRA Act:

- **Nature:** It is a statutory body established on 11 November, 2005 under the Protection of Plant Varieties and Farmers' Rights Act, 2001.
- **Nodal ministry:** It works under the Ministry of Agriculture & Farmers' Welfare, Government of India.
- **Headquarters:** Its headquarters is located in New Delhi.
- **Objectives:**
  - Grant intellectual property rights to plant breeders for their innovations in developing new plant varieties
  - Recognise and reward farmers and communities who conserve traditional varieties and biodiversity
  - Promote the protection of farmers' rights to save, use, sow, resow, exchange, share, and sell farm-saved seed of registered varieties

- Encourage research and innovation in plant breeding and agriculture
- Maintain the National Register of Plant Varieties (NRPV) and ensure the documentation and conservation of valuable germplasm resources
- **Structure:** The Chairperson is the Chief Executive of the Authority. It has 15 members, and eight of them are ex-officio members representing various Departments/ Ministries. The Registrar General is the ex-officio Member Secretary of the Authority.
- **Functions:**
  - Registration of new plant varieties, essentially derived varieties (EDV), extant varieties;
  - Compulsory cataloging facilities for all variety of plants;
  - Preservation of plant genetic resources of economic plants and their wild relatives;
  - Maintenance of the National Register of Plant Varieties and National Gene Bank.
- **Significance:** The Authority plays a pivotal role in safeguarding farmers' traditional knowledge and ensuring equitable benefit sharing arising from the use of indigenous varieties.
- **Balance between innovation and tradition:** By bridging scientific innovation and traditional wisdom, the PPV&FRA has emerged as a key instrument in protecting India's agricultural biodiversity, ensuring seed sovereignty, and promoting sustainable development.

## ADJUSTED GROSS REVENUE (AGR)

### Context :

- The SC clarified that the Union government can comprehensively assess and reconcile all Adjusted Gross Revenue (AGR) dues of Vodafone-Idea up to the financial year 2016-17 in accordance with the Deduction Verification Guidelines of February 3, 2020.

### About Adjusted Gross Revenue (AGR):

- **Definition:** Adjusted Gross Revenue is the share of revenue that telecom operators in India are needed to pay to the Department of Telecommunications as part of their license agreement.
- **Background:** The telecom sector was liberalised under the National Telecom Policy, 1994 after which licenses were issued to companies in return for a fixed license fee. To provide relief from the steep fixed license fee, the government in 1999 gave an option to the licensees to migrate to the revenue sharing fee model. Under this, mobile telephone operators were required to share a percentage of their AGR with the government as annual license fee (LF) and spectrum usage charges (SUC).
- **Used as a metric:** Adjusted Gross Revenue is the metric used by the Department of Telecommunications in India to calculate the license fee and spectrum usage charges payable by telecom operators.
- **Components:** It includes earnings from telecom services (like calls, data, SMS, roaming, value-added services) as well as non-telecom revenues like interest income, asset sales, rent and foreign exchange gains to the Department of Telecom Communication.
- **Exclusions:** Certain items, such as GST (if already part of gross revenue) and revenue shared with other service providers (like roaming charges), are excluded.
- **AGR Supreme Court Verdict (2019):** In October 2019, the Supreme Court of India delivered a landmark judgment upholding the DoT's definition of Adjusted Gross Revenue. The Court ruled that telecom operators must include non-core revenues in their AGR calculations. Consequently, it directed the companies to pay dues amounting to over ₹1.47 lakh crore including license fees, SUC, accrued interest, penalties, and interest on the penalties. This ruling finally increased the financial liability of telecom operators.

## INLAND WATERWAYS AUTHORITY OF INDIA (IWAI)

## Context :

- Recently, the Inland Waterways Authority of India (IWAI) signed a series of major agreements to boost cargo movement, and river-based tourism in the Northeast.

## About Inland Waterways Authority of India (IWAI):

- Nature:** It is a statutory body established under the Inland Waterways Authority of India Act (IWAI), 1985.
- Establishment:** It came into existence on 27th October 1986 for the development and regulation of inland waterways for shipping and navigation.
- Nodal Ministry:** It comes under the Ministry of ports, shipping, and waterways.
- Objective:** It primarily undertakes projects for development and maintenance of inland water transport (IWT) infrastructure on national waterways through grants received from the Ministry of Ports, Shipping and Waterways.
- Headquarters:** Its headquarters is located in Noida, Uttar Pradesh.
- Regional offices:** It also has its regional offices at Patna, Kolkata, Guwahati, and Kochi and sub-offices at Allahabad, Varanasi, Farakka, Sahibganj, Haldia, Swroopganj, Hemnagar, Dibrugarh, Dhubri, Silchar, Kollam, Bhubaneshwar, and Vijayawada.
- Advises centre and states:** It advises the Central Government on matters related to IWT and assists States in the development of the IWT sector. It also takes up techno-economic feasibility studies and prepares proposals for the declaration of other waterways as National Waterways.
- Key functions:**
  - Developing National Waterways such as NW-1 Ganga, NW-2 Brahmaputra, NW-16 Barak, etc.)
  - Fairway development such as dredging, channel marking, river training works.
  - Navigation infrastructure such as terminals, jetties, Ro-Ro/Ro-Pax services, night navigation systems.
  - Regulation of vessel movement, pilotage, and coordination with state IWT departments.





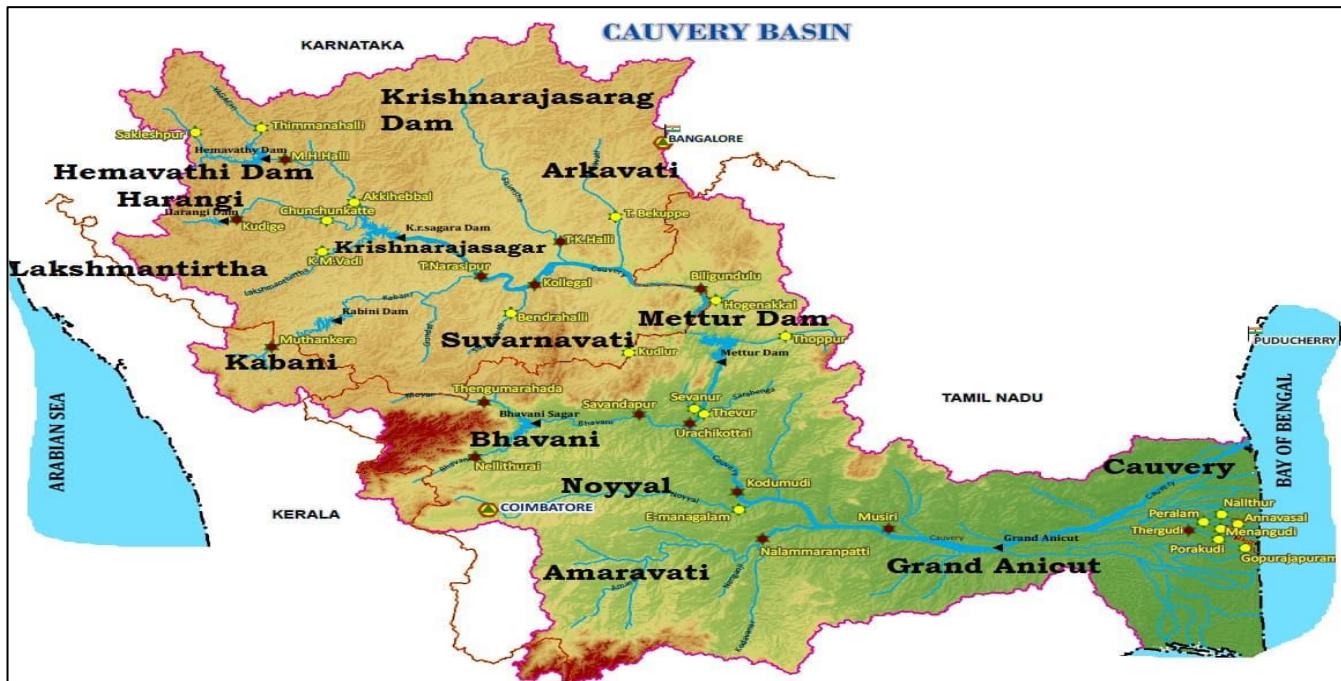
## GEOGRAPHY



## CAUVERY RIVER

## Context :

- Heavy metals are polluting the Cauvery River and its fish, researchers from Tamil Nadu have reported. They have also cautioned against consuming “regular” or “excessive” amounts of fish from here.



## About Cauvery River:

- Nature:** It is the third largest river – after Godavari and Krishna – in southern India, and the largest in the state of Tamil Nadu, known as ‘Ponni’ in Tamil.
- Basin states:** The Cauvery River is one of the major rivers of the peninsula. It extends over states of Tamil Nadu, Karnataka, Kerala and Union Territory of Puducherry.
- Boundary:** It is bounded by the Western Ghats on the west, by the Eastern Ghats on the east and the south and by the ridges separating it from Krishna basin and Pennar basin on the north.
- Origin:** It rises at an elevation of 1,341 m at Talakaveri on the Brahmagiri range near Cherangala village of Kodagu district of Karnataka. The river drains into the Bay of Bengal at Poompuhar in the Mayiladuthurai district of Tamil Nadu.
- Length:** Spanning approximately 800 kilometres, the Cauvery is a crucial lifeline for the states of Karnataka and Tamil Nadu.
- Significance:** Known as the “Ganga of the South,” the Cauvery has historical, cultural, and economic significance, playing a pivotal role in the irrigation and water supply for millions of people in the region.
- Major left bank tributaries:** These include Harangi, the Hemavati, the Shimsha and the Arkavati.
- Major right bank tributaries:** These include Lakshmantirtha, the Kabbani, the Suvarnavati, the Bhavani, the Noyil and the Amaravati.
- Division:** The basin can be divided into three parts, viz. the Western Ghats, the Plateau of Mysore and the Delta. The delta area is the most fertile tract in the basin.

- Soil types:** The principal soil types found in the basin are black soils, red soils, laterites, alluvial soils, forest soils and mixed soils. Red soils occupy large areas in the basin. Alluvial soils are found in the delta areas.
- National Parks in this basin:** These include Bandipur National Park, Nagarhole National Park and Bannerghatta National Park.

## SHARAVATHI PUMPED STORAGE HYDROELECTRIC PROJECT

### Context:

- Recently, Central Government decided to put Karnataka's 2000 MW Sharavathi Pumped Storage Hydroelectric Project (on Sharavathi River) on hold due to severe ecological risks.

### About Sharavathi Pumped Storage Hydroelectric Project:

- Location:** It is a Pumped Storage Hydroelectric Project proposed on the Sharavathi River in Shivamogga district Karnataka.
- Electricity capacity:** It is designed to generate 2,000 MW of electricity.
- Use of existing reservoirs:** The project involves building a pumped storage power plant between two existing reservoirs, Talakalale Dam and Gerusoppa Dam. Water will be pumped uphill during off-peak hours and released downhill to generate electricity during peak demand.
- Based on Kaleshwaram project:** It is modelled on the lines of Telangana's Kaleshwaram project, it also aims to supply drinking water to Bengaluru.
- Concerns:** The project falls within the Eco-Sensitive Zone (ESZ) of the Sharavathi Wildlife Sanctuary, which is home to the endangered lion-tailed macaque, hornbills, king cobras, and numerous endemic plant species of the Western Ghats.

### About Sharavathi River:

- Location:** It is a river in the western Karnataka state. A large part of the river basin lies in the Western Ghats.
- West-flowing river:** It is one of the few rivers in India, which flows in the west direction.
- Course:** Rising in the Western Ghats, it flows in a northwesterly direction and empties into the Arabian Sea at Honnavar near the Uttara Kannada district.
- Total Length:** The river is approximately 128 km long.
- Area:** The river basin covers 2,985 sq.km.
- Jog falls:** On its way, the Sharavathi forms the Jog Falls, one of the highest waterfalls in India, where the river falls from a height of 253 m. Diverse geological features mark the river's course, including rocky outcrops, fertile plains, and deep gorges.
- Major Tributaries:** Major tributaries of the river includes Nandihole, Haridravathi, Mavinahole, Hilkunji, Yennehole, Hurlihole, and Nagodihole.



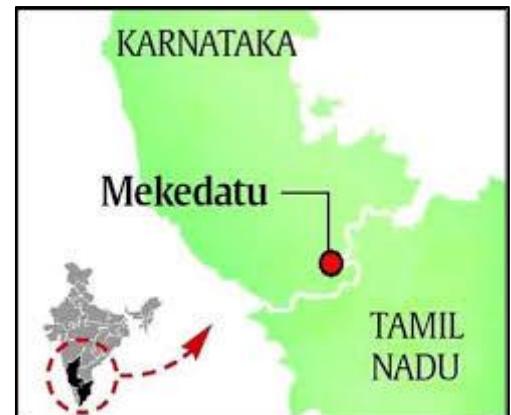
## MEKEDATU RESERVOIR PROJECT

### Context:

- The Supreme Court Tamil Nadu's application challenging the proposed construction of a reservoir by Karnataka at Mekedatu across the inter-state river Cauvery as "premature".

### About Mekedatu Reservoir Project:

- Location:** It is a multi-purpose (drinking water and power) project proposed by Karnataka. It is about 90 km away from Bengaluru and 4 km ahead of the border with Tamil Nadu.
- Nature:** The Mekedatu project is a multipurpose project involving the construction of a balancing reservoir near Kanakapura in Ramanagara district, Karnataka.
- Nomenclature:** Mekedatu, meaning goat's leap, is a deep gorge situated at the confluence of the rivers Cauvery and its tributary Arkavathi.
- Objective:** Its primary objectives are to provide drinking water to Bengaluru and neighboring areas, totaling 4.75 TMC, and generate 400 MW of power.
- Associated river:** The project is proposed at the confluence of the Cauvery River with its tributary Arkavathi.
- Structure:** The plan involves building a 99-metre-high, 735-metre-long concrete gravity dam, an underground powerhouse, and a water conductor system.
- Capacity of reservoir:** The expected capacity of the dam is 66,000 TMC (thousand million cubic feet) of water. Once completed, it is expected to supply over 4 TMC of water to Bengaluru city for drinking purposes.
- Estimated cost:** The estimated cost of completing the project is around Rs 14,000 crores, covering an area of over 5,000 hectares.
- Concerns:** Tamil Nadu, the lower riparian state has claimed that Mekedatu area represents the last free point in Karnataka from where Cauvery water flows unrestricted into Tamil Nadu, and Mekedatu dam project is an attempt by Karnataka to lock this free flow of water.



## HAYLI GUBBI VOLCANO

### Context:

- The Hayli Gubbi volcano, located in Ethiopia's Afar region for several hours after 12,000-year dormancy.

### About Hayli Gubbi Volcano:

- Location:** Hayli Gubbi volcano is located in Afar, northeastern Ethiopia, within the Danakil Depression - one of the hottest and lowest places on Earth.
- Hotspot for seismic activity:** The Afar Triple Junction, where the Red Sea Rift, Gulf of Aden Rift, and East African Rift meet, makes this region a hotspot for volcanic and seismic activity.
- Uniqueness:** The current eruption is unique because the volcano is believed to have erupted after nearly 12,000 years, based on geological evidence from the Afar Rift.
- Composition of volcanic plume:** The ash cloud contained a mix of volcanic ash, sulphur dioxide, glass shards, and rock fragments, transported at high altitudes between 15,000-45,000 ft. These aerosols can persist in the atmosphere for days to weeks depending on wind patterns and atmospheric stability.



- **Significance:** The Hayli Gubbi eruption highlights the geological volatility of the East African Rift System (EARS) where active volcanism, fissure eruptions, and spreading ridges are common.
- **At the junction of diverging plates:** It is one of the world's most tectonically active rift systems where the Arabian, Nubian, and Somali plates are diverging.
- **Characterised by basaltic lava:** The region is characterised by basaltic lava, fissure systems, and frequent seismic activity linked to the continental rifting process.

## FUJIWHARA EFFECT

### Context:

- Multiple cyclonic storms with rare Fujiwhara interaction is likely in Bay of Bengal in the following week.



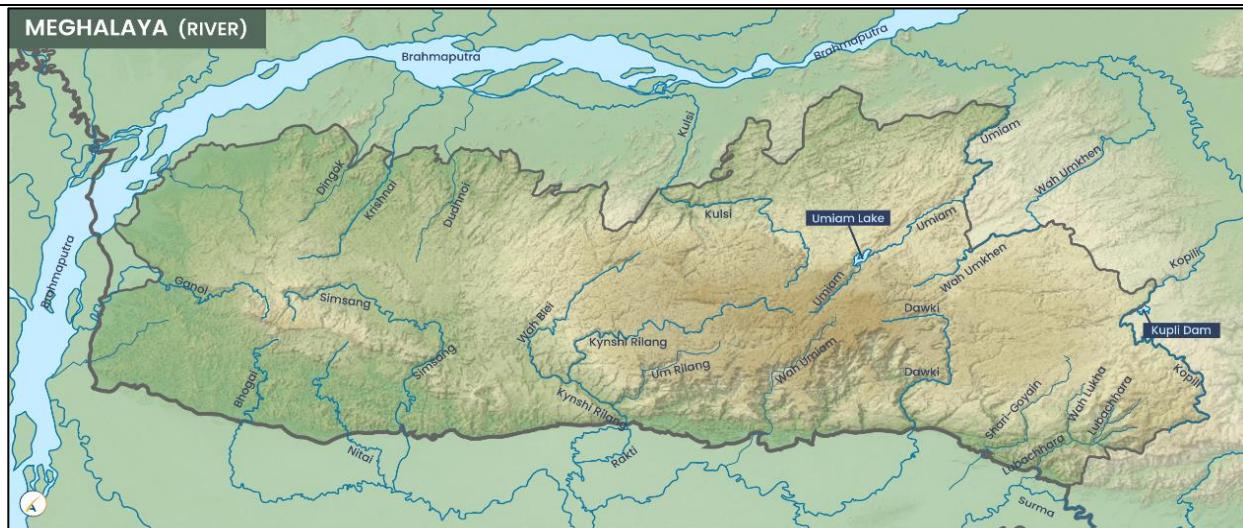
### About Fujiwhara Effect:

- **Definition:** The Fujiwhara Effect occurs when two cyclones form near each other or approach each other close enough to allow the Fujiwhara interaction to take place.
- **Outcome of binary interaction:** Extratropical cyclones can exhibit binary interaction when within a distance of 2,000 km of each other. Tropical cyclones exhibit this type of effect when separated by a distance of less than 1,400 km.
- **Direction:** During the Fujiwhara interaction, the centers of the two cyclones involved in the phenomenon begin to mutually orbit in a counterclockwise direction about a point between the two cyclones.
- **Dependent on relative mass:** The position of the point is dependent on the intensity and relative mass of the cyclonic vortices. The smaller cyclone involved in the Fujiwhara Effect moves at a faster rate than the bigger one about the central point.
- **Can lead to larger cyclones:** The Fujiwhara Effect might lead the two cyclones to spiral into the central point and merge with each other, or it might trigger the development of a larger cyclone. It might also divert the original path of one or both the cyclones.

## UMNGOT RIVER

### Context:

- Meghalaya's Umngot river, famed for its picturesque crystal-clear water, is murky this year, triggering alarm in the state.



### About Umngot River:

- Origin:** It originates from the Eastern Shillong Peak, which is located 1,800 m above sea level. The river is in the village of Mawlynnong ("God's Own Garden") in Meghalaya, close to India's border with Bangladesh, which is touted as Asia's Cleanest Village.
- Uniqueness:** Popularly known as Dawki river, the Umngot river is regarded as the cleanest river in India as well as Asia with its crystal-clear water. Its water is so clear that boats appear to be floating on air, with the riverbed visible even at depths of 15–20 feet.
- Natural divide:** It acts as a natural divide between Jaintia and Khasi hills, before finally flowing into Bangladesh.
- Prominent tourist destinations:** The river flows through the West Jaintia Hills district of Meghalaya and its pristine water in the winter makes locations along it such as Dawki and Shnongpdeng among the top tourist attractions in the state.
- Boat race:** It is also known for the annual boat race in the month of March-April.
- Transportation:** The suspension bridge over the Dawki River on NH-40 was constructed way back in 1932 and it is one of the busiest bilateral trade routes between India and Bangladesh.



## NAURADEHI WILDLIFE SANCTUARY

## Context :

- Madhya Pradesh Chief Minister said that Nauradehi Sanctuary will become the third home for cheetahs in the state after Kuno National Park and Gandhi Sagar Sanctuary.



## About Nauradehi Wildlife Sanctuary:

- **Location:** It is spread across three districts, i.e., Sagar, Damoh, and Narsinghpur, of Madhya Pradesh. The entire Sanctuary is situated on a plateau, forming part of the upper Vindhyan range.
- **Area:** It covers nearly 1197 sq.km. area.
- **Declaration as wildlife sanctuary:** It was declared a wildlife sanctuary in 1975. It is the largest wildlife sanctuary in Madhya Pradesh.
- **Acts as a natural corridor:** It acts as a corridor for Panna Tiger Reserve and Satpura Tiger Reserve while indirectly connecting Bandhavgarh Tiger Reserve via Rani Durgawati Wildlife Sanctuary.
- **Drainage:** Three-fourths of the wildlife sanctuary falls in the basin of the Ganges tributary, the Yamuna River, of which the Ken River is a tributary, and one-fourth of the sanctuary falls in the Narmada basin.
- **Major rivers:** The north-flowing Kopra River, Bamner River, Vyarma River, and Bearma River, which are tributaries of the Ken River, are the major rivers of this protected area.
- **Vegetation:** It is mainly a dry mixed-deciduous forest type.
- **Flora:** Major trees found are teak, saja, dhawda, sal, tendu (Coromandel ebony), bhirra (East Indian satinwood), and mahua.
- **Fauna:** The chief faunal elements include Nilgai, Chinkara, Chital, Sambhar, Black Buck, Barking deer, Common Langur, Rhesus Macaque, Freshwater Turtles, Spotted Grey Creeper, Cranes, Egrets, Lapwings, etc.

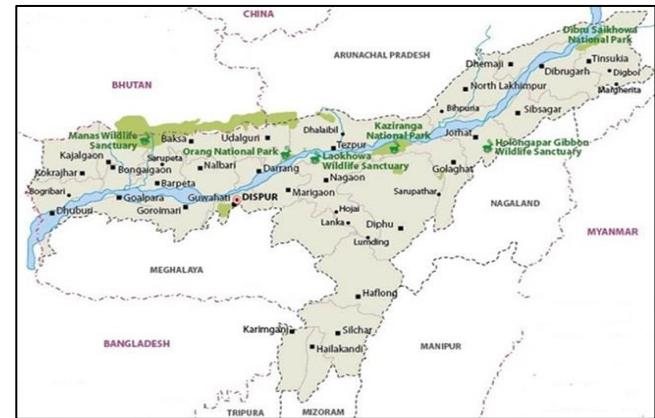
## LAOKHOWA WILDLIFE SANCTUARY

### Context:

- Conservationists, wildlife officials and academicians have got together to push for the Ramsar site tag for Rowmari-Donduwa wetland complex, which is within the Laokhwa Wildlife Sanctuary.

### About Laokhwa Wildlife Sanctuary:

- **Location:** It is located on the southern part of the Brahmaputra River in Nagaon District of Assam.
- **Area:** It covers an area of around 70.13 sq.km.
- **Associated with Kaziranga tiger reserve:** It was declared as a buffer zone of the Kaziranga Tiger Reserve in 2007 and became an integral part of the larger Laokhwa-Burachapori ecosystem.
- **Encapsulated by human-dominated areas:** It is a part of the Brahmaputra valley and the sanctuary is surrounded by human-dominated areas on all sides except for the north.
- **Flora:** Laokhwa is rich in flora, with diverse plant species including grasslands, tropical moist deciduous forests, and semi-evergreen forests.
- **Fauna:** Its main attraction is the Great Indian one horned Rhinoceros. Other animals found here are Indian royal Bengal tiger, elephant, Wild Boar, Civet Cat, Leopard Cat, Hog Deer, Asian water buffalo, about 200 species of birds, including the Bengal Florica, Leopard, Asiatic Buffalo, etc.



## LICHENS

### Context :

- A team of researchers from Maharaja's College, Kochi, discovers four new species of lichens from Western Ghats.

### More about the new species:

- The newly identified species are *Parmotrema sahyadricum* (discovered from Wayanad), *Solenopsora rhizomorpha* (from Eravikulam and Mathikettanshola National Parks), *Buelloa ghattensis* (Mathikettanshola National Park) and *Pyxine janakiae* (Mathikettanshola National Park).
- The work that started in 2022 resulted in these discoveries. The team also recorded more than 50 species of lichens, which are new reports to the Kerala part of the Western Ghats.



### About Lichens:

- **Definition:** A lichen is a symbiosis between different organisms — a fungus and an algae or cyanobacterium.
- **Underlying basis:** The basis of their relationship is the mutual benefit that they provide each other.
- **Mechanism:** The photosynthetic algae or cyanobacteria form simple carbohydrates that, when excreted, are absorbed by fungi cells and transformed into a different carbohydrate. Fungi contribute to the symbiosis by absorbing water vapour from the air and by providing much-needed shade for the light-sensitive algae beneath.

- **Structure:** The composite body of a lichen is called a thallus (plural thalli); the body is anchored to its substrate by hairlike growths called rhizines.
- **Distribution:** Lichens are found worldwide and occur in a variety of environmental conditions.
- **Uniqueness:** They are a diverse group of organisms. They can colonize a wide range of surfaces and are frequently found on tree bark, exposed rock, and as a part of biological soil crust.
- **Benefits:** They are a keystone species in many ecosystems. They serve as a food source and habitat for many animals, such as deer, birds, and rodents. They protect trees and rocks from extreme elements such as rain, wind, and snow.
- **Pioneers of Colonization:** Lichens are considered as primary colonisers. These invade bare areas and contribute to soil formation by breaking down rock minerals both physically and chemically and thus creating conditions for other species such as mosses and liverworts to follow.

## CITES

### Context:

- A committee of CITES has recommended that India's wildlife authorities pause the issue of permits that allow endangered animals to be imported by zoos, and wildlife rescue and rehabilitation centres.

### About CITES:

- **Nomenclature:** Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is also known as the Washington Convention.
- **Establishment:** It was signed on 3rd March 1973 during the World Wildlife Conference and came into force on 1st July 1975. It was drafted following a 1963 resolution adopted by the International Union for Conservation of Nature (IUCN) to regulate wildlife trade.
- **Members:** The Convention now has 185 Parties, including India (a member since 1976) and the European Union.
- **Administration:** Administered by the UN Environment Programme (UNEP) in Geneva, CITES regulates international trade in over 40,000 species of wild animals and plants, including live specimens and wildlife-derived products.
- **Objective:** The treaty aims to ensure that such trade is sustainable, legal, and traceable, supporting biodiversity, local livelihoods, and national economies in line with the UN Sustainable Development Goals.
- **Working Procedure:** CITES regulates international trade through permits for export, import, re-export, and sea introduction. Each member country appoints management and scientific authorities to oversee licensing and conservation advice.
- **Appendices System:**
  - Appendix I: Species threatened with extinction. Trade is highly restricted.
  - Appendix II: Species not endangered but need controlled trade to avoid risk.
  - Appendix III: Species protected by at least one country that seeks cooperation to regulate trade.
- **Amendments:** Changes to Appendices I and II are decided at the Conference of the Parties (CoP), while Appendix III can be amended unilaterally by individual Parties.



- **Importance:** Wildlife trade is a multi-billion dollar global industry, and unregulated trade alongside habitat loss threatens many species with extinction. CITES is recognized as one of the most effective environmental agreements, supported by tools like the CITES Trade Database (a global reference on legal wildlife trade) and clear guidelines for enforcement and legal acquisition.
- **Major initiatives:** Initiatives like the Monitoring the Illegal Killing of Elephants (MIKE) Programme have significantly reduced poaching in Africa and Asia. It has helped save critically endangered species such as African elephants, pangolins, and crocodiles.
- **Association with Wildlife Protection Act:** All species listed in the CITES Appendices are now included in Schedule IV of the Wild Life (Protection) Amendment Act, 2022, reflecting India's strengthened cooperation with CITES.
- **Compliments activities of UN:** CITES complements the work of other UN entities, such as the Food and Agriculture Organization (FAO) to improve fisheries management, capacity building and technical cooperation with the Economic and Social Commission for Asia and the Pacific (ESCAP), and initiatives focusing on the youth with the UN Development Programme.

## GOGABEEL LAKE

### Context:

- India's one more wetland, Gogabeel Lake in Katihar district of Bihar, has got a tag of Ramsar site, bringing the total number of such protected sites in the country to 94.

### About Gogabeel Lake:

- **Nature:** Gogabeel is now Bihar's sixth Ramsar site, joining others such as Gokul Jalashay and Udaipur Jheel among others.
- **Location:** It is an oxbow lake situated between the Ganga and Mahananda rivers in Katihar district, Bihar.
- **Uniqueness:** It is Bihar's first community reserve and functions as a floodplain wetland, naturally linking with both rivers during the monsoon.
- **Festivals associated:** Local cultural traditional festivals like Sirva, Adra, Chhat are observed in this wetland.
- **Flora:** These natural landscapes mostly consist of tropical dry deciduous forests.
- **Fauna:** It is home to the Smooth Coated Otter (Lutrogale perspicillata) and Helicopter Catfish (Wa lago attu). It serves as a breeding ground for Vulnerable fish species Walago attu.
- **Importance:** It serves as a major habitat for migratory birds. It supports rich biodiversity, including aquatic flora, fish, and wetland-dependent species. It also plays a key role in flood mitigation, groundwater recharge, and climate regulation in the Gangetic plains.



## KHANGCHENDZONGA NATIONAL PARK

### Context:

- IUCN recently rated Khangchendzonga National Park as "good" in its latest global review of natural World Heritage sites. It is the only Indian park to receive this rating.

### About Khangchendzonga National Park:

- **Location:** It is located in the north of Sikkim. It lies entirely along the Sikkim-Nepal border.

- Area:** It encompasses an area covering 1784 sq.km. It exhibits one of the widest altitudinal ranges of any protected area worldwide.
- Part of UNESCO's MAB:** It is a part of the Khangchendzonga Biosphere Reserve (KBR), which is one of the 13 biosphere reserves, based on the UNESCO Man and the Biosphere (MAB) Programme.
- One of the biodiversity hotspots:** It is a part of one of the 4 biodiversity hotspots in India (the Himalayas global biodiversity hotspot).
- Uniqueness:** KBR is India's first "mixed" UNESCO World Heritage Site, recognised in 2016 for its combination of natural beauty and cultural importance.
- Home to third highest mountain peak:** It is home to Mt. Khangchendzonga, the third highest peak in the world.
- Contains some of the largest glaciers:** It has, in total, 18 glaciers, the largest one being Zemu Glacier, one of the largest glaciers in Asia.
- Lepcha tribe:** It is one of the very few places where one can find the Lepcha tribal settlements.
- Flora:** It mostly contains subtropical to alpine vegetation such as oak, fir, birch, maple, and rhododendron.
- Fauna:** It is home to important flagship species such as the snow leopard, Tibetan wolf, red panda, blue sheep, Himalayan Tahr, and mainland serow, among many. It is home to nearly half of India's bird diversity.



## KUNO NATIONAL PARK

### Context:

- In a first since the Cheetah Reintroduction Project in the country, an Indian-born cheetah has given birth to five cubs at the Kuno National Park.

### About Kuno National Park:

- Location:** It is located in the Sheopur district of Madhya Pradesh. It is nestled near the Vindhyan Hills.
- Establishment:** It was declared a wildlife sanctuary in 1981, upgraded to a national park in 2018.
- Nomenclature:** It derives its name from the meandering Kuno River (one of the main tributaries of the Chambal River), which flows from south to north and divides the park into two sections.
- Area:** It covers an area of 750 sq.km.
- Uniqueness:** It was selected under the 'Action Plan for Introduction of Cheetah in India.' A total of 20 cheetahs were introduced in Kuno National Park (NP), eight from Namibia in September 2022, followed by 12 more from South Africa in February 2023 under the Cheetah Project.



- Potential to carry all four big cats:** The Kuno has the potential to carry populations of all four of India's big cats. The tiger, the leopard, the Asiatic lion, and also the cheetah all four of which have coexisted within the same habitats.
- Flora:** Kuno National Park has a rich floral diversity with more than 129 species of trees. These tropical dry deciduous forests mainly consist of *Anogeissus pendula* (Kardhai), *Senegalia catechu* (Khair), *Boswellia serrata* (Salai), and associated flora.
- Fauna:** The protected area of the forest is home to the jungle cat, Indian leopard, sloth bear, Indian wolf, striped hyena, golden jackal, Bengal fox, and dhole, along with more than 120 bird species.

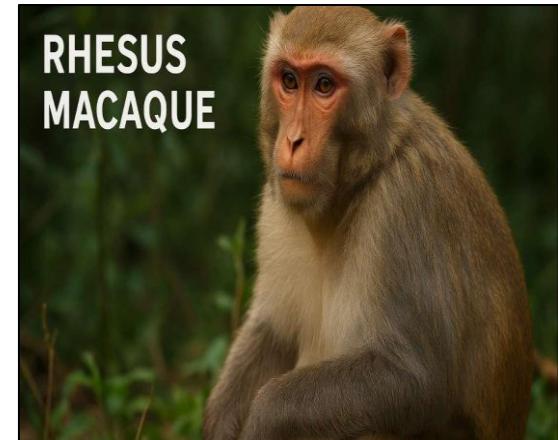
## RHESUS MACAQUE

### Context:

- The standing committee of the National Board for Wildlife has recommended reinstating Rhesus Macaque species of monkeys under Schedule II of the Wildlife (Protection) Act, 1972.

### About Rhesus Macaque:

- Scientific name:** The Rhesus macaque (*Macaca mulatta*) is a species of Old World monkey.
- Physical features:** Rhesus macaques are familiar brown primates with red faces and rears. They have close-cropped hair on their heads, which accentuates their very expressive faces.
- Distribution:** They are native to India, Bangladesh, Pakistan, Nepal, Myanmar, Thailand, Afghanistan, Vietnam, southern China, and some neighbouring areas.
- Habitat:** They may be found in forests, mangroves, scrub, grasslands, and mountainous regions. They also adapt well to human presence and form larger troops in human-dominated landscapes than in forests.
- Food pattern:** Rhesus macaques are omnivorous animals, eating seeds, roots, bark, fruits, and cereals.
- Uniqueness:** These are social, diurnal, and both terrestrial and arboreal animals. They live in large groups, often led by a dominant male. They use vocalizations, facial expressions, and body language for communication.
- Conservation Status:** It is classified as Least Concern in the IUCN Red data list.



## GREAT INDIAN BUSTARD

### Context:

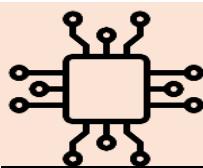
- Supreme Court judge recently said many environmental law principles imported from the West such as "inter-generational equity" are anthropocentric and would hardly be of any assistance in protecting an endangered species such as Great Indian Bustard.

### About Great Indian Bustard:

- State bird of Rajasthan:** The Great Indian Bustard (*Ardeotis nigriceps*), the State bird of Rajasthan, is considered India's most critically endangered bird.
- Flagship species:** It is considered the flagship grassland species, representing the health of the grassland ecology.

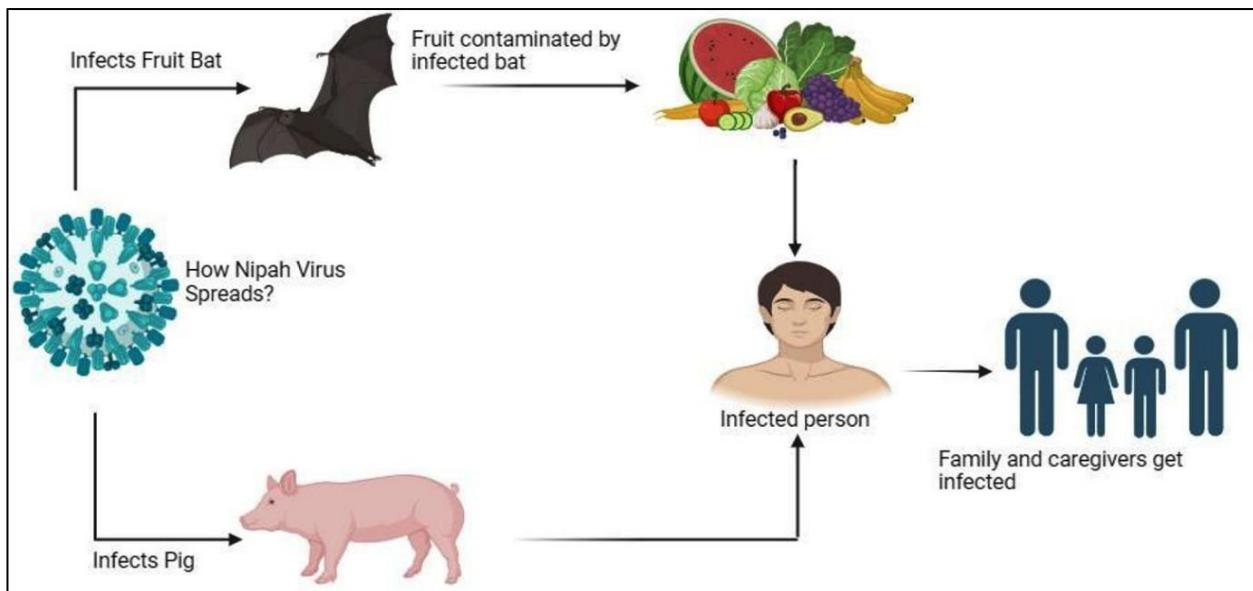
- **Spread:** Its population is confined mostly to Rajasthan and Gujarat. Small populations occur in Maharashtra, Karnataka and Andhra Pradesh.
- **Threats:** The bird is under constant threats due to collision/electrocution with power transmission lines, hunting (still prevalent in Pakistan), habitat loss and alteration as a result of widespread agricultural expansion, etc.
- **Slow breeding species:** Great Indian Bustards (GIBs) are slow-reproducing species. They lay a few eggs and have almost a year-long parental care of chicks. The GIB achieves maturity in around 3-4 years.
- **Breeding season:** They breed mostly during the monsoon season, when females lay a single egg on open ground.
- **Physical features:** It is a large bird with a horizontal body and long, bare legs, giving it an ostrich-like appearance. The sexes are roughly the same size, with the largest individuals weighing 15 kg (33 pounds). It can easily be distinguished by its black crown on the forehead, contrasting with the pale neck and head.
- **Lifespan:** They usually have lifespan of about 12-15 years.
- **Diet pattern:** Their diet ranges widely depending on the seasonal availability of food. They feed on grass seeds, insects like grasshoppers and beetles, and sometimes even small rodents and reptiles.
- **Protection Status:**
  - IUCN Red List: Critically Endangered
  - Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES): Appendix 1
  - Convention on Migratory Species (CMS): Appendix I
  - Wildlife (Protection) Act, 1972: Schedule I
- **Steps taken to conserve the GIBs:**
  - Species Recovery Programme: It is kept under the species recovery programme under the Integrated Development of Wildlife Habitats of the Ministry of Environment, Forests and Climate Change (MoEFCC).
  - Firefly Bird Diverters: These are flaps installed on power lines. They work as reflectors for bird species like the GIBs.
  - Project Great Indian Bustard: It has been launched by the Rajasthan government to construct breeding enclosures for the species and develop infrastructure to reduce human pressure on its habitats.




**SCIENCE & TECHNOLOGY**

**NIPAH VIRUS DISEASE**
**Context :**

- The Indian Council of Medical Research (ICMR) has invited Expression of Interest (EoI) from eligible organisations, companies, and manufacturers for the development and production of monoclonal antibodies (mAbs) against Nipah viral disease.


**About Nipah Virus:**

- **Nature:** Nipah virus (NiV) is a zoonotic virus (transmitted from animals to humans) and can also be transmitted through contaminated food or directly between people.
- **Family:** The organism that causes Nipah Virus encephalitis is an RNA or Ribonucleic acid virus of the family Paramyxoviridae, genus Henipavirus, and is closely related to Hendra virus.
- **Genome structure:** The NiV genome is a negative-sense single-stranded RNA. It generates structural proteins like N, P, M, F, G, and L.
- **Global spread:** Nipah virus was first recognized in 1998-99 during an outbreak among pig farmers in Malaysia. The traces of the virus have been identified in various countries like Cambodia, Ghana, and Thailand.
- **First spread in India:** In India, the first Nipah virus outbreak occurred in Siliguri, West Bengal, in the year 2001.
- **Hosts:** NiV initially appeared in domestic pigs, dogs, cats, goats, horses, and sheep.
- **Transmission:** It spreads through fruit bats (genus Pteropus). The virus is found in bat urine, faeces, saliva, and birthing fluids.
- **Fatality:** The case fatality rate ranges from 40% to 75%.
- **Symptoms:** It causes encephalitic syndrome in humans, presenting with fever, headache, drowsiness, disorientation, mental confusion, coma, and potentially death.
- **Diagnosis:** Its diagnosis can be established through real-time polymerase chain reaction (RT-PCR) from bodily fluids and antibody detection via enzyme-linked immunosorbent assay (ELISA).

- **Prevention:** Presently, there are no vaccines available for humans or animals. However, Ribavirin, an antiviral, may play a role in lowering mortality in patients with Nipah virus encephalitis.

## GAMMA-RAY BURSTS

### Context :

- According to new researches, gamma-ray bursts from black hole 'morsels' could expose quantum gravity.

### About Gamma-Ray Bursts:

- **Definition:** Gamma-ray bursts are short-lived explosions of gamma rays, the most energetic form of light.
- **Duration:** Lasting from a few milliseconds to several hours, they shine hundreds of times brighter than a typical supernova and about a million trillion times as bright as the Sun.
- **Uniqueness:** Observed in distant galaxies, they are the brightest electromagnetic events known to exist in the universe.
- **Intensity:** It emits more energy in a few seconds than our Sun will emit in its lifetime.
- **Phases:** It has two distinct emission phases- the short-lived prompt emission (the initial burst phase that emits gamma-rays), followed by a long-lived multi-wavelength afterglow phase.
- **Linkage with black holes:** The shortest GRBs likely mark the collision of two compact stellar remnants called neutron stars, and the longest bursts are thought to arise when a massive, rapidly spinning star collapses to form a black hole.
- **Sources of Gamma Ray:** They are produced by the hottest and most energetic objects in the universe, such as neutron stars and pulsars, supernova explosions, and regions around black holes. On Earth, gamma waves are generated by nuclear explosions, lightning, and the less dramatic activity of radioactive decay.



## SCRUB TYPHUS DISEASE

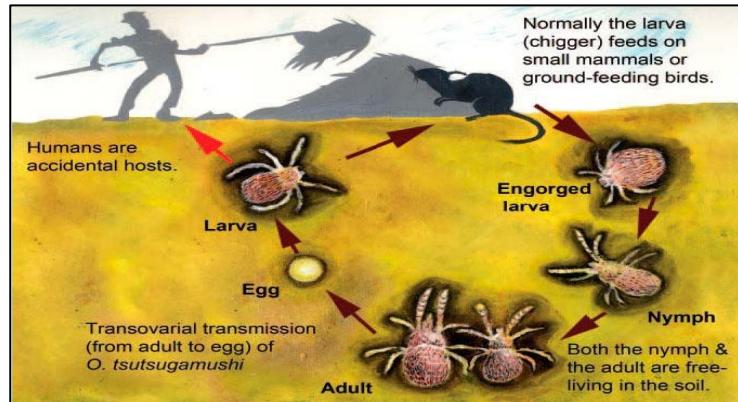
### Context:

- A Gulf Keralite's impulsive decision to return home to treat a persistent fever turned out to be life-saving after he was diagnosed with scrub typhus. This has become the first documented case of scrub typhus contracted in the Gulf and diagnosed in India.

### About Scrub Typhus Disease:

- **Nomenclature:** Typhus (or typhus fever) is the name used for several different types of bacterial infections spread by bug bites that cause similar symptoms, like high fever and rash.
- **Causing agent:** It is an infectious disease caused by bacteria called *Orientia tsutsugamushi*.
- **Transmission:** It is not directly communicable from person to person. Instead, it is a zoonotic disease that is transmitted to humans through the bite of infected chiggers (young mites).

- Reasons:** Several factors, like vector abundance, climatic factors, exposures like farming and owning domestic animals, outdoor activities and sanitation, affect its prevalence. Also, this disease is more prevalent in cooler months.
- Symptoms:** The symptoms typically include fever, headache, body ache, and sometimes a rash. In severe cases, the infection can lead to respiratory distress, brain and lung inflammation, kidney failure, and multi-organ failure, ultimately resulting in death.
- Vaccine:** Presently, there is no vaccine available for this disease.
- Treatment:** It is treated with doxycycline, which is most effective when administered early.



## PROJECT SUNCATCHER

### Context:

- With Project Suncatcher, Google joins the club to put AI data centres in space, but feasibility remains a challenge.

### About Project Suncatcher:

- Nature:** Called Project Suncatcher, Google's new moonshot is a research initiative exploring how constellations of solar-powered satellites could host data centres in space.
- Objective:** Project Suncatcher envisions solar-powered satellites hosting AI data centres in space to reduce Earth's energy and water consumption used for cooling terrestrial facilities.
- Mechanism:** The satellites will rely on solar energy and optical data transmission to function as a cohesive high-performance computing network. TPUs (Trillium v6e) are being tested for radiation resistance and performance in extreme conditions.
- Expected launch:** Google plans to launch two prototype satellites by early 2027 to test its space-based TPU (Tensor Processing Unit) hardware.
- Significance:** The cost of electricity on Earth is a major challenge for powering data centres in the long run, and deploying solar panels on the surface wouldn't be very effective. However, in space, solar panels can be up to eight times more efficient than they are on Earth. The combination of uninterrupted sunlight and higher efficiency means significantly more power available for data processing.



## RICIN

### Context:

- The Gujarat Anti-Terrorist Squad has busted a suspected terror syndicate by arresting a 'doctor' with a Chinese MBBS degree, who was allegedly preparing highly-lethal chemical poison, 'Ricin', and whose handler is associated with the Islamic State.

**About Ricin:**

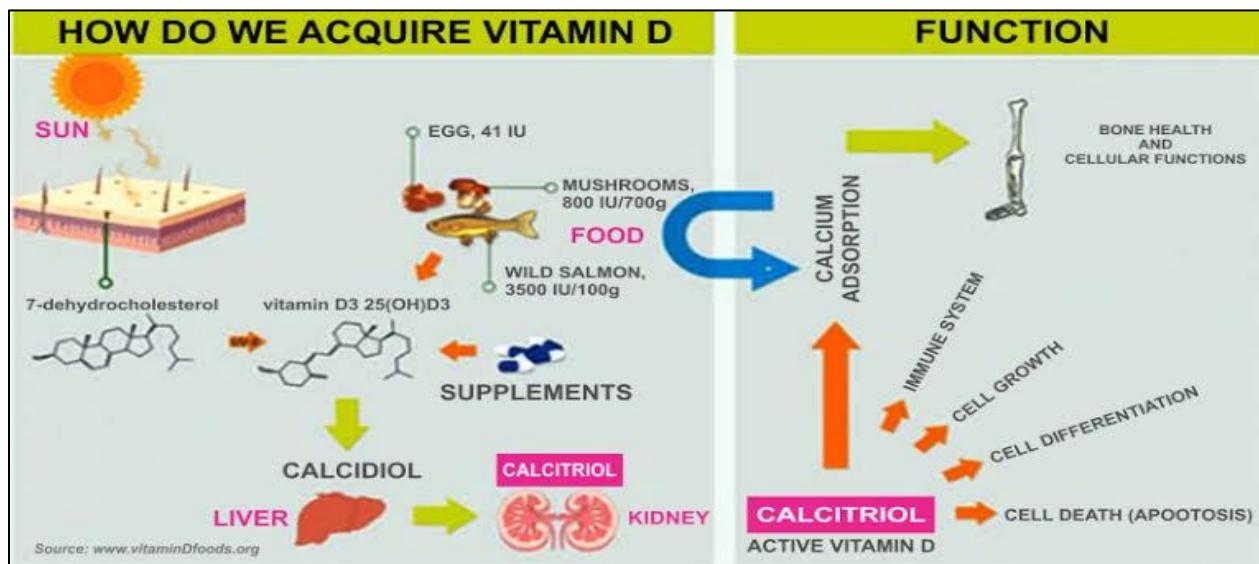
- Source:** Ricin is a poison found naturally in castor beans. If castor beans are chewed and swallowed, the ricin that comes out can cause injury. Ricin can also be made from the waste material left over from processing castor beans.
- Forms:** Ricin can be in the form of a powder, a mist, or a pellet. It can also be dissolved in water or weak acid.
- Nature:** It is stable under normal conditions. However, it will not work if temperatures are over 80 degrees centigrade (176 degrees Fahrenheit).
- Toxicity:** It is toxic when inhaled, ingested, or injected. As few as five to ten micrograms per kilogram can be lethal.
- Working mechanism:** Ricin works by getting inside the cells of a person's body and preventing the cells from making the proteins they need. Without the proteins, cells die. Eventually this is harmful to the whole body, and death may occur.
- Potential of a biological weapon:** It is of special concern because of its potential use as a biological weapon. Accidental exposure to ricin is rare and results primarily from the ingestion of castor seeds.
- Treatment:** Presently, no antidote exists for ricin. Symptomatic ricin poisoning is treated by providing supportive medical care to minimize the effects of the poisoning.



## VITAMIN D

**Context:**

- According to a new study, Vitamin D deficiency may quietly raise the risk of heart diseases.


**About Vitamin D:**

- Nature:** Vitamin D (also referred to as calciferol) is a fat-soluble vitamin.
- Production:** It is produced endogenously when ultraviolet (UV) rays from sunlight strike the skin and trigger vitamin D synthesis. During periods of sunlight, vitamin D is stored in fat and then released when sunlight is not available.

- **Foods rich in vitamin D:** Very few foods have vitamin D naturally. The foods with the most are fatty fish (like salmon and tuna), liver, mushrooms, eggs, and fish oils. Further, food companies often “fortify” milk, yogurt, baby formula, juice, cereal, and other foods with added vitamin D.
- **Importance:** Vitamin D promotes calcium absorption and helps maintain adequate levels of calcium and phosphorus in the blood, which is necessary for healthy bones and teeth. Without sufficient vitamin D, bones can become thin, brittle, or misshapen.
- **Role in cell growth:** Vitamin D has other roles in the body, including reduction of inflammation as well as modulation of such processes as cell growth, neuromuscular and immune function, and glucose metabolism.
- **Deficiency:** A lack of vitamin D can lead to bone diseases such as osteoporosis or rickets. Osteoporosis is a disease in which your bones become weak and are likely to fracture (break). Chronic and/or severe vitamin D deficiency, can also lead to hypocalcemia (low calcium levels in your blood).
- **Persons prone to its deficiency:** Anyone can have vitamin D deficiency, including infants, children and adults. Its deficiency may be more common in people with higher skin melanin content (darker skin) and who wear clothing with extensive skin coverage, particularly in Middle Eastern countries.

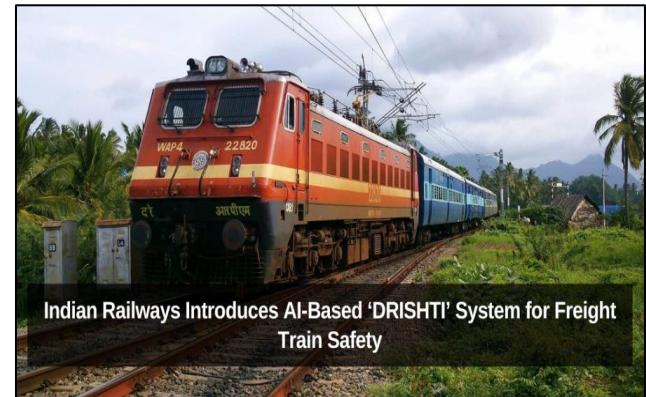
## DRISHTI SYSTEM

### Context :

- Indian Railways is planning to install DRISHTI System, an Artificial Intelligence (AI)-based technology to enhance the safety of freight trains.

### About DRISHTI System:

- **Nature:** It is an AI-Based Freight Wagon Locking Monitoring System launched by Indian Railways.
- **Objective:** The DRISHTI system aims to tackle operational challenges in identifying unlocked or tampered doors on moving freight wagons — a persistent safety and security issue in rail logistics.
- **Development:** It is being developed through a collaborative initiative between the Northeast Frontier Railway (NFR) and Indian Institute of Technology Guwahati Technology Innovation and Development Foundation (IITG TIDF).
- **Uniqueness:** The new AI-based solution is designed to provide real-time monitoring, detect anomalies in door locking mechanisms, and automatically generate alerts without disrupting train movement.
- **Technologies used:** It uses AI-powered cameras and sensors strategically installed to capture and analyse door positions and locking conditions. It also uses advanced computer vision and machine learning technology for the detection purposes.
- **Benefits:** DRISHTI is expected to improve freight security, enhance wagon sealing integrity, and reduce dependency on manual inspection processes. The traditionally manual checks are not only time-consuming but also impractical for long-haul rakes under dynamic conditions.
- **Refinement:** Preliminary results have shown encouraging accuracy levels, validating the potential of this indigenous innovation. Further refinements and scalability plans are underway for wider application across the NFR network to strengthen rolling stock safety and operational reliability.



## ESCAPEADE MISSION

### Context :

- Blue Origin has successfully launched Nasa's highly anticipated Escapade mission to Mars, marking a historic day for the future of multi-planetary exploration.

### About Escapade Mission:

- **Nomenclature:** The ESCAPEADE stands for Escape and Plasma Acceleration and Dynamics Explorers.
- **Objective:** This mission is the first coordinated multi-spacecraft orbital science mission to Mars. Its twin orbiters are known as Blue and Gold which will take simultaneous observations from different locations around Mars.
- **Part of NASA's program:** It is part of NASA's SIMPLEx (Small Innovative Missions for Planetary Exploration) program.
- **Management:** The ESCAPEADE mission is managed by the Space Sciences Laboratory at the University of California, Berkeley, with key partners Rocket Lab, NASA's Goddard Space Flight Center, Embry-Riddle Aeronautical University, Advanced Space LLC, and Blue Origin.
- **Use of 'launch and loiter' strategy:** This mission has chosen 'launch and loiter' strategy. It means the satellites will launch from Earth toward the Lagrange 2 Point (L2), a point in space where the balance of Earth and Sun's gravitational pull ensures that a spacecraft stays put. The spacecraft will stay loiter at L2 until the apt window for Mars travel opens up, and then it will move toward Mars in late 2026.
- **Reveal critical information about Mars:** It will reveal the planet's real-time response to space weather and how the Martian magnetosphere changes over time. These spacecraft will travel to Mars to study the interaction between solar wind, streams of charged particles from the Sun, and the Martian magnetic field.
- **Opens new gateways for future human explorations:** Understanding how solar wind strips Mars of its atmosphere is critical for planetary science and future human exploration.



## CE20 CRYOGENIC ENGINE

### Context:

- ISRO has successfully demonstrated the bootstrap mode start test on the CE20 cryogenic engine which powers the upper stage of the Launch Vehicle Mark-3 rocket.

### About CE20 Cryogenic Engine:

- **Development:** It is a cryogenic rocket engine developed by the Liquid Propulsion Systems Centre, a subsidiary of the Indian Space Research Organisation (ISRO).
- **Objective:** It is used to power the upper stage of the LVM3 launch vehicle and has been qualified to operate at a thrust level of 19 tonnes. This engine has also successfully powered the upper stage of six LVM3 missions so far.
- **Uniqueness:** It is the first Indian cryogenic engine to have a gas-generator cycle. The CE-20 uses a combination of LOX and LH<sub>2</sub> propellants in a gas generator cycle.
- **Significance:** It marks a significant step in ISRO's indigenous engine development, showcasing its ability to overcome complex rocket propulsion challenges.

- Mechanism:** During nominal operation, the engine ignition is initiated under tank head conditions, followed by the start of turbo pumps using a stored gas start-up system.
- Important for LVM3 flights:** The test on the CE20 cryogenic engine, which was successfully conducted under vacuum conditions in the High-Altitude Test (HAT) facility at ISRO Propulsion Complex, Mahendragiri is an important development towards enhancing the restart capability and mission flexibility of future LVM3 flights.
- Qualified for important missions like Gaganyaan:** The CE20 cryogenic engine, powering the LVM3 upper stage, is already qualified for operation at thrust levels ranging from 19 to 22 tonnes in flight with a single start, and also for the Gaganyaan missions.
- Essential for flexible multi-orbit missions:** For future missions, multiple in-flight restarts of the CE20 engine will be needed for flexible multi-orbit missions.
- Exploring possibility of bootstrap mode start:** With the current set-up, each restart demands an additional start-up gas bottle and associated systems. Hence, achieving bootstrap mode start, where the engine builds up to steady operation without external start-up assistance is essential.



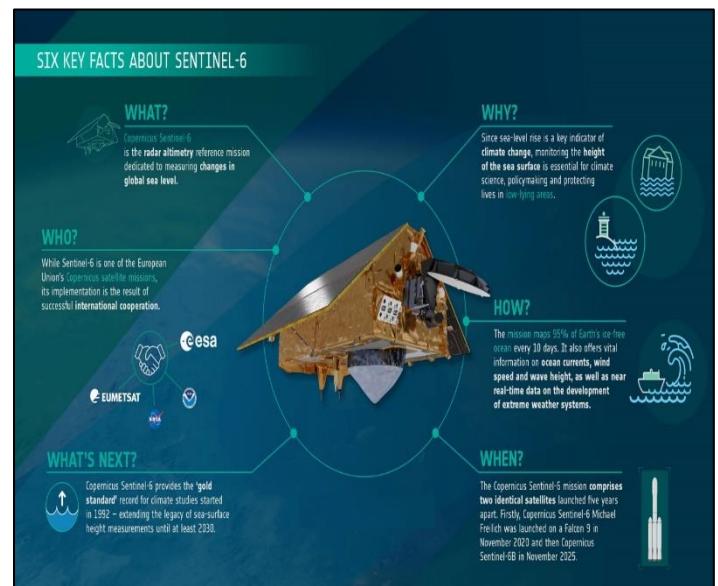
## SENTINEL-6B

### Context:

- Sentinel-6B was launched recently from the Vandenberg Space Force Base in California.

### About Sentinel-6B:

- Nature:** It is a joint mission between the United States' NASA and NOAA, and the European Space Agency. It is the latest in a series of satellites launched since the 1990s, mainly by NASA, to measure the sea-level changes from space.
- Objective:** It is an ocean-tracking satellite which will measure the rising sea levels and its impacts on the planet. It will provide primary sea level measurements down to approximately an inch from over 90% of all the oceans.
- Launch:** It was launched aboard a SpaceX Falcon-9.
- Continues legacy of Sentinel-6:** It is set to carry forward the legacy of Sentinel -6 Michael Freilich, launched in November 2020.
- Orbiting speed:** It will orbit Earth at a speed of 7.2 km per second, completing one revolution every 112 minutes. It is expected to spend the next 5.5 years in orbit.
- Coverage:** It maps more than 90% of the world's ice-free oceans every 10 days.



- **Components:** It consists of six onboard science instruments. It has two fixed solar arrays, plus two deployable solar panels, and will travel in a longitude direction around Earth in a non-Sun-synchronous orbit.
- **Significance:** It observes Earth's oceans, measuring sea levels to improve weather forecasts and flood predictions. It also safeguards public safety, benefits commercial industry, and protects coastal infrastructure.

## BIRSA 101 THERAPY

### Context:

- Union Minister Dr. Jitendra Singh launches India's first indigenous "CRISPR" based gene therapy named 'BIRSA 101' for Sickle Cell Disease.

### About BIRSA 101 Therapy:

- **Nomenclature:** The therapy has been named Birsa-101 in honour of the tribal leader Birsa Munda.
- **Uniqueness:** It is India's first indigenous CRISPR-based gene therapy, designed to treat Sickle Cell Disease (SCD).
- **Development:** It is developed by the CSIR-Institute of Genomics and Integrative Biology (IGIB) in partnership with the Serum Institute of India (SIIPL) for technology transfer, scale-up, and affordable national deployment.
- **Objective:** It aims to support India's mission of becoming Sickle Cell-Free by 2047, as envisioned by the Prime Minister.
- **Use of CRISPR Technology:** It utilizes the CRISPR-Cas9 gene-editing tool to correct the genetic mutation causing Sickle Cell Disease.
- **Affordable:** It is priced significantly lower than global CRISPR treatments, making it more accessible to the poorest populations.
- **Working mechanism:** It edits defective genes inside the patient's cells and corrects the mutation responsible for producing sickle-shaped red blood cells, thereby enabling normal haemoglobin production.
- **One time infusion:** The therapy has to be given as a one-time infusion, after which the body should start producing normal red blood cells instead of sickle-shaped ones.



## LUPEX MISSION

### Context :

- A Japanese delegation recently held discussions with the senior leadership of the ISRO and visited the facilities of the space agency to review the status of the LuPEX mission.

### About LuPEX Mission:

- **Collaborating agencies:** It is a collaborative mission between Indian Space Research Organisation (ISRO) and Japan Aerospace Exploration Agency (JAXA).
- **Objective:** It aims to explore the moon's southern polar region, investigating the presence of water and other elements, potentially in the form of surface ice.
- **Scheduled launch:** The mission is scheduled to launch in 2025.

- **Uniqueness:** The LUPEX will be a precursor to the ISRO's lunar sample return mission and for sending the first Indian to the moon by 2040.
- **Launch vehicles:** The mission will be launched by JAXA onboard its H3-24L launch vehicle, carrying the ISRO-made lunar lander, which will carry the MHI, Japan-made lunar rover.
- **Focus on lunar night survival:** It aims to showcase innovative surface exploration technologies. The special focus is on vehicular transport and lunar night survival.
- **Functions of rover:** The rover will drive on its own to search for areas where water is likely to be present and sample the soil by digging into the ground with a drill. It will be equipped with instruments for measuring the water content of regolith (lunar sand), drilling, and sampling.
- **Instruments of other space agencies carried:** The rover will carry not only the instruments of ISRO and JAXA but also those of the US space agency NASA and the European Space Agency (ESA).





## HISTORY AND ART &amp; CULTURE



## RAMMAN FESTIVAL

## Context:

- President Droupadi Murmu attended a special session of the Uttarakhand Assembly, where Speaker Ritu Khanduri Bhushan presented her with a Ramman mask.

## About Ramman Festival:

- Location:** It is celebrated in the twin villages of Saloor-Dungra in Uttarakhand every year in late April.
- Deity:** It is a religious festival in honour of the tutelary god, Bhumiyal Devta.
- Associated rituals:** This event is made up of highly complex rituals. It includes the recitation of a version of the epic of Rama and various legends, and the performance of songs and masked dances. It features complex rituals, recitations of the Ramayana, songs, and masked dances, with each caste and group playing distinct roles.
- Emphasis on masks:** There are 18 different types of masks made of Bhojpatra, Himalayan birch, that performers wear during the event.
- Community Participation:** Entire village households contribute; roles are caste-based (priests, mask-makers, drum players), funding comes from the village, and participation spans elders to youth.
- Fusion of Art Forms:** It blends narration, masked dances, ritual drama, music, and mask craft into one integrated festival.
- Instruments used:** Some of the instruments documented include Dhol (a type of drum) Damau (smaller percussion drum), Manjira (small hand cymbals), Jhanjhar (larger cymbals), Bhankora (a kind of trumpet).
- Significance:** In 2009, Ramman was inscribed in the list of UNESCO's Intangible Cultural Heritage of Humanity.



## KORAGA TRIBE

## Context:

- A groundbreaking genomic study has identified a distinct ancestral source in the Koraga tribe that may date back to the Indus Valley Civilisation.

## About Koraga Tribe:

- Location:** The Koraga is an indigenous tribal community that is basically found mainly in the Dakshina Kannada, Udupi districts of Karnataka and the Kasaragod district of Kerala state.
- Classified as PVTGs:** The Koragas are classified as a Particularly Vulnerable Tribal Group (PVTG).
- Population:** As per the 2011 census, their total population is 1582, in which 778 were males and 804 females.
- Language:** People communicate either in their language, known as Koraga Bhasha, or in Tulu.
- Economy:** The Koragas mainly depend on agriculture and forest resources for their livelihoods.

- Culture:** They are known for their traditional crafts, such as basket-making, and actively participate in folk dances and rituals that reflect their rich cultural heritage.
- Society:** The Koraga community follows a matrilineal family system and a unique clan structure called “bali,” which plays an important role in their social organization. Koragas are led by the most senior person in the village, often known as Mooppan.
- Rituals:** Drumming and traditional music are integral to their rituals and community celebrations. Dholu and Voote (Drum and Flute) were two important musical instruments of the Koragas. The rhythmic drum-beating, especially with the “dholu,” is a significant aspect of their cultural identity, used in various ceremonies and gatherings.
- Religious Beliefs:** The Koragas follow Hinduism but have distinct tribal religious beliefs and practices. They worship spirits known as “Bhutas” and believe in the power of magic and rituals to ward off evil.



## BALIYATRA FESTIVAL

### Context:

- President Droupadi Murmu has extended her greetings on the occasion of the historic ‘Baliyatra’ festival to all the countrymen, especially the people of Odisha.

### About Baliyatra Festival:

- Nomenclature:** Baliyatra, literally ‘voyage to Bali’ is one of the country’s largest open-air fairs.
- Location:** It is celebrated annually in Cuttack, Odisha.
- Occasion:** It is celebrated every year on Kartika Purnima (full moon night in the month of Kartik) that marks the day that the seafaring traders departed for the Indonesian islands.
- Reason behind festival:** It is organised every year to commemorate the 2,000-year-old maritime and cultural links between ancient Kalinga (today’s Odisha) and Bali and other South and Southeast Asian regions like Java, Sumatra, Borneo, Burma (Myanmar) and Ceylon (Sri Lanka).
- Significance:** The Bali Yatra celebrates the ingenuity and skill of those expert sailors who made Kalinga one of the most prosperous empires of its time.
- Methods of celebration:** The celebration features grand fairs, elaborate rides, food and dance. Indian women perform ‘Boita Bandana’, they make boats of paper or banana leaf (sholapith) with lighted lamps inside and float them down the Mahanadi as a part of the celebrations.



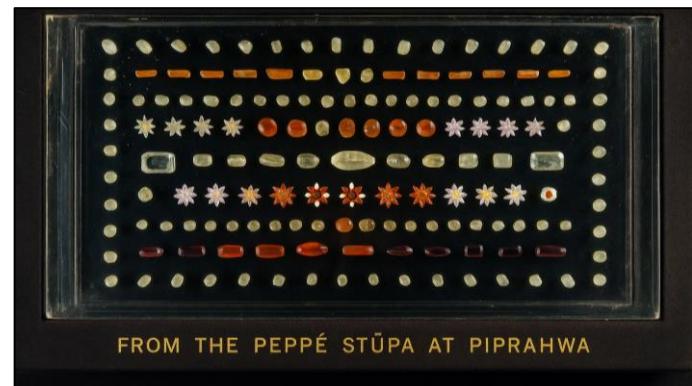
## PIPRAHWA RELICS

### Context:

- A portion of the holy Piprahwa relics of Lord Buddha, brought from India, were enshrined at Thimpu's prominent monastery, Tashichhodzong, considered the seat of Bhutan's highest spiritual and political institutions.

### About Piprahwa Relics:

- **Location:** The Piprahwa Relics are a collection of sacred artifacts discovered in 1898 at the Piprahwa Stupa in Uttar Pradesh, India. It is the site believed to be associated with ancient Kapilavastu, the homeland of Gautama Buddha.
- **Significance:** These relics, unearthed by British colonial engineer William Claxton Peppe in 1898, include bone fragments believed to be those of Lord Buddha, along with crystal caskets, gold ornaments, gemstones, and a sandstone coffer.
- **Archaeological evidence:** An inscription in Brahmi script on one of the caskets links the relics directly to the Sakya clan, to which Buddha belonged, indicating that these remains were enshrined by his followers around the third century BC.
- **Classification:** Piprahwa Relics are classified as 'AA' antiquities under Indian law, prohibiting their removal or sale.
- **Discovery:** The British crown claimed Peppe's find under the 1878 Indian Treasure Trove Act, with the bones and ash presented to the Buddhist monarch King Chulalongkorn of Siam. Most of the 1,800 gems went to what is now the Indian Museum in Kolkata, while Peppe was permitted to retain approximately a fifth of them.
- **Repatriation to India:** A part of the Piprahwa Relics was passed down for generations in the Peppe family. These were put up for auction in Hong Kong in May 2025. However, it was successfully repatriated back to India through a public-private collaboration between the Government and the Godrej Industries Group.



### VRINDAVANI VASTRA

#### Context:

- Recently, Assam Chief Minister left for London to initiate the process of bringing back the revered Vrindavani Vastra from the British Museum.

#### About Vrindavani Vastra:

- **Nature:** It is a 400-year-old traditional textile from Assam, woven with the theme of Krishna's various exploits.
- **Prominent themes:** The childhood stories of Lord Krishna in Vrindavan, his divine pastimes, and various events are woven with thread on this cloth.
- **Building technique:** It was made of woven silk using the complex 'lampas' technique. This technique requires two weavers working simultaneously. The designs were woven with a large variety of colored threads, like red, white, black, yellow, green, etc.
- **History:** It was created under the guidance of Srimanta Sankardeva, at the request of Koch king Nara Narayan, who ruled over parts of modern-day Assam and West Bengal. Notably, Nara Narayan had sheltered Sankardeva after the Vaishnav saint was targeted by the Ahom kingdom on the instigation of Brahmin priests in the state.



- **Significance:** The textile serves as a testament to Assamese weaving, incorporating elements from various artistic traditions, and travelled from Assam to Tibet before being acquired by the British Museum in 1904.
- **Associated with Vaishnavism:** A masterpiece of sacred art, the Vrindavani Vastra is a central part of Assamese Vaishnavism.

## RAULANE FESTIVAL

### Context:

- Recently, raulane festival, a unique and sacred winter festival was celebrated in Himachal Pradesh's Kinnaur district.



### About Raulane Festival:

- **Location:** It is a traditional festival celebrated in Kalpa, Kinnaur district, Himachal Pradesh, in winter or early spring.
- **History:** This ancient festival is believed to be around 5,000 years old. It honours celestial fairies, known as Saunis, said to be radiant and gentle beings.
- **Faith:** Locals believe that the Saunis protect villagers during harsh winters by offering warmth and guidance.
- **Symbolic marriage ceremony:** During the festival, two men symbolically "marry" and become vessels for the Saunis, embodying a divine couple, the Raula (groom) and the Raulane (bride).
- **Use of heavy costumes and masks:** They get dressed in heavy woollen robes, ornaments and unique face masks.
- **Ritual dance:** They also perform a slow, meditative dance at the Nagin Narayan Temple, and the whole community joins in.
- **Significance:** The Raulane festival preserves ancient Himalayan culture and traditions, with villagers coming together to honour their protectors.

## BRIHADEESWARAR TEMPLE

### Context:

- Marking World Heritage Week, the Archaeological Survey of India (ASI) organised a heritage walk and clean-up drive at the Brihadeeswarar Temple in Thanjavur.

### About Brihadeeswarar Temple:

- **Location:** It is a Hindu temple dedicated to Shiva located in Thanjavur, Tamil Nadu.
- **Other names:** It is also known as Periya Kovil, RajaRajeswara Temple and Rajarajesvaram.
- **Dravidian temple:** It is one of the largest temples in India and is an example of Dravidian architecture during the Chola period.
- **Construction:** It was built by emperor Raja Raja Chola I and completed in 1010 AD.
- **Uniqueness:** It is part of the UNESCO World Heritage Site known as the "Great Living Chola Temples", with the other two being the Brihadeeswarar Temple, Gangaikonda Cholapuram and Airavatesvara temple.



- **Cultural Significance:** It has a repository of Tamil inscriptions detailing rituals, gifts, and the temple's construction overseen by Raja Raja Chola himself.
- **Use of granite:** The entire temple structure is made out of granite.
- **Structure:** The vimanam (temple tower) is 216 ft (66 m) high and is the tallest in the world. The Kumbam (the apex or the bulbous structure on the top) of the temple is carved out of a single rock and weighs around 80 tons.
- **Area:** The temple complex spans over 40 acres and is decorated with masses of sculptures and inscriptions that spotlight the era's devotion and craftsmanship.
- **Nandi statue at entrance:** There is a big statue of Nandi (sacred bull), carved out of a single rock measuring about 16 ft (4.9 m) long and 13 ft (4.0 m) high at the entrance.

## SIRPUR ARCHAEOLOGICAL SITE

### Context:

- Sirpur is set for a facelift as Chhattisgarh pushes for a UNESCO World Heritage tag for the 5th Century archaeological site.

### About Sirpur Archaeological Site:

- **Location:** It is located in Mahasamund district of Chhattisgarh. It is a 5th–12th Century archaeological site located on the banks of the Mahanadi.
- **Other names:** It is also known as Shripur and Sripura.
- **Discovery:** It was first discovered in 1882 by Alexander Cunningham, a British army engineer who became the first Director-General of the Archaeological Survey of India (ASI) in 1871.
- **Later excavations:** Excavations stalled in subsequent years, resuming only in the early 1950s, and later in the 1990s and 2003.
- **Historical significance:** It was the flourishing capital of Dakshina Kosala under the Panduvanshi and later Somavamshi kings. Its rulers patronised art, architecture, and religious scholarship, making it a flourishing urban centre of its time.
- **Major Buddhist centre:** It was a major Buddhist centre with large viharas, meditation halls and excavated stupas.
- **Visited by Chinese travellers:** Excavations have revealed significant Buddhist remains, including the Anand Prabhu Kuti Vihara, visited by Chinese traveller Xuanzang in the 7th century CE.
- **Religious and commercial hub:** It also has a 6th Century market complex, showing Sirpur was both a religious and commercial hub.
- **Notable Structures at the site:**
  - Lakshmana Temple (dedicated to Vishnu): It is one of India's finest brick temples which was built around the 7th Century.
  - Surang Tila complex: It is built on a high terrace and has multiple shrines in the panchayatana style (one main shrine surrounded by four subsidiary ones).
  - Tivaradeva Mahavihara: It houses a significant Buddha statue.
- **Suitability for UNESCO's tag:** Sirpur's location along the Mahanadi creates a sacred riverine cultural landscape with ghats and temple clusters, aligning with UNESCO's concept of a combined work of nature and humankind, enhancing the site's value.



## DEFENCE &amp; SECURITY

## POORVI PRACHAND PRAHAR EXERCISE

## Context :

- According to Defence PRO Lt Col Mahendra Rawat, India will hold tri-service exercise 'Poorvi Prachand Prahar' in Mechuka, Arunachal Pradesh.

## About Poorvi Prachand Prahar Exercise:

- Nature:** It is a tri-service military exercise conceived as a forward-looking exercise, which will validate multi-domain integration across land, air, and maritime fronts.
- Location:** It will be held in Mechuka, Arunachal Pradesh.
- Objective:** It is aimed at enhancing warfighting capabilities, technological adaptation, and operational synergy among the Army, Navy, and Air. It refines interoperability, improves situational awareness, and validates command-and-control structures for joint missions.
- Focus:** The exercise focuses on multi-domain integration — across land, air and maritime domains — to enhance operational synergy, technological adaptation, and readiness for future conflicts.
- Involves special forces:** The exercise involves coordinated employment of special forces, unmanned platforms, precision systems and networked operations centres operating in unison under realistic high-altitude conditions.
- Significance:** 'Poorvi Prachand Prahar' follows previous tri-service drills — 'Bhala Prahar' (2023) and 'Poorvi Prahar' (2024) — marking the next step in India's ongoing drive toward joint military integration and mission readiness.



## INS IKSHAK

## Context:

- The third vessel of the Survey Vessel Large (SVL) class, INS Ikshak, was commissioned into the Indian Navy at a ceremonial event held at Naval Base in Kochi.

## About INS Ikshak:

- Nomenclature:** The ship's name, Ikshak, meaning "The Guide", symbolises its purpose: to chart unexplored waters, ensure safe navigation for mariners.
- Construction:** It is constructed by Garden Reach Shipbuilders & Engineers (GRSE) Ltd, Kolkata.
- Objective:** It is the indigenously built Survey Vessels (Large) (SVL) which will study underwater hydrography.
- Indigenous:** It boasts over 80% indigenous content.



- Structure:** The Survey Vessel (Large) ships are 110 m long, 16 m wide with deep displacement of 3400 tons.
- Speed:** The propulsion system of the ship consists of two Main Engines in twin shaft configuration and is designed with cruise speed of 14 knots and maximum speed of 18 knots.
- HADR capability:** Beyond its primary role in hydrographic survey operations, Ikshak is also equipped with dual-role functionality, enabling it to operate as a Humanitarian Assistance and Disaster Relief (HADR) platform and a hospital ship during emergencies.
- Uniqueness:** It is the first vessel in the SVL class to feature dedicated accommodation for women officers and sailors.

## MUDH-NYOMA AIRBASE

### Context:

- Chief of the Air Staff recently inaugurated the Mudh-Nyoma airbase in Ladakh by landing a C-130J special operations aircraft there.

### About Mudh-Nyoma Airbase:

- Location:** It is an Indian Air Force (IAF) base located in Nyoma, in southeastern Ladakh. It lies close to the southern bank of the Pangong Tso and earlier had a mud-paved landing ground.
- Near LAC:** It is located at a height of 13,700 feet and is 23 km from the contested Line of Actual Control (LAC) with China.
- History:** It was originally built as a mud-paved landing ground in 1962, but it remained inactive for decades. It was reactivated in 2009 when an AN-32 aircraft landed successfully. Further, following the 2020 India–China border standoff, Nyoma ALG supported operations of C-130J, AN-32, Apache, and Chinook aircraft.
- Uniqueness:** Nyoma is the fourth IAF base in Ladakh, the highest airfield in the country, and the fifth highest in the world now.
- Organisation responsible for upgradation:** The responsibility of upgrading the airbase was entrusted to the Border Roads Organisation (BRO) under Project Himank. The upgrade included extending the original airstrip into a 2.7 km 'rigid pavement' runway, a new ATC complex, hangars, a crash bay, and accommodation.
- Features:** The airfield is designed to house a number of military unmanned, rotary-wing, fixed-wing aircraft, including heavier transport planes, like the C-17 Globemaster III, and fighter jets, like the Sukhoi-30MKI.
- Designed to operate below minus 20°C:** The infrastructure at the airbase includes necessary facilities for maintenance and sustaining air and ground crews, essential for operations in a region where winter temperatures can plummet to below minus 20°C.
- 



## MALABAR EXERCISE

### Context:

- The participation of INS Sahyadri in Exercise Malabar-2025 reaffirms India's enduring partnership and its commitment to strengthening coordination, enhancing interoperability, and demonstrating a collective resolve to safeguard regional security.

**About Malabar Exercise:**

- **Origin:** It started as an annual bilateral naval drill between India and the US in 1992.
- **Expansion of membership:** Japan joined in 2015, and Australia participated in Malabar 2020, making it a four-nation exercise under the Quad framework.
- **Location:** It takes place annually in the Indian Ocean and Pacific Oceans alternatively.
- **Evolution:** It has evolved into a key multilateral event aimed at enhancing interoperability, fostering mutual understanding, and addressing shared maritime challenges in the Indian Ocean and Indo-Pacific region.
- **Objective:** It aims to improve interoperability, coordination, and communication, focusing on joint fleet operations, anti-submarine warfare, gunnery drills, and airborne maritime missions.
- **Focus areas:** It highlights the convergence of views among the participating countries on maritime issues and their shared commitment to an open, inclusive Indo-Pacific and a rules-based international order.
- **Strategic Significance:** It strengthens Quad military interoperability, coordinated maritime operations, and freedom of navigation.
- **2 phases of Malabar Exercise 2025:**
  - Harbour Phase: It will feature operational planning and discussions, alignment on communication protocols, familiarisation visits between participating nations, and sports fixtures.
  - Sea Phase: Following the harbour phase, all participating units will proceed in this phase, wherein ships and aircraft will take part in naval drills, focusing on joint fleet operations, anti-submarine warfare, gunnery serials and flying operations.



## INVAR MISSILE

**Context :**

- The Ministry of Defence has signed a ₹2,095.70 crore contract with BDL to procure INVAR anti-tank missiles.

**About INVAR Missile:**

- **Nature:** It is an anti-tank guided missile (ATGM) designed to be launched from tank platforms.
- **Construction:** The Invar missile is built by Rosoboronexport of Russia, and it is produced under license in India by Bharat Dynamics Limited (BDL).
- **Capability:** The Invar missile, capable of being fired from the barrel of T-90 tanks, has been in active deployment by Indian forces and is known for its long-range precision strike capability. The missile can neutralise adversaries tanks fitted with Explosive Reactive Armour Protection.
- **Range:** It has a calibre of 125 mm and a range of 5000 m.
- **Resistant to electronic jamming:** The missile uses semi-automatic laser beam-riding guidance, making it resistant to electronic jamming.



- **Maneuverability:** It can destroy both stationary and moving targets traveling at speeds up to 70 kilometres per hour. The missile is fired through the tank's main gun barrel and guided to the target by the gunner using the vehicle's integrated fire-control optics.
- **Structure:** Weighing 17.2 kilograms with a length of 695 millimetres, the Invar features a tandem warhead specifically designed to defeat explosive reactive armour, a defensive system commonly fitted to modern battle tanks. Other technical features include a length of 695 mm (missile) and 395 mm (throwing device).

## GARUDA EXERCISE

### Context :

- The Indian Air Force (IAF) is participating in the 8th edition of the bilateral air Exercise 'Garuda 25' with the French Air and Space Force (FASF) at Mont-de-Marsan, France.

### About Garuda Exercise 2025:

- **Origin:** First held in 2003, Garuda is one of India's longest-running air exercises with a Western nation. It reflects deepening defence and strategic ties under the India–France Strategic Partnership (established in 1998).
- **Objective:** It is held alternately in India and France to promote operational interaction, mutual learning, and enhanced interoperability between the two Air Forces.
- **Deployment of fighter jets:** The IAF has deployed six Su-30MKI fighter jets, supported by IL-78 refuellers and C-17 Globemasters, to operate alongside French Rafale and other multirole fighters in complex simulated air combat missions.
- **Focus Areas:** It focuses on air-to-air combat drills, air defence missions, joint strike operations, and the refinement of tactics, techniques, and procedures (TTPs).
- **Importance:** This exercise promotes India-France collaborations like Rafale deal, Indo-Pacific cooperation, and joint space defence research.
- **Other Exercises with France:** It includes Exercise Varuna (naval), and Exercise Shakti (army) and Exercise Desert Knight (India, France, and UAE).



## TERRITORIAL ARMY

### Context :

- In a first-of-its-kind move, the Army is planning to induct women soldiers in its Territorial Army (TA) battalions.

### About Territorial Army:

- **Establishment:** It was established by Territorial Army Act, 1948; and was formally launched on October 9, 1949.
- **Composition:** It comprises of a volunteer reserve force comprising part-time "citizen soldiers" from civilian backgrounds (businessmen, professionals).
- **Objective:** It aims to relieve the regular Army from non-combat duties and augment its manpower during conflict or crisis.

- **Nodal ministry:** It comes under Ministry of Defence, Government of India.
- **Governed by:** It is governed by Territorial Army Act, 1948 and Rule 33 of the Act permits full mobilisation during national exigencies.
- **Objectives:** It supports army operations during war, terrorism, or border tension. It assists civil administration during floods, earthquakes, and pandemics. It also aids in counter-insurgency and stability operations in conflict-prone areas.
- **Evolution:** It evolved from the Indian Territorial Force (1920), which saw action in global conflicts like WWI and the Boer War. After the independence, it was established to serve as the second line of defence and engage citizens in nation-building through defence service.
- **Eligibility:** Indian citizens aged 18–42, who are medically fit (with civilian occupations) are eligible to join Territorial Army.
- **Training Model:** It consists of approximately 2 months of annual training (no full-time military obligation in peace times).
- **Operational Participation:** It provided logistical support, rear area defence, and vital infrastructure protection during 1947–48, 1962, 1965, 1971 wars. It also guarded ammunition dumps, supply lines, and sensitive zones during Kargil Conflict (1999).



## AJeya WARRIOR EXERCISE

### Context :

- The eighth edition of the India-UK Joint Military Exercise 'Ajeya Warrior-25' commenced at the Foreign Training Node, Mahajan Field Firing Ranges, Rajasthan.

### About Ajeya Warrior Exercise:

- **Nature:** It is a bilateral military exercise conducted between India-UK.
- **Commencement:** Held biennially since 2011, AJEYA WARRIOR has evolved into a flagship engagement between the Indian Army and the British Army.
- **Objective:** The objective of the exercise is to facilitate the exchange of best combat skills and experiences between the two armies and to enhance their ability to operate together in complex situations.
- **Uniqueness:** It is conducted under a United Nations mandate, specifically aligned with Chapter VII of the UN Charter, which deals with peacekeeping duties related to threats to peace, breaches of peace, and counter-terrorism scenarios.
- **Significance:** The exercise further reinforces shared values of professionalism, cooperation and commitment to regional stability and global peace.
- **About Ajeya Warrior Exercise 2025:**
  - The Indian Army is being represented by troops of the Sikh Regiment.



- It includes joint mission planning at Brigade level, integrated tactical drills, simulation-based scenarios and company-level field training exercises replicating real-life counter-terror contingencies.
- The exercise also aims to share best practices, enhance tactical proficiency and develop coordinated responses for managing complex operations in challenging environments.

## BVS10 SINDHU

### Context :

- Infrastructure major Larsen & Toubro Ltd. (L&T) and BAE Systems have bagged a contract from the Indian Army for supply of BvS10 Sindhu.

### About BvS10 Sindhu:

- **Nature:** The BvS10 is a well-known articulated all-terrain vehicle.
- **Used by several advanced militaries:** The BvS10 is already in service with the armed forces of Austria, France, the Netherlands, Sweden, Ukraine, and the United Kingdom. It's also on order for the German Army and has been selected for the US Army's Cold Weather All-Terrain Vehicle (CATV) program.
- **Structure:** BvS10 Sindhu is an upgraded variant of the BvS10 with adaptations tailored specifically for India's terrain and climate. Its design allows for two connected vehicle sections that help it cross difficult terrain that conventional wheeled or tracked vehicles struggle with.
- **Customised for Indian conditions:** It's customized for India's extreme terrain: high-altitude regions, deserts, marshlands, and flood-prone zones. The vehicle is also amphibious, able to operate in water or flooded terrain.
- **Construction:** L&T will manufacture the BvS10 Sindhu at its Armoured Systems Complex in Hazira, Gujarat, with technical and design support from BAE Systems Hägglunds (a Swedish business unit of BAE Systems, focused on military ground vehicles), the original manufacturer of the BvS10 platform.
- **Uses:** The Sindhu variant can be reconfigured for multiple purposes: troop transport, command post, ambulance, recovery, logistics, or even a weapons-armed version. This flexibility is ideal for the Indian Army's diverse mission needs.
- **Boost to Make in India:** It will support India's defence modernisation, which embodies the commitment to local manufacturing and technology transfer under the Make in India initiative.



## INS MAHE

### Context :

- Recently, the Indian Navy commissioned INS Mahe, during a ceremony held at the Naval Dockyard, Mumbai.

### About INS Mahe:

- **Nature:** It is the first of the eight anti-submarine warfare shallow water craft (ASW-SWC) of the Indian Navy.

- Construction:** It is indigenously designed and built by the Cochin Shipyard Limited (CSL).
- Nomenclature:** The ship takes her name from the historic coastal town of Mahe on the Malabar Coast. The town's maritime heritage and tranquil estuary mirror the ship's balance of elegance and strength.
- Mascot:** Its mascot, the Cheetah, embodies speed and focus.
- Motto:** Its motto "Silent Hunters" reflects the ship's stealth, vigilance, and unyielding readiness.
- Capability:** Designed for a wide range of coastal defence missions, Mahe is equipped for underwater surveillance, search and rescue duties, Low Intensity Maritime Operations (LIMO), and complex mine-laying tasks.
- Uniqueness:** The 78-meter-long vessel is the largest Indian naval warship powered by a diesel engine-waterjet propulsion system. This advanced propulsion system ensures superior manoeuvrability and a reduced acoustic signature, crucial in anti-submarine operations carried out in littoral waters.
- Embodies spirit of Kalaripayattu:** The ship's crest features the Urumi, the flexible sword of Kalaripayattu, rising from stylised blue waves - a symbol of agility, precision, and lethal grace.
- Design:** Its compact design and high agility make it ideal for operations in shallow waters where conventional destroyers and frigates face navigational constraints. These ships are equipped with one RBU-6000 anti-submarine rocket launcher and two sets of light-weight torpedo-tube launchers for launching anti-submarine torpedoes.
- Step towards Aatmanirbhar Bharat:** With over 80% indigenous content, the ship underscores the Indian Navy's sustained efforts to promote indigenisation through homegrown solutions and innovative technologies.

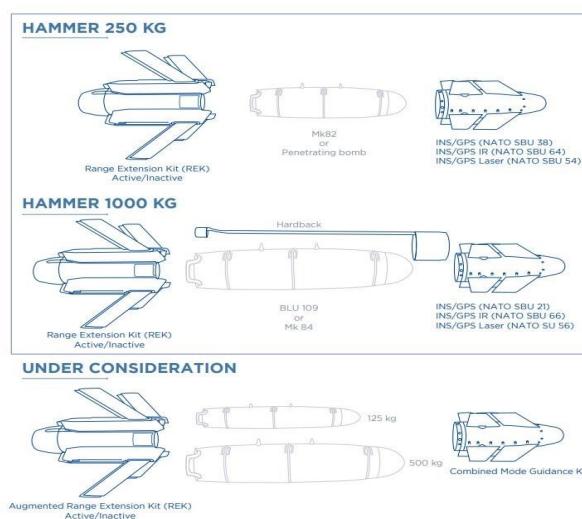


## HAMMER WEAPON SYSTEM

### Context :

- Bharat Electronics Limited (BEL) and Safran Electronics and Defence (SED) signed an agreement for the production of HAMMER weapon system in India.

## A VERSATILE AND MODULAR WEAPON SYSTEM



### UNCHALLENGED ACCURACY

- HRG Crystal™ high-grade inertial system ensuring accuracy in GNSS-denied environment in all weather conditions.
- Three guidance kit versions to cover the full spectrum of air-to-surface tactical mission requirements.
- Common INS/GPS guidance for each guidance kit.



#### + LASER GUIDANCE



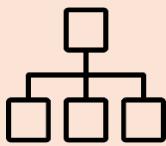
#### HRG CRYSTAL™ Rebooting the navigation revolution

Mass-produced in Montlucon in France, Safran's HRG\*\*\* Crystal™ is the latest generation of cutting-edge resonating gyroscope designed to address the most demanding military navigation requirements. Embedded with HRG Crystal™, Safran's HAMMER has successfully reached its target in more than 3,000 strikes with the highest level of accuracy.

\*For all weather conditions. \*\*AOI: Angle of Impact - \*\*\*Hemispherical Resonator Gyroscope

**About HAMMER Weapon System:**

- **Nomenclature:** HAMMER stands for Highly Agile and Manoeuvrable Munition Extended Range. It is also known as a glide bomb.
- **Nature:** It is an air-to-ground precision-guided weapon system and can be fitted to standard bombs of 250kg, 500kg, and 1,000kg weights.
- **Development:** Originally developed by Safran Electronics and Defence (SED), France, it is now set for joint manufacturing with Bharat Electronics Limited (BEL) in India.
- **Range:** HAMMER precision-guided munitions have a range of up to 70 km. It
- **Difficult to intercept:** It is resistant to jamming, and capable of being launched from low altitudes over rough terrain. It is difficult to intercept and can penetrate fortified structures.
- **Manoeuvrability:** It is optimised for mountain warfare (e.g., Ladakh), allowing precision strikes even in complex topography and high-altitude environments.
- **Uniqueness:** It is a precision-guided weapon system known for its high accuracy and modular design, making it adaptable for multiple platforms, including the Rafale and Light Combat Aircraft Tejas.
- **Significance of agreement:** The development is crucial because India previously ordered this weapon system, along with other armaments, from France to equip its Rafale fighter jets in 2020 during standoff with China in eastern Ladakh.


**GOVT. INITIATIVES, SCHEMES AND POLICIES, ORGANISATION**

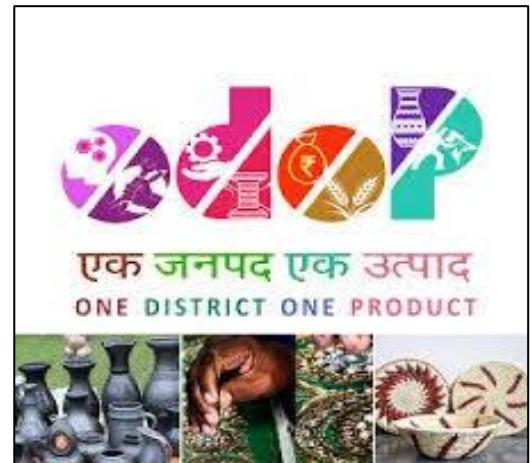

## ONE DISTRICT ONE PRODUCT (ODOP)

### Context:

- In a bid to promote local talent, the Indian Railways will patronise the newly launched 'Aabhar' online store that will showcase a range of exquisite gift items manufactured under the ambit of One District One Product (ODOP).

### About One District One Product (ODOP):

- **Nodal ministry:** One District One Product (ODOP) was launched by the Ministry of Food Processing Industries in 2018.
- **Objective:** it aims to help districts reach their full potential, foster economic and socio-cultural growth, and create employment opportunities, especially, in rural areas.
- **Every district as export hub:** This initiative is carried out with the 'Districts as Exports Hub' initiative by the Directorate General of Foreign Trade (DGFT), Department of Commerce. It aims to turn every district in India, into an export hub through promotion of the product in which the district specialises.
- **In line with Atmanirbhar Bharat:** The initiative plans to accomplish this by scaling manufacturing, supporting local businesses, finding potential foreign customers and so on, thus helping to achieve the 'Atmanirbhar Bharat' vision.
- **Process of selection:** Under the ODOP initiative, all products have been selected by States/UTs by taking into consideration the existing ecosystem on the ground, products identified under Districts as Export Hubs (DEH), and GI-tagged products.



## NATIONAL BEEKEEPING AND HONEY MISSION

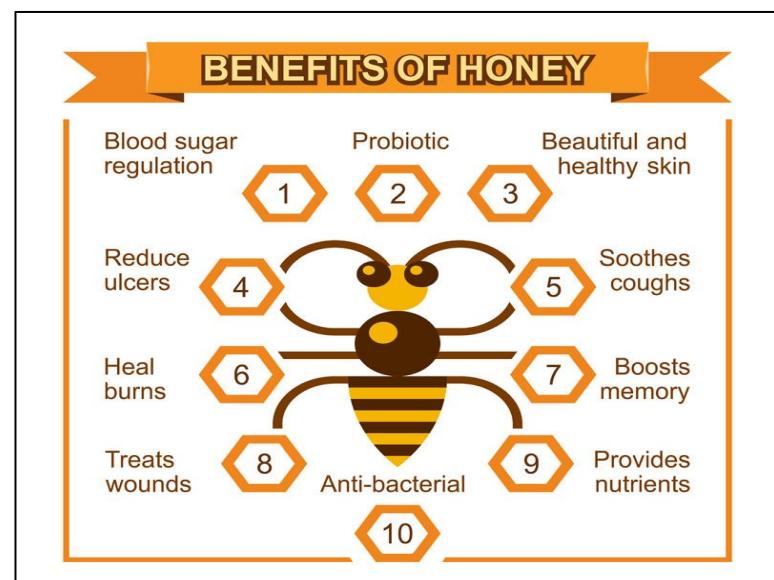
### Context:

- The National Beekeeping & Honey Mission (NBHM) launched in 2021 by the Government of India is driving the ambitious "Sweet Revolution" in the country.

### About National Beekeeping and Honey Mission:

- **Nature:** It is a Central Sector Scheme launched by the Government of India.
- **Objective:** It focuses on overall promotion and development of scientific beekeeping and the production of quality honey and other beehive products.
- **Implementation:** It is implemented by the National Bee Board (NBB) through 3 Mini Missions (MMs).
  - Mini Mission-I: Under this Mission, thrust will be given on production & productivity improvement of various crops through pollination assisted by adoption of scientific beekeeping;
  - Mini Mission-II: This Mission will concentrate on post-harvest management of beekeeping/beehive products including collection, processing, storage, marketing, value addition, etc.

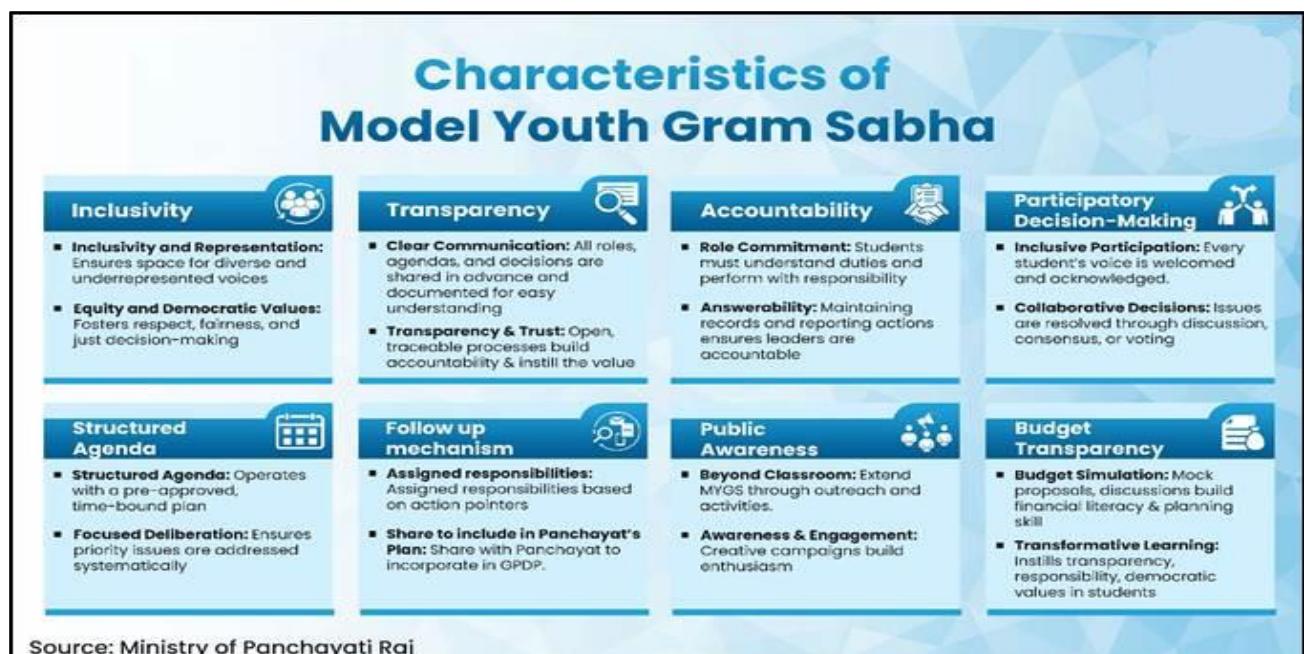
- Mini Mission-III: This Mission will concentrate on research & technology generation for different regions/states/agro-climatic and socio-economic conditions.
- **Funding:** The scheme has a total budget outlay of ₹500 crore for three years (2020–21 to 2022–23) and has been extended for another three years (2023–24 to 2025–26).
- **Major objectives:**
  - Promoting holistic growth of the beekeeping industry for providing livelihood support to farm and non-farm households.
  - Developing additional infrastructural facilities for developing quality nucleus stock of honeybees, multiplication of stock by bee breeders and post-harvest and marketing infrastructures.
  - Setting up of state-of-the-art Labs for testing of honey & other beehive products at regional levels and Mini/Satellite Labs at district levels.
  - To develop blockchain/ traceability system for of source of honey & other beehive products and using IT tools in beekeeping, including online registration, etc.;
- **Institutional Framework:** It focuses on strengthening beekeepers through collective approaches like SHGs, FPOs, and cooperatives.



## MODEL YOUTH GRAM SABHA INITIATIVE

### Context:

- The Ministry of Panchayati Raj, in collaboration with the Ministry of Education (Department of School Education & Literacy) and the Ministry of Tribal Affairs, launched the Model Youth Gram Sabha (MYGS) initiative today in New Delhi.



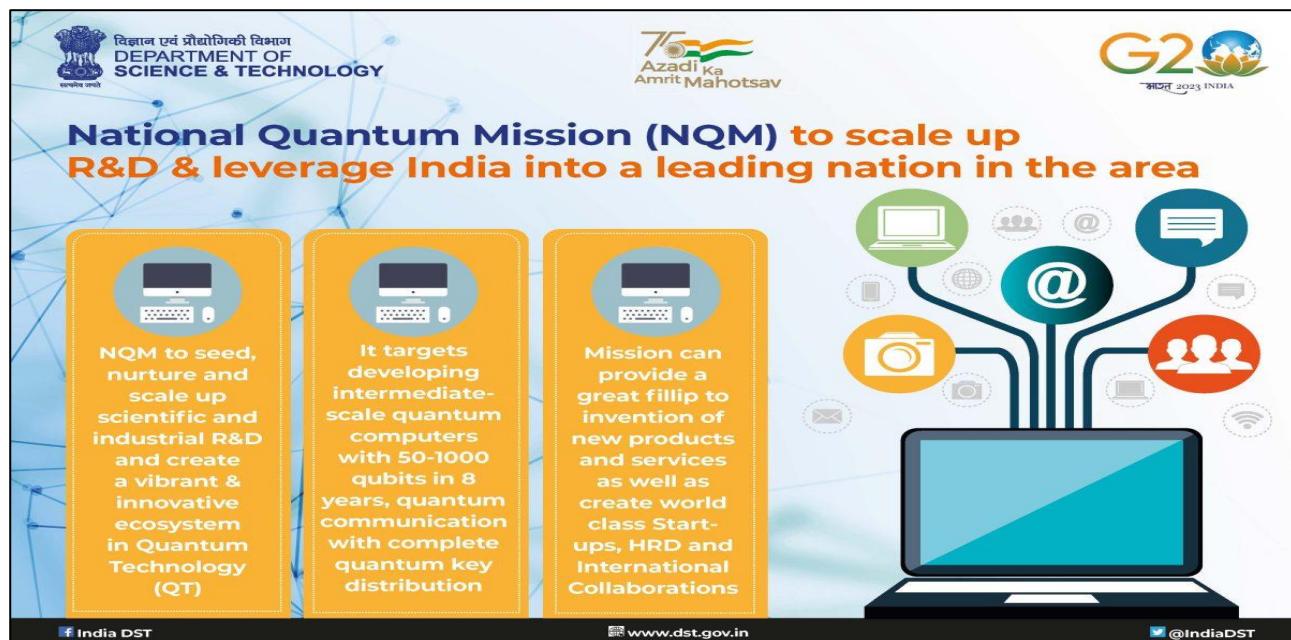
### About Model Youth Gram Sabha Initiative:

- **Nature:** Model Youth Gram Sabha Initiative is a simulated forum for school children to participate in mock Gram Sabha sessions.
- **Objective:** It is a pioneering initiative to strengthen Janbhagidari and promote participatory local governance by engaging students in simulated Gram Sabha sessions.
- **Based on model UN:** It is an initiative based on the Model UN – an educational simulation of the United Nations – in schools across the country.
- **Nodal ministry:** It is an initiative of the Ministry of Panchayati Raj, in collaboration with the Ministry of Education and the Ministry of Tribal Affairs.
- **Implementation:** It will be rolled out across more than 1,000 schools nationwide, including Jawahar Navodaya Vidyalayas, Eklavya Model Residential Schools (EMRSs), and State Government Schools.
- **Key features:** Students from classes 9-12 will play the roles of sarpanch, ward members, and village-level officials, including village secretary, Anganwadi worker etc. They will hold mock meetings of the Gram Sabha, discuss various issues, and prepare the village budget and development plans.
- **Funding support:** The Panchayati Raj Ministry will also provide a support of Rs 20,000 to each school for holding the mock Gram Sabha.

## NATIONAL QUANTUM MISSION

### Context:

- One of the 8 startups supported under the National Quantum Mission (NQM) has successfully demonstrated India's first extensive Quantum Key Distribution (QKD) network, spanning over 500 km.



### About National Quantum Mission (NQM):

- **Implementation:** It is implemented by the Department of Science & Technology (DST) under the Ministry of Science & Technology.
- **Objective:** The mission planned for 2023-2031 aims to seed, nurture, and scale up scientific and industrial R&D and create a vibrant & innovative ecosystem in Quantum Technology (QT).
- **Significance:** With the launch of this mission, India became the 7<sup>th</sup> country to have a dedicated quantum mission after the US, Austria, Finland, France, Canada and China.
- **Focus on intermediate scale quantum computers:** It targets developing intermediate scale quantum computers with 50-100 physical qubits in 5 years and 50-1000 physical qubits in 8 years.

- **Development of magnetometers and superconductors:** The mission will help develop magnetometers with high sensitivity for precision timing (atomic clocks), communications, and navigation. It will also support design and synthesis of quantum materials such as superconductors, novel semiconductor structures and topological materials for fabrication of quantum devices.
- **Includes satellite communication:** The mission will also help developing satellite based secure quantum communications between ground stations over a range of 2000 km within India and long-distance secure quantum communications with other countries.
- **Thematic hubs:** Under the scheme, four Thematic Hubs (T-Hubs) would be set up in top academic and National R&D institutes on the domains of Quantum Technology:
  - Quantum computation
  - Quantum communication
  - Quantum Sensing & Metrology
  - Quantum Materials & Devices
- **Long-term impact:** This will accelerate QT led economic growth and make India one of the leading nations in the development of Quantum Technologies & Applications (QTA) ranging from healthcare and diagnostics, defence, energy and data security. It will also work towards indigenously building quantum-based computers which are far more powerful and are able to solve the most complex problems in a highly secure manner.

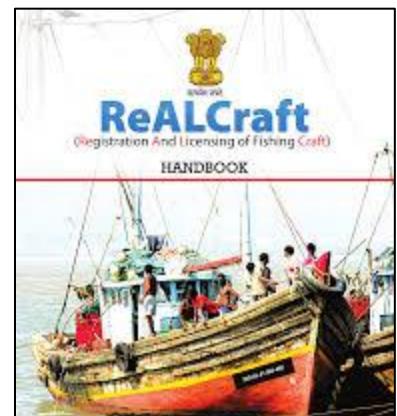
## REALCRAFT PORTAL

### Context:

- In a major step towards realizing the vision of a prosperous and inclusive Blue Economy, the Government of India has introduced the ReALCRAFT Portal for the registration and licensing of fishing vessels and related processes.

### About ReALCRAFT Portal:

- **Nature:** The Registration And Licensing of Fishing Craft (ReALCRAFT) portal is developed as a national online platform under open-source technology.
- **Development:** It is developed by the Department of Fisheries, Ministry of Fisheries, Animal Husbandry & Dairying.
- **Objective:** It aims to develop a modern, comprehensive and transparent vessel data management system in the country with the aim to enhance security features and to bring efficiency, transparency, accountability and reliability in services.
- **Focus areas:** It focuses on providing web-based, citizen-centric services to marine fishers and coastal States/UTs for the registration and licensing of fishing vessels, transfer of ownership, and related processes.
- **Paperless:** The system is designed to be fully digital, transparent, and time-bound, allowing applicants to submit minimal documentation, track the status of their application in real time, and complete the process without visiting any government office.
- **Strengthens coastal security:** Fishermen and their vessels are identified using QR-coded Aadhaar Cards or Fisher ID Cards, ensuring proper verification and monitoring at sea. These digital features help marine enforcement agencies, including the Indian Coast Guard and Indian Navy, in strengthening coastal security and surveillance in the India's Exclusive Economic Zone (EEZ).



- **Associated platforms:** The portal is integrated with the Marine Products Export Development Authority (MPEDA) and the Export Inspection Council (EIC) to facilitate the issuance of Fish Catch and Health Certificates.
- **Provision of a free digital access pass:** Under the Sustainable Harnessing of Fisheries in the EEZ Rules, 2025, all mechanized and large motorized fishing vessels are required to obtain a free digital Access Pass through the ReALCRAFT Portal for operations in India's EEZ.

## EXPORT PROMOTION MISSION (EPM)

### Context:

- The Union Cabinet has approved the Export Promotion Mission (EPM), a flagship initiative announced in the Union Budget 2025–26 to strengthen India's export competitiveness, particularly for MSMEs.

### About Export Promotion Mission (EPM):

- **Built on collaboration:** EPM is anchored in a collaborative framework involving the Department of Commerce, Ministry of MSME, Ministry of Finance, and other key stakeholders including state governments.
- **Objective:** It is a flagship initiative to strengthen India's export competitiveness, particularly for MSMEs, first-time exporters, and labour-intensive sectors. It will provide a comprehensive and digitally driven framework for export promotion.
- **Implementing agency:** The Directorate General of Foreign Trade (DGFT) will act as the implementing agency, with all processes — from application to disbursal — being managed through a dedicated digital platform integrated with existing trade systems.
- **Time Period:** It has a budget outlay of Rs. 25,060 crore for FY 2025–26 to FY 2030–31.
- **Strategic shift:** It marks a strategic shift from multiple fragmented schemes to a single, outcome-based, and adaptive mechanism.
- **Consolidation of related schemes:** It consolidates key export support schemes such as the Interest Equalisation Scheme (IES) and Market Access Initiative (MAI), aligning them with contemporary trade needs.
- **Priority sectors:** Under EPM, priority support will be extended to sectors impacted by recent global tariff escalations, such as textiles, leather, gems & jewellery, engineering goods, and marine products.
- **Sub-schemes:**
  - **NIRYAT PROTSAHAN:** It focuses on improving access to affordable trade finance for MSMEs through a range of instruments such as interest subvention, export factoring, collateral guarantees etc.
  - **NIRYAT DISHA:** It focuses on non-financial enablers that enhance market readiness and competitiveness such as export quality and compliance support, assistance for international branding, packaging, export warehousing and logistics etc.

## NATIONAL TECHNICAL TEXTILES MISSION

### Context:

- The National Technical Textiles Mission (NTTM) has successfully supported the development of 03 indigenous instruments for testing Convective, Radiant, and Contact (Conductive) Heat Resistance of protective textiles.

Cabinet Committee on Economic Affairs (CCEA) approves  
**National Technical Textiles Mission  
at an outlay of Rs. 1480 crore**

**Components:**

Research, Innovation & Development



Promotion & Market Development

Export Promotion



Education, Training, Skill Development



**Objectives:**

- Encourage technological Start-ups & Innovation
- Provide Skill Training to at least 50,000 people
- Develop higher technological education for technical textiles in higher educational institutes
- Encourage fundamental research in technical textiles (geo-textiles, agro-textiles, medical textiles) used in agriculture, infrastructure, defence equipments, space missions, etc.

**About National Technical Textiles Mission:**

- **Nodal ministry:** NTTM is an initiative of the Ministry of Textiles to promote the growth and development of the technical textiles sector in the country.
- **Objective:** It aims to position India as a global leader in technical textiles.
- **Implementation Period:** It was launched for a period from 2020-21 to 2025-26 with an outlay of Rs.1,480 crores.
- **Components:** The Mission has four components.
  - Research, Innovation and Development: Fundamental research is conducted in Council of Scientific and Industrial Research (CSIR) labs, IITs, and other reputable scientific, industrial, and academic institutions.
  - Promotion and Market Development: It focuses on market growth, international collaborations, investment promotions, and 'Make in India' initiatives.
  - Export Promotion: An Export Promotion Council for Technical Textiles has been established to enhance coordination and promotional activities in this sector.
  - Education, Training, and Skill Development: It promotes higher-level technical education and skill development in technical textiles, covering engineering, medical, agriculture, and related sectors.

**About Technical Textiles:**

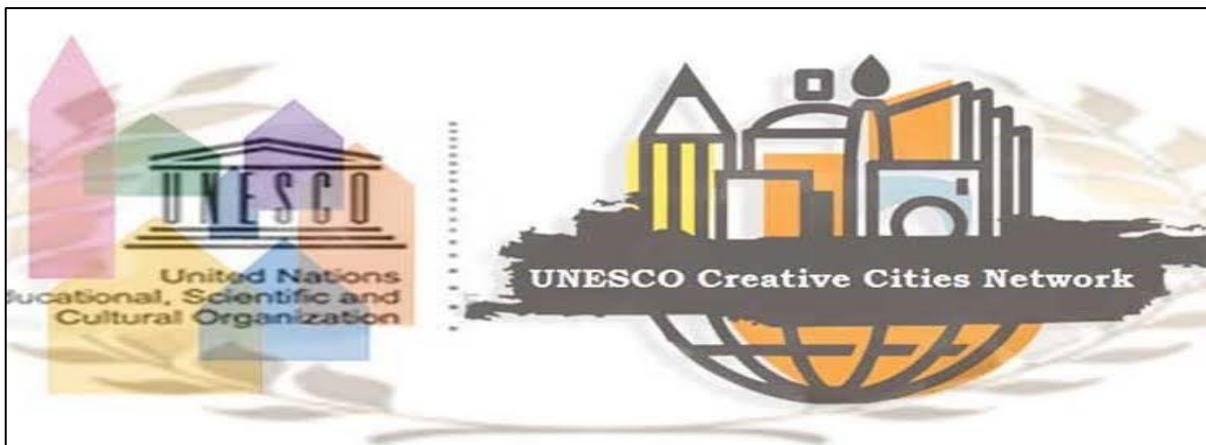
- **Definition:** Technical textiles are defined as textile materials and products used primarily for their technical performance and functional properties rather than their aesthetic or decorative characteristics.
- **Nomenclature:** Other terms used for defining technical textiles include industrial textiles, functional textiles, performance textiles, engineering textiles, invisible textiles, and hi-tech textiles.
- **Classification:** These products are broadly classified into 12 different categories, viz. Agrotech, Oekotech, Buildtech, Meditech, Geotech, Clothtech, Mobiltech, Hometech, Sportstech, Indutech, Protech, Packtech.
- **Applications:** They are used in products that help protect people, improve machinery, and solve practical problems, such as in car parts, building materials, medical equipment, and safety gear.

## MISCELLANEOUS

### UNESCO CREATIVE CITIES NETWORK

#### Context :

- Lucknow has been declared a UNESCO 'Creative City of Gastronomy' during the 43rd Session of the UNESCO General Conference in Uzbekistan. The recognition celebrates the city's centuries-old Awadhi cuisine and living food traditions.



#### About UNESCO Creative Cities Network (UCCN):

- **Creation:** It was created in 2004 to promote UNESCO's goals of cultural diversity and strengthen resilience to threats such as climate change, rising inequality, and rapid urbanisation.
- **Objective:** It aims to promote cooperation among cities that have identified creativity as a strategic factor for sustainable urban development.
- **Coverage:** The network covers seven creative fields: crafts and folk arts, media arts, film, design, gastronomy, literature and music. The network is aimed at leveraging the creative, social, and economic potential of cultural industries.
- **In sync with SDGs:** It is in line with Sustainable Development Goal 11, which aims for Sustainable Cities and Communities.
- **Involves participation of private sector:** It allows member cities to recognise creativity as an essential component of urban development, notably through partnerships involving the public and private sectors and civil society.
- **Formation of hubs of creativity:** It envisages developing hubs of creativity, innovation and broadening opportunities for creators and professionals in the cultural sector.
- **Indian Cities in the UCCN:** Kozhikode (Literature), Gwalior (Music), Jaipur (Crafts and Folk Arts), Varanasi (Music), Chennai (Music), Mumbai (Film), Hyderabad (Gastronomy), Lucknow (Gastronomy), and Srinagar (Crafts and Folk Arts) are included in this list.

### QS ASIA UNIVERSITY RANKINGS

#### Context:

- China has overtaken India as the most-represented location in the QS World University Rankings: Asia 2026, according to the rankings released this week.

### About QS Asia University Rankings:

- **Nature:** The QS Asia University Rankings is an annual regional assessment that evaluates Asia's leading higher education institutions based on academic reputation, employability, research productivity, and international outlook.
- **Released by:** It is compiled by Quacquarelli Symonds (QS), a UK-based higher education analytics firm, known globally for its QS World University Rankings.
- **Objectives:**
  - To benchmark Asian universities using globally comparable indicators.
  - To highlight academic excellence, innovation, and research impact in the region.
  - To promote quality, global competitiveness, and collaboration in Asian higher education.
- **About QS Asia Rankings 2026:**
  - The top 10 positions in the 2026 rankings were dominated by universities from Hong Kong, Singapore, and China.
  - While India added 132 universities and institutes to the list this year, taking its tally to a record high of 294, China added 259 institutions, bringing its total to 394.
  - Seven Indian institutions feature in the top 100, with the Indian Institute of Technology, Delhi, ranked highest at 59.
  - China has 25 universities in the top 100, while India retained the same number of institutes in the top 100 as last year.



### AMBAJI MARBLE

#### Context :

- Marble from Ambaji, Gujarat's prominent pilgrimage site and Shaktipeeth, has been awarded the Geographical Indication (GI) tag for its high-quality white stone.

#### About Ambaji Marble:

- **Nature:** It is a type of marble known for its stunning white appearance and unique natural patterns.
- **Nomenclature:** It is named after the town of Ambaji in the state of Gujarat, where it is predominantly quarried. It is also known as Amba White Marble and Ambe White Marble.
- **Uniqueness:** It is characterized by its pristine white colour, which often features subtle grey or beige veining. It has very long-lasting shine and durability.
- **Distinctive variations:** The veins can vary in intensity, ranging from fine and delicate to bold and pronounced, giving each slab a distinct and individualistic appearance. These variations occur naturally due to the presence of minerals and impurities during the marble formation process.
- **Uses:** The smooth and polished surface of the marble adds to its appeal and sophistication. It is widely used for luxury architectural projects, sculptures, and monuments.



### About Geographical Indication (GI) Tag:

- **Nature:** A GI tag is a name or sign used on certain products that correspond to a specific geographical location or origin.
- **Objective:** The GI tag ensures that only authorised users or those residing in the geographical territory are allowed to use the popular product name. It also protects the product from being copied or imitated by others.
- **Validity:** A registered GI is valid for 10 years and can be renewed.
- **Nodal ministry:** GI registration is overseen by the Department for Promotion of Industry and Internal Trade under the Ministry of Commerce and Industry.
- **Legal framework:** It is governed by Geographical Indications of Goods (Registration and Protection) Act, 1999.

## GLOBAL COOLING WATCH REPORT 2025

### Context:

- Global Cooling Watch 2025, launched recently at COP30 in Belém, Brazil, finds that cooling demand could more than triple by 2050 under business as usual.

### About Global Cooling Watch Report:

- **Nature:** The Global Cooling Watch 2025 is UNEP's second global assessment on the environmental, economic, and equity dimensions of cooling, providing the scientific foundation for the Global Cooling Pledge.
- **Publishing agency:** It is published by United Nations Environment Programme (UNEP).
- **Objective:** It aims to analyse global cooling trends, project future emissions, and propose a "Sustainable Cooling Pathway" to achieve near-zero emissions while ensuring equitable access to cooling worldwide.
- **Key highlights of Global Cooling Watch Report 2025:**
  - Global cooling capacity is projected to rise 2.6 times by 2050, driven by rapid urbanization, income growth, and intensifying heatwaves, particularly in developing nations.
  - Cooling demand in Article 5 countries (developing nations) is set to increase fourfold, highlighting a widening divide in energy use and infrastructure readiness between rich and poor economies.
  - Phasing down high-global-warming refrigerants (HFCs) and adopting low-GWP alternatives could eliminate up to 0.4°C of projected global warming this century.
  - So far, 72 nations and 80 organizations have joined the Global Cooling Pledge, collectively aiming for a 68% emission reduction in the cooling sector by 2050.



## ADAM CHINI RICE

### Context :

- Farmers in Uttar Pradesh are seeing their dreams take flight with the revival as BHU researchers revive timeless rice variety 'Adam Chini' with innovation.

### About Adam Chini Rice:

- Nature:** It is an aromatic black rice variety known for its pleasant aroma and superior cooking qualities. It received Geographical Indication (GI) in 2023.
- Growing areas:** It is mainly grown in the Eastern Uttar Pradesh region including Chandauli, Varanasi and Vindhya region.
- GI tagged:** It received Geographical Indication (GI) status on 22 February 2023 (valid till November 2030). The GI tag proposed by Ishani Agro Producer Company Ltd. and Human Welfare Association of Uttar Pradesh.
- Uniqueness:** It is known for its sugar-crystal-like grains, drought tolerance, and disease resistance qualities. It has long maturity period (155 days) and low yields (20-23 quintals per hectare).
- Structure:** It reaches height up to 165 cm and its grains are short-bold, scented with intermediate alkali digestion value.
- Presence of amylose:** It has intermediate amylose content which helps rice to remain fluffy and remains soft on cooling. It is renowned for its excellence in flavour.
- Improved features by BHU:**
  - Reduced height (105 cm for mutant-14),
  - Early maturity (120 days for mutant-19),
  - Higher yields (30-35 quintals per hectare for mutants 14, 15, 19, and 20).
  - Now it is more suitable for mass production while retaining its coveted fragrance.



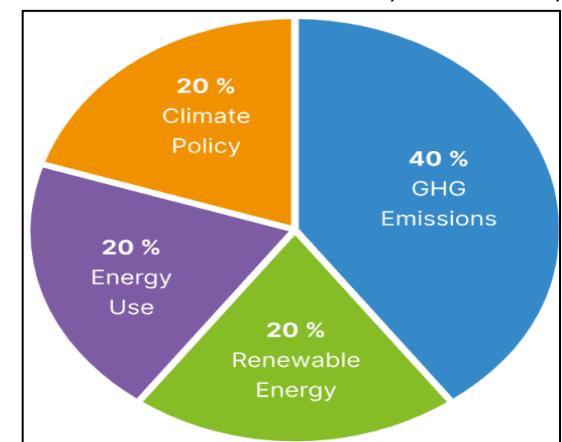
## CLIMATE CHANGE PERFORMANCE INDEX (CCPI)

### Context :

- India slipped 13 ranks to figure at the 23rd position in the latest Climate Change Performance Index.

### About Climate Change Performance Index (CCPI) 2026:

- Publishing agency:** It is published by think tanks German watch, New Climate Institute, and Climate Action Network International. It was first published in 2005.
- Objective:** It tracks the progress of the world's largest emitters in terms of emissions, renewables, and climate policy.
- Assessment in 4 categories:** The performance of countries is assessed in four categories with 14 indicators- Greenhouse Gas Emissions (40% of the overall score), Renewable Energy (20%), Energy Use (20%), and Climate Policy (20%).
- Key highlights of the Climate Change Performance Index 2026:**
  - Denmark, the UK and Morocco took the lead in this year's CCPI.
  - China (54th), Russia (64th), the US (65th) and Saudi Arabia (67th) are the G20's worst-performing countries, receiving an overall very low score.



- India fell 13 places from its previous ranking of 10th to stand at 23rd in the latest global climate change performance with a score of 61.31.
- It's the biggest fall of India on the CCPI ranking in the recent past even as it remained in the top 10 high-performing countries for six years in a row till 2024. India, which ranked 31st in 2014, entered the top 10 list for the first time in 2019.
- It also labelled India among the biggest producers of oil, gas, and coal worldwide, leading it to fall from a 'high performer' to a 'medium' one in this year's CCPI.

## INDIRA GANDHI PEACE PRIZE

### Context :

- Recently, the Indira Gandhi Prize for Peace, Disarmament and Development for 2024 was presented to Michelle Bachelet, the first and only woman President of Chile.

### About Indira Gandhi Peace Prize:

- **Establishment:** It was instituted in the memory of the former Prime Minister Indira Gandhi by a trust in her name in 1986.
- **Nomenclature:** It is also known as the Indira Gandhi Prize for Peace, Disarmament, and Development.
- **Composition:** It consists of a monetary award of 25 lakh rupees along with a citation.
- **Significance:** The prize is awarded annually and is considered one of the highest honours in the field of peace and development.
- **Eligibility criteria:** It is awarded annually to a person or organization without any distinction of nationality, race or religion, in recognition of creative efforts towards:
  - Promoting international peace and disarmament, racial equality, and goodwill and harmony among nations;
  - Securing economic co-operation and promoting a new international economic order;
  - Accelerating the all-round advancement of developing nations;
  - Ensuring that the discoveries of science and modern knowledge are used for the larger good of the human race; and
  - Enlarging the scope of freedom and enriching the human spirit.



## THE SELF-RESPECT MOVEMENT: A CENTURY OF SOCIAL REVOLUTION

## Context (Introduction):

- The year **2025** marks **100 years** of the **Self-Respect Movement** launched by **E.V. Ramasamy Periyar** in Tamil Nadu. The movement, rooted in rationalism and equality, transformed India's discourse on caste, gender, and identity, laying the foundation for Dravidian politics and modern social justice.

## Main Arguments

## 1. Origins and Philosophy

- The **Self-Respect Movement (1925)** arose in colonial Tamil society marked by Brahmin dominance, caste rigidity, and gender inequality.
- Periyar, disillusioned by the Congress's indifference to caste issues, envisioned a **movement of social self-determination** — reclaiming *dignity (suyamariyadhai)* for the oppressed.
- Its philosophical base combined **rationalism, humanism, and social equality**, challenging religion-sanctioned hierarchies.
- Influenced by **Iyothee Thass's anti-caste writings** and **Ataturk's secularism**, Periyar sought not political independence first, but **freedom from social slavery**.

## 2. Aims and Core Tenets

## 1. Annihilation of Caste (Jaathi Ozhippu):

- Called for the destruction of caste-based birth privileges and priestly authority.
- Promoted inter-caste dining and marriage, temple entry for all, and equal respect for all professions.
- Influenced **Ambedkar's later call for "caste annihilation"**, reflecting convergent reformist ideals.

## 2. Women's Liberation (Penn Viduthalai):

- Advocated equal rights in education, marriage, and property.
- Opposed child marriage, dowry, and female chastity norms (*karpu*).
- Women activists like **Nagammai** and **Moovalur Ramamirtham Ammaiyar** led campaigns for widow remarriage and reproductive rights.

## 3. Rationalism (Pagutharivu):

- Encouraged questioning of blind faith, rituals, astrology, and religious dogma.
- Used public lectures and journals (*Kudi Arasu*) to promote scientific temper and moral reasoning.
- Emphasized "reason over religion" as the path to equality — later echoed in **Article 51A(h)** of the Indian Constitution.

## 4. Social Equality (Samathuvam):

- Sought a society without caste, gender, or class distinctions.
- Rejected Sanskritisation as a means of upliftment and instead promoted **Tamil identity and Dravidian culture** as tools of self-respect.

### 3. Impact and Legacy

#### A. Social Impact

- **Democratisation of Tamil Society:** The movement broke traditional barriers between upper and lower castes through community reforms and public inter-caste marriages.
- **Rise of Rational Discourse:** Created a shift from ritual-based religion to reason-based ethics; influenced later reformists and educators.
- **Empowerment of Marginalised Castes:** For the first time, **non-Brahmin voices** gained ideological legitimacy in social and cultural life.

#### B. Political Impact

- **Dravidian Ideology:** The movement gave birth to the **Justice Party (later Dravidar Kazhagam)** and influenced **DMK and AIADMK**, embedding **social justice, welfare, and linguistic pride** in Tamil politics.
- **Reservation and Affirmative Action:** Laid the foundation for **communal representation (1921 Madras G.O.)**, influencing later Mandal policies nationwide.
- **Model of Social Democracy:** Tamil Nadu's progressive social indicators — literacy, women's empowerment, low fertility, and caste mobility — reflect Periyar's social model in governance.

#### C. Gender and Cultural Impact

- The movement redefined womanhood beyond domesticity — promoting **female public participation and education**.
- Challenged **Sanskritic patriarchy** and legitimised **Tamil feminist expression** through print media and theatre.

#### D. Intellectual and National Influence

- The idea of **self-respect** transcended Tamil Nadu, resonating with **Ambedkarite and socialist movements** in western and northern India.
- Inspired leaders like **Ram Manohar Lohia** and **Jyotirao Phule's followers** who connected caste and economic injustice.

#### Criticisms and Limitations

- **Excessive Anti-Religious Tone:** Periyar's militant atheism alienated moderate believers and limited wider social appeal.
- **Neglect of Class and Economic Issues:** Critics argue that caste and gender were prioritised over economic redistribution.
- **Dravidian Political Dilution:** Later political offshoots diluted Periyar's radical egalitarianism, turning reform into **vote-based populism**.
- **Limited Pan-Indian Penetration:** The movement remained largely regional due to its linguistic and cultural framing.

#### Conclusion

- The **Self-Respect Movement** was not merely a Tamil social reform; it was a **revolution in human dignity**. By replacing ritual with reason and hierarchy with equality, Periyar redefined the meaning of freedom in India. Its impact—visible in **affirmative action, women's emancipation, and rationalist education**—continues to shape India's democratic ethos. Yet, caste and gender inequities remind us that the struggle for *suyamariyadhai* (self-respect) remains incomplete. In essence, Periyar's century-old call still echoes: "*Without self-respect, self-rule is meaningless.*"

## REDRAWING INDIA'S WELFARE ARCHITECTURE: UNIVERSAL BASIC INCOME AS THE CORE

### Context (Introduction):

- As India faces widening inequality, technological disruption, and welfare inefficiencies, Universal Basic Income (UBI) has re-emerged as a pragmatic idea. By ensuring unconditional income security for all citizens, it promises to redefine the 21st-century welfare architecture around dignity and autonomy.

### Main Arguments Presented

- Universality and Simplicity** – UBI is anchored in citizenship rather than employment or proof of hardship, creating a rights-based, stigma-free model of welfare. It bypasses bureaucratic leakages and ensures a secure income floor for every individual.
- Economic and Moral Rationale** – India's top 1% owns 40% of national wealth (World Inequality Database, 2023). Despite 8.4% GDP growth (2023– 24), inequality and social stress persist. UBI addresses these distortions by directly empowering citizens and sustaining demand.
- Automation and Job Losses** – With McKinsey estimating 800 million global job displacements by 2030, UBI can act as a **safety buffer**, allowing reskilling and labour market transitions in an automation-driven economy.
- Evidence from Pilots** – SEWA's Madhya Pradesh pilot (2011– 13) showed better nutrition, higher school attendance and earnings. Global trials (Finland, Kenya, Iran) reported improved well-being and mental health, debunking fears of reduced work incentive.
- Democratic and Philosophical Reorientation** – UBI redefines the citizen-state relationship — replacing **patronage-based populism** with rights-based empowerment. It reduces political manipulation via freebies and allows voters to assess governments on governance quality, not subsidy promises.

### Criticisms and Challenges

- Fiscal Feasibility** – A minimal UBI of ₹7,620 per person annually (~5% of GDP) poses significant funding challenges. It would require rationalising subsidies, progressive taxation, or borrowing — each with trade-offs.
- Dilution of Targeting** – Universality may benefit affluent groups, diluting redistributive focus unless carefully calibrated or phased.
- Technological and Administrative Gaps** – Despite Aadhaar and DBT, digital exclusion persists in remote and tribal areas, risking exclusion from “universal” transfers.
- Complementarity Concerns** – Replacing existing welfare schemes entirely could harm vulnerable populations dependent on **PDS**, **MGNREGA**, and social pensions. Integration, not substitution, is crucial initially.
- Inflation and Work Disincentive Fears** – Though global evidence rejects major inflationary effects, fiscal mismanagement or poor supply-side responses could still risk price instability.

### Reform Proposals and Policy Pathways

- Phased Implementation** – Begin with vulnerable groups — women, elderly, disabled, and informal workers — allowing testing, feedback, and scaling.
- Funding Reforms** – Rationalise subsidies (e.g., fertilizer, food, fuel), enhance wealth and inheritance taxes, and curb non-merit subsidies to create fiscal space.

- **Technological Strengthening** – Invest in last-mile banking access, digital literacy, and grievance redress to ensure true universality.
- **Hybrid Welfare Model** – Combine UBI with essential in-kind benefits like healthcare, food security, and education until universal public provisioning matures.
- **Institutional Oversight** – Establish an independent **National Social Protection Authority** for monitoring, fiscal sustainability, and periodic recalibration of benefit levels.

### Conclusion

- A Universal Basic Income, if designed with fiscal prudence and institutional strength, can **recast India's welfare state** — from fragmented, paternalistic schemes to a **rights-based, inclusive, and resilient social contract**. As inequality widens and automation accelerates, the real question is not *whether India can afford a UBI*, but *whether it can afford not to ensure economic dignity for all*.

## PAPER 2

## INDIA–BHUTAN RELATIONS: A MODEL FOR EQUITABLE NEIGHBOURHOOD DIPLOMACY

## Context (Introduction):

- India–Bhutan relations stand as a rare example of stability and mutual trust in South Asia. Prime Minister Narendra Modi's 2025 visit to Bhutan reaffirms the deep political, cultural, and strategic partnership that continues to thrive despite vast asymmetry in size and power.

## Main Arguments

## 1. Historical Foundations

- The *1949 Treaty of Friendship* formalised relations, where Bhutan agreed to be “guided by India” in external affairs while India assured non-interference in internal matters.
- This arrangement, inherited from the colonial protectorate framework, evolved uniquely due to mutual maturity and strategic foresight.
- India supported Bhutan's early institution-building, administrative training, and defence organisation, ensuring stability and trust.
- Hydropower and infrastructure cooperation since the 1960s became symbols of partnership-driven development.

## 2. Modernisation and Treaty Revision (2007)

- Changing global and regional conditions, Bhutan's democratic transition, and its expanding global engagement demanded a modern framework.
- The *2007 revised treaty* replaced the “guided by India” clause with “mutual respect for each other's independence, sovereignty, and territorial integrity.”
- This marked Bhutan's transition from dependency to partnership, reflecting Delhi's strategic confidence and Thimphu's political prudence.
- Both nations agreed not to allow their territories to be used against each other, strengthening regional security trust.

## 3. Political and Democratic Maturity

- King Jigme Singye Wangchuck (K-4) oversaw Bhutan's peaceful transition from monarchy to *constitutional democracy* in 2006.
- India's support during this democratic shift highlighted its respect for Bhutan's internal evolution.
- The current monarch, King Jigme Khesar Namgyel Wangchuck (K-5), continues to uphold this equilibrium of tradition and democracy.
- India–Bhutan coordination remains robust through periodic high-level visits, development assistance, and people-to-people ties.

## 4. Economic and Developmental Partnership

- Hydropower Cooperation:** The foundation of the relationship—Bhutan's hydropower exports provide 40% of its revenue and meet India's energy needs.
- Diversification Efforts:** New initiatives include joint ventures in digital economy, tourism, skill development, and green infrastructure.

- **Institutional Support:** India provides financial aid through the Five-Year Plan framework, with the 13th Plan emphasising sustainable and inclusive growth.
- **Private and Tech Collaboration:** Indian firms and digital projects are fostering deeper economic integration.

## 5. Geostrategic and Security Dimensions

- Bhutan's geographic position between India and China makes it strategically vital.
- The *Doklam plateau standoff (2017)* underscored shared security interests and coordination in border management.
- Bhutan's cautious diplomacy seeks peaceful resolution with China without compromising its sovereignty or India's core security interests.
- Regional cooperation under initiatives like BIMSTEC and BBIN further align Thimphu with India's *Neighbourhood First* and *Act East* policies.

## 6. Cultural and Civilisational Linkages

- Shared Buddhist heritage, linguistic ties, and spiritual values form the emotional foundation of relations.
- The 2025 exposition of Buddha relics from Piprahwa in Bhutan reaffirmed ancient civilisational bonds.
- Educational exchanges, cultural festivals, and tourism add depth to people-to-people connections.

## 7. Lessons for Regional Diplomacy

- India–Bhutan relations show how *asymmetric partnerships* can be balanced through trust and transparency.
- The “Bhutan model” emphasises sovereign equality, local participation, and patient diplomacy—valuable for India’s wider neighbourhood policy.
- It demonstrates that long-term engagement, not transactional politics, ensures regional stability.

### Criticisms and Challenges

1. **Economic Dependence:** Bhutan’s overreliance on hydropower and aid from India may limit diversification and economic resilience.
2. **Environmental Concerns:** Large hydropower projects risk ecological degradation and displacement in Bhutan’s fragile Himalayan ecosystem.
3. **China Factor:** Bhutan’s boundary talks with China could affect India’s strategic calculations if not handled sensitively.
4. **Public Perception:** The perception of India’s “big brother” approach in the region must be avoided through constant dialogue and equality-based engagement.
5. **Youth Aspirations and Migration:** Rising expectations for jobs and education require collaborative human capital investments beyond traditional aid.

### Reforms and Policy Measures

1. **Economic Diversification:** Promote cooperation in sectors such as IT, digital trade, organic farming, and renewable energy beyond hydropower.
2. **Connectivity and Infrastructure:** Develop cross-border railway and road projects like *Kokrajhar–Gelephu* to integrate Bhutan into regional value chains.

3. **Environmental Partnership:** Launch joint Himalayan sustainability missions focusing on hydropower efficiency, climate adaptation, and biodiversity conservation.
4. **Institutional Coordination:** Establish an *India–Bhutan Development and Security Council* for continuous policy dialogue and implementation.
5. **Cultural and Educational Diplomacy:** Expand scholarships, joint research, and Buddhist tourism circuits to strengthen soft power and mutual understanding.
6. **Strategic Dialogue:** Continue defence and border cooperation through annual security consultations to ensure preparedness amid regional uncertainties.

### Conclusion

- India–Bhutan relations exemplify the essence of *trust-based regionalism* in South Asia. Their steady evolution from a protectorate framework to an equal partnership underscores the importance of mutual respect, democratic adaptation, and shared development. As China's presence grows in the Himalayas, India's approach in Bhutan—marked by restraint, cooperation, and civilisational depth—offers a replicable model for engaging other neighbours. The future of India's "Neighbourhood First" policy lies in sustaining such balanced partnerships that combine strategic prudence with human-centric diplomacy.

## EROSION OF DEBATE AND CRITICAL THINKING IN INDIAN UNIVERSITIES

### Context (Introduction):

- The recent incident of a student slapping her teacher at Delhi University reflects the larger decline in India's academic culture — marked by loss of civility, critical dialogue, and the transformation of education into a market-driven enterprise.

### Main Arguments:

1. **Education as Political and Ethical Engagement:** The author asserts that education cannot be apolitical. True learning involves **critical thinking**, understanding **power structures**, and nurturing citizens capable of **dialogue and non-violent conflict resolution**.
2. **Decay of Political Culture in Campuses:** The **erosion of reasoned discourse** and rise of **violence and polarisation** among students mirror societal trends where ignorance is weaponised, and reason is seen as weakness.
3. **Neoliberal Assault on Education:** The **neoliberal model** has commodified learning, converting universities into **skill-training hubs** serving the corporate order. Students are treated as "**resources**", teachers as "**service providers**", and education as a means to **placements**, not enlightenment.
4. **Decline of Public Universities:** With the **growth of private and foreign universities**, **public universities** are neglected, restricting quality education for the **socially and economically marginalised**. Education's purpose as a public good and liberating experience is compromised.
5. **Rise of Hyper-nationalism and Cultural Intolerance:** A growing **politics of militant nationalism** and **religious identity** is replacing debates with dogma. Universities, once centres of **dialogic reasoning**, are being drawn into the **cult of authoritarianism**.

### Criticisms / Drawbacks:

1. **Suppression of Academic Freedom:** India ranks **156th of 179 countries** in the 2025 **Academic Freedom Index**, showing decline in institutional autonomy.

2. **Marginalisation of Humanities:** The **liberal arts and social sciences** are devalued, eroding the culture of critical inquiry and civic responsibility.
3. **Meritocracy of the Privileged:** Privatization of higher education fosters **elitism**, making quality education inaccessible to the poor.
4. **Loss of Civic Pedagogy:** Universities no longer cultivate **dialogic citizenship**, empathy, or moral imagination among students.
5. **Normalization of Intolerance:** Campus discourse mirrors national polarisation, reinforcing “**us vs them**” **binaries** instead of nurturing pluralism.

#### Reforms and Way Forward:

1. **Revive Public Universities:** Increase investment in public institutions to ensure **affordable and equitable access** to quality education.
2. **Restore Academic Freedom:** Strengthen institutional autonomy, faculty voice, and **freedom of thought and expression** within campuses.
3. **Revalue Humanities and Liberal Arts:** Encourage courses fostering **critical reasoning, ethics, and civic responsibility**, balancing technological with moral education.
4. **Promote Pedagogy of Dialogue:** Reinforce **non-violent communication**, debates, and cross-ideological forums as part of student culture.
5. **Reform Neoliberal Education Model:** Shift from **market-centric education** to one focused on **democracy, social justice, and human development**; ensure the **Right to Education** extends meaningfully to higher levels.

#### Conclusion

- Universities must reclaim their role as **spaces of liberation, reflection, and dialogue**. India's youth should resist commodified education and polarised politics, reviving the lost culture of **reasoned debate and civic learning** essential to a vibrant democracy.

### INTER-STATE RIVALRY THAT IS FUELING INDIA'S GROWTH

#### Context (Introduction):

- The recent competition among States such as Andhra Pradesh, Tamil Nadu, and Karnataka to attract global tech investments highlights the rise of **competitive federalism**, where healthy inter-State rivalry is emerging as a **key engine of India's growth**.

#### Main Arguments:

1. **Shift from Central Patronage to Federal Competitiveness:** Before 1991, capital investments were largely **centrally determined**, based on political patronage and licensing. Post-liberalisation reforms decentralised investment decisions, allowing **States to attract investors through better policies, governance, and infrastructure**.
2. **Rise of Competitive Federalism:** Over the past decade, States have begun to **actively compete** for domestic and global investments — offering efficient **single-window clearances, policy stability, and ease of doing business**. Examples include the **Google AI data centre in Andhra Pradesh**, and similar contests over EV hubs, semiconductor plants, and manufacturing parks.
3. **Centre's Role in Encouraging Competition:** The Union Government has promoted this transformation through **rankings on ease of doing business, export readiness, and start-up promotion**. These benchmarks have pushed States to improve governance, transparency, and investment climate.

4. **Global Experience of Subnational Competition:** Successful federations such as the U.S., Germany, Australia, and Canada exhibit similar patterns, where States and provinces compete to attract industries. This competition spurs **innovation, efficiency, and regional development**, as seen in **Bavaria's tech boom** or U.S. cities competing for Amazon's HQ2.
5. **Policy Diffusion and Learning Among States:** The process encourages **cross-State learning** — one State's reforms often inspire others. EV policies, export zones, and startup ecosystems in India show this **policy diffusion**, strengthening the overall industrial and governance ecosystem.

#### Criticisms and Drawbacks:

1. **Risk of a “Race to the Bottom”:** Excessive **tax concessions and subsidies** can harm fiscal health without ensuring long-term investment benefits.
2. **Unequal Development Gains:** Wealthier and industrially advanced States may attract more investment, **widening regional disparities**.
3. **Environmental and Social Oversight:** In the rush to attract investors, **ecological sustainability and labour welfare** may be compromised.
4. **Short-Term Populism:** States may focus on **headline projects** rather than sustained industrial diversification.
5. **Administrative Capacity Gaps:** Many States still face **bureaucratic inertia**, weak coordination, and limited institutional capability to implement investor-friendly reforms.

#### Reforms and Way Forward:

1. **Institutionalising Competitive Federalism:** Strengthen **NITI Aayog**'s role in monitoring and disseminating **best practices** among States.
2. **Transparent Incentive Frameworks:** Establish uniform national guidelines for **fiscal incentives and subsidies** to prevent unhealthy competition.
3. **Balanced Regional Development:** Promote **lagging States** through targeted infrastructure and skill initiatives under schemes like **PM Gati Shakti** and **Aspirational Districts Programme**.
4. **Investment in Governance Capacity:** Enhance **State-level bureaucratic efficiency, digital governance, and policy consistency** to sustain investor confidence.
5. **Encouraging Cooperative Federalism:** Alongside rivalry, foster **inter-State collaboration** on logistics corridors, energy, and labour mobility to multiply growth effects.

#### Conclusion

- India's transformation from a **permission-based to persuasion-based economy** reflects a deeper federal evolution. The **inter-State race for investment** not only decentralises economic power but also enhances efficiency, policy innovation, and inclusive growth. For India to fully realise its potential, competition among States must remain **constructive, transparent, and development-oriented** — where every win for a State strengthens the Indian economy as a whole.

### EVOLUTION AND STRAIN IN THE GLOBAL NUCLEAR ORDER

#### Context (Introduction):

- The global nuclear order, shaped over eight decades through treaties, norms and arms-control arrangements, is facing renewed strain as U.S. President Donald Trump's testing signals threaten to undo the fragile mechanisms restraining nuclear competition.

## Evolution of the Global Nuclear Order

- The order began after **Hiroshima and Nagasaki** (1945), leading to a near-universal taboo on nuclear use that has held for 80 years.
- By late 1970s, arsenals peaked at ~65,000 warheads, prompting arms-control efforts like the **SALT, ABM**, and later **START** treaties to prevent uncontrolled competition.
- The **NPT (1970)** institutionalised the division between five recognised nuclear-weapon states and non-nuclear states, preventing the feared spread to “two dozen” nuclear powers.
- The **CTBT (1996)** emerged as the next pillar, aiming to delegitimise nuclear explosive testing, though never entering into force due to missing ratifications by key Annex-II states.
- Post-Cold War mechanisms like **New START (2010)** brought strategic arsenals down to 1,550 deployed warheads each for the U.S. and Russia, maintaining predictability and transparency.

## Current Issue: Breakdown of Restraint

- Trump’s October 2025 remarks signalling a resumption of U.S. nuclear testing—despite later clarifications of “systems-tests”—have undermined confidence in long-held norms.
- Major powers are developing **new warhead types**, hypersonics, and dual-use delivery systems, but have so far avoided explosive testing; Russia’s last was in 1990, U.S. in 1992.
- The **CTBT norm** is weakening: Russia withdrew ratification (2023); U.S., China, Israel, Iran, Egypt still not ratified; India and Pakistan remain outside, North Korea has tested six times.
- **New START expires in 2026** with no dialogue underway, removing the final legally binding U.S.–Russia arms-control guardrail.
- China’s arsenal, long under 300 warheads, is expanding rapidly (estimated **600 today**, expected **1,000 by 2030**), complicating trilateral nuclear stability.
- Resumption of explosive tests by any major power would trigger reciprocal testing—benefiting China’s limited test data, pushing India and Pakistan to follow, and encouraging new aspirants.

## Criticisms and Risks

- Erosion of CTBT norms may lead to **qualitative arms racing**, modernisation and miniaturisation of low-yield “more usable” weapons.
- Dual-use hypersonics and autonomous systems heighten **ambiguity**, increasing risk of miscalculation.
- Collapse of the remaining U.S.–Russia architecture removes verification and transparency mechanisms essential for crisis stability.
- Nuclear taboo—central to global security for eight decades—faces dilution amid strategic distrust and high-tech arms developments.

## Reforms and Way Forward

- Build a **new nuclear order** reflecting multipolar geopolitics—bringing China formally into arms-control frameworks.
- Revive CTBT momentum through political commitments, expanded monitoring authority, and strengthened verification.
- Reinforce **no-first-use** or “sole purpose” doctrines to preserve strategic stability.
- Enhance transparency in hypersonics, space and cyber capabilities through confidence-building agreements.

- For India: sustain voluntary moratorium, monitor regional responses, and fortify diplomacy for universal non-proliferation norms.

### Conclusion

- The nuclear order crafted in the 20th century is no longer adequate for today's fractured geopolitics. As major powers revisit testing and modernise arsenals, safeguarding the nuclear taboo and reimagining arms control become essential to prevent an uncontrolled, multi-actor nuclear race.

## IS FEDERALISM IN RETREAT UNDER SINGLE-PARTY HEGEMONY?

### Context (Introduction):

- Escalating tensions between the Centre and various Opposition-ruled States over GST decisions, fiscal transfers, CSS funding, and use of cesses have revived concerns about whether single-party political dominance is accelerating a drift toward centralisation, weakening India's federal equilibrium.

### Main Arguments

- Shift from coalition-based accommodation to centralised dominance:** The 1990s–2000s saw institutional negotiation between Centre and States. After 2014, single-party dominance has reshaped federal bargaining, reducing avenues for deliberative decision-making.
- Weakening of intergovernmental institutions:** The abolition of the Planning Commission removed a key coordination platform. GST Council functioning has faced criticisms for unilateral decision-making contrary to early cooperative norms.
- Horizontal fiscal imbalance concerns:** Southern States argue that Finance Commission formulas (population, inverse-income criteria) structurally favour northern States, ignoring spatial inequality and demographic transitions.
- Rising centralisation through fiscal tools:** Cesses and surcharges — outside the divisible pool — have steadily risen, constraining State fiscal space. CSS allocations are increasingly determined by the Centre without consistent consultation.
- Changing political economy and weakened regional autonomy:** Declining regional capital, competitive populism, and limited job creation alter States' bargaining capacity vis-à-vis the Centre.

### Criticisms / Drawbacks

- Shrinking State autonomy over finances:** With cesses rising and GST limiting indirect tax powers, States face weakened control over revenues.
- Erosion of trust and “good faith” obligations:** States allege unilateral Centre-driven decisions in GST disputes, fund releases, and CSS design.
- Institutional imbalance post-Planning Commission:** No equivalent body now supports coordinated long-term State–Centre developmental planning.
- Deepening structural spatial inequality:** Fiscal formulas do not fully address disparities in growth, migration, wages, and demographics.
- Changing nature of federal coalitions:** Unlike earlier coalitions dependent on regional parties, current alliances do not prioritise federal bargaining.

### Reforms and Way Forward

- Strengthen Intergovernmental Institutions**

- Establish a permanent Inter-State Council Secretariat to institutionalise federal dialogue.

- Operationalise regular **Zonal Council** meetings with statutory follow-up, as recommended by the Punchhi Commission.
- Revisit the role of **NITI Aayog** to grant it fiscal and planning powers, restoring cooperative planning functions earlier performed by the Planning Commission.

## 2. Reform Fiscal Federalism

- Limit excessive use of cesses and surcharges, aligning with 15th FC observations on improving the divisible pool.
- Adopt a **balanced horizontal devolution formula** that acknowledges demographic achievements (southern States) while retaining redistribution — an approach suggested by multiple Finance Commissions.
- Implement **independent fiscal councils** at the Union and State levels, as recommended by the Rangarajan Committee, to depoliticise fiscal assessments.

## 3. Enhance GST Council Federalism

- Strengthen the Council's dispute resolution mechanism (never operationalised), as envisaged in Article 279A.
- Return to **consensus-based decision norms**, consistent with the cooperative spirit recommended during GST design.
- Ensure predictable GST compensation mechanisms, following expert recommendations for a "GST Stabilisation Fund."

## 4. Rebalance Centrally Sponsored Schemes (CSS)

- Rationalise the number of CSS and expand flexible components for State-specific adaptation.
- Adopt transparent formula-based fund releases to reduce political discretion.
- Shift monitoring from the Ministry of Finance to a broad-based federal body (as suggested by ARC).

## 5. Address Structural Spatial Inequality

- Create an **Equalisation Grant Framework** for lagging regions to reduce spatial disparities (Rajan Committee).
- Encourage labour-intensive regional growth via wage reforms, regional capital incentives, and targeted migration policy.
- Strengthen institutional parity by investing in poorer northern districts — a long-standing expert recommendation.

## Conclusion

- India's federalism is undergoing a stress test. While redistribution remains a constitutional principle, weakened institutional forums, unilateral fiscal decisions, and centralised political incentives have generated friction. Strengthening cooperative federalism requires transparent fiscal norms, empowered institutions, and a renewed commitment to balancing national cohesion with regional autonomy.

## A FIVE-POINT JUDICIAL REFORM AGENDA FOR THE NEW CJI

### Context (Introduction):

- Justice Surya Kant becomes India's 53rd CJI at a moment when **153 million cases** are pending across courts, **300+ HC vacancies** persist, and debates over judicial independence, mediation and legal capacity-building demand urgent, evidence-backed institutional action.

## Main Arguments

1. The new CJI's **15-month tenure** includes responsibility for recommending **six Supreme Court judges** and filling **over 300 High Court vacancies**, giving him a historic opportunity to shape the judiciary's next generation.
2. According to the **National Judicial Data Grid (September 2025)**, India faces a pendency of **47.56 million cases in district courts, 6.38 million in HCs, and 88,000 in the SC**, with delays threatening the meaning of timely justice.
3. With **1.8 million lawyers** and **one lakh new entrants annually**, India lacks a national-level training institution for advocates despite having judicial academies for judges.
4. Justice Surya Kant emphasises that mediators "choose understanding over victory" and notes that the **Mediation Act 2023** provides India's most comprehensive legal framework for dispute resolution.
5. Episodes such as **ADM Jabalpur (1976)** highlight the continuing importance of judicial independence in safeguarding constitutional rights.

## Criticisms /Issues

1. Persistent judicial vacancies slow appointments, affect diversity—especially the inclusion of women judges—and weaken public faith in the collegium.
2. Pendency remains alarming because the **government is the litigant in 50% of cases**, contributing significantly to avoidable delays.
3. The absence of a national academy means independent practitioners lack structured, modern training unlike peers in the corporate legal sector.
4. Mediation uptake is slow because many lawyers remain unconvinced, despite empirical evidence that court dockets reduce when pre-litigation mediation is institutionalised.
5. The long shadow of the Emergency demonstrates that judicial passivity can enable rights violations, making independence a constant institutional obligation rather than a historical lesson.

## Reforms

1. Speeding up SC and HC appointments—including the **six imminent SC seats**—can directly reduce pendency and increase diversity.
2. A multi-pronged pendency strategy involving technology, strict adjournment rules, streamlined appeals, and government-judiciary coordination aligns with the CJI's warning that legal aid "loses meaning when justice arrives too late."
3. A national academy for lawyers can bridge capacity gaps for India's **1.8 million advocates** by standardising training in advocacy, ethics, technology and mediation.
4. Scaling the **Mediation Act 2023** through Bar cooperation can significantly ease case inflows and preserve social relationships, as highlighted repeatedly by Justice Surya Kant.
5. Strengthening judicial independence through transparent processes and rights-protective jurisprudence ensures the judiciary never repeats failures like **ADM Jabalpur**, which remains a constitutional caution.

## Conclusion

- Justice Surya Kant's leadership arrives when vacancies, pendency, uneven legal training, weak mediation culture and independence concerns converge; addressing these with factual, targeted reforms can reinforce India's constitutional promise of "complete justice" under Article 142.

## REFORMING STATE PUBLIC SERVICE COMMISSIONS (PSCS)

### Context (Introduction):

- State Public Service Commissions struggle with controversies, litigation, irregular recruitment cycles, structural weaknesses, and credibility deficits, making systematic reforms essential to ensure transparent, timely, and merit-based appointments in State administrations.

### Main Arguments

- State PSCs face a persistent trust deficit because frequent exam cancellations, paper leaks and errors routinely force aspirants to seek judicial intervention.
- India's PSC system originated in constitutional evolution, beginning with the **1926 Public Service Commission**, expanded under the **Government of India Act 1935**, and retained in the Constitution for the Union and each State.
- The Montagu–Chelmsford reforms first endorsed a **permanent, politically insulated authority** to ensure merit-based recruitment, laying the conceptual foundation for present-day PSCs.
- The UPSC operates in a relatively neutral environment with members of proven experience and pan-India representation, unlike State PSCs which often reflect political influence in appointments.
- The Union's dedicated **Ministry of Personnel, Public Grievances and Pensions (1985)** ensures regular vacancy declarations and coordinated personnel policy, enabling UPSC to function on predictable timelines.
- States often lack such structured manpower planning, leading to irregular vacancy notifications, postponed recruitments, and extension of superannuation ages.
- UPSC periodically revises syllabi through committees of academics, civil servants and specialists, while most State PSCs seldom revise syllabi or appoint expert panels.
- UPSC maintains high evaluation standards through "**inter-se moderation**" and national-level paper setters, whereas State PSCs rely mostly on local academic resources, limiting quality and neutrality.
- Complexities of reservations—vertical, horizontal, and zonal—create frequent litigation in State PSC results, delaying recruitment cycles.

### Criticisms / Drawbacks (One sentence each)

- Political interference in appointments undermines professional standards and independence of State PSCs.
- Irregular manpower planning prevents annual or predictable examination cycles, eroding trust among aspirants.
- Limited academic pools and absence of national-level experts reduce the quality and neutrality of question-setting.
- Inadequate moderation and evaluation systems make State PSC examinations vulnerable to inconsistencies and challenges.
- Weak capacity to handle complex reservation matrices often results in errors that culminate in prolonged court cases.

### Reforms

- States should create dedicated **Departments/Ministries of Personnel** to institutionalise manpower planning and publish five-year recruitment roadmaps.

2. A constitutional amendment should prescribe a **minimum age of 55 and maximum age of 65** for PSC members to ensure appointment of experienced, senior professionals.
3. Mandatory eligibility norms should require secretarial-level administrative experience for official members and **10 years of professional practice** for non-official experts.
4. A State-wide panel of eminent persons—shortlisted with inputs from the Leader of the Opposition—should guide appointments to enhance neutrality and credibility.
5. Syllabi should undergo periodic revision with public consultation and alignment with evolving academic standards and UPSC benchmarks.
6. State-specific knowledge (e.g., regional economy, culture, or geography) should be tested mostly in **objective format** to minimise subjectivity and evaluation asymmetry.
7. Main examinations should adopt a **hybrid structure** (objective + descriptive) to ensure both analytical rigour and fairness.
8. Question translation into regional languages should combine encrypted technological tools with expert bilingual reviewers to prevent distortions in meaning.
9. Frequent pattern changes and innovative question-setting should be introduced to reduce predictability and curb dependence on AI-generated content.
10. The Secretary of each State PSC should be a senior officer with prior experience in school or intermediate education boards to strengthen examination administration.

### Conclusion

- Systematic reforms in personnel planning, member selection, syllabus revision, evaluation practices and administrative professionalism can restore trust in State PSCs and elevate them to the standards of transparency, credibility and efficiency associated with the UPSC.

## AMPLITUDE OF GUBERNATORIAL DISCRETION AND CONSTITUTIONAL BALANCE

### Context (Introduction):

- The Supreme Court's recent advisory opinion on Article 200, addressing the Governor's discretion over State Bills and the absence of time limits, has revived debates on federal balance, constitutional morality, and the long-standing friction between Union-appointed Governors and elected State governments.

### Main Arguments:

- **Federal Tension:** Expanding discretionary authority under Article 200 deepens structural frictions between Union-appointed Governors and opposition-ruled States, weakening cooperative federalism.
- **Legislative Bottleneck:** Indefinite delays in assent—such as past instances where **Bills remained pending before the President for up to seven years**—undermine legislative functioning and democratic accountability.
- **Constituent Intent:** Constituent Assembly debates and **B.N. Rau's notes** indicate that discretionary powers in assenting to Bills were consciously removed, highlighting the need to uphold original constitutional design.
- **Anti-Defection Impact:** The Court's assumption about assured majority support post-Tenth Schedule oversimplifies scenarios involving coalition shifts, making implicit discretion an unreliable safeguard.

- **Governance Stability:** Frequent disputes over assent impair day-to-day governance, as seen in multiple States approaching courts to compel Governors to act, reflecting a serious administrative and constitutional vacuum.

### Challenges / Criticisms

- **Expanded Discretion:** The Court's view effectively **widens the Governor's non-justiciable discretion**, risking a shift from constitutional figurehead to active political arbiter.
- **Weak Appointment Process:** Ignoring recommendations of the **Sarkaria, Venkatachaliah, and Punchhi Commissions** has enabled politically motivated appointments, heightening partisan conflict.
- **Political Friction:** As Soli Sorabjee noted, using governorship as a role for "burnt-out politicians" exacerbates tensions when different parties control the Union and States.
- **Judicial Vacuum:** By refusing to prescribe timelines, the advisory opinion limits judicial remedies against prolonged inaction, perpetuating constitutional uncertainty.
- **Risk of Gubernatorial Governance:** If assent, withholding, and returning Bills become fully discretionary and non-reviewable, the Governor may effectively override the democratically elected State government.

### Way Forward:

- **Codified Timelines:** Amending Article 200 to introduce strict timelines, as recommended by past commissions, would ensure timely legislative processing.
- **Depoliticised Appointments:** Adopting a consultative appointment mechanism—such as involvement of the Chief Minister or an inter-State council—can reduce partisan bias.
- **Narrow Interpretation:** Limiting discretion strictly to cases involving **constitutional violations**, in line with the Sarkaria Commission's narrow construction, would restore federal balance.
- **Judicial Oversight:** Allowing courts to review prolonged or unexplained delays can prevent constitutional paralysis without undermining executive authority.
- **Cooperative Protocols:** Establishing Union–State coordination mechanisms for resolving disputes over assent can reduce litigation and strengthen democratic functioning.

### Conclusion

- Unchecked and non-justiciable gubernatorial discretion risks destabilising India's carefully balanced federal architecture. Reforms—both procedural and constitutional—are essential to ensure that the Governor performs a neutral constitutional role while safeguarding democratic processes and legislative autonomy.

## PAPER 3

## INTEGRATED COLD CHAIN AND VALUE ADDITION INFRASTRUCTURE (ICCVAI)

## Context (Introduction):

- India suffers annual post-harvest losses of nearly ₹92,000 crore, particularly in perishables. To address inefficiencies across the supply chain, the **Integrated Cold Chain and Value Addition Infrastructure (ICCVAI)** scheme under **PM Kisan SAMPADA Yojana (PMKSY)** ensures farm-to-market connectivity and farmer income stability.

## Objectives and Rationale of ICCVAI

- Reducing losses:** Designed to minimize wastage in perishables — fruits, vegetables, dairy, meat, poultry, and fish — through an integrated cold chain network.
- Enhancing farmer returns:** Enables producers to realize better prices by linking farm-level infrastructure to processing and retail.
- Comprehensive infrastructure:** Promotes pre-cooling, pack houses, processing, refrigerated transport, and retail-level preservation.
- Employment generation:** Supports agro-industrial linkages, creating over 1.7 lakh jobs (as of 2025).
- Value addition:** Encourages processing and packaging that enhance shelf life, quality, and competitiveness in domestic and export markets.

## Key Components and Eligibility

- Farm Level Infrastructure (FLI):** Includes pre-cooling units, collection centers, and primary processing facilities.
- Distribution Hubs (DH):** Centralized units for storage and dispatch with temperature-controlled systems.
- Transport linkage:** Refrigerated/insulated vehicles ensure cold chain continuity.
- Eligible entities (PIAs):** Individuals, FPOs, cooperatives, SHGs, NGOs, firms, PSUs, and companies can implement projects.

## Complementary Government Schemes

- Mission for Integrated Development of Horticulture (MIDH):** Supports cold storages up to 5,000 MT with **35% subsidy** in general areas and **50%** in hilly/North-Eastern states.
  - Promotes horticulture infrastructure through State Horticulture Missions.
- Operation Greens:** Started in 2018–19 for **Tomato, Onion, Potato (TOP)** value chain; later extended to more fruits, vegetables, and shrimp.
  - Aims at price stabilization and integrated value-chain development.
- National Horticulture Board (NHB):** Offers **35–50% subsidy** for construction/modernization of cold storages (5,000–20,000 MT capacity).
  - Focuses on Controlled Atmosphere (CA) and scientific storage systems.
- Agriculture Infrastructure Fund (AIF):** Corpus of **₹1 lakh crore**; provides collateral-free loans up to ₹2 crore with **3% interest subvention**.

- Funds post-harvest management and community infrastructure like warehouses and cold stores.

### Policy Revisions and Modernization Efforts

- **June 2022:** Fruits and vegetables shifted to Operation Greens for specialized focus. Prevented duplication and improved resource targeting.
- **August 2024:** Introduced **multi-product food irradiation units** for enhanced shelf life and food safety. Encouraged adoption of ionizing radiation as a non-chemical preservation method.
- **May 2025:** Strengthened end-to-end value addition; expanded coverage to non-horticulture perishables. Reinforced fair price realization for farmers through efficient market linkages.
- **Technology inclusion:** Focus on IoT-based cold monitoring, energy-efficient refrigeration, and AI-enabled logistics for optimization.
- **Administrative simplification:** Standardized guidelines, digital monitoring, and EOI-based selection enhanced transparency and speed.

### Challenges and Limitations

- **Fragmented infrastructure:** Uneven distribution of facilities across states, with concentration in industrial belts.
- **Energy inefficiency:** High operational costs due to unreliable power supply and obsolete technology.
- **Limited awareness:** Small farmers lack knowledge or capital to access the scheme.
- **Coordination gaps:** Overlap with horticulture schemes causes duplication and administrative delay.
- **Environmental concerns:** Refrigerant gases and energy-intensive systems raise sustainability issues.

### Reforms and Way Forward

- **Integrated policy alignment:** Greater convergence between ICCVAI, AIF, and e-NAM for holistic agri-logistics.
- **Cluster-based models:** Focused development in agri-export and FPO clusters to maximize utilization.
- **Technology infusion:** Promotion of **IoT sensors, solar cold rooms, and blockchain traceability** for efficiency and transparency.
- **Capacity building:** Training programs for FPOs and SHGs to manage cold chain assets sustainably.
- **Sustainability thrust:** Adoption of green refrigeration and renewable energy-powered systems to reduce carbon footprint.

### Conclusion

- The ICCVAI scheme reflects **adaptive and technology-driven governance** aimed at bridging the post-harvest gap from farm to consumer. Ensuring inclusion of smallholders, energy efficiency, and integration with digital agri-platforms will determine its future success in achieving a sustainable, remunerative, and resilient food system.

## INDIA'S IT DREAM AT A CROSSROADS

### Context (Introduction):

- India's Information Technology (IT) sector, long hailed as a driver of economic transformation and global prestige, now faces structural shifts driven by automation, restrictive global policies, and skill obsolescence, signalling an urgent need for reinvention and policy reform.

## Main Arguments

- **Structural Transformation of the IT Sector:** The sector, contributing around **7% to India's GDP** and employing nearly **6 million people**, is undergoing a fundamental shift rather than a collapse. Layoffs by TCS, Infosys, and others—nearly **50,000 jobs this fiscal year**—reflect deeper systemic change.
- **AI-Driven Automation and Workforce Displacement:** The rise of **Agentic AI**, generative models, and automation is rendering routine coding and coordination tasks obsolete. Mid- and senior-level professionals trained in legacy platforms like **SAP ECC** face redundancy as clients demand AI-driven, cloud-native, and cybersecurity solutions.
- **Global and Policy Constraints:** **Restrictive U.S. visa regimes**, rising **H-1B costs**, and tightening **client budgets** in Western economies have forced Indian firms to localize operations, shrinking traditional outsourcing advantages. The earlier cost-arbitrage model is giving way to **specialised, lean, AI-skilled teams**.
- **Skill Mismatch and Educational Deficiencies:** The IT sector's "assembly line" approach — training masses in basic coding — no longer suffices. There is a growing mismatch between industry demands and skill availability, as engineering curricula remain outdated, emphasizing rote coding over **AI, data science, and ethics in technology**.
- **The New IT Paradigm – From Services to Solutions:** Global clients now seek **solution-based partnerships** rather than manpower outsourcing. The emphasis has shifted from quantity to quality, where **product innovation, problem-solving, and multidisciplinary collaboration** drive competitiveness.

## Issues/Criticisms / Challenges

- **Job Insecurity and Silent Layoffs:** 'Silent layoffs' through performance-linked exits and stalled promotions worsen **employee morale** and reduce trust between companies and workers.
- **Lack of Social Safety Nets:** India's IT sector, historically insulated from labour welfare mechanisms, now faces an **absence of retraining support, severance protection, and mental health systems**.
- **Slow Educational Reform:** Engineering institutions lag behind in revising curricula, causing a widening **industry-academia disconnect** in emerging technologies and employability skills.
- **Limited Governmental Foresight:** Policy focus remains largely on digital literacy, not **AI readiness**, leaving workers ill-prepared for rapid technological disruptions.

## Reforms and the Way Forward

- **AI and Emerging Tech Upskilling:** Large-scale reskilling is critical. Firms like **TCS upskilling 5.5 lakh employees** in AI must become a national norm through **public–private partnerships** and incentives for advanced technology training.
- **Curriculum and Institutional Overhaul:** Engineering education should emphasize **machine learning, AI ethics, cybersecurity, and soft skills** like collaboration and critical thinking. The **National Education Policy (NEP) 2020** framework can anchor this transformation.
- **Support for Startups and Product Innovation:** India's **deep-tech and AI startup ecosystem** needs fiscal incentives, venture capital access, and simplified regulations to shift the IT narrative from "service provider" to **innovation hub**.
- **Policy and Global Engagement:** Government must negotiate **data sovereignty, visa access, and digital trade norms** with global partners while ensuring domestic clarity in AI governance.

- **Creation of Social Safety Nets:** For displaced workers, **mandatory severance pay (6–9 months)**, retraining subsidies, and psychological counselling should form the foundation of a humane transition policy.

### Conclusion

- India's IT journey is evolving — from manpower-driven outsourcing to **mindpower-led innovation**. The transition, though painful, can be purposeful if steered with **vision, skill, and courage**. The focus must shift from counting coders to **creating innovators** who can lead India's digital future. As Shashi Tharoor notes, the IT rose may have lost petals, but its **roots remain strong** — ready to bloom again if nurtured through reform and resilience.

## SOUTHEAST ASIAN SCAM FACTORIES DEMAND A COORDINATED RESPONSE

### Context (Introduction):

- The Supreme Court's call for a comprehensive inquiry into transnational digital scams has spotlighted the industrial-scale fraud networks across Southeast Asia, where Indian citizens are both victims and perpetrators under coercion in modern-day scam factories.

### Main Arguments

- **Industrialised Cybercrime Networks:** Digital scams have evolved from individual cyber frauds into organised, cross-border "scam compounds," particularly in Myanmar, Cambodia, and Laos, run by syndicates operating with regime complicity.
- **Human Trafficking and Forced Labour:** Thousands of Indians and other nationals are trafficked via fraudulent job offers and visa-free routes into these compounds, where they face violence, sexual abuse, and forced digital labour.
- **Conflict-Driven Crime Economies:** Myanmar's post-coup instability and weak governance have enabled militias and Border Guard Forces to fund themselves through scam centre taxation, merging criminal enterprise with insurgent financing.
- **Financial Laundering through Cryptocurrencies:** Proceeds from "pig butchering" (romance-cum-crypto scams) are laundered via money mules, dubious digital wallets (e.g., Huione Pay), and cryptocurrencies, evading traditional regulatory oversight.
- **India's Dual Vulnerability:** India faces a twin challenge—citizens being trafficked abroad into cyber-slavery and millions domestically being defrauded by these same scams, exposing gaps in cyber awareness, law enforcement, and financial tracking.

### Criticisms / Drawbacks

- **Weak International Mechanisms:** Current bilateral frameworks are inadequate against loosely networked syndicates operating in politically unstable or complicit states.
- **Limited Domestic Preparedness:** India's cybercrime investigation capabilities and inter-agency coordination remain underdeveloped, with poor public literacy about sophisticated digital fraud.
- **Diplomatic Constraints:** India's limited leverage with Myanmar's junta and Cambodia's authoritarian regime hampers direct intervention or rescue operations.
- **Regulatory Lag:** Cryptocurrency and fintech regulations remain reactive, allowing financial anonymity to thrive.

- **Fragmented Global Action:** Absence of a unified global legal framework treating digital forced labour as modern slavery weakens accountability.

### Reforms and Policy Measures

- **Public Awareness and Digital Literacy:** RBI, CERT-In, and State Police should run nationwide campaigns warning against fraudulent job offers and “digital arrest” scams.
- **Cybercrime Infrastructure Strengthening:** Establish specialised cybercrime task forces and forensic capabilities under MHA and State cyber units.
- **Regional Cooperation Framework:** India should coordinate with ASEAN members, China, and Interpol for intelligence sharing, extradition mechanisms, and joint crackdowns.
- **Diplomatic and Humanitarian Channels:** Engage through UNODC, IOM, and UNHRC to classify scam compounds as sites of *forced labour and human trafficking*.
- **Crypto-Transaction Monitoring:** Implement global standards like FATF’s Travel Rule and stricter KYC/AML norms on exchanges to trace cross-border financial flows.

### Conclusion

- The proliferation of Southeast Asian scam factories represents a hybrid threat—combining cybercrime, human trafficking, and geopolitical instability. India must adopt a whole-of-government and regional diplomatic approach that treats these networks not merely as digital crimes but as crimes against humanity, warranting global cooperation under a cyber-human rights framework.

## INDIA'S FORESTS HOLD THE FUTURE

### Context (Introduction):

- The revised *Green India Mission (GIM)* aims to restore 25 million hectares of degraded land by 2030, aligning with India’s climate commitment to create an additional carbon sink of 3.39 billion tonnes of CO<sub>2</sub> equivalent.

### Main Arguments

- **Restoration over Plantation:** The new GIM framework shifts focus from mere expansion of tree cover to *ecological restoration* that enhances biodiversity and resilience, acknowledging that “more trees” does not necessarily mean “more carbon sink.”
- **Scientific Challenges:** A 2025 IIT study found a 12% decline in photosynthetic efficiency due to rising temperatures and soil aridity, revealing that forests are becoming less effective at absorbing carbon despite area growth.
- **Integrated Landscape Approach:** The mission prioritises biodiversity-rich regions — Aravalli Hills, Western Ghats, mangroves, and Himalayan catchments — linking restoration with agroforestry, watershed programmes, and CAMPA for synergy.
- **Legal and Institutional Strength:** The Forest Rights Act (2006), CAMPA funds (~₹95,000 crore), and Joint Forest Management (JFM) provide strong policy foundations for community-inclusive forest governance.
- **Localized Innovations:** States like *Odisha* and *Chhattisgarh* show promise through biodiversity-sensitive plantations and livelihood-linked reforestation. *Tamil Nadu*’s mangrove expansion and *Himachal Pradesh*’s biochar carbon credit model demonstrate adaptive strategies.

### Criticisms / Drawbacks

- **Community Exclusion:** Many plantation drives bypass local communities, undermining the Forest Rights Act and weakening social legitimacy.
- **Monoculture Pitfalls:** Past afforestation efforts relying on eucalyptus or acacia have degraded soil, reduced water retention, and displaced native biodiversity.
- **Capacity Deficits:** Forest departments often lack training in ecological restoration and species-specific planning despite the presence of training institutes in Coimbatore, Uttarakhand, and Byrnihat.
- **Underutilisation of Funds:** CAMPA's massive corpus remains underused — Delhi spent only 23% of allocations (2019–24) — reflecting weak financial governance.
- **Fragmented Accountability:** Absence of transparent monitoring and reporting systems results in poor survival rates and misaligned targets across States.

### Reforms and Way Forward

- **Empower Communities:** Institutionalise participation of Gram Sabhas and JFM Committees in restoration planning, ensuring livelihood linkages and legal ownership.
- **Ecological Design:** Replace monocultures with *native, site-specific species* that restore soil health, water balance, and biodiversity.
- **Capacity Building:** Strengthen ecological training for forest staff through existing national institutes; promote inter-State learning on best practices.
- **Smart Financing:** Ensure efficient CAMPA fund utilisation; incentivise States experimenting with carbon credit mechanisms and village-level carbon markets.
- **Transparency and Monitoring:** Introduce public dashboards tracking plantation survival rates, species diversity, fund flow, and community participation.
- **Policy Convergence:** Align GIM with national missions on agroforestry, climate resilience, and sustainable rural livelihoods for cross-sectoral synergy.

### Conclusion

- Forests are India's ecological and economic capital for *Viksit Bharat 2047*. Effective restoration — rooted in community ownership, ecological science, and fiscal accountability — can transform the Green India Mission from a government scheme into a people-driven movement, positioning India as a global model for climate-resilient restoration.

## THE RISE OF FUNCTIONAL FOODS AND SMART PROTEINS

### Context (Introduction):

- India's food policy is evolving from ensuring *food security* to achieving *nutritional security*. Functional foods and smart proteins represent a technological and sustainable approach to address malnutrition, environmental degradation, and health challenges in a growing economy.

### Main Arguments:

1. **Functional Foods:** These are enriched foods designed to enhance health or prevent diseases—examples include vitamin-fortified rice, iron-rich millets, or omega-3 milk. They employ technologies such as *nutrigenomics, bio-fortification, 3D food printing, and bioprocessing*. Japan pioneered their regulation in the 1980s.
2. **Smart Proteins:** These include **plant-based, fermentation-derived, and cultivated meat** sources developed using biotechnology to replace conventional animal-based proteins. Singapore became the first country (2020) to approve *cultivated chicken* for commercial sale.

3. **Need for Nutritional Security:** Despite economic progress, over one-third of Indian children remain stunted. Rising incomes and lifestyle changes are shifting public expectations from calorie sufficiency to nutrient-rich diets. Nutrition-focused policies can bridge the urban-rural divide and reduce non-communicable diseases.
4. **India's Emerging Ecosystem:** Under the *BioE3 policy*, the Department of Biotechnology (DBT) and BIRAC support innovation in functional foods and smart proteins. Bio-fortified crops like **zinc-rich rice (IIRR)** and **iron-rich pearl millet (ICRISAT)** mark key progress. Private players such as *Tata Consumer Products* and *ITCare* are investing in fortified staples, while startups like *GoodDot* and *Evo Foods* lead the smart protein market.
5. **Global Economic Opportunity:** The global plant-based food market could reach between **\$85–240 billion by 2030**. India's strong agri-base and biotech sector can make it a major exporter while creating employment across agri, processing, and logistics sectors.

#### Criticisms and Challenges:

1. **Regulatory Ambiguity:** FSSAI lacks a clear framework for *novel foods*, especially cultivated meat and precision-fermented proteins. Absence of regulation risks consumer mistrust and market misuse.
2. **Public Scepticism:** "Lab-made" foods face social and cultural hesitation in India. Misconceptions about safety and taste may limit acceptance.
3. **Technological and Skill Gaps:** Biomanufacturing requires high-end research, infrastructure, and skilled manpower, which remain limited in India's agri-food sector.
4. **Equity and Market Concentration:** Without proper regulation, large corporations may dominate, marginalising farmers and small-scale producers.
5. **Environmental Sustainability:** Although smart proteins reduce livestock pressure, their energy-intensive production could offset climate gains if not managed sustainably.

#### Reforms and Policy Measures:

1. **Regulatory Clarity:** A national *novel food framework* under FSSAI should define categories, safety standards, and labelling norms for functional and alternative protein products.
2. **Institutional Coordination:** Ministries of Biotechnology, Agriculture, and Health must align policies for nutritional transformation through integrated food value chains.
3. **Public–Private Partnerships:** To scale biomanufacturing, attract R&D investments, and develop indigenous technologies like *precision fermentation*.
4. **Workforce Upskilling:** Training in biotechnology and food sciences to enable rural participation in new agri-bio value chains.
5. **Public Awareness Campaigns:** Transparent communication, consumer education, and farmer inclusion are essential to build trust and acceptance.

#### Conclusion:

- India's next phase of food transformation must go beyond calorie sufficiency to *nutrition and sustainability*. Functional foods and smart proteins can address malnutrition, climate change, and rural employment together—if guided by sound regulation, innovation, and inclusivity. As Shambhavi Naik notes, biotechnology's benefits must "extend across society" to ensure a truly equitable nutritional future.

## COP30: TRANSLATING CLIMATE COMMITMENTS INTO ACTION

### Context (Introduction):

- COP30 in Belém, Brazil, marks a decade since the Paris Agreement and is being called the “Implementation COP”. It aims to convert global climate pledges into actionable outcomes, focusing on energy transitions, adaptation, biodiversity conservation, and climate finance for developing nations.

### Main Arguments

1. **Implementation COP:** COP30 seeks to operationalise commitments through the *Global Stocktake (GST)*—a five-yearly review under the Paris Agreement—to assess progress on mitigation, adaptation, and finance.
2. **Thematic Focus:** The agenda emphasises six core areas—energy, industry, transport transitions; stewardship of forests, oceans, biodiversity; food system transformation; resilient urban infrastructure; and human development.
3. **Climate Finance Roadmap:** The *Baku-to-Belém Roadmap* aims to mobilise at least **\$1.3 trillion annually by 2035**, building on COP29’s *New Collective Quantified Goal (NCQG)* of \$300 billion per year. Yet, it remains non-binding and lacks clarity on accountability.
4. **Adaptation Framework:** COP30 is expected to finalise the *Global Goal on Adaptation (GGA)*—quantifying resilience outcomes, financing needs, and integrating local and indigenous knowledge for region-specific climate adaptation.
5. **Climate–Nature Nexus:** The summit aims to merge biodiversity and climate action through Brazil’s *Tropical Forest Forever Facility*, incentivising developing nations to protect tropical forests and biodiversity.
6. **India’s Role:** India, leading the G77+China bloc, stresses *climate justice* and *common but differentiated responsibilities (CBDR)*, pushing developed nations for predictable finance, while advancing domestic initiatives like *green bonds*, *carbon markets*, and *green budgeting*.

### Criticisms and Challenges

1. **Finance Deficit:** Despite the NCQG, developing nations argue that \$300 billion is insufficient compared to trillions required annually, and the inclusion of “all actors” dilutes CBDR principles.
2. **Implementation Gap:** Many countries have yet to submit updated *Nationally Determined Contributions (NDCs)* for 2035—covering only 19% of global emissions—reflecting weak ambition.
3. **Inclusion Concerns:** Logistical issues in Belém have limited participation from low-income nations and civil society, undermining equitable representation.
4. **Loss and Damage Fund:** Underfunded since COP28, with less than \$1 billion committed against needs in hundreds of billions, weakening trust in developed nations’ pledges.
5. **Technology and IP Barriers:** High costs and restrictive intellectual property rights hinder developing countries from adopting clean and resilient technologies.

### Reforms and Way Forward

1. **Strengthening Climate Finance:** Establish binding mechanisms for NCQG disbursal, with transparent tracking of public and private contributions.
2. **Just Transition Frameworks:** Ensure fair energy and industrial transitions through *North–South technology partnerships*, capacity building, and green skill investments.

3. **Mainstreaming Adaptation:** Localise adaptation policies by integrating traditional practices, water conservation models, and community-led restoration as demonstrated in India.
4. **Integrated Climate–Biodiversity Planning:** Link financing for reforestation, agroforestry, and ecosystem services under one climate–nature investment strategy.
5. **Accountability Mechanisms:** Strengthen GST to ensure measurable progress on NDCs, verified through *common transparency frameworks*.

### Conclusion

- COP30 is a crucial turning point—shifting from promises to performance. Hosted in the Amazon, it symbolises the urgency of protecting global commons while ensuring equitable growth. For India and the Global South, it represents both a challenge and an opportunity: to demand climate justice, secure finance, and pioneer inclusive, resilient development pathways.

## ACT OF EVIL: PROMOTING SOCIAL HARMONY IN COUNTERTERRORISM STRATEGY

### Context (Introduction):

- The blast near Delhi's Red Fort on November 10, killing 13 people, once again exposes India's vulnerability to terrorism. Beyond policing, it calls for a broader counterterrorism framework centred on social harmony, political restraint, and state legitimacy.

### Main Arguments Put Forward

1. **Evolving Nature of Terror Threats:** The explosion marks a concerning shift, as organised terror incidents had largely been confined to conflict zones. Attacks targeting the national capital signal renewed efforts to destabilise peace and erode citizens' sense of security.
2. **Strengthened Legal and Institutional Mechanisms:** The use of the *Unlawful Activities (Prevention) Act (UAPA)* and the *Explosives Act*, and the involvement of the *National Investigation Agency (NIA)*, demonstrate India's strengthened legal and institutional framework to combat terrorism.
3. **Preventive Intelligence and Coordination:** Effective intelligence gathering has thwarted multiple potential attacks, including a possible chemical strike. The success of counterterrorism often lies in preventing unseen incidents through inter-agency coordination and real-time data sharing.
4. **Necessity of Political and Media Responsibility:** Political rhetoric and speculative media coverage can intensify communal polarisation, which inadvertently furthers terrorist objectives. A responsible approach from all stakeholders is essential to preserve public calm and faith in institutions.
5. **Social Harmony as Core of Counterterrorism:** Terrorist groups exploit divisions and alienation. Hence, national security must integrate *deradicalisation*, *interfaith dialogue*, *inclusive governance*, and *community engagement* to prevent recruitment and reinforce democratic legitimacy.

### Criticisms / Drawbacks Highlighted

- **Overreach of Security Laws:** Stringent provisions of UAPA, such as prolonged detention and limited bail, often attract criticism for infringing on civil liberties.
- **Excessive Securitisation:** Overdependence on force without addressing social roots of radicalisation can alienate communities.
- **Lack of Community-Centric Approach:** Counterterrorism remains overly institutional, with minimal grassroots involvement or rehabilitation mechanisms.
- **Media Sensationalism:** Irresponsible reporting amplifies panic and inadvertently spreads fear.

- **Political Exploitation:** Politicisation of terror incidents weakens national unity and diverts attention from policy-based solutions.

### Reforms Mentioned / Suggested

- **Integrated Counterterrorism Framework:** Adopt a comprehensive model linking intelligence, policing, judiciary, and community-based prevention mechanisms.
- **Deradicalisation and Rehabilitation Programmes:** Scale up models from States like Kerala and Maharashtra focusing on counselling, education, and online radicalisation monitoring.
- **Police and Forensic Modernisation:** Strengthen the *Modernisation of Police Forces (MPF) Scheme* for technological upgradation and faster investigations.
- **Judicial Oversight and Transparency:** Establish independent review mechanisms for UAPA cases to prevent misuse and expedite trials.
- **Promotion of Social Cohesion:** Institutionalise inter-community peace committees, local outreach campaigns, and civic education initiatives to reinforce unity and resilience.

### Conclusion

- Terrorism thrives on fear and division; the most effective counter is unity and trust. A mature democracy like India must balance strong security measures with compassion and inclusivity. By integrating social harmony into counterterrorism policy, the state strengthens both its legitimacy and citizens' faith in justice.

## WHAT THE GOVERNMENT'S AI GUIDELINES MEAN FOR TECH REGULATION IN INDIA?

### Context (Introduction):

- The Ministry of Electronics and Information Technology (MeitY) has released governance guidelines for Artificial Intelligence (AI) under the guiding principle of "*Do No Harm.*" These aim to balance innovation and accountability through risk-based regulation and adaptive frameworks.

### Main Arguments Put Forward

1. **Balanced and Adaptive Regulatory Approach:** The government has chosen a "*light-touch*" regulatory stance to foster innovation while addressing AI's ethical and security risks. Rather than enacting a separate AI law, the framework leverages existing acts like the *IT Act* and *Digital Personal Data Protection Act*.
2. **Six-Pillar Governance Framework:** The guidelines are structured around *infrastructure, capacity building, policy and regulation, risk mitigation, accountability, and institutions*. This holistic approach integrates AI development with the country's *Digital Public Infrastructure* (Aadhaar, UPI) and economic strategy.
3. **Focus on Risk Mitigation and Accountability:** An *India-specific risk assessment model* will evaluate AI's sectoral impact. A *graded liability regime* links accountability to function and risk level. The creation of an *AI Incident Database* and self-certification systems aim to ensure transparency and user protection.
4. **Institutional Mechanism for AI Governance:** The framework envisions a multi-tiered structure: an *AI Governance Group (AIGG)* for oversight, a *Technology and Policy Expert Committee (TPEC)* for policy alignment, and an *AI Safety Institute (AISI)* for technical audits and compliance.

5. **Human-Centric and Inclusive Development:** Emphasising *AI for all*, the guidelines call for skilling programs, AI literacy among citizens, and targeted support for MSMEs through tax rebates and AI-linked loans. The goal is to ensure equitable access and prevent digital divides in the AI ecosystem.

### Criticisms / Drawbacks Highlighted

- **Absence of Dedicated AI Law:** Critics argue that relying on existing frameworks may delay the establishment of clear liability, data usage norms, and safeguards against AI misuse.
- **Risk of State Surveillance:** Integration of AI into public infrastructure could raise privacy and autonomy concerns without robust data protection enforcement.
- **Weak Oversight on Deepfakes:** Although the content authentication proposal is welcome, the lack of a strong enforcement mechanism against non-compliance may undermine effectiveness.
- **Government Use of Foreign AI Systems:** Concerns persist about sensitive official data being processed by global AI models, risking strategic inference and data leakage.
- **Voluntary Compliance Model:** Heavy dependence on self-regulation and voluntary frameworks could limit accountability, especially among private players.

### Reforms Mentioned / Suggested

- **Techno-Legal Safeguards:** Embed privacy, fairness, and transparency principles directly into AI system design—promoting *ethical-by-design* development.
- **AI Content Labelling:** Amend IT Rules to mandate disclosure of synthetically generated content, requiring platforms to display visible labels on deepfakes and AI-created media.
- **Capacity and Skill Building:** Strengthen AI training for citizens, public servants, and law enforcement to improve literacy and responsible usage.
- **Public–Private Collaboration:** Encourage joint AI innovation sandboxes and cross-sector partnerships to align industrial growth with ethical standards.
- **International Cooperation:** Participate in global forums on AI standards and ethics to harmonise India's regulatory stance with global best practices.

### Conclusion

- India's AI guidelines mark a pragmatic step toward responsible innovation — balancing the promise of AI-driven growth with the risks of misuse. By emphasising *"Do No Harm,"* promoting human-centric values, and integrating AI into governance cautiously, India aims to position itself as a global model for ethical, inclusive, and innovation-friendly AI regulation.

## GLOBAL CARBON PROJECT 2025: CLEAN ENERGY INVESTMENT & CLIMATE RESILIENCE

### Context (Introduction):

- The Global Carbon Project's 2025 report warns that global emissions will hit a record high, keeping the world on a 2.6°C trajectory. COP-30 negotiators in Brazil face urgent pressure to accelerate clean energy and strengthen people's climate resilience.

### Main Arguments

- **Global emissions nearing historic peak:** Emissions are projected to reach a **record high in 2025**. The **US shows the highest increase (1.9%)**, followed by **India (1.4%)** and **China/EU (0.4%)**. Rising demand offsets clean-energy progress.
- **India's carbon intensity declining:** Slower emission growth stems from large renewable deployment, a **cooler summer**, and **early monsoon**, causing a fall in electricity-sector emissions. Long-term carbon intensity is improving — GHG growth dropped from **6.4% (2004–15)** to **3.6% (2015–24)**.
- **Renewables exceed coal but pace inadequate:** Renewables have overtaken coal as the largest electricity source worldwide. Yet fossil-fuel dependence persists because energy consumption continues to grow, especially in fast-developing countries.
- **Paris temperature target slipping away:** At current rates, the world is on track for **2.6°C warming**, far above the **1.5°C goal**. Carbon budgets for 1.5°C may be exhausted within the decade, leaving little leeway for error or delay.
- **COP-30 must deliver a clean-energy roadmap:** The COP-30 must provide concrete directions for expanding renewables and building climate-resilient infrastructure to protect lives and livelihoods from floods, droughts, and cyclones.

### Criticisms / Drawbacks

- **Slow decarbonisation despite renewable progress:** Global mitigation efforts are insufficient. Fossil-fuel use remains embedded in transport, industry, and thermal power.
- **Reversal in developed economies:** The surge in US emissions breaks a nearly 20-year downward trajectory, weakening global leadership credibility and burden-sharing expectations.
- **Weak adaptation investment:** Financing for climate resilience — flood defences, drought management, cyclone preparedness — remains far below required levels. Vulnerable communities continue to face high climate risks.
- **Energy-security constraints in developing economies:** Countries like India cannot abruptly abandon fossil fuels without jeopardising growth and energy access. This complicates uniform global expectations.
- **Gaps in global collective action:** Post-Paris cooperation has stagnated. Vague commitments such as “phase-down of unabated coal” leave room for interpretation and delay.

### Reforms and Way Forward

- **Scale Clean Energy Deployment:** Expand solar, wind, and green hydrogen manufacturing; modernise grids; enhance battery storage capacity. India's renewable capacity (200+ GW) should be complemented with round-the-clock storage solutions.
- **Strengthen Climate Resilience Investments:** Prioritise climate-resilient housing, urban drainage, cyclone shelters, drought-proof agriculture, and heat-action plans. UN estimates show adaptation financing needs to grow **five- to ten-fold** for developing nations.
- **Establish Time-bound Fossil-Fuel Transition Pathways:** COP-30 should adopt firm timelines on fossil-fuel phase-down and expand climate finance beyond the long-pending **\$100-billion commitment**. Developed nations must undertake deeper absolute cuts.
- **Build Just and Equitable Energy Transitions:** Ensure technology transfer, concessional climate finance, and affordable capital for the Global South. Energy poverty concerns must be balanced with global climate goals.

- **People-Centric Climate Security:** Increase early-warning systems, livelihood protection schemes, and community-based adaptation. Investments should prioritise vulnerable groups exposed to floods, droughts, sea-level rise, and heat waves.

### Conclusion

- **The Global Carbon Project's findings underline a critical truth:** clean-energy expansion alone cannot stabilise the climate unless accompanied by deep decarbonisation and strong resilience-building. COP-30 offers an opportunity to reconcile both — delivering a roadmap that accelerates clean energy and safeguards vulnerable populations from intensifying climate impacts.

## INDIA'S FLEXIBLE INFLATION TARGETING FRAMEWORK: GROWTH & FUTURE OPTIONS

### Context (Introduction):

- India's Flexible Inflation Targeting (FIT) framework—mandating a 4% inflation target with a  $\pm 2\%$  band—comes up for review in March 2026. The RBI's discussion paper reopens key questions on headline vs. core inflation, acceptable inflation levels, and the applicable target band.

### Main Arguments

- **FIT has stabilised inflation despite shocks:** Since adoption in 2016, inflation has remained broadly range-bound, even through episodes such as COVID-19, commodity spikes, and supply disruptions. The framework improved policy predictability and institutional autonomy.
- **Headline inflation is the appropriate target:** Because inflation affects savings, investments, and disproportionately harms the poor, the **headline inflation**, not core inflation, should be targeted. Food inflation often reflects monetary conditions, not merely supply shocks.
- **Monetary policy influences general price level:** As Friedman had said that without expansion in overall liquidity, sustained inflation cannot occur. Food inflation can create second-round effects—through wages and cost pass-through—making it relevant for monetary policy.
- **Acceptable inflation for India is around 4%:** Historical data (since 1991, excluding the COVID year) show a **non-linear inflation-growth relationship**, with a turning point near **3.98%**. This supports continuing the 4% target. Simulations for 2026–2031 also suggest inflation below 4% as consistent with stable growth.
- **The current  $\pm 2\%$  band provides adequate flexibility:** The existing 2–6% tolerance band has helped the RBI manage shocks. However, the article warns that staying persistently near the upper bound undermines the spirit of FIT, especially since growth declines sharply beyond 6%.

### Criticisms / Drawbacks

- **Debate confused between relative and general prices:** Public discourse often overlooks that food-price movements reflect both supply shocks and monetary expansion. Without distinguishing these, arguments for core inflation targeting become misleading.
- **Phillips Curve evidence weak in India:** India's data show only a short-run inflation-growth trade-off; long-run trade-offs are unconvincing. High inflation eventually harms growth, reinforcing the case for a firm target.
- **Risk of fiscal slippage undermining FIT:** Historically, monetisation of fiscal deficits in the 1970s–80s caused chronic inflation. FIT works only when complemented by fiscal discipline under FRBM. Weakening either framework harms macro stability.

- **Lack of clarity on duration near upper band:** The current framework does not specify how long inflation can remain near 6% without triggering accountability mechanisms, diluting the credibility of the target.
- **Arguments for higher targets lack empirical basis:** Preliminary empirical simulations indicate no justification for raising the target above 4%. Higher targets risk unanchoring expectations and reducing the RBI's credibility.

### Reforms and Way Forward

1. **Retain headline CPI as the primary target:** Given India's consumption patterns and the welfare impact of food inflation, headline CPI remains the most relevant indicator for policy credibility and public welfare.
2. **Maintain the 4% target with stricter accountability norms:** A mid-course review mechanism could be introduced to scrutinise policy stance if inflation remains close to 6% for prolonged periods.
3. **Strengthen FRBM–FIT coordination:** Fiscal dominance must be avoided. Clear fiscal glide paths, reduced off-budget borrowings, and better debt transparency will support monetary policy effectiveness.
4. **Improve inflation forecasting and food-market reforms:** Strengthen early-warning systems for food inflation; improve agri-logistics, cold chains, and storage to reduce supply volatility. Better forecasting reduces policy lags.
5. **Conduct periodic empirical assessments of threshold inflation:** Every review cycle (5 years) should incorporate updated structural models to determine threshold inflation levels consistent with evolving growth prospects, external risks, and fiscal realities.

### Conclusion

- India's experience since 2016 shows that FIT has anchored expectations and contained inflation despite repeated shocks. Evidence suggests that a 4% target with a ±2% band strikes a practical balance between stability and flexibility. Going forward, policy success will depend on maintaining fiscal discipline, refining inflation forecasting, and ensuring that headline inflation—not just core—remains firmly under control.

## PRECISION MEDICINE AND INDIA'S OPPORTUNITY IN THE GLOBAL MARKET

### Context (Introduction):

- The rise of precision biotherapeutics—therapies tailored to a person's genetic and molecular profile—is reshaping global healthcare. As the global precision medicine market grows rapidly, India's genetic diversity, research base, and biotech ecosystem present unique opportunities and challenges.

### Main Arguments

- **What Are Precision Biotherapeutics?**
  - Precision biotherapeutics involve treatments designed around an individual's **genetic, molecular, and cellular signatures**, enabling direct correction of disease causes rather than symptom management.
  - Technologies underpinning this field include **genomic and proteomic analysis, gene editing (CRISPR), mRNA and nucleic acid therapeutics, monoclonal antibodies, advanced biologics, and AI-driven drug discovery**, which predicts therapeutic efficacy using molecular datasets.
- **Why India Needs Precision Approaches**
  - Non-communicable diseases (NCDs) such as cardiovascular diseases, cancers, and diabetes account for **nearly 65% of deaths in India**. India's vast **genetic diversity** complicates treatment responses, and drugs developed in other populations may show reduced effectiveness.

- Programmes like **GenomeIndia** and **IndiGen** can tailor therapies to local genetic variations, shifting India's health system towards **predictive, preventive, and personalised care**.
- **India's Current Capacities**
  - The **Department of Biotechnology** has prioritised precision biotherapeutics under the Biotechnology for Economy, Environment, and Employment policy.
  - Leading institutions—including **IGIB**, **NIBMG**, and **THSTI**—are mapping genetic diversity and disease susceptibility. Private-sector activity is rising:
- **Biocon Biologics, Dr. Reddy's Labs** – biosimilars, monoclonal antibodies
  - **Immuneel Therapeutics** – immuno-oncology
  - **Bugworks** – next-generation antibiotics
  - **Akrivia Biosciences, 4baseCare, miBiome** – precision diagnostics and oncology solutions
  - **ImmunoACT** – India's first **CAR-T therapy**
  - Collectively, these represent a growing ecosystem aligned with global trends.
- **Global Market Landscape**
  - The **global precision medicine market is projected to exceed \$22 billion by 2027**. Rising chronic diseases, gene therapies, and personalised drug development are key growth drivers.
  - India, with its **skilled manpower, AI and data analytics capabilities, and low-cost R&D environment**, can emerge as a global hub for affordable precision biotherapeutics.

### Criticisms / Drawbacks

- **Regulatory Ambiguity:** India lacks a **clear regulatory framework** for gene editing, cell therapies, and emerging biologics. Guidelines restrict therapeutic use but do not define therapeutic scope, creating uncertainty for innovators.
- **Limited Manufacturing Capacity:** Biologics and advanced therapies require **high-end manufacturing**, but India's capabilities in viral vectors, plasmid DNA, and cell-processing remain limited, increasing dependence on imports.
- **High Costs and Low Access:** Precision drugs are prohibitively priced, accessible mostly to **affluent urban populations**, and out of reach for most Indians, widening health inequities.
- **Ethical and Privacy Concerns:** Large-scale genomic datasets raise unresolved issues of **data security, consent, discrimination**, and potential misuse without a stringent data protection ecosystem.
- **Uneven Clinical Translation:** Many innovations remain stuck in research stages due to gaps in **clinical trials infrastructure, biopharma investments, and technology transfer**.

### Reforms and Way Forward

- **Establish a Clear, Modern Regulatory Architecture:** Develop specific guidelines for **gene editing, cell therapies, RNA therapeutics, and AI-driven drug discovery**. A unified regulatory pathway under CDSO/DBT is essential.
- **Expand Manufacturing and R&D Capacity:** Build **GMP-compliant biologics facilities**, support domestic production of vectors and CAR-T components, and promote tech-transfer hubs.
- **Enhance Genomic Literacy and Data Governance:** Adopt strong **data protection laws**, consent frameworks, and ethical review mechanisms for genomic research, ensuring public trust.
- **Incentivise Affordable Precision Innovations:** Use **public-private partnerships**, viability-gap funding, and innovation grants to drive down costs and expand access, particularly for NCD-related therapies.

- **Integrate Precision Medicine into Public Health:** Embed genetic screening and precision diagnostics into **NCD programmes**, using the IndiGen and GenomeIndia datasets to develop **Indian population-specific therapies**.

### Conclusion

- Precision biotherapeutics represent a transformative shift from symptomatic treatment to cause-correcting interventions. With its genetic diversity, scientific base, and cost advantage, India can position itself as a global leader in affordable precision medicine—provided regulatory clarity, manufacturing capacity, and ethical safeguards evolve in tandem.

## NEW LABOUR CODES & THEIR IMPLICATIONS FOR WORKERS

### Context (Introduction):

- The four labour codes—Wages, Industrial Relations, Social Security, and Occupational Safety—have come into force, replacing 29 laws. They aim to simplify compliance, expand social security, formalise employment, and reshape India's labour market amid mixed reactions from firms and unions.

### Main Arguments / Key Features

#### Code on Wages, 2019

- Merges laws on minimum wages, wage payment, bonus and remuneration.
- “Wages” now must constitute  $\geq 50\%$  of total remuneration; boosts PF/ESIC contributions, enhancing post-retirement benefits.
- Centre can set a national floor wage; states cannot go below it.
- Mandatory appointment letters strengthen formalisation; aligns with ILO recommendations.

#### Industrial Relations Code, 2020

- Firms with up to 299 workers can retrench without government approval (earlier 100), increasing flexibility and possibly boosting manufacturing competitiveness.
- Mandatory 14-day strike notice across all industries curbs flash strikes.
- Promotes ease of doing business by rationalising dispute resolution and enabling fixed-term employment.

#### Social Security Code, 2020

- For the first time brings gig/platform workers and aggregators within legal social security.
- Aggregators to contribute 1–2% of turnover for worker welfare.
- FTEs eligible for gratuity after one year (earlier five).
- Expands benefits such as PF, ESIC, maternity benefits; aligns with NITI Aayog's gig workforce projections (23.5 million by 2030).

#### Occupational Safety, Health & Working Conditions Code, 2020

- Consolidates 13+ laws on workplace safety, migrant labour and contract labour.
- Allows women to work night shifts with consent and mandatory safety protections (transport, CCTV, security).
- Weekly cap of 48 hours; overtime at double wages.
- Covers audiovisual and digital media workers, plantation workers, and beedi/cigar workers.

### Criticisms / Drawbacks

- **Job security concerns:** Raising the retrenchment threshold may increase precarious employment and limit workers' ability to negotiate.
- **Union rights diluted:** Mandatory strike notice, tighter union registration rules and expanded powers of registrars may reduce effective collective bargaining.
- **MSME compliance burden:** Higher PF/ESIC contributions raise cost pressures for small and unorganised firms, risking informalisation.
- **Centralisation concerns:** A nationwide floor wage may constrain states with diverse living standards.
- **Weak implementation capacity:** Labour being a concurrent subject, state-level readiness varies significantly—impacting consistency and enforcement.
- **Trade union criticism:** The codes are viewed as “negating rights secured over 150 years” and weakening democratic labour institutions

### Reforms & Way Forward

1. **Balance flexibility with protection:** Introduce sector-specific retrenchment thresholds, strengthen severance norms and promote “flexicurity” models combining flexibility with robust social security.
2. **Strengthen social security delivery:** Operationalise gig/platform welfare funds with real-time digital tracking. Integrate e-Shram with PF/ESIC for portability of benefits, especially for migrant workers.
3. **Improve implementation capacity:** Expand inspectorate infrastructure, deploy digital inspection systems and multilingual worker awareness campaigns. Offer phased compliance and financial support for MSMEs.
4. **Enhance collective bargaining:** Ensure transparent and predictable union registration rules and revive tripartite consultations as recommended by ILO.
5. **Clarify provisions and reduce litigation:** Provide detailed rules on aggregator contributions, FTE benefits and wage components to ensure interpretational clarity and uniform adoption.

### Conclusion

- The labour codes represent a significant consolidation of India's labour laws aimed at improving formalisation, social security and ease of doing business. However, fears of weakened labour rights, uneven state capacity and increased precarity must be addressed through calibrated reforms, strong enforcement frameworks and genuine social dialogue to ensure inclusive and equitable labour governance.

## PAPER 4

### WORLD'S SILENCE ON SUDAN: THE ETHICS OF SELECTIVE GLOBAL EMPATHY

#### Context (Introduction)

- The ongoing humanitarian crisis in Sudan—marked by ethnic violence, displacement, and mass killings—has received little global attention compared to conflicts like Gaza or Ukraine. This differential response raises ethical questions about *moral responsibility, empathy, and justice* in international affairs. The silence of the world community exposes deeper issues of racialised compassion and selective moral engagement in global politics.

#### Main Ethical Arguments

##### 1. Ethics of Universal Humanism:

- Every human being possesses equal moral worth, irrespective of geography, race, or culture.
- The global neglect of Sudan violates this *Kantian principle of universality*, which demands that moral concern be extended to all.
- The “hierarchy of suffering” reflects moral inconsistency—where empathy is extended based on proximity, media visibility, or racial affinity.

##### 2. Racialised Empathy and Civilisational Bias:

- The article highlights how conflicts in sub-Saharan Africa evoke limited outrage compared to those in Western or Middle Eastern regions.
- Ethical relativism—consciously or subconsciously—creates a divide between the “global North’s” suffering and that of the “global South.”
- Such bias undermines the *principle of justice as fairness* (John Rawls), reducing moral responses to selective compassion.

##### 3. Moral Responsibility of Global Actors:

- Governments, corporations, and civil society share a duty of care toward global humanitarian crises.
- The *Rapid Support Forces (RSF)*, backed by foreign funding (notably the UAE), show how external actors profit from conflict while escaping accountability.
- The silence of influential nations, institutions, and even global sporting entities (e.g., football clubs with UAE ownership) reflects *ethical complicity* through inaction.

##### 4. Media and Moral Imagination:

- The media shapes moral perception by determining which crises are visible.
- Ethical journalism requires impartiality in reporting human suffering.
- The limited coverage of Sudan reveals a media failure to uphold the *virtue of truthfulness* and *duty of global solidarity*.

##### 5. Ethics of Collective Action and Mobilisation:

- Public outrage can pressure institutions to act, as seen in global movements for Palestine or Ukraine.
- Sudan’s lack of mobilisation shows how moral energy is unevenly distributed across causes.

- The *ethics of empathy* demands that civil society and diaspora networks extend solidarity beyond culturally familiar or politically popular causes.

### Criticisms and Ethical Dilemmas

- **Moral Fatigue:** Constant exposure to global suffering may desensitise people, leading to selective emotional engagement.
- **Pragmatic Politics:** Nations often weigh strategic or economic interests over ethical imperatives, resulting in inaction.
- **Cultural Distance:** Societies may subconsciously empathise more with those perceived as “similar,” reflecting deep-seated ethnocentrism.
- **Media Economics:** Coverage decisions are influenced by audience interest and commercial viability, rather than moral gravity.
- **Moral Hypocrisy:** Public figures and global institutions often express values of equality and justice but act inconsistently across regions.

### Reforms and Ethical Correctives

1. **Global Ethical Education:** Promote universal ethics and compassion through educational curricula and public discourse to dismantle racial and cultural biases.
2. **Ethical Journalism Charter:** Encourage international media houses to commit to equal coverage of humanitarian crises based on severity, not geography.
3. **Corporate Social Responsibility (CSR):** Companies, especially those linked to conflict-funding networks, must adopt *human rights due diligence* and transparency.
4. **International Institutional Accountability:** Strengthen the UN Human Rights Council’s mechanisms for monitoring atrocities, ensuring equal treatment of all regions.
5. **Global Civil Society Mobilisation:** NGOs, social media platforms, and academic institutions should foster transnational solidarity campaigns for neglected crises like Sudan.

### Conclusion

- The Sudan crisis is not only a political tragedy—it is a *moral test* for humanity. The silence surrounding it reflects the racialisation of empathy and the erosion of universal moral concern. Ethical global citizenship demands that compassion not be selective, and that justice be as inclusive as suffering itself. As philosopher Albert Schweitzer observed, “*Ethics is nothing else than reverence for life.*” The world must rediscover this reverence—beyond race, borders, and profit—to ensure that every human life commands equal moral urgency.

## BUILDING A CULTURE WHERE EVERY CHILD FEELS SEEN AND HEARD

### Context (Introduction):

- The recent suicide of a school student highlights a deep emotional crisis among children who struggle with anxiety, bullying, and unexpressed distress. The incident calls for urgent societal introspection, stronger emotional safety systems, and value-based educational reform.

### Main Arguments

- **Emotional burdens of children often go unseen:** Children today carry invisible emotional loads—fear of failure, pressure to meet parental expectations, anxiety from bullying, and inability to articulate feelings.

Their apologies — “Sorry for breaking your heart... sorry I couldn’t live up to expectations” — reflect internalised guilt and emotional overwhelm. This indicates gaps in empathy, listening, and adult awareness.

- **Priorities remain skewed: Sensation over compassion:** Each tragedy generates media noise but little structural reform. The society responds with sensationalism rather than understanding, while schools continue prioritising academic performance and discipline over emotional well-being and pastoral care. This contradicts the constitutional vision of *holistic* education (Art. 45) and NEP-2020 emphasis on socio-emotional learning.
- **Absence of a national child safety & wellness framework:** India lacks uniform protocols on mental health emergencies, grievance redressal, or preventive counselling. School counsellor ratios are extremely low — often **1 per 3,000 students** (FICCI 2023). Without standardised frameworks, families and schools rely on ad-hoc responses rather than a preventive mental health system.
- **Weak family-school partnerships:** Evidence shows children thrive when families and schools work as co-educators. But communication gaps persist. Many parents focus on marks, while teachers prioritise compliance. Children thus occupy emotional spaces where they feel alienated, unheard, or afraid to seek help.
- **Societal aspiration culture intensifies pressures:** Children are products of societal values—competition, achievement, social comparison. In this environment, emotional distress becomes invisible. When society rewards marks over mental health, children internalise the belief that worth equals performance.

### Criticisms / Drawbacks Highlighted

- **Hyper-academic culture** sidelines coping skills, resilience and emotional intelligence.
- **Lack of trained counsellors** limits early identification of distress.
- **Silence at home:** stigma around discussing emotions prevents help-seeking behaviour.
- **Schools prioritise discipline** over pastoral care, reducing trust between children and teachers.
- **Societal apathy** shifts blame rather than addressing collective responsibility.
- **Adolescent neurobiology** (impulsivity, emotional intensity) is misunderstood, leading adults to dismiss signs of distress.
- **No systemic triggers monitoring**, despite repeated evidence of school-based stress, bullying, and academic overload.

### Reforms & Way Forward

1. **Build a national child safety & wellness framework:** A unified structure with mandatory counsellors, crisis protocols, bullying prevention systems, and mental health audits—similar to UK’s “Whole School Wellbeing Framework”.
2. **Integrate social-emotional learning (SEL) into curriculum:** NEP-2020 recommends SEL modules. Schools must institutionalise emotional intelligence, communication, empathy, conflict resolution, mindfulness, and coping skills.
3. **Strengthen family-school partnerships:** Regular parent-teacher emotional check-ins; workshops on adolescent psychology; joint responsibility models; creating “circles of support” involving counsellors, teachers, and parents.
4. **Train teachers in pastoral care:** Teachers should be equipped to recognise early warning signs—withdrawal, sudden irritability, falling grades, isolation. Teacher training institutions must include child psychology and counselling basics.

5. **Promote value-oriented upbringing:** Family remains the first site of moral development. Active listening, non-judgmental communication, positive reinforcement, and shared emotional spaces build confidence and resilience.
6. **Reduce academic pressure and punitive discipline:** Schools should replace punitive authority with restorative practices, peer support groups, and safe spaces for expression.
7. **National awareness campaigns:** Public messaging that normalises emotional struggles, reduces stigma, and encourages help-seeking among children and parents.

#### Conclusion

- Childhood should be a space of safety, expression and growth, not silent suffering. As a society, we must move beyond fault-finding towards compassion, empathy, and systemic reform. A child who feels seen, heard, valued and supported is far less likely to feel overwhelmed. Building emotionally responsive families, humane schools and supportive communities is not an option—it is an ethical duty.

#### CASE STUDY

You are the District Collector of a remote border district in Eastern India, where illegal immigration has been a persistent and sensitive issue. The government has launched a document verification survey to identify genuine beneficiaries and weed out fraudulent claims. However, rumors are circulating that the survey is biased against certain communities, leading to political polarization. Your officials have faced hostility, including violent resistance, and the issue has attracted intense media focus. Under pressure to complete the survey within the deadline, you must devise a strategy to proceed. Discuss the administrative options available to you. What ethical dilemmas do you face in executing this mandate? Suggest the most effective way forward, substantiating your choice.

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